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## The Effect of 4-Week Leg Extension Training on The Strength of Quadriceps Muscles

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### Abstract

This study was conducted to identify the effect of 4-week leg extension training on the strength of quadriceps muscles. Thirty University of Malaya students ( $n = 30$ ) consisting of fourteen male ( $n = 14$ ) and sixteen female ( $n = 16$ ); (age  $M = 20.33 \pm 0.80$  years; height  $M = 165.93 \pm 8.75$  cm; weight  $M = 61.12 \pm 13.12$  kg) who were recruited by using the method of random sampling. These subjects were equally divided into two groups, the experimental group ( $n = 15$ ) and the control group ( $n = 15$ ) which respectively with a total of fifteen subjects (male = 7; female = 8) in each group. The experimental group carried out eight sessions of leg extension training. The 1 repetition maximum (1RM) of quadriceps muscles for both groups was obtained twice; pre-test and post-test. The results revealed that eight sessions of leg extension training induced significant improvement ( $t = 1.97$ ,  $df = 28$ ,  $p < .05$ ) on the strength of quadriceps muscles. However, the results also revealed that the control group did not show a significant difference in the strength of quadriceps muscles between pre and post intervention ( $t = 0.00$ ,  $df = 14$ ,  $p > .05$ ). These results suggest that the four week leg extension training is an effective and suitable method to improve the strength of quadriceps muscles.

Keywords: Leg Extension Training, Strength of Quadriceps, 1 Repetition Maximum (1RM)

### Introduction

Weight training refers to any type of training that involves the body moving in same direction against a force that resists that movement and is supplied by some type of weight including free weights and weight machines (Stoppani, 2006). Weight training using near one-repetition (1RM) weight at low velocity has been found to improve the muscle's ability to generate force, but the increase in strength may not be effective at velocities that stimulate the speed of sport performance (Cronin et al., 2003).

Leg extension exercise requires the use of a machine called Leg Extension Machine. There are various manufacturers of these machines and each one is slightly different. The movement of leg extension exercise begins with choosing the appropriate weight and sit on the machine with legs under the pad (feet pointed forward) and the hands holding the side bars. The legs form a 90-degree angle between the lower and upper leg. The movement involves extension of leg to the maximum when exhale and hold the contracted position for a second. Meanwhile, the rest of the body remains stationary on the seat. Slowly lower the weight back to the normal position as inhale, ensure that do not go past the 90-degree angle limit.

Based on the principle of overload, heavier weights with fewer repetitions and longer rest are best suggested way to improve strength. The most widely used method is lifting a weight that is 70% of 1RM for 10-12 times of repetitions with 1-5 minute breaks in between sets. Strength training for a specific muscle is not advisable to perform for more than once every 48 hours. The duration of this study is 4 weeks because the total time given to conduct this research is too short and one of the purpose of this study is to get an instant result which can help in designing the training program for athletes as well as to improve the quadriceps strength in better way in a short period of time.

### Objectives

To compare the strength of quadriceps muscles between pre and post intervention.

To compare the strength of quadriceps muscles between the experimental group and the control group after 4-week of intervention.

## Methodology

### Subjects

The subjects of this research were chosen from the students of University of Malaya. A total of 30 students (N = 30) were chosen to become the subjects of this research. These subjects were divided into two groups, the experimental group (n = 15) and the control group (n = 15) which respectively with a total of 15 subjects (8 females & 7 males) in the experimental group and 15 subjects (8 females & 7 males) in the control group. The subjects ages between 20 and 21 years (mean age, 20.53 y) were recruited for the study.

### Measurements

In order to assess the strength of quadriceps muscles, the Leg Extension Machine was used as the instrument of this research. The leg extension, typically performed on a leg-extension machine, is a relatively simple exercise. The movement occurs at only one joint and is a basic, limited motion. Leg extension is a measure of the strength of quadriceps muscles because this exercise particularly target a specific muscle; quadriceps. Weight machines are considered a safe, effective and easy-to-learn alternative to free weights (ACSM Stand, 2002). The movement of leg extension exercise begins with choosing the appropriate weight and sit on the machine with legs under the pad (feet pointed forward) and the hands holding the side bars. The legs form a 90-degree angle between the lower and upper leg. The movement involves extension of leg to the maximum when exhale and hold the contracted position for a second. Meanwhile, the rest of the body remains stationary on the seat. Slowly lower the weight back to the normal position as inhale, ensure that do not go past the 90-degree angle limit.

Before undergo the test, the subjects were required to carry out a gentle warm up and light stretching exercises focusing on the lower limbs for at least 5 minutes. According to Prentice (2007) the warm up routine increase body core temperature, stretches ligaments and muscles and increase flexibility. Warm up routine has been found to be important in reducing injury and muscle soreness (Prentice, 2007).

After warm up section, the subject sits on the Leg Extension Machine. The seat was adjusted to the height of subject. Then, the subjects are required to perform with a weight to identify their 1 repetition maximum (1RM). These tests were repeated for both experimental group (G1) and control group (G2). The results were recorded in subject's personal information sheet for data collection. The heaviest weight achieved was considered the pre-training 1RM. The 1RM was determined in fewer than five attempts with a rest interval of 3 minutes between 1RM attempts and 30 min were allowed before the start of the leg extension training for the experimental group. Following the 4 weeks of training, the 1RM was test was performed similarly to the pre-training test in order to compare the strength changes between the G1 and G2.

### Procedure

The 30 subjects were informed and explained that a research entitled "The Effect Of 4-Weeks Leg Extension Training On The Strength Of Quadriceps Muscles" was conducted. They were fully informed of identified procedures prior to enrolment in the study. The subjects were equally divided into two groups using a random sampling with a draw session. All subjects had picked up a number from a box which contained no.1 or 2 where no.1 is experimental group and no.2 is control group.

The following table 1 shows the details of leg extension training session in 4 weeks.

Table 1: 8 Sessions of Leg Extension Training

Weeks	Sessions	Intensity(% of 1RM)	Repetitions	Sets	Rest	Speed
1	1	50	12	3	2	Medium
	2	50	12	3	2	Medium
2	3	50	12	3	2	Medium
	4	50	12	3	2	Medium
3	5	70	12	3	2	Medium
	6	70	12	3	2	Medium
4	7	70	12	3	2	Medium
	8	70	12	3	2	Medium

After completion of the 8 sessions of leg extension training, both subjects from experimental group (n = 15) and the control group (n = 15) were asked to perform post-test using the same Leg Extension Machine to measure their 1RM of quadriceps muscles.

## Results

There was a significant differences of the strength of quadriceps muscles between the pre and post-test for the experimental group ( $t = -7.75$ ,  $df = 14$ ,  $p < .05$ ). On the other hand, this study revealed that no significant differences of the strength of quadriceps muscles between the pre and post-test for the control group ( $t = 0.21$ ,  $df = 14$ ,  $p > .05$ ).

Table 1 shows the independent samples  $t$  – test between the Experimental and Control group on the strength of quadriceps muscles (post-test),  $p < .05$ . There was a significant differences of the strength of quadriceps muscles between the experimental and control group during post-test ( $t = 1.97$ ,  $df = 28$ ,  $p < .05$ ).

Table 1: Independent samples  $t$  – test between the Experimental and Control group on the strength of quadriceps muscles (post-test),  $p < .05$ .

Group	Mean Diff.	S.E. Diff	$t$	$df$	Sig. (2-tailed)
Experimental Group & Control Group	2.07	1.05	1.97	28	0.03

## Discussion

The purpose of this study was to determine the effect of 4-week leg extension training on the quadriceps muscles strength. The major finding of this study was that the intervention of the four weeks (8 sessions of resistance training) for the experimental group (n = 15; male = 7; female = 8) induced significant differences ( $t = -7.75$ ,  $df = 14$ ,  $p < .05$ ) on their strength of quadriceps muscles. Studies have proven that the first 6 weeks of resistance training can increase muscle strength at rapid rate even though the rate of increase in muscle fiber cross-sectional area is not that obvious (Knight & Kamen, 2001). The results also supported that muscular strength can be increased by using few sets (Carpinelli, 2002), a moderate number of repetitions (Stone & Coulter, 1994) and a medium low loads. This finding also supports well the statement by some researchers that a frequency of 2 days per week per muscle group training was optimal to increase the muscle strength for trained individuals (Rhe et al., 2003). The result of this study expressed that there was a significant differences of the strength of quadriceps muscles between the experimental and control group during post-test ( $t = 1.97$ ,  $df = 28$ ,  $p < .05$ ). The results supported that resistance training for a particular muscle can improve the muscle strength well within short period of time (less than 6 weeks) if uses the proper training program [6]. In addition, some research has shown that the quadriceps muscles have high potential to increase in strength with resistance training compare to hamstring muscle. Thus, the proper leg extension training can improves as well as help to gain maximal strength of quadriceps muscles. The objectives of this study have been achieved.

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## **Yoga, Traditional Games & Sports for Global Human Resource Development**

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### **Abstract**

Yoga is one of the most important nomenclatures of physical activities. The origin of Yoga is about 5000 years back in India. The Indian monks used to practice Yoga for spiritual development. The repetition of Om... Om... Om is not a ritual of the religion, but it makes the circulation of blood rush towards the skull. The experts say Yoga has three dimensional affects. Yoga can positively affects body, mind and spirit. Yoga is excellent for psychosomatic diseases. Psychosomatic diseases are those where body and mind are involved. Thus this culture has been widely accepted worldwide for global human resource development for its uniqueness of less requirement of space, time and no warm up and no cost for practices. In Yogic practices, there is a harmonious development of all the muscles of the body, internal organs, nerves and frame. Yogasana helps secretion of hormone from different glands in balanced condition, it regulates the blood circulation properly, it forms antibody to prevent diseases thus Yogasana makes the body strong. The Pranayam of yoga helps in breathing controls; this breathing control exercise gives extra energy to the heart and lungs. Meditation on the other hand through its practice helps us devotedly think something. Meditation of 5-10 minutes is really beneficial for the development of mind. The experts name few Yogasana and Pranayam for physical and mental health and advice for Meditation. Beside this, Traditional games and sports are part of intangible heritage and a symbol of the cultural diversity of our societies. They are different in nature and are of plenty in numbers worldwide. It is also raw form of many modern games and sports. Generally Traditional Games and Sports are indigenous in nature. Experts say it is one of the excellent ways to remain healthy, fit, well being, and recreate. Through playing of these games human resource development is possible. However, Human resource development means improvement of working capacity.

Key words: Yoga, Traditional Games and Sports, Human Resource Development.

**Introduction:** Yoga is one of the most important nomenclatures of physical activities. The origin of Yoga is about 5000 years back in India. The Indian monks used to practice Yoga for spiritual development. The repetition of Om... Om... Om is not a ritual of the religion, but it makes the circulation of blood rush towards the skull. The experts say Yoga has three dimensional affects. Yoga can positively affects body, mind and spirit. Yoga is excellent for psychosomatic diseases. Psychosomatic diseases are those where body and mind are involved. Thus this culture has been widely accepted worldwide for global human resource development for its uniqueness of less requirement of space, time and no warm up and no cost for practices. Traditional sports and games on the other hand are part of intangible heritage and a symbol of the cultural diversity of our societies. They are different in nature and are of plenty in numbers worldwide. It is also raw form of many modern games and sports. Generally traditional games and sports are indigenous in nature. Experts say it is one of the excellent ways to remain healthy, fit, well being, and recreate. It develops entire human resource, develops body, mind, soul, control emotions, brings spiritual faith, develops intellect; improve decision making power, helps in development of social health etc. However, Human resource development means improvement of working capacity; Experts say a real development is possible through games and sports as it enhances the opportunity to have good physical, mental, neuromuscular and social health.

**How Yoga Helps In Human Resource Development?** By human resource it is understood that the people who work for a company or organization. **Human Resources Development aims to improve expertise & skills of employees and volunteers as well as attitude and style.** Through Yogic practices, a harmonious development is possible of all the muscles of the body, internal organs, nerves and frame. In these practices there are no rapid movements and hence there is no waste of energy rather the energy is conserved. In Yogic practices, movements are gentle and rhythmic. The heart, lungs and brain with its cerebro-spinal system, three important organs are kept in a healthy condition by regular practice of a few important asanas and one or two breathing practices. Sound functioning of the organs depends upon good healthy nerves. The heart and the lungs are under the control of the brain. These three important organs along with the cerebro-spine system are kept in a healthy condition by regular yogic exercises. Yogic practices helps secretion of hormone from different glands in balanced condition, it regulates the blood circulation properly, it forms antibody to prevent diseases. Thus Yogasanas make the body strong. The Pranayam of Yoga helps in breathing controls; this breathing control practices give extra energy to the heart and lungs. Therefore, regular practice of Pranayam keeps those organs healthy. Besides Pranayam, Meditation also helps to develop soul, mind and body. Swami Vivekananda said that the rest we achieve through the Meditation even we cannot get through sleep. Through Meditation the depth of mind develops, mind is expanded, a mental peace is developed.

**The Need Of Yoga In The Present Day Situation:** In the present day situation Yoga is extremely necessary to remain fit. Rishi Patanjali mentioned about eight way of practicing yoga. If few exercises of Yoga regularly practiced then there may be chance of healthy life. Under yogic practice session there should be few Yogasanas, Pranayam and Meditation. Experts say Yogic practices are both preventive and curative in their nature. They prevent diseases attacking the body by maintaining the natural health. Some practices also cure existing diseases like cold, cough, constipation and gastric troubles. Some clean the lungs, throat, etc. Thus the body as a whole is developed, toned up and strengthened. The entire body becomes flexible, thereby preventing stagnation of blood in any part of the body.

**Some Important Yoga, Pranayam And Meditation:** The experts name some important yogasanas which are beneficial for human health and fitness development. Yogasanas like salvasana, bhujangasana, savasana, sahad setu asana, budhyadebasana, ardhyaakurmasana biparit karani, Sukhasana, Padmasana, Siddhasana, Swastikasan, Vajrasana and yogamudra etc. are beneficial. The beneficial Pranayams are such as supta sagar pranayam, bhamri pranayam, nari sodhan pranayam, om pranayam, surjavedan pranayam, etc. which are effective. Meditation on the other hand through its practice helps us devotedly think something. Devotion to God or to a particular living being or an object is the matter of concentration during Meditation. The concentration period is to be of 10-15 minutes and after the concentration period is over to be quite for 5-10 minutes, in this way the practicing of Meditation strong the mind.

**Some Traditional Games And Sports Of World:** From the different civilizations of the world traditional sports and games may be summarized as shooting games-crossbow shooting, archery. Fighting games-wrestling, Greco Roman wrestling, French boxing, Thai kick boxing, stick fighting, Japanese tai kendo, sword play, tug of war, fencing, lethal, animal games, bull baiting, bear baiting (now banned), cock fighting, pigeon racing, dog racing, people trained animal games. Locomotion games- seen such as jumping, pole vaulting, come down from hill slopes, rowing, reindeer, and sledge races. Aerobatics-tumbling exercise, vaulting & acrobatics, horse jumping, ball games etc. are seen in England, France, Spain, Belgium, Ireland, Italy, Scotland, and Netherland. According to European Traditional Sports and Games Association(ETSGA) many traditional games and sports like football, handball, golf, polo, ball & pin games, hammer, discus javelin, stone, coin throwing, etc. are seen in Europe. In India in Mohenjodaro and Harappa Civilizations and in other civilizations different traditional sports and games were observed such as marbles, balls and dice games. Sports like hunting, swimming, boating and

boxing, Chess, Wrestling, Polo, Archery, Hockey, Ludo, Playing Cards, Indian Martial Arts, Judo, Karate also observed.

Yoga, Sports like dicing, gymnastics, Gilli Danda. Bharashram (weight - lifting), Bharamanshram (walking), Mall-Stambha,(wrestling), the game of rope fighting, archery, chariot racing, wrestling, hunting, horse riding, weight lifting, hammer-throwing, swimming, Javelin Throw (toran), Discus Throw (chakra), Sword fighting also were the traditional games and sports. The medieval and modern period in the history of traditional games and sports in India witnessed the introduction of a number of new sports. The sports like Thoda, Kalari Payattu, Chaupar, Pallanguli, Gilli Danda, Asol Aap, Vallamkali or Boat Race in Kerala, Gella - Chutt, Hiyang Tannaba, Inbuan, Insuknawr, Kang Shanaba, Kabaddi, Kho Kho, Lamjei, Mallakhamb, Mizo Inchai, Mukna, Yubee - Lakpee, Sagol Kangjei etc. they are also being played in India in present days, as well. These traditional sports and games are played for physical, mental, social and spiritual development.

**Yoga, Traditional Games And Sports For Multipurpose Development:** Sports, yoga, physical activities are for uniting force because these brings individuals and communities together, highlighting commonalties and bridging cultural and ethnic divides. Sports for Learning and understanding because it provide a forum to learn skills such as discipline, confidence, leadership, tolerance, cooperation and respect and how to manage essential steps in life such as victory or defeat. In sports there is opportunity for citizens from different worlds to meet on a common playing field. Sport as a tool address challenging developmental issues facing various populations. The practice of sport is a recognized instrument for promoting peace, as it disregards both geographical borders and social classes. Sports provide fun, heighten sense of overall well being, improve sleep patterns and levels of anxiety, clear the mind, develops motor skills and mind body connection, keep away depression, reduces risk of many diseases. Playing sport helps much to be physically fit. It builds character, teaches strategic thinking, analytical thinking, leadership skills, goal setting and risk taking. It helps balance of mind, body and spirit to feel and function at our best. Participating in sports/ physical activities develop the 5 components of fitness, which are: strength, speed, skill, stamina and flexibility. When we are under stress from personal problems, work pressures and anxiety, apart from the fitness benefits, exercise through playing sports help release pressure and tension in a healthy and controlled way. The games and sports directly or indirectly generate income from sports-related sales and services, boosting international trade. Nonetheless by development it is understood it is a process of enlarging people's choices and increasing the opportunities available to all members of society. Sport can directly help built these capabilities.

**Conclusion:** it is concluded that yoga is one of the excellent ways for development of global human resource. Yoga through its practices makes a harmonious development of all the muscles of the body, internal organs nerves and frame. Yogic practices helps secretion of hormone from different glands in balanced condition. It regulates the blood circulation properly. It forms antibody to prevent diseases. The Pranayam of yoga helps in breathing controls; this breathing control practices give extra energy to the heart and lungs and keeps the body healthy. Meditation of 10-15 minutes of its regular practices helps in development of mind. Traditional games and sports with its varieties of playing throughout the world develop physical mental, social conditions and spiritual faith of mankind. Traditional games and Sports may be of different kinds but these are for personal, peace, community, human resource, learning and understanding, uniting force development. These are for fun, wellness, fitness and social integrity.

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## Impact of Meditation on Personality Development In Physical Education

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### **Introduction:**

The great tragedy of the civilization is that it has improved the circumstances of man (living standard) but not man himself. The value systems are rapidly on decline and human life has already become so invaluable that ordinary deaths go unreported and catastrophes involving may be million people could just be considered as a matter of chance. It signifies a spell of horror to peace lovers. Will there be any virtues left. Will there be any joy, compassion, love or concern, Or is it going to be a just task oriented world There is no doubt that a new world is unfolding its different & never-ending layers of change, the full magnitude of which is impossible for us to comprehend. It seems that most of us are in a state of suffering, a little more or a little less, depending on our circumstances. Only the free-being is exempt from this suffering I introduced meditation as an intervention program to physical education for three months to see its effects on alienation, emotional quotient, depression, personality and locus of control.

### **The need of Meditation**

An ideal 'balance' between anabolism and catabolism spells a state of a complete psycho-physiological relaxation. Because of our not-so- ideal life style We rarely experience this relaxed state. Relaxation is complex phenomenon Involving mind-body complex. Ancient Indian yogis have evolved psycho-physiological practice like meditative practice to tackle psycho-physiological activation. Modern man remains almost always in a state of continual physiological arousal, leading to psychosomatic disorders. Orem Johnson terms the relaxation response, experienced out of meditation, as 'stay & play' response, Researches on meditation have made it clear that those practicing meditation were quickly habituated to Galvanic skin response, which was reflected in their 'cool response' to fear arousing situation, over a period of time as compared to non-meditators. It proves that relaxation response resulting from meditation is qualitatively different from the one obtained through conventional of entertainment.

### **Method of Meditation:**

Begins meditation with deep breath-in with both palms joined and brings to the centre of the eye-brows, and brings the hands back on this and gradually breaths out. The process of deep deliberate breathing continuous for ten minutes, during which the practitioner attempts to hear the sound of breathing and keeps a relaxed posture. Afterwards , he breaths little faster for about five minutes and than he has to produce a bee humming sound which is technically called 'Brahamary' for about ten minutes and than he stops deliberate breathing and observes the natural breathing .while observing breath he should silence his intellect by questioning "who am I?" visual impulses which distort the unitary state of consciousness are checked by fixing the gauge in the centre of the eye-brows, auditory inputs which disturb the concentration can be removed by fixing the ears on the heart beat. Thus all the sense organs are diverted inward, the individual is left with the breath and the gradually the sense of duality between practitioner and practice goes away and the individual will remain in a timeless all pervasive state of oneness. Behaviorally, the self observation and self-monitoring through meditation makes an individual more dilative and alone. A simple technique for psychological openness would be observation of the spontaneous breathing.

### *Significance of meditation:*

Recently, increased attention has been given to meditation–relaxation strategies to improve physical health, reduce pain, enhance immune response, improve emotional well-being, and foster spiritual growth.

Although it is often drowned out by our mental busyness with the stresses and responsibilities of daily life, no matter what our outer circumstances may be, there is a natural, quiet place available to all of us. Meditation is a wonderful way to connect with that place- our inner balance and once we come in contact with it, it becomes an invaluable refuge.

Meditation is not a way of making your mind quiet. It's a way of entering into the quiet that's already there- buried under the 50,000 thoughts the average person thinks every day. Depression, sadness, anger, frustration, drug addiction and alcoholism all stem from an inability to effectively deal with life's problems and an inability to express pent-up emotions. This is caused by our having too many wants and desires, and unrealistic expectations of comforts and pleasures, and an expected sense of gratification.

#### *Personality:*

Personality is viewed as the qualities observed in the adjustments of the individual to his environment, or the characteristic way in which responses to stimulating situations are made; or the habitual modes of behavior. There is organization in these qualities so that the same quality may be observed in the behavior of a given individual in making his adjustments. This definition must not be construed as only referring to the external behavior as an individual's personality. There are habits, attitudes, dispositions and internal drives which determine the characteristic of the adjustments. However, the external characteristics are emphasized because it is these which we see and which are interpreted to indicate the underlying personality.

*An Examination of the Relationship between Qigong Meditation and Personality Social Behavior and personality, 2004 by Leung, Yvonne, Signal, Anthony Qigong* meditation is an ancient form of meditation that has been linked with various health benefits. We were interested in whether or not this form of meditation has a relationship with personality. To this end, we administered the Eysenck Personality Inventory (EPI) to eighty Qigong meditation practitioners and seventy-four non-practitioners. The results showed that the number of years of qigong practice was negatively correlated with neuroticism, but there was no relationship with extraversion. Even after controlling for age, gender, and education level, the practitioners were significantly less neurotic than the non-practitioners. The study of Qigong meditation and personality may lead to a greater understanding of the various disorders characterized by high neuroticism, and may provide a viable treatment option for long-term health.

#### *The effects of Meditation:*

Meditation also produces a more active, willing and generous disposition. It quickens the life of faith, of love of God and our neighbor. It quickens our sense of duty and responsibility as men and above all, it follows that meditation influences to good. One man, after some weeks of practice, admits he no longer knows himself, and every one notices a change in his bearing and reaction. He is gentler, more understanding. He faces experience calmly. He is content; the pinpricks of life affect him less or not at all. He is in command of his own will and goes about his studies without fear. His whole development has been altered and he himself feels it steady from this arises an almost permanent condition of euphoria, of contentedness. We feel that gentleness and sympathy come more readily you will not feel like venting your spleen on others as frequently as before. You will regret it all the more. You will make anger, but something will be telling you that this is not only bad but even useless and that it really is not worth the than others do, not only lying but all forms of duplicity and dissimulation. You will sense the more keenly what every is not genuine, and even what is merely conventional in speeches and words and also in attitudes that men think they can take up on order to edify but more often they take up last they should lose face.

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## Probiotics begin to flex their muscle in sports nutrition market” – a research perspective of ‘Personalized Nutrition’ for endurance athletes

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### Abstract:

The potential benefits of probiotic foods in sports nutrition extending beyond immune response and enhancing endurance capacity among athletes up to the mark. Extensive exercise is suppressing the body’s immune response in both elite athletes and weekend warriors. Even, nutritional supplementations, those contain large quantities of protein causing gastrointestinal distress. In this context natural probiotic mixture like VSL#3 or next generation probiotics like clostridia cultures IV is proven to improve abdominal discomfort, promote general immunity and increase endurance capacity in sports persons. Performance based personalized nutrition plan is thus emerging in the field of sports medicine with the goodness of probiotics. The study involves exhaustive research to explore, assimilate and analyze data to derive relevant information on market competence of probiotics in promoting personalized nutrition plan among global athletic groups. According to International Association of Probiotics, the probiotic food market offers a great opportunity to expand \$2.7 billion global probiotic supplement market as probiotics found to be beneficial in several aspects – protecting respiratory tract and maintaining proper breathing function, Maximum utilization of leucine after exercise, utilization of lower amounts of whey protein by the athletes and protection from lactose intolerance. Probiotic strain *BC30* can increase absorption of leucine by 23% according to research. *Lactobacillus casei* has found to reduce incidence of infection among athletes. Personalized & performance specific nutrition plan is getting strategic importance in the area of sports nutrition to bring out actual potential of each athlete. Probiotics are replacing the processed nutritional supplement gradually as a potent functional food and capturing the market of sports medicine to bring optimum goodness from the athletes. Age, gender, life style, phenotype, genetic makeup and epigenetic imprinting are determining the individual nutritional need of the athletes. The future is coming with ‘Personal-diet-and-health relationship’ concept with a probiotic perspective of nutrition.

**Key Words:** Probiotics, personalized nutrition, sports medicine, epigenetics, nutrigenomics

### Introduction:

Probiotic bacteria are defined as live food ingredients that are beneficial to health of the host. Numerous health benefits along with enhancement of endurance activity among athletes are now introduced as an emerging field of sports medicine. Recent studies are suggesting that probiotics, as a potential functional bio-active food are enhancing the immune response of the fatigue athletes, maintain their bowel system, optimizing personal performance level and protecting them from oxidative stress injury (1). ‘Tailor-based personalized nutrition’ with probiotic supplementation may help athletes in avoiding unwanted gastrointestinal distress caused by consumption of synthetic nutrition supplements heavy with protein load and may allow the performers to bring their maximum output in the field of sports.

### Purpose Of The Study:

This analysis tries to find out the possible health benefits of probiotics, as a therapeutic preparation for endurance athletes. It finds out the ergogenic effects of probiotics in maintaining fatigue, improving immune response, maintaining healthy GI tract function and cutting-down the side effects of antibiotics and steroids. The study focuses on emerging field of probiotics in sports nutrition market with an enormous prospect. The study also aims to show market competence of probiotics in capturing the sports medicine market and how ‘personalized nutrition’ can be advocated to bring out maximum output of each athlete from various dimensions of sports with the help of probiotics

**Result:**

functional foods as a market term was initiated in Japan in late 1980s and is used to describe foods fortified with ingredients capable of producing health benefits (2). The concept is becoming highly popular with consumers because of highlighted awareness of the link between health, nutrition and diet. In modern era of nutrition science, genetic makeup & epigenetic imprinting are also significantly important in planning a daily diet. Along with this concept our understanding of the gut microbiota has expanded considerably in recent years due to the developments in molecular characterization of the gut microbiota and their metabolic capacity. Recent developments in genome sequence technology, high throughput genomics data and comparative metagenomics have all revolutionized microbiological research. New findings driven by mega projects such as the Human Microbiome Project<sup>4</sup> and the Meta Hit Project<sup>5</sup> have allowed high resolution microbial scan of the intestinal microbiota including the uncultivable species that have opened novel perspectives for clinical applications (3). The study thus consolidated with two distinct segments –

Potentiality of probiotic foods in athlete diet formulation with a perspective of ‘Personalized-diet-plan’. It focuses the molecular insight of how probiotics are interacting with host genome to bring possible positive health benefits from a sports nutrition vision.

Increasing popularity and market competence of probiotics along with other functional foods in recent years among athletes.

*Lactobacillus* and *Bifidobacterium* species in probiotics modulate gut microbial composition, thereby leading to improved gut health and thus help the athletes from gastro-intestinal discomfort. Extensive exercise results into alter brain-gut interaction that leads to severe to chronic belly pain, diarrhea etc. Stress has a way in suppressing inflammasome which is needed to maintain normal gut microbiota, but, probiotics are found to reverse the effect in animal models (4). Studies have shown that Supplementation with *L. fermentum* PCC<sup>®</sup> is associated with a reduction of symptoms in clinical indices of lower respiratory illness, GI symptoms at high training loads and cold and flu medication use in well-trained male cyclists. An increase in mild GI symptoms most likely reflects an adaptive response of the GI tract to alteration in the composition of the microflora. The increased recovery of total *Lactobacillus* species in faeces may have underpinned the clinical outcomes. Collectively these studies indicate that *L. fermentum* (PCC<sup>®</sup>) may be a useful nutritional adjunct for physically active males in both competitive and recreational settings (5). Now, most recently molecular insight of interaction between IBD and probiotics is in focus and is included in the existing discussion. IBD arises in part from a genetic predisposition, through the inheritance of three polymorphisms. An observation has shown that any of these polymorphisms of the Caspase-Activated Recruitment Domain (CARD15) gene are more prevalent in IBD. Similar response is observed in Autophagy-Related 16 Like 1 (ATG16L1) and Human Defensin (HBD -2, 3 and 4) genes. Nutrigenomics help in understanding the particular gene involved in IBD and suggests more strategic approach in choosing Probiotics and prebiotics for intervention. Both these functional foods reduce symptoms of gut inflammation by secreting some omega – 3 fatty acids and polyphenols. But, such approaches require that the gene of interest is functioning normally and is not mutated or down-regulated (6). Several studies are now introducing new ways of treating and managing IBD and Ulcerative Colitis by replacing antibiotics for avoiding unwanted side effects caused by the medicines. Such a therapy is VSL#3, a potent probiotic mixture of *Lactobacillus* and *Bifidobacteria* (7).

The most active area within the functional foods market in Europe has been probiotic dairy products, in particular, probiotic yogurts and milks. In 1997 these products accounted for 65% of the European functional foods market, valued at US\$320 million and accounting for 23% of the market. Leatherhead Food RA's 1996 report valued the global market for functional foods at US\$6.6 billion in 1994, with Japan accounting for just less than one-half of that. Forecasts suggest that the market will have reached US\$17 billion by 2000, with the long-term potential to become as big as the low-fat and low-calorie markets, which are estimated to be in excess of US\$87 billion. The report's findings show the probiotic market was valued at \$24.23 billion in 2011 and is expected to grow at a CAGR of 6.8% from 2012 to 2017. In 2011, Asia-Pacific led the global market with share of 40.0%, followed by Europe and North America in terms of revenue. Looking ahead, the report shows that probiotic dairy products commanded the highest market share among all the probiotic foodstuffs, accounting for almost 80% in the year 2011, and is expected to reach a market size of almost \$23.93 billion by 2017 (8)

**Discussion:**

Together, the genomic approaches and health aspect of probiotics have identified several bacterial factors that are involved in modulation of the immune system and mucosal barrier, and have revealed that a molecular 'bandwidth of human health' could represent a key determinant in an individual's physiological responsiveness to probiotics. Within this scope probiotics based 'personalized nutrition' is approaching the global market of sports nutrition with an enormous competence.

**Conclusion:**

The study explains the goodwill of probiotics, as a functional food for sports person and how it is getting popularized in the sports medicine market with several health promotional effects. By including probiotics in daily athlete diet immune response, gut health, protein utilization and personal performance can be enhanced. With such promising market competence probiotics are emerging as an alternative of synthetically processed nutritional supplements with an approach to personalized nutrition plan among global athletes.

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## **The comparative study on Physical Fitness of Schedule Tribe and Non-Schedule Tribe students**

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### **Abstract:**

The fitness of an individual, a society, a civilization and a government is very important in the life of the Nation. If a Nation is to remain strong physically, mentally, spiritually, and socially, education for Physical Fitness must be undertaken. It is self-evident that the fit citizens are nation's best assets and weak ones are liabilities. The wealth of the nation resides in the health and vitality of its people.

The objective of the present study was to compare the Physical Fitness of Schedule Tribe and Non-Schedule Tribe students. With the assistance and help of the experts in the field of Physical Fitness, Physical Education, Sports and previous researches on these areas a comprehensive and suitable AAHPERED Youth Fitness Test was select for Physical Fitness score. 480 male college students were randomly selected from twenty one academic colleges of Hemchandracharya North Gujarat University. For this research, AAHPERED Youth Fitness Test was organized for the purpose of to find out the Physical Fitness of Schedule Tribe and Non-Schedule Tribe students.

The obtained Physical Fitness score of Schedule Tribe and Non-Schedule Tribe students were analyzed by using group statistic and independent samples test.

The Physical Fitness Components score compared among Schedule Tribe and Non-Schedule Tribe students and results found that there is significant mean difference in 50 yard dash run, Standing Broad Jump and Pull-ups. Where as there is no significant difference in Shuttle Run, Sit-ups and Distance Run.

Key Word: Physical Fitness, Schedule tribe, Non-schedule tribe

### **Introduction:**

Physical Fitness is essential not only in terms of general health but also special physical requirement for competitive sports and certain highly specialized and demanding occupation.

It is universally accepted that success in various activities of games and sports mainly depends upon the Physical Fitness of its participants.

The AAHPERED Youth Physical Fitness Test has tremendously gained in importance and has been recognized as one of the major Physical Fitness Tests, variables such as strength, endurance, speed, power, flexibility, cardio-vascular endurance seem to play an important role to determine success in sports.

Tribal communities belong to different ethnological group, profess diverse faith and are at varied levels of socio-economic developments and constitute an important segment of the population.

Significance of the study:

Even though increasing recognition to Physical Fitness for health and efficiency is forth coming all over the world, still a lot of promotional and educative efforts are called for to bring about desirable attitudes especially in the youth, college going students towards physical activities and sports to develop Physical Fitness. Physical Fitness is the basic need for participation in games & sports. The fitness level of various Physical Fitness components is most important to choice of the sport event. The basic level of fitness has a vital role in improving any sport performance but there seems to be a lack of specific knowledge regarding the Physical Fitness of Schedule Tribe and Non-Schedule Tribe students. The purpose of present study was to compare the Physical Fitness of Schedule Tribe and Non-Schedule Tribe students.

## Methodology:

Subject:

Subjects selected for this study were 480 male students from 21 academic colleges of H.N.G. University at randomly. The average age of the subjects were twenty years, ranging from 19-23 years.

Variables:

The research scholar has taken AAHPERED Physical Fitness Test, which contain with major Physical Fitness components like speed, endurance, strength, flexibility and agility.

Independent variable: AAHPERED Youth Fitness Test:

50 Yards Dash Run, Standing Broad Jump., Shuttle Run, Sit-ups. Pull-ups and Distance Run.

## Statistical Analysis:

The data obtained by AAHPERED Physical Fitness Test score was subjected to the statistical methods in order to compare with Schedule Tribe and Non-Schedule Tribe students. As per statistical study, Group Statistics and Independent samples 't' tests were done. 'F' and significance score were found by Levene's Test for Equality of Variances. 't' and significant score found of t-test for Equality of Means. The level of significant was kept at 0.05

## Findings:

We shall here examine whether there is any difference in any Physical Fitness components scored by schedule tribe and non-schedule tribe students of the college. Independent Samples t-Test is chosen because the respondents of the two different groups are Independent of each other (schedule tribe and non-schedule tribe students). Moreover, the variable Physical Fitness components scored by schedule tribe and non-schedule tribe students of the college is a ratio data.

The null and alternative hypothesis for examining the difference in Physical Fitness components scored of schedule tribe and non-schedule tribe students of the college are:

$H_0$ : There is no difference in Physical Fitness components scored by ST and Non-ST students.

$H_1$ : There is difference in Physical Fitness components scored by ST and Non-ST students.

Table- 1

Group Statistics

	CAST	N	Mean	Std. Deviation	Std. Error Mean
50 yard DASH	ST	140	06.7276	0.39233	.03316
	Non-ST	340	06.8036	0.52489	.02847
Stan. Broad JUMP	ST	140	02.1398	0.12037	.01017
	Non-ST	340	02.1422	0.19952	.01082
Shuttle RUN	ST	140	09.4114	0.55634	.04702
	Non-ST	340	09.4571	0.58206	.03157
SIT-UPS	ST	140	34.0929	9.56530	.80842
	Non-ST	340	33.5176	9.02192	.48928
PULL-UPS	ST	140	11.1643	2.99547	.25316
	Non-ST	340	9.9353	3.63065	.19690
Distance RUN	ST	140	10.4228	1.15250	.09740
	Non-ST	340	10.6271	1.24773	.06767

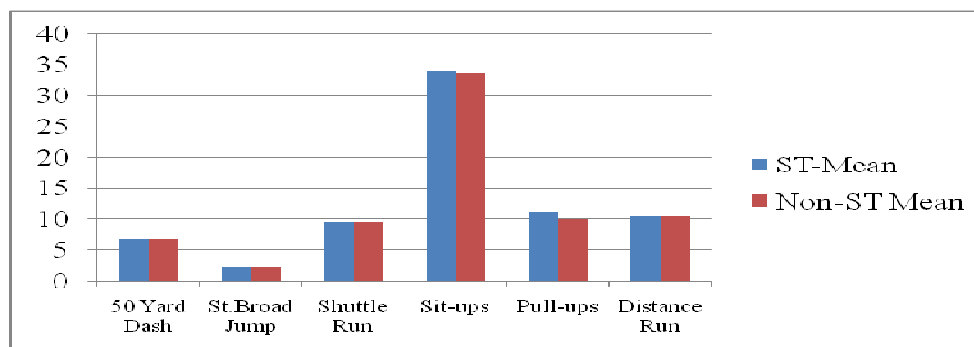


Table- 2  
Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
50 yard DASH	Equal variances assumed	7.963	.005**	-1.545	478	.123	-.0760	.0492	-.1727	.0207
	Equal variances not assumed			-1.739	343.001	.083	-.0760	.0437	-.1620	.0099
Stan. Broad JUMP	Equal variances assumed	23.862	.000**	-.132	478	.895	-.0024	.0181	-.0379	.0332
	Equal variances not assumed			-.161	414.109	.872	-.0024	.0149	-.0316	.0268
Shuttle RUN	Equal variances assumed	.170	.681	-.791	478	.430	-.0456	.0577	-.1590	.0678
	Equal variances not assumed			-.806	270.048	.421	-.0456	.0566	-.1571	.0659
SIT-UPS	Equal variances assumed	.455	.500	.624	478	.533	.5752	.9222	-1.2368	2.3872
	Equal variances not assumed			.609	245.954	.543	.5752	.9450	-1.2860	2.4364
PULL-UPS	Equal variances assumed	6.884	.009**	3.539	478	.000**	1.2290	.3472	.5467	1.9113
	Equal variances not assumed			3.832	311.318	.000**	1.2290	.3207	.5979	1.8600
Distance RUN	Equal variances assumed	.338	.562	-1.667	478	.096	-.2043	.12259	-.4452	.0366
	Equal variances not assumed			-1.723	278.909	.086	-.2043	.11860	-.4378	.0291

**Result and Discussion:**

The table-1 Group statistics displays the summary measures (N, Mean, Std. Deviation, Std. error mean) of the variable (score) selected for the independent samples t- test for both the groups - schedule tribe and non-schedule tribe students.

The table-2 Independence Samples Test contains the statistics that are critical to the research question. This table contains to sets of information for the analysis:

The first assumes equal variances and the second dose not.

To assess whether the variances of two groups are equal or not, we are required to use the significance level associated with the value under the heading, Levene's Test for Equality of Variances. The null and alternative hypotheses for Levene's Test for Equality of Variances are as follow:

$H_0$ : variances of two groups are equal. (ST and Non-ST Students).

$H_1$ : variances of two groups are unequal. (ST and Non-ST Students).

In our study, we have taken six variances (Physical Fitness variables i.e. 50 yard dash run, standing broad jump, shuttle run, sit-ups, pull-ups and distance run) in two groups (Schedule tribe and non-schedule tribe students). If the 'p' value is less than the significance level set up by us for the test, we reject the null hypothesis. Otherwise, we accept the null hypothesis.

The analysis of each variable of both groups done as below:

50 Yards Run of ST and Non-ST students:

In our study, Levene's Test for equality of variance F-value is 7.963 and its associated significance value 'p' is 0.005 The 'p' value is 0.005 being less than our significance level of 0.05 ( $0.005 < .05$ ). We reject the null hypothesis. The t-value is -1.545 and associated significance value is 0.123 Therefore we reject the null hypothesis for equality of means. In common parlance we can say there is statistically significant difference in the score of ST and Non-ST students.

Standing Broad jump of ST and Non-ST students:

In our study, Levene's Test for equality of variance F-value is 23.862 and its associated significance value 'p' is 0.00 The 'p' value is 0.00 being less than our significance level of 0.05 ( $0.00 < .05$ ). We reject the null hypothesis. The t-value is -0.132 and associated significance value is 0.895 Therefore we reject the null hypothesis for equality of means. In common parlance we can say there is statistically significant difference in the score of ST and Non-ST students.

Shuttle Run of ST and Non-ST students:

In our study, Levene's Test for equality of variance F-value is 0.170 and its associated significance value 'p' is 0.681 The 'p' value is 0.681 being larger than our significance level of 0.05 ( $0.681 > .05$ ). We accept the null hypothesis. The t-value is -0.791 and associated significance value is 0.430 Therefore we accept the null hypothesis for equality of means. In common parlance we can say there is no statistically significant difference in the score of ST and Non-ST students.

Sit-ups of ST and Non-ST students: In our study, Levene's Test for equality of variance F-value is 0.455 and its associated significance value 'p' is 0.500 The 'p' value is 0.500 being larger than our significance level of 0.05 ( $0.500 > .05$ ). We accept the null hypothesis. The t-value is 0.624 and associated significance value is 0.533 Therefore we accept the null hypothesis for equality of means. In common parlance we can say there is no statistically significant difference in the score of ST and Non-ST students.

Pull-ups of ST and Non-ST students: In our study, Levene's Test for equality of variance F-value is 6.884 and its associated significance value 'p' is 0.009 The 'p' value is 0.009 being less than our significance level of 0.05 ( $0.009 < .05$ ). We reject the null hypothesis. The t-value is 3.539 and associated significance value is 0.00 Therefore we reject the null hypothesis for equality of means. In common parlance we can say there is statistically significant difference in the score of ST and Non-ST students.

Distance Run of ST and Non-ST students:

In our study, Levene's Test for equality of variance F-value is 0.338 and its associated significance value 'p' is 0.562 The 'p' value is 0.562 being larger than our significance level of 0.05 ( $0.562 > .05$ ). We accept the null hypothesis. The t-value is -1.667 and associated significance value is 0.096 Therefore we accept the null hypothesis for equality of means. In common parlance we can say there is no statistically significant difference in the score of ST and Non-ST students.

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## **Effect Of Resistance And Endurance Training On Leg Strength And Cardio-Respiratory Endurance**

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### **Abstract**

The purpose of the present study was to find the effect of resistance and endurance trainings on leg strength and cardio-respiratory endurance. For this purpose, forty five female players from the Department of Physical Education and Sports Sciences, Annamalai University representing in various games and sports in the age group of 18 – 25 years were selected. They were divided into three equal groups, each group consisted of fifteen subjects, in which group – I underwent resistance training, group – II underwent endurance training and group – III acted as control group who did not participate in any special training and underwent their regular respective training sessions. The training period for this study was three days in a week for twelve weeks. Prior to and after the training period the subjects were tested for leg strength and cardio-respiratory endurance. Leg strength was assessed by using dynamometer and cardio-respiratory endurance was assessed by administering Cooper's 12 minutes run/walk test. The result of the study has shown that the resistance training group has significantly improved the leg strength but not in cardio-respiratory endurance and endurance training group has significantly improved their cardio-respiratory endurance and also in leg strength after twelve weeks of training when compared with the control group. Moreover, there was a significant difference has occurred between the training groups on leg strength in favor of resistance training.

### **Introduction**

Human beings have consistently tried to run faster, jump higher and exhibit greater strength, endurance and skill. We are naturally competitive and ambitious of excellence in athletic performances. As a result of practical experience, observation and scientific experimentation, old method of conditioning, though fascinating and rich in tradition, have been discarded and replaced by new methods based on insight and understanding. For centuries, this evaluation towards better methods of conditioning was slow, but in the recent years the dramatic changes that have taken place have brought about some astounding results in performance. New advances in science make it possible to run faster and jump higher than ever before. Plyometrics is a form of exercise, which links strength with speed of movement. There are two phases of muscle contraction during the running or jumping motion. Muscles go through a stretch phase, and then a contraction phase. Plyometric exercises are designed to shorten the cycle time between the two phases. A rapid cycle time allows maximum energy transfer between stretch and contraction phases. The new frontal platform shoes have been shown to dramatically improve the efficiency of plyometric exercises. Training in frontal platform shoes is increasingly becoming the method of choice for serious sprinters and jumpers. No other method develops as quickly, the specific muscle groups and neural connections essential for running, speed and jumping height. Strengthening one's muscles through resistance training offers many benefits and makes it easier to do one's daily routine. One can find that carrying your briefcase, doing laundry and hauling groceries becomes easier when one's arm and chest muscles are toned. Leg strength is very essential for sports persons, especially athletes. The strength of a muscle is related to its cross sectional area or girth. The larger the muscle, the stronger it is. Strength training increased the contractile protein that gives the muscle its pulling power. By comparing strength to performance, it is possible to determine if more strength is needed. If an athlete's performance improves with increased strength then strength training is to be recommended.



Cardio-respiratory endurance is the ability work close to one's maximum aerobic capacity for a prolonged period of time. To increase one's endurance is depend upon increasing the ability to work at high, relative work load for extended periods of time.

### Materials And Methods

This study under investigation involves the experimentation of resistance and endurance training on leg strength and cardio-respiratory endurance. Only forty-five female players from various games and sports those who were studying in the Department of Physical Education and Sports Sciences, Annamalai University from various classes and aged between 18 and 25 years were selected as subjects. The selected forty-five subjects were randomly divided into three groups of fifteen each, out of which group - I (n = 15) underwent resistance training, group – II (n = 15) underwent endurance training and group - III (n = 15) remained as control, which did not participate any special activities. The training programme was carried out for three days per week during morning session only (6 am to 8 am) for twelve weeks. Leg strength was assessed by using dynamometer and cardio-respiratory endurance was assessed by administering Cooper's 12 minutes run/walk test. The analysis of covariance (ANCOVA) was used to find out the significant difference if any, between the experimental groups on selected criterion variables separately. In all the cases, 0.05 level of confidence was fixed to test the significance, which was considered as an appropriate. Since, there were three groups involved, the Scheffé S test was applied as post hoc test

### Analysis Of Data

The data collected prior to and after the experimental periods on leg strength and cardio-respiratory endurance on resistance training group, endurance training group and control group were analysed and presented in the following table - I.

Table – I: Analysis of Covariance and 'F' ratio for Leg strength and Cardio-respiratory endurance for Resistance Training Group, Endurance Training Group and Control Groups

Variable Name	Group Name	Resistance Training Group	Endurance Training Group	Control Group	'F' Ratio
Leg strength (in kgs.)	Pre-test Mean ± S.D	46.31±1.86	45.81±2.16	46.11±1.861	1.019
	Post-test Mean ± S.D.	48.883±1.98	47.11±1.193	45.86±1.123	5.112*
	Adj. Post-test Mean	49.121	47.86	45.315	12.883*
Cardio-respiratory Endurance (Meters)	Pre-test Mean ± S.D	1286.3±25.12	1281.9±30.71	1287.6±29.55	1.598
	Post-test Mean ± S.D.	1289.5±26.88	1301.5±28.26	1288.9±27.46	9.213*
	Adj. Post-test Mean	1288.71	1312.65	1286.198	21.923*

\* Significant at .05 level of confidence. (The table value required for significance at .05 level of confidence with df 2 and 42 and 2 and 41 were 3.22 and 3.23 respectively).

Table – II: Scheffé S Test for the Difference Between the Adjusted Post-Test Mean of Selected Criterion Variables

Adjusted Post-test Mean on Leg Strength				
Resistance Training Group	Endurance Training Group	Control group	Mean Difference	Confidence interval at .05 level
49.121		45.315	3.806*	2.18167
49.121	47.86		1.231*	1.18167
	47.86	45.315	2.545*	2.18167
Adjusted Post-test Mean on Leg strength				

Resistance Training Group	Endurance Training Group	Control group	Mean Difference	Confidence interval at .05 level
1288.71		1286.198	2.512	18.37256
1288.71	1312.65		23.94*	18.37256
	1312.65	1286.198	26.452*	18.37256

\* Significant at .05 level of confidence.

#### Results:

Table – I showed that there was a significant difference among resistance training group, endurance training group and control group on leg strength and cardio-respiratory endurance.

Table – II shows that the Scheffé S Test for the difference between adjusted post-test mean difference in leg strength between resistance training group and control group (3.806), endurance training group and control group (2.545) and resistance training group and endurance training group (1.231) were significant at .05 level of confidence. Table – II also shows that the Scheffé S Test for the difference in cardio-respiratory endurance between adjusted post-test mean of resistance training group and endurance training group (23.94) and endurance training group and control group (26.452), which were significant at .05 level of confidence. And there was no significant difference between resistance training group and control group (2.512) on cardio-respiratory endurance after the training programme.

#### Discussion on Findings:

Based on the results of the study, the following findings were drawn:

Both the training groups have significant increase in leg strength when compared with control group. Moreover, the resistance training group has better improvement in leg strength than the endurance training group. This result is in line with the findings of **K. Spanos et al** (2007), and **W.J. Kraemer et al** (2001) were found that there was a significant increase in leg strength after the resistance training. **Hennesay and Watson** (1994) have found that combined training (resistance and endurance training) have improved the strength significantly.

There was a significant improvement in cardio-respiratory endurance after the endurance training when compared with resistance training and control groups. But there was no significant improvement in cardio-respiratory endurance after the resistance training. This result is in line with the findings of **Raja** (1992) and **Uppal** (1980) found that there was a significant improvement in cardio-respiratory endurance after the endurance training.

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## Determination Of The Factors That Motivating The Outdoor And Recreational Sports

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**Abstract:** determination of the factors that motivating the outdoor and recreational sports. Outdoor recreation's contribution to health can be considered in the context of wellness. The World Health Organization (2003) defines health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. The research literature on outdoor recreation as it relates to human health is vast and growing. To help policymakers take these new and emerging findings into account when designing recreation and park services and initiatives for the 21st century, this paper summarizes

**Keywords;** motivating the outdoor and recreational sports. Outdoor recreation's contribution to health can be considered in the context of wellness.

### **Introduction**

Recreation was recognized, but little attention was paid to human health benefits. Since then, however, research has confirmed a link between physical activity that takes place outdoors and positive health outcomes and also an association between an indoor, sedentary lifestyle and negative health consequences. There is also evidence that both being outdoors and viewing natural scenescan reduce stress. The links are sufficiently strong that researchers and practitioners in health relate are now beginning to identify parks and recreation as a health service. Even though there has been a growing interest in motivational factors of the popular and dominant sport brunches, researches on outdoor and recreational sports consumers haven't been a main focus of investigation among the academic area of sport management.

The current study is intended to document the motivating factors of the consumer and optimize the benefits, both in the marketing and in the consuming process in outdoor and recreational sports

Outdoor recreation's contribution to health can be considered in the context of wellness. The World Health Organization (2003) defines health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. This definition moves from a strictly medical model of health toward the concept of well-being. The Alberta Centre for Well Being (1989) finds that the concept of well-being or optimal health involves a delicate balance among physical, emotional, spiritual, intellectual and social health and then lists a wide range of dimensions, from fitness, nutrition, and stress management to meditation, education, and relationships. Outdoor recreation touches on all those aspects of health and can enhance not only physical health but also emotional well-being. Just being outdoors, for example, has been shown to confer health benefits. The research literature on outdoor recreation as it relates to human health is vast and growing. To help policymakers take these new and emerging findings into account when designing recreation and park services and initiatives for the 21st century, this paper summarizes

### **Resources for the Future**

The salient issues. Throughout, the reader will find questions that identify research gaps an indication that the subject area is fertile ground for additional attention.

Section 2 considers how being outside in natural surroundings may improve health, and

Section 3, how outdoor physical activities benefit participants.

Section 4 examines children's health problems obesity and hyperactivity in particular that can be mitigated through outdoor play, sports, and nature study.

Section 5 describes approaches to measuring physical activity and recent trends in park visitation and outdoor activity participation, and Health Benefits of Outdoor Recreation

Outdoor recreation contributes to wellness mostly through prevention, and the most beneficial outdoor pursuits are those that become part of one's life, done on a regular basis. Many participants embark on a career in a particular activity, becoming more devoted to it and adapting their participation to changing life circumstances (e.g., Bryan 1970; Stebbins 1992). Research question: Is there a link between outdoor recreation careers and positive health consequences that would demonstrate the benefits of long-term, serious involvement in outdoor recreation?

### **General Health Benefits of Outdoor Activity**

Outdoor recreation often comprises several kinds of activity. Bird watching, for example, may involve walking, interpreting sounds and visual clues, and socializing with fellow birdwatchers; each of these has its wellness implications. Walking is a common denominator foremost forms of outdoor recreation. Brisk walking for just three hours a week or half an hour each day is associated with a 30 to 40 percent lower risk of heart disease in women (AARP 2008, citing the 20-Year Nurses' Health Study). Walking has been shown to have many health benefits for older adults:

Thus, any outdoor pursuit that includes walking can contribute to overall factor that motivating the outdoor and recreational sports. Outdoor motivating and Recreation Children's Children who spend time outdoors are motivating and Recreation, for the overall, than their indoor counterparts. Two health consequences of insufficient physical activity are obesity and attention deficit

### **The statement of problem.**

The purpose of the study is on determination of the factors that motivating the outdoor and recreational sports.

### **The Delimitations of study**

The motivation of the sport fans, spectators and participants However specific researches on outdoor and recreational sport consumers has major focus of investigation despite the boom in the participant numbers and increased attention to the natural spots that facilitating the outdoor sports Apart from the some clubs, a few related federations, and limited Number of NGO activities, outdoor sports

### **Limitations**

The study was by conducted men's and women's under age group between 40 years to 50 years.

The study was by conducted adult children's under age group between 10 years to 14 years.

### **Methodology**

Like all methods of qualitative and quantitative research methodology into both education and sports is open to vast discrepancies in information bequeathed, involving a range of possible interpretations into motivating the outdoor and recreational sports participation levels. Data obtained through numerically monitoring parturitions level is open to vast fluctuations relating to what time of the year a survey is commissioned and questionnaires are so broad based as to pose analytical problems in themselves. The present research is undertaken in the perceptual framework. It is the correlation study within the ex-post-facto research design. The particulars of the sample size, tools, instructions, scoring, statistical tools, collection of data and statistical analysis are given below.

a) Sample: To measure the impact determination of the factors that motivating the outdoor and recreational sports of on the level of men, women, and adult children's boys and girls . The investigator has selected total 800 samples. Among them 200 men and 200 women including adult children's boys 200 and girls 200 both determination of the factors that motivating the outdoor groups.

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- <http://www.bls.gov/tus/current/leisure.ht>

## Bio Magnetic Waves Frequency Of Mind Wave And Functions

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### Introduction:

The bio magnetic waves through our faculties (Sense organs) enjoy and experience the 'activities' in the world and take them to the genetic centre and store them as imprints. At that point of time 'the stock' becomes hyperactive and extends as mind.. The mind is the ultimate result in the transformation of the bio magnetic wave.

### Discussion

Mind : When bio magnetic waves are passing through the brain, it functions as mind. When these waves function through five sense organs we feel all the five senses. As this happens the bio magnetic wave continuously go out of the body through skin, tongue, eyes, nose and ears. When it passes out through eyes we 'feel' the light. Through ears we feel the sound. Through nose we feel the smell and through skin we feel the body contact with another object.

Functions of the Mind : 1. Compresses and stores everything in a miniature form as imprints 2. Expands them in full forms as thoughts.

Imagine a huge building captured in a stamp size photograph. Standing at the top of a hill one can see the whole city down below. It doesn't mean one's eyes are so big. The light waves that come out of the 'visual' I into the eyes as a dot which get shrunk in the brain. It gets converted into magnetic waves and get mixed with the bio magnetic force as imprints. One can retrieve this visual whenever one wants to, even closing ones eyes. Everything that is perceived through senses becomes tiny dots in the brain cell.

The bio magnetism is circulating throughout the body and as per specific gravity principle the intensified bio magnetism finds a centre at the middle of physical body. This centre is called 'genetic centre'. The visuals that are imprint in the bio magnetic waves reach genetic centre and stored as imprints. The brain cells transform energy sensory perceptions into a characterized wave and get stored in the genetic centre-as moulds with their characters and appearance intact.

Bringing back to the pre-shrunk stage :

All sensory perceptions perceived by all the five senses stored in the genetic centre as described above are retrieved as 'thoughts'. The bio magnetic field is the originating point for all our 'thoughts'. Hence it is the 'mind'. This collection of bio magnetic waves is called 'casual body' and magnetic body.

Mind is a mysterious phenomenon of scientific interest. It works with genetic centre as its base. Mind itself is a network of eight closely integrated functions; which make the difference between living beings and non-living objects. They are :

1.Body, 2.Life force, 3. Bio magnetism, 4.Genetic Centre, and 5.Brain.

6. The life-force, 7.Mind, and 8.Sense organs.

The physical body is made up of,

Body : a) Fundamental energy particles b) Air, c) fire and d) Water e) Land.

Life force : Independent Fundamental energy particle when functions in a living being in a self rotating, whirling circular movement is called life force particles. When the circulation of free fundamental energy particle is ensured in a circuit, the object has life.

Bio magnetism : Due to the Pressure of surrounding force, the formative dust particles come out of life force particles and spread out as bio magnetic waves.

Genetic Centre: The bio magnetic waves which move around all over the body with great momentum following the philosophy of 'organized pattern with precision' become dense at the centre of the body which is 'genetic centre'.Brain: Bio magnetic waves when functions through brain cells feel all the bio magnetic waves as self transformed sensory perceptions.

The Soul : In a living being all enjoyments and experiences get stored in the genetic centre. All happenings ever since the starting of evolutionary

process as a continuum get compressed by the absolute space and stored as imprints in the genetic centre and this is the soul.Mind :

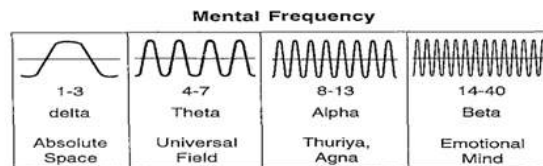
The bio magnetism passing through the brain works as mind. It understands the change in intensity of bio magnetism passing through various sense organs when it gets contact with outside objects or living beings. It perceives the shape of outside object and makes it tiny dots and stores in the genetic centre. These perceptions stay in the genetic centre. Based on the need, habit, circumstances these compressed perceptions are expanded in the brain cells to become ' thoughts'.

Sense organs: These organs perceive all the 'happenings' around them.

### Conclusions:

The mind is the collection of bio magnetic wave which has the self transforming capability and which has a whirling speed. The speed or the mental frequency can be measured as cycles per second. Encephalograph is an apparatus that records in the form of drawing the electrical activity of the brain, which is called encephalogram (EEC) EEG (electroencephalograph) is an apparatus that records in the form of drawing the electrical activity of the brain.

Electroencephalogram is the drawing.As we all know that the bio magnetic waves whirl around all over. Even the brain cells are controlled by these waves which are otherwise called the mind. If we consider brains EEG as mind's EEG it may mean the same.The scientists using EEG have discovered that mental frequency level is from 1 to 40 cycles per second (CPS); one is the minimum and 40 is the maximum. The psychologists describe the frequency at four levels.



When the mind functions as five senses the mental frequency is between 14 and 40 cps. At this point the bio magnetic force is spent in large amount. Mind self transforms into shapes and sizes and characters of the perceived things. Emotions rule over. This is Beta stage.

But in sleep, mind comes to Alpha stage with a frequency of 8 to 13 cycles per second. Because, mind is not awoken, no perception takes place. When we are in meditation also the mental frequency level is at the alpha stage i.e. 8 -13 cycles per second. But mind is awake. But remain peaceful. No emotional disturbances are felt. As a result bio magnetic force is less spent. But wisdom-Consciousness gets sharpened. All six blemishes become good slowly and at one stage all bad qualities of a man disappear.

If one goes deep into meditation there is the possibility of the frequency getting still lesser and can reach Theta stage (4 to 7 Cycle per second) Mind expands and reaches the entire universe.

Siddha Yogis reached beyond the universe, the Absolute intensified meditation at the mental frequency of 1-3 cps. This is called delta stage. Man sees himself in unison with God and becomes the delta stage. But a normal man remains in Beta stage. In sleep and in deep thinking he reaches Alpha stage. Only a few with meditations and introspection try to reach the other two stages. But everyone can reach the Delta Stage with regular meditation and leading a spiritual life.

Imprints :Every experience happens in a particular mental frequency and gets imprinted in the same frequency. Whenever the mind reaches that frequency the imprints blossom into 'thoughts'.

The repeated actions in the same frequency will become habit. The particular mental frequency level becomes stronger. That's why habits once formed become difficult to get rid of. To change or avoid recurrence of the frequency one has to consciously try to avoid such activities. This is possible through introspection and meditation. At the same time the most valued bio-magnetic force is also saved. Mind in self transformation makes every experience and enjoyment imprinted at the genetic centre. It shrinks and expands every time as and when required. Exploring one's perceptions one can make his mind live in peace in other words, makes the man live in peace.

### Reference:

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## **“Effect of sports participation by the parent on Physical Fitness of their child**

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### **Abstract:**

The objective of the present study was to analyze the Influence of selected socio-economic condition factor, “sports participation by the parent” on Physical Fitness of college male students. With the assistance and help of the experts in the field of Physical Fitness, Physical Education, Sports and previous researches on these areas, a comprehensive and suitable Physical Fitness and Socio-economic factor package was evolved. 480 male college students were randomly selected from twenty one academic colleges of H.N.Gujarat University. For this research, AAHPERD Youth Fitness Test for Physical Fitness and Questionnaire for Socio-economic condition data of the same students was organized for the purpose of finding out the effect of “sports participation by the parent” on Physical Fitness. The obtained Physical Fitness score and Socio-economic condition factor, “sports participation by the parent” score were analyzed by using analysis of co-variance for significant influence of “sports participation by the parent” on Physical Fitness. The researcher has studied all samples in two groups. The groups were as below;

- A. Rural and Urban area all students.
- B. Tribal and non-tribal area all students.

Analysis the data by use of SPSS programme and find out the mean score of sports achievement by the members of the family, mean score of Physical Fitness of the sample and "F" values in all four groups and compare the result.

The calculated 'F' value of rural area all students is 1.634, Non-tribal area all students is 1.641 and were significant at both 0.01 and 0.05 levels whereas tribal area all students is 1.531, were significant at 0.05 levels. Urban area all students is 0.758 not significant at both levels.

Keywords: Physical Fitness, ST & Non-ST, Sports Participation

### **Introduction:**

Physical Fitness is one's richest possession; it can't be purchased but can be earned through a daily routine of physical exercise. Earlier physical fitness means the capacity of an individual to perform given physical task involving muscular efforts. But this narrow concept of Physical Fitness has undergone a change, now a new concept of "Physical Fitness" is evolved. According to AAHPERD, "Physical Fitness means that state which characterizes the degree to which the person is able to function". Ability to function depends upon the physical, mental, social and spiritual components of fitness, all of which are related to each other and also mutually inter-dependent. Adequate level of Physical Fitness should be developed early in life and then continuously maintained through regular participation in a well-designed activity programme to promote the total well being of an individual. Children should be fit for participation in the play activities of childhood, through which they develop organic vigor, strength and other fitness qualities. Physical Fitness is the basic need for participation in games & sports. So, it is universally accepted that success in various activities of games and sports mainly depends upon the physical fitness of its participants. The basic level of fitness has a vital role in improving any sport performance but there seems to be a lack of specific knowledge regarding effect of sports achievements of the family members on the Physical Fitness of their child.

It has been a matter of great concern for the sports teacher and coaches to assess the effect of sports achievements of the family members on Physical Fitness of their wards. In order to accomplish this, I studied “**Effect of sports participation by the parent on Physical Fitness of their child**”

**Significance of the study:**

Even though increasing recognition to Physical Fitness for health and efficiency is forth coming all over the world, still a lot of promotional and educative efforts are called for to bring about desirable attitudes especially in the youth, college going students towards physical activities and sports to develop Physical Fitness.

If we view in the field of physical education and sports, physical fitness plays a major role. The sportsman who doesn't have optimum level of physical fitness can not face the competition successfully. Some parameters such as family support, financial, moral, education and sports background of the family could also assist in the overall fitness as well as performance of their child. Inter-personal relationship with residential status, mode of stay and involvement of family members may lead to lack of support to participate in sports practice. The desired goals can be achieved better in sports performance, if the members of the family are also involved in sports and games participation. In absence of it, sports person as well as the society will suffer a greater lose.

Physical Fitness is the basic need for participation in games & sports. The basic level of fitness has a vital role in improving any sport performance but there seems to be a lack of specific knowledge regarding "Effect of sports participation by the parent on Physical Fitness of their child". So, the study intends to identify the effect of sports achievement by the members of the family on physical fitness of their child in tribal and non-tribal area.

**Purpose of the study:**

The purpose of present study was to compare the "Effect of sports participation by the parent on Physical Fitness of their child".

**Methodology:****Subject:**

Subjects selected for this study were four hundred eighty male students from twenty one academic colleges of Hemchandracharya North Gujarat University at randomly. The average age of the subjects were twenty years, ranging from 19-23 years.

**Variables:**

The research scholar reviewed the available scientific literature pertain to the socio-economic condition and Physical Fitness from the books, journals, periodicals, magazines and research papers and listed down the important socio-economic condition factors and Physical Fitness Test.

The experts in the field of Physical Education and Sports were consulted and detailed discussions were held related to the Physical Fitness and socio-economic condition variable. On the bases of review of related literature, expert's opinions and research scholar's own understanding of Physical Fitness and socio-economic condition, the following variables were selected for the purpose of this study.

**Independent variable:**

AAHPERD Youth Fitness Test total score.

**Dependent variables:**

Sports participation by parent.

**Statistical Analysis:**

The data obtained by various criterion measures for Physical Fitness and socio-economic condition variable " sports participation by the parent" score were subjected to the statistical methods in order to compare with four groups which are given as below;

- A. Rural and Urban area all students.
- B. Tribal and non-tribal area all students.

As per statistic study, ANOVA test were done. Where the value of 'F' was found and compared with tabulated 'F' value. The level of significance was kept at 0.01 and 0.05



**Findings:****TABLE**

Total samples, mean score of sports achievements by the members of the family, mean score of Physical Fitness of the sample, "F" value, significant level at 0.05 and significant level at 0.01 in all four groups.

	Group-1		Group-2	
	Rural area all	Urban area all	Tribal area all	Non-tribal area all
Total number of samples N	446	34	206	274
Mean score of Sports achievement	1.70	3.08	1.43	2.08
Mean score of Phy.Fit.	32.25	25.77	30.95	32.42
Calculated "F" Value	**1.634	0.758	*1.531	**1.641
Tabulated Sig.level at 0.05	1.32	3.81	1.37	1.35
Tabulated Sig.level at 0.01	1.47	7.23	1.56	1.53

**Discussion Of Findings:**

On the basis of the findings shown in table following discussion may be drawn as below:

**GROUP-1**

As shown in Table, calculated 'F' value of rural area all students is 1.634, this is significant at both 0.01 and 0.05 level and urban area all students is 0.758, this is not significant at both 0.01 and 0.05 levels.

In comparison to rural area all students and urban area all students, sports participation by the parent have significant affect Physical Fitness of rural area all students whereas there is not significantly affect Physical Fitness of urban area all students.

**GROUP-2**

As shown in Table, calculated 'F' value of tribal area all students is 1.531, this is significant at 0.05 level and Non-tribal area all students is 1.641, this is significant at both 0.01 and 0.05 levels.

In comparison to tribal and non-tribal area all students, sports participation by the parent have significant affect Physical Fitness of tribal area all students at 0.05 level, whereas there is significant affect Physical Fitness of Non-tribal area all students at both 0.01 and 0.05 levels.

**Conclusions:**

On the basis of the findings shown in table, sports participation by the parent significantly affect Physical Fitness of rural area all, tribal area all, non-tribal area all, college students, whereas did not significantly affect urban area all college students.

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## Physical Activity and its Effect on Forced Expiratory Volume

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### Abstract

To assess and compare changes in pulmonary functions before and after Exercise In Young Healthy Adults. The case-control study was carried out from January to March 2014 on 292 Post Graduation students aged 21-24 years at Sri Krishnadevaraya University, Anantapuramu, Andhra Pradesh, India. Baseline values for forced expiratory volume (FEV1) and forced vital capacity (FVC) were measured with a digital spirometer, and the FEV1: FVC ratio was calculated. The lung functions of Group I comprising 192 volunteers after aerobic exercise of 30 minutes daily, for five days over eight weeks, was compared with Group II having 100 controls who did not participate in any physical activity. SPSS 15 was used for statistical analysis. At the end of eight weeks, there was a significant rise in FEV1 ( $2.49 \pm 0.82$  to  $2.59 \pm 0.79$  liters), decline in FVC ( $2.80 \pm 0.92$  to  $2.7 \pm 0.87$  liters) and an increase in the FEV1: FVC ratio ( $89.52 \pm 12.66$  to  $95.56 \pm 13.42$ ) in Group I students. Improvement in pulmonary functions was noticed as a result of physical activity.

**Keywords:** Forced expiratory volume, Forced vital capacity, FEV1/FVC ratio.

### Introduction

Exercise has been a means of testing the physical capabilities and physiological responses of an individual that form the basis of good health and well-being. It develops the ability to tolerate, withstand stress, and carry on in circumstances where an unfit person cannot continue. Lung function is an important predictive tool of both morbidity and mortality in medical practice. The Buffalo Health Study concluded that pulmonary function is a long-term predictor of overall survival rates in both genders and can be used as a tool for general health assessment.<sup>1</sup> Pulmonary function tests include the forced expiratory volume (FEV1), which is the amount of air exhaled in one second, and the forced vital capacity (FVC), which is the maximum amount of air that can be exhaled in a single breath. Both FVC and (FEV1) are measured with the help of a spirometer.<sup>2</sup> Later, the FEV1/FVC ratio, which is the percentage of the FVC exhaled in the first second, can be calculated.<sup>2</sup> Exercise is a stressful condition that produces marked change in body functions, improves endurance and reduces breathlessness. Skeletal muscles control many crucial elements of aerobic conditioning, including lung ventilation. The possible explanation could be that regular forceful inhalation and deflation of the lungs for prolonged periods leads to strengthening of respiratory muscles.<sup>3</sup> There might be an increase in the maximal shortening of the inspiratory muscles as an effect of training, which has been shown to improve lung function parameters.<sup>4</sup> As far as effect of exercise on lung functions is concerned, recent developments in exercise physiology have shown significantly positive improvements.<sup>5</sup> However, non-significant associations have also been reported.<sup>6</sup> In view of the two contradictory studies, authors were keen to know the role of physical activity in the modification of lung functions; positive results, if derived, could then be communicated to the students for their fitness and well-being.

**Purpose of the Study** To assess and compare changes in pulmonary functions before and after exercise in young healthy adults.

## Subjects and methods

The case-control study was conducted at Sri Krishnadevaraya University, Anantapuramu, Andhra Pradesh, India from January to March 2014 on 292 Post Graduation students aged 21-24 years. Subjects were assigned to 2 groups (cases and controls) using a system of random number tables. The sample size calculated was a minimum of 94 and 187 for controls and cases respectively.<sup>7</sup> After taking informed consent, a detailed history was noted. This was followed by a physical exam of each participant and those with a past medical history suggestive of asthma and exercise-induced asthma, smoking, chronic cough, recurrent respiratory tract infection, history of chest or spinal deformity, obesity, and chronic obstructive lung diseases were excluded from the study. Pulmonary function tests and their ratio was measured for all the subjects before exercise with the help of a digital spirometer (Microlab 3300 electronic spirometer, Micro Medical Limited, Kent, England). Standardized measurement procedures were used: subjects seated comfortably were demonstrated the technique, emphasizing the tight fit between lips and tube and encouraging the subject to breathe out as long and forcefully as possible. After one trial run, the best-of-three technically satisfactory man oeuvres was recorded by a single experienced technician. The ratio calculated by the spirometer was later confirmed manually. The experimental group had 210 student volunteers who performed aerobic exercise for 30 minutes, five days per week, for eight weeks.<sup>8</sup> The exercise was supervised cycle ergometry with a target of moderate intensity, performed on an electronically braked cycle ergometer (Medical Graphics, St. Paul, MN). The subjects pedaled at a rate of 60 to 80 revolutions per minute. Trained staff supervised and measured the pulmonary functions after each exercise session.<sup>9</sup> During the study, 18 candidates were left out: 6 had a fall in FEV<sub>1</sub>, 10 developed exercise-induced asthma, and 2 left of their own accord. The control group continued with the routine and performed no specific exercise.<sup>8</sup> The FEV<sub>1</sub>, FVC and FEV<sub>1</sub>/FVC ratio was then compared with pulmonary functions of the cases. All the data was analysed with SPSS version 15. Values were presented as mean  $\pm$  standard deviation and p value at  $<0.05$  was considered significant.

## Results

This study included 292 students with the mean age of  $22 \pm 2$  years. Group I (cases) comprised 192 students: 103 (53.64%) females and 89 (46.35%) males. Group II (controls) had 100 students: 46 (46%) males and 54 (54%) females. The baseline FEV<sub>1</sub>, FVC and FEV<sub>1</sub>/FVC of all students represented the first set, while the second set of readings in Group I after exercise was compared with Group II. There was no change in baseline pulmonary functions in the controls, while FEV<sub>1</sub> was raised, FVC was reduced and FEV<sub>1</sub>/FVC ratio was raised in the cases (Table).

Table

**Comparison of Lung Function Tests in Study and Control Groups (with and without exercise)**

	Initial values		Eight week (final) values		P - value
	Experimental Group – I Mean $\pm$ SD	Control Group – II Mean $\pm$ SD	Experimental Group – I Mean $\pm$ SD	Control Group – II Mean $\pm$ SD	
FEV <sub>1</sub> (litre)	2.49 $\pm$ 0.82	2.40 $\pm$ 0.82	2.59 $\pm$ 0.79	2.40 $\pm$ 0.82	$< 0.0001$
FVC (litre)	2.80 $\pm$ 0.92	2.80 $\pm$ 0.92	2.7 $\pm$ 0.87	2.80 $\pm$ 0.92	$< 0.0001$
FEV <sub>1</sub> /FVC (%)	89.52 $\pm$ 12.66	89.50 $\pm$ 12.66	95.56 $\pm$ 13.42	89.50 $\pm$ 12.66	$< 0.0001$

## Discussion

Physical activity, vital for healthier existence, is a complex behaviour that is nurtured by environmental and biological factors.<sup>10</sup> In day-to-day life, moderate level of physical activity has a number of positive influences on all systems, especially cardiovascular and respiratory. Respiratory function depends on many factors, including nervous system, strength of respiratory muscles, and lung dimensions. There are different parameters used for the measurement of lung functions, but FEV<sub>1</sub> has been proven to be most crucial in detecting pulmonary changes easily and effectively in clinical settings the patient turnover is high and in settings where obesity is prevalent.<sup>3</sup> Another variable is the FVC, which is the maximum volume of air exhaled with maximal effort with deep inspiration, and predicts the compliance of lungs and the chest wall. FEV<sub>1</sub>/FVC (FEV<sub>1</sub>%) is the ratio between the two and in healthy adults this should be approximately 75-80%.<sup>12</sup> In our study improvement in FEV<sub>1</sub> after an 8-week

exercise course is comparable to a study in which significant augmentation in FEV1 and FVC were observed after physical training in healthy male welders.<sup>13</sup>

These results also agreed with a previous study which proved that ventilatory exercise programme improves all measured pulmonary parameters.<sup>14</sup> An association between physical activity and FEV1 and FVC has been reported by previous studies in the general population. Men who remained active had higher FEV1 and FVC than those who led a sedentary lifestyle.<sup>15</sup> Another study found no correlation between pulmonary functions and physical activity.<sup>16</sup> Our results correspond with a study that reported significant improvement in FEV1 (mean change of 17%) after one month of physical training in healthy volunteers from the jute and hemp industry.<sup>17</sup> As far as airways are concerned, activity-induced bronchodilation reduces airway resistance and improves pulmonary ventilation. It is known that normally the volume and pattern of ventilation are initiated by neural output from the respiratory centre in the brainstem. This output is influenced by input from chemoreceptors, proprioceptive receptors in muscles, tendons and joints, and impulses sent by nerves to the intercostal and diaphragmatic muscles. Muscular exercise increases the rate and depth of respiration to improve FVC, the consumption of oxygen and the rate of diffusion.<sup>18</sup> The increase in FVC post-exercise might be related to the enhanced strength of respiratory muscles following training, reduction in air trapping, improvement in lung compliance, reduced airway resistance, reduced blood lactate concentration and improved lactate uptake by these trained muscles (as fuel for their own activity) along with a motivation which enforces the subject to take deep inspiration and fill all air passages after training.<sup>19,20</sup> It is well known that physical activity can help reduce bodyweight and increase muscle mass in the general population. Exercise training has been shown to improve respiratory capacity, airway resistance, exercise tolerance, and work of breathing.<sup>21</sup> The study gives a clue to improvement in muscle strength, endurance, maintaining of positive pressure in the airways and improving the efficiency of ventilation with regular exercise. We observed a slight fall in FVC, an isolated finding which could be either due to variation in height, age and weight of the participants. Spiro metric measurements show a variability because the results are dependent on patient's efforts and consistency. Thus, in order to reach an effective level of FVC, people may have difficulty compared to producing FEV1.<sup>22</sup> Restrictive lung disease is characterized by decreased FEV1 and FVC, and the ratio is often between 85%-100% of normal. So an isolated fall in FVC cannot suggest restrictive lung disease. According to the American Thoracic Guidelines, the lower limit of normal (LLN) is variable and patient values that are falling in close proximity should be interpreted with caution. The diagnosis of restrictive disease is usually based on the presence of a reduced total lung capacity. A reduced FVC in the presence of a normal FEV1/FVC may be used to suggest but not to diagnose the presence of a restrictive abnormality.<sup>23</sup> Our study was the first research in the region done in order to analyze the effects of physical activity on lung functions in healthy adults. Its limitations included the small sample size, inability to measure maximal oxygen uptake (VO<sub>2</sub> max), forced expiratory flow and peak expiratory flow.

### **Conclusion**

Repeated periodic exercise helped in improving lung functions, especially FEV1 and ratio of FEV1/FVC. Periodic measurement of FEV1 can help in generating awareness regarding lifestyle modifications, and acquiring a healthy habit of being active.

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## **Perceived Socio-economic Effect of Retirement on Elite Athletes**

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### **Abstract**

Retirement has become a regular part of working life irrespective of one career which includes sports. This study focused on socio-economic effect of retirement on elite athletes. Survey research design was used for the study. One hundred and Eighty retired elite athletes were purposively sample for the study. Retirement from Sports Survey was used as instrument of data collection, while multiple regressions were used to analyze the data at 0.05 level of significant. The findings revealed that retired elite athletes do indeed experience financial difficulties, and as a result have diminished socio-economic status after their retirement from sports. Based on the findings of the study, it was recommended that retired elite athletes need to be exposed to career planning and financial management, while sports psychologist should be involved in the management of career transition of elite athletes.

Key Word: Socio-economic, retirement, Elite Athletes.

### **Introduction**

Retirement in the current world of work goes beyond the common sense of time and rationale which are embedded. Today's work life is characterized by the fast disappearance of many traditional worker-roles, and the emergence of various new career opportunities based on social, economic, and technological changes. The implication is that retirement has become a regular part of working life during all stages. Several reasons have been propounded by theorists on what may prompt the person to seek career changes in life. Some of the reasons include; to meet personal needs, the mutual satisfaction between the person and his or her working environment and socio-economic status (Dawis, 1996). However, sports career is quite different from other career because athletes may retire at much younger age than standard retirement age. Change of athletic career may be caused by injury, deselection, or by the athletes free will. Just as change of career from other sectors of economy requires adjustment, retirement from elite sports also requires a number of adjustments, since athletic career termination and transition are inevitable issues that athletes must experience. Many athletes who change their career experience socio-economic difficulties simply because going through the transition from an athletic career to a new one can be extremely difficult (Lapchick, 2002; Herman, 2002).

The adjustment problems that some retiring athletes encounter have created a public opinion that retiring from elite sports is usually associated with adjustment problems in everyday life. A review of career literature reveals that elite athletes were confronted with a number of financial problems during career transition process (Taylor and Ogilve, 2001;). Although, these adjustments do not appear to be problematic for all retiring athletes, research conducted on emotional and social adjustment however, revealed that some elite athletes do indeed experience serious socio-economic difficulties upon athletic career retirement (Ajayi, 2007; Storch, Storch, Killiany and Roberti, 2005; Lotysz and Short, 2004). These factors have become a major concern for the Sports Psychologist, sports administrators and sports institutions. It has also increased interest in the phenomenon of retirement from sports with different theoretical perspectives (Wylleman, Alfermann and Lavallee, 2004). It has been observed that after retirement, some elite athletes are having difficulty in maintaining their social and financial status after retirement. This is an inevitable psychological trauma that athletes experience during career transition and adjustment to retirement.

## Methodology

One hundred and Eightieth (188) retired elite athletes were sampled using purposive sampling technique. The study adopted descriptive survey research design. The mean age of participants is 34, while length of years of retirement was between 1-10 years. The participants were chosen from ball games and athletics. Retirement from Sports Survey was used as instrument of data collection, while multiple regressions were used to analyze the data.

### Hypothesis

One hypothesis was formulated for the study.

Socio-Economic Status will not have significant effect on retirement among elite athletes.

## Results

Table1: Composite contributions of change in socio-economic status on retirement

Multiple R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Df	Sum of squares	Mean square	F- ratio	Sig.
.309	.096	.081	3	4270.995	136.318	6.495	.000

Table 1 shows the composite contributions of change in socio-economic status on retirement with multiple R = .309, R<sup>2</sup> =.096, adjusted R =.081, df = 3, sum of squares =4270.995, mean square =136.318 (P < 0.05). The table also shows the analysis of variance for the multiple regression data with an F-ratio of 6.495 (0.05 level of significant).

Table 2: Relative contributions of independent variables on retirement

Variables	B	Beta	T	Sig.
Change in socio-economic status	.429	.233	2.975	.003
Change in living condition	.146	.081	1.047	.000
Financial planning	.126	.071	.929	.000

Table 2 shows relative contributions of independent variables on retirement (change in economic status, change in living condition and financial planning) among elite athletes.

## Discussion of Findings

Findings of this study revealed that retirement have socio-economic effect on the status of elite athletes. The result shows that retired elite athletes do indeed experience financial difficulties, change in living condition, and as a result have diminished socio-economic status. These findings therefore support that of Ajayi (2007), Taylor and Ogilvie (2001), they stated that socio-economic status of an athlete at the time of retirement is one of the variables that may influence athlete's adaptation to retirement.

Athletes who are financially dependent on their sports participation without skill flexibility to earn a living outside sport or have limited financial resources to fall back on may experience retirement difficulties. Speed, Morris and Seedsman (2000), reporting the welfare of retired horse racing Jockey, stated that retirement had at times been stressful, particularly, in areas of financial, employment, recognition, and social opportunities. Change in social status and financial planning also have effect on adaptation to retirement. This study provides support for the suggestion that situational factors as well as psychological factors predict satisfaction with retirement (Fadoju and Falola, 2008, Heller, Watson and Illies, 2004,).

## Conclusion

Retirement from sports requires a number of adjustments in order to reduce the effect of socio economic on elite athletes. There is no doubt that the end of an athletic career is a difficult time. It is the responsibility of coaches and athletic trainers to help to address the transition that athletes face in retirement and let athletes know that their discouragement and despair is normal. Sports psychologists can assist the athlete identify ways to turn negative feelings into positive outcomes. Therefore, retired elite athletes should be exposed to counseling, career planning, and financial management. Sports psychologists must also be involved in managing career transition difficulties of elite athletes

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## Sports and Media in the Light of Ethics:A Symbiotic Approach

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### Abstract

Commercialisation is an engine that drives the sports industry. Over the years, the concept of sports has been gradually transformed from “*playing for the love of the game*” to “*playing for maximum profitability*”. Almost every decision related to professional sports has been influenced by various economic factors. Consequently, sports are dominated by media. The basic purposes of this paper are; first, to put light on the mutually dependent relationship between sports and media; second, to emphasize on the ethics and morality in sports media. The rise of mass media is the most significant development in modern sports in the context of market forces. Today sport is a huge business. Athletes in major spectator sports are marketable commodities, sports teams are traded in the stock market, network television stations pay large fees to broadcast games, the merchandising and licensing of sporting goods is a major multinational corporate. Thus, the relationship between sports, media and advertising industry is symbiotic. This means that all the elements in that system get a fair share, a share everyone only gets with the help of others while helping others. In a span of few years, the media has added highly marketable qualities to the business of sports reporting. Thus in today's world of sports, media is a very important element. This paper assumes a specific perspective by focusing on the relationship between sports media and its ethical concept. The study is exploratory in nature. It is based on secondary information which is mainly available from various reports from the Government, semi Government and studies of experienced scholars in this subject.

*Key words: sports media, ethics, symbiotic relation.*

### Introduction

The scale of sports industry has increased gradually over the last few decades. Since the 1960's, large amounts of money has been employed into sports precisely due to the standardisation and commoditisation of the industry. The history of sport activities is as old as the history of humankind. The rise of the the mass media is the most significant development in modern sports; a development in the context of market forces. The relationship between sports, media and the advertising industry is symbiotic. This means that all the elements in the system get a fair share, a share that everyone gets with the help of others. Sports generate news as well as the entertainment values which make it highly attractive for the media.

#### Media and Sports – A Symbiotic Relationship

The history of media shows that it has exploited the sports industry since the very beginning. The relationship between sports and money is enduring. It is neither immoral nor moral that money should circulate in sports to develop the practice spectacles. The media has turned sport into a marketable commodity that is worth millions of dollars. Sport is now a mass consumer spectacle. This is different from the time when “*gentleman amateurs*” played for fun and leisure. Times have changed. We now have a “*Golden Triangle*” between media, sports and sponsorship. Sport is becoming increasingly commercialised. Consequently, we are getting a ‘*win-at-all-cost*’ ethic.

Winning is vital since the stakes are high. This can escalate “ethical problems” like corruption, cheating, violence and drug abuse which are highlighted by the media. Media portray a selective version of sports solely based on entertainment value. The obvious question is how media construct sports?

The media provide three things-

1. Information about events and people.
2. Interpretations of what is going on around the world.
3. Numerous forms of entertainment.

The inherent interests of media are :**i)** making profits **ii)** shaping values **iii)** providing public services **iv)** building their own reputations **v)** expressing themselves in technical artistic form.

Although not all sports are dependent on media, some are prey to commercialisation for success and survival. Many end up accommodating the media with the purpose of earning profits.

### **Commercialisation of Elite Sports**

Commercialised sports are driven by the requirement to make profit for the stakeholders and the need for instant success. This may therefore lead to a change in attitude as winning becomes an obligation. In order to generate more profit, sports have to appeal to a wider audience. Sponsors are only interested if the sports get good coverage in the media and attract audiences.

Newspapers and television are the mass mediums that have become most dependent on sports. In this connection it is important to mention the main role of media in sports.

**Informative role** - The media provides information on live coverage, facts and figures, detailed analysis of teams and their performances, results, behaviours, rules and reports.

**Entertainment role** – The media also entertains us by providing insights in to the private and public lives of sports stars. Television glorifies the intensity of drama and emotion in sports for a nation easily drawn in to the spectacular.

**Educative role** - Documentary programmes give the opportunity for greater understanding of global sports. It provides education about sporting skills, coaching techniques and other myriad contemporary issues.

**Advertising role** - Sport is also exploited to either directly advertise products or indirectly through sponsorship.

Though media has a colossal influence on modern society, it also has some positive and negative impacts on sport.

The positive effects are:

1. It promotes traditional as well as modern sports to makes them popular.
2. It provides information and instruction. For example people learn the rules of a game simply by watching it.
3. It provides coaching aid to improve individual performances.
4. It provides finance by paying for the rights to show a sporting event.

The negative effects of media are:

1. Media pays more attention to more popular sports like Cricket or Soccer. This does not encourage the less popular sports which may even disappear owing to the minimal media attention.
2. It increases the need to succeed as far as the participants, the managers or the coaches are concerned. This anxiety may result in lack of concentration, distraction and negative performance.
3. Overexposure to sports may lead to boredom and fatigue.
4. It can publicize and glorify indecent behaviour

### **Sport Media and Ethics**

As media continues to grow so does its power. The obvious question that arises in this stage; do media negatively affect the world of sports? This is purely a debatable question. The answer depends on how the media are used in sports. In today's world of sports, media is a very important element. How true and unbiased is the evaluation of the media? Do the media always tell the truth about a player or a club? These are just a few questions that will be on focus at this point. Ethic is considered to be a branch of philosophy because it is concerned with what is morally right or wrong. The challenge lies in finding the standard by which we determine what is right and wrong. Sports ethics is concerned with what is the right thing to do in sports. One aspect of sports ethics addresses how individuals and teams conduct themselves when competing or preparing to compete in sporting events. In youth sports, the primary goal is character building. In this case, ethical concerns focus on hard work, honour, team work, diligence, courage and self discipline. In competitive professional sports, the goal is to win through fair effort and excellence rather than by deception. Although this is a matter of personal ethics, there can be considerable external influences from others including coaches, teammates, friends, family and fans.

Is the sports organisation as a whole following ethical guidelines and making ethical decisions? This is where sports ethics intersect with business ethics. Corporations face increasing competition in a rapidly changing global economy and with change comes more pressure to develop unethical ways to compete. The same psyche is prevalent in sports now where both individual and teams face stiff competition to succeed.

### **Conclusion**

The ultimate aim of this essay is to emphasise on the influences of money on the sports world. Money is everything and it can change everything. Money becomes the reason for playing sports and also determines the way we value sportsmen. In many cases it can be seen that money becomes the primary motive behind playing sports rather than the sheer joy of the game. And when this happens, the potential of sports to facilitate our development as human beings and citizens is greatly diminished. Playing sports might still be fun at this point, but it becomes recreational and nothing more.

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## **Effect Of Yogic Exercises Intervention On The Strength Development Of Athletes**

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### **Abstract**

Yogic exercises not only increase the general strength but also tone up the muscles because these exercises stretch out the muscles and due to their slow stretch and hold nature along with breathing mechanism improves the muscular tone and strength of the muscles. To achieve the purpose of the study six weeks yoga training was administered and Kraus–Weber test is framed to find out the minimum muscular strength required to participate in the training programme and also to find out the improvement in muscular strength after the training programme. The 40 athletes (Boys) who represented Koppal district in the state level athletic meet ranging from 15-17 years of age were drawn as subjects. The results clearly indicated that the six weeks yoga training was improved muscular strength. Hence it is concluded that there is a positive and significant effect of yogic exercises in the improvement of muscular strength of athletes.

Key words: Yogic Exercises, Muscular strength.

### **Introduction**

The person who is physical fit will be able to carry out the essential of his job without undue fatigue. Fitness is characterized by man's ability to function efficiently with in his potentialities. Fitness implies not only the acquisition of certain physical skills but also the ability to withstand the emergency demands training and competitions.

High level of strength is essential to good performance in all-athletic games and in some events strength is of almost important. Greater strength often results in better performance. Its relative significance varies depending on the nature of the particular activity. A person having muscular fitness can carry out his daily routine efficiently and effectively with least effort and strain. Muscular fitness plays an important role in all aspects of athlete's performance improvement.

Yogic exercises

Yogic practices not only make the internal organs fit but also strengthen the muscles. Yogic exercises increase the general strength and tone up the muscles because these exercises stretch the muscles, due to their slow movement and held position with breathing mechanism improves the muscle tone.

Training

The word "Training" has been a part of human language since ancient times. It denotes the process of preparation for some task. This process invariably extends to a number of days and even months and years.

### **Purpose Of The Study**

The purpose of the study is to assess the selected yogic exercises intervention on strength (muscular strength) development among the athletes.

To study the effect of yogic exercises on the muscular strength of the athletes.

## Methodology

The Kraus- Weber test consists of six tests; the first five tests were used to find out the muscular strength and the last one to indicate the flexibility. All the six tests, namely Abdominal Psoas (A+), Abdominal minus Psoas (A-), Psoas and lower abdomen (P), Upper Back (UB), Lower Back (LB) and Length of back & hamstring muscles (BH) are modified and were used to test 40 athletes ranging from 15 to 17 age group. The modified Kraus-Weber test were conducted on the athletes, the pre training performance of athletes is recorded. After the training again the Kraus-Weber test was administered to find out the improvement in the muscular strength of the athletes.

### Test Administration

In order to assess the muscular strength of the subjects the modified Kraus-Weber tests were administered are given below.

Tests

Abdominal Plus Psoas muscles (A+), Abdominal Minus Psoas muscles (A-) Psoas and Lower abdomen (P) Upper Back (UB) Lower Back (LB) Back and Hamstring (BH) Apparatus Wrestling mat  
Stop watch

### Yogic exercises

The yogic training consists of the following selected yogic exercises, Sitting yogic exercises, Paschimotanasana (The Posterior Stretch), Ardha Matsyendrasanas, Padmasana (The lotus Posture), Sawankasana (The Hare Posture), Standing yogic exercises, Talasana (Palm Tree posture), Trikonasana (The Triangle Posture), Padahastanasana (The Feet and Hands Posture) Utkatasana

### Procedure

The modified Kraus-Weber Tests were administered to the athletes. The each test item is demonstrated correctly to the athletes and then asked them to do the same. The yogic exercises are also demonstrated correctly and asked them to do the same.

Training Schedule

WEEKS	MORNING	EVENING
1 <sup>st</sup> week	Sitting yogic exercises 30 minutes	Standing yogic exercises 30 minutes
2 <sup>nd</sup> week	Sitting yogic exercises 40 minutes	Standing yogic exercises 40 minutes
3 <sup>rd</sup> week	Sitting & Standing yogic exercises 50 minutes	Sitting & Standing yogic exercises 50 minutes
4 <sup>th</sup> week (6 days)	-do-	-do-
5 <sup>th</sup> week (6 days)	Sitting & Standing yogic exercises 40 minutes	Sitting & Standing yogic exercises 40 minutes
6 <sup>th</sup> week (Alternate one session each day)	Sitting & Standing yogic exercises 40 minutes	Sitting & Standing yogic exercises 40 minutes

### Statistical Technique

Mean, Standard deviation and t-value were used to compute the data.

### Results And Discussions

From the data obtained the following are tabulated for analysis.

Table-1

Pre and Post-training performance of athletes

Training		A+ (in 1mt.)	A- (in 1mt.)	P (in secs)	UB (in secs)	LB (in secs)	BH (in secs)
Pre-training	M	24	29	12	13	11	13
	SD	3.4	4.1	2.8	3.1	2.6	3.1
Post-training	M	31	37	15	16	13	16
	SD	4.9	4.6	3.4	3.9	3.3	4.2
t - value		9.7*	10.78*	5.65*	5.00*	3.95*	4.77*

\*Significance at 0.05 level

Table-1 and graph shows the mean scores of pre and post training performance in modified Kraus-Weber test. It clearly shows the significance difference in the performance of the athletes in two conditions. It means that the yogic asanas introduced to the athletes are responsible for bringing improvement in the muscular strength. The effect of yogic exercises intervention training the muscular strength in the athletes is proved.

### **Conclusions**

The selected yogic exercises intervention improved the strength (muscular strength) among the athletes. The positive and significant effect of yogic exercises on the muscular strength of the athletes. The selected yogic exercises because of their slow movement and held position improve the muscular tone. This improved muscle tone of the abdominal, lower back, upper back and back & hamstrings is responsible for the improvement of muscular strength of the athletes.

### **Recommendations**

The results of the survey taken of the muscular fitness of the athletes should be great concern to the coaches and trainers in the welfare of the athletes.

The results bring out the weakness of the athletes and also suggest the importance of including suitable yogic exercises for the improvement of muscular fitness.

A larger scale of study may be conducted on state, national and international athletes and also on different genders for longer periods.

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## The Nature of Sports Marketing: A Conceptual Framework

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### Abstract

Sports' marketing has established itself over the last three decades as a very special form of marketing. However, it is quite surprising that the nature of sports marketing is relatively unknown as different definitions of sports marketing indicate. Indeed, a generally accepted definition does not exist to date and opinions about the nature of sports marketing differ widely. This paper examines the nature of sports marketing and therefore seeks to contribute to the ongoing discussion as to whether sports marketing are any different from principal marketing or just a modified version. It starts with a discussion of three different definitions of sports marketing. Then the unique characteristics of sports and sports marketing are described followed by implications for sporting organisation, companies involved in sports marketing and sports marketing academics. In this paper, four sports marketing domains are identified and they are theme-based, product-based, alignment-based and sports-based strategic domains. At the most fundamental level, theme-based strategies use the traditional components of a marketing strategy- target market and marketing mix decisions- to sell nonsports products. This can be differentiated from the product-based strategies that represent the use of traditional marketing mix and target marketing decisions in an effort to sell sports products. The sponsorship-based strategies are represented by the alignment-based and sports-based strategies. Alignment-based strategies use sponsorship in the efforts to sell nonsports products. Conversely, sports-based strategies involve some form of official sponsorship of a sports property in the task of marketing one of the many sports products that crowd the marketplace. This conceptual paper is exploratory in nature. It is based on the secondary sources which are mainly available from various reports, scholarly articles in this field and the relevant websites on the internet.

Key Words: sports marketing, principal marketing, strategic domains.

### Introduction

The concept of "sports marketing" is ambiguous in its meaning for both practitioners and academicians. Discussions about its application in the popular press and in many textbooks include categories ranging from tickets to spectator sports to sport-related wagers in legal gambling establishments (Shannon, 1999). Some tend to take a narrow view about what the discipline of sports marketing encompasses. To them, the primary task is one of selling tickets and putting fans in the seats at organized sports events (Sports Marketing Surveys, 2002), thereby equating the sports product to tickets for spectator sports.

"In order to fully appreciate and understand the dynamics and differing perspectives of sports marketing, it is imperative that the task of marketing through sports also be accepted as an integral component of the industry."

#### Definitions of sports marketing

Sports marketing academics as well as organizations involved in sports marketing produced various definitions of sports marketing over the last couple of years. A generally accepted definition, however, does not exist. This might be because of the changing nature of sports marketing on the one hand, and different viewpoints on the other. This section discusses three different definitions exemplarily.

One definition most recently published comes from Kaser and Oelkers who say that '*sports' marketing is using sports to market products.*'

Another definition comes from Shilbury, Quick and Westerbeek who define sports marketing from the sporting organizations' point of view: 'Sport marketing is a social and managerial process by which the sport manager seeks to obtain what sporting organizations need and want through creating and exchanging products and value with others.'

One of the best definitions from our point of view comes from van Heerden who postulated a comprehensive definition of sports marketing by combining Shank's definition, the views of Evans and his own previous three-scenario approach:

'Sport marketing is the specific application of theoretical marketing principles and processes to sport products and services; the marketing of non-sport and sport-related products and services through an association - such as a sponsorship - with sport; and the marketing of sport bodies and codes, their personalities, their events, their activities, their actions, their strategies and their image.'

The above definition takes two distinct streams within the broad concept of sports marketing into consideration: 'marketing of sports' and 'marketing through sports'. The first stream refers to the 'the use of marketing variables to communicate the benefits of sport participation and spectatorship to potential consumers', whereas the second stream refers to sports sponsorship.

### **The Four Domains of Sports Marketing**

As illustrated in Figure 1, the four domains that comprise the sports marketing environment are identified as theme-based strategies, product-based strategies, alignment-based strategies, and sports-based strategies.

#### **Theme-Based Strategies**

Theme-based strategies can be defined as the use of traditional marketing strategies that incorporate a sports theme into the marketing program for nonsports products. The marketer might opt to use a sports-related copy platform or advertise products in sports-related media to effectively reach customers. A key aspect of theme-based strategies is that the marketer's efforts are not predicated upon an official relationship with any specific sports property in its effort to create the sports overlay for its marketing efforts. A bank that advertises in a sports magazine or during a TV broadcast of a sports event has incorporated sports at a rudimentary level. As such, this domain represents the lowest level of integration of sports within the sports marketing environment.

#### **Product-Based Strategies**

Efforts to market sports products using traditional marketing strategies when the marketer has no official relationship with the sports entity being used in its marketing efforts are classified as product-based strategies. These strategies may or may not involve a sports theme beyond the product offering. Consider the marketer of athletic shoes who drops prices and provides incentives for the retailers. It is apparent that these specific strategic decisions are independent from the sports environment; however, since the product is sports-related, the strategy still falls within the realm of sports marketing. Within this product-based domain, it is logical for the marketer to implement strategies that incorporate sports themes. It is also important to understand that such strategies are not achieved solely by virtue of a marketer's promotional efforts.

#### **Alignment-Based Strategies**

Many marketers of nonsports products officially align themselves with sports properties via one or more of the four forms of sponsorship previously described (traditional sponsorships, venue naming rights, endorsements, and licensing agreements). The nature of this sponsorship-based relationship reflects a higher level of integration of sports within the sports marketing environment. A common strategy involves a sponsor who uses an association with sports to market nonsports products; this combination emphasizes initiatives that are classified as alignment-based strategies. In an effort to sell more fast food, McDonald's advertising and packaging feature its official partnership with the Olympic Games. Volvo uses its sponsorship of a high profile sailing event to strengthen the public's perception of the carmaker as one that exudes prestige while concurrently emphasizing safety and technology. While the strategic initiatives



that augment the sponsorship are important, the foundation for the resultant strategy is the fact that the marketer, by virtue of its official sponsorship, is highly integrated within the sports environment.

Thus, the task for these marketers of nonsports products is one of implementing strategic initiatives that allow them to capitalize upon their position within this realm of the sports marketing environment.

#### **Sports-Based Strategies**

The final domain, sports-based strategies, is characterized by official sponsors of a sports property who are selling other sports products. Because of the role of sports in both the product and integration dimensions, this domain may reflect the greatest reliance on sports-oriented initiatives. It may also represent the least common type of strategy employed by today's sports marketers. Within this domain, the most common strategy features the marketer of sporting goods or sports apparel in a traditional sponsorship of a sports team or a sporting event. Strategies in this domain can be very effective when appealing to customers who are excited by the sports that are used in the implementation of the specific strategic initiatives (Fullerton, 2007). For example, adidas sells sporting goods and it uses advertising that complements its traditional sponsorship of FIFA and the World Cup of Soccer. This consistency produces the synergy that is characteristic of the sports-based domain.

#### **Conclusions**

The two-by-two matrix shown in Figure 1 provides the foundation for the definition and description of the four domains of the sports marketing industry. At the most fundamental level, theme-based strategies use the traditional components of a marketing strategy—target market and marketing mix decisions—to sell nonsports products. This can be differentiated from the product-based strategies that represent the use of traditional marketing mix and target marketing decisions in an effort to sell sports products. Representing a higher level of integration, many marketers have aligned themselves with sports properties via some form of sponsorship. The sponsorship-based strategies are represented by the alignment-based and sports-based strategies. Alignment-based strategies use sponsorship in the efforts to sell nonsports products; it is the fact that the marketer is aligned with some sports entity that qualifies this type of strategy as one of the sports marketing domains. Conversely, sports-based strategies involve some form of official sponsorship of a sports property in the task of marketing one of the many sports products that crowd the marketplace.

Based on the concept of sports marketing as illustrated in Figure 2, we propose to use van Heerden's definition as a generally accepted definition of sports marketing as it incorporates both streams of sports marketing. Consequently, we suggest looking at sports marketing not just as a variation or modification of traditional marketing, but as a very special, near-autonomous form of marketing combining the unique characteristics of sports with fundamental marketing techniques.

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## Training the elite athlete: An introspection

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### Abstract

Training programmes are designed to improve performance by developing the appropriate energy sources, increasing muscular structures and improving neuro-muscular skill patterns. Sports medicine professionals must be familiar with the basic principles and processes of training, so that they can evaluate training programmes and determine their adequacy in maintaining an athlete's health and preventing injury. Training theory encompasses all aspects of fitness knowledge, including social, psychological, and scientific. The coach uses this information, along with knowledge about the athlete as an individual, to devise the most effective training programme. In this context, the performance of a top class athlete can be improved by appropriate training. The fitness training should be closely related to the activities of the athlete during competition. The fitness training can be divided into aerobic, anaerobic and specific muscle training. Aerobic training increases the ability to exercise at an overall higher intensity during competition, and minimizes a decrease in technical performance induced by fatigue. Anaerobic training elevates an athlete's potential to perform high-intensity exercise. Muscle strength training, combined with technical training, improves an athlete's power output during explosive activities in a match. Each type of training has a number of subcategories, which allows for a precise execution of the training when the aim of the training is known. This is a conceptual paper on fitness training. It is exploratory in nature and takes into account the secondary sources of data. The secondary sources are mainly available from various reports, special articles in this field and the relevant websites on the internet.

Key words: elite athlete, fitness training, introspection.

### Introduction:

Performance of an athlete in top-sport depends on the athlete's technical, tactical, physiological, and psychological/ social characteristics (Figure 1). These elements are closely linked to each other, e.g., the technical quality of an athlete may not be utilized if the athlete's tactical knowledge is low. The physical demands in a sport are related to the activities of the athlete. In some sports, continuous exercise is performed with either a very high (e.g., 400-m run) or moderate intensity (e.g., marathon run) during the entire event. In other sports, like soccer and basketball, athletes perform different types of exercise ranging from standing still to maximal running with varying intensity. Under optimal conditions, the demands in sport are closely related to the athlete's physical capacity, which can be divided into the following categories: (i) the ability to perform prolonged exercise (endurance); (ii) the ability to exercise at high intensity; (iii) the ability to sprint; and (iv) the ability to develop a high power output (force) in single actions during competition such as kicking in soccer and jumping in basketball (Figure 1). The performance within these categories is based on the characteristics of the respiratory and cardiovascular system as well as the muscles, combined with the interplay of the nervous system. **Fitness training** In many sports the athletes need a high level of fitness to cope with the physical demands of the competition and to allow for their tactical and technical skills to be utilized throughout the competition.

Fitness training in any sport has to be focused on the demands in the sport and in many sports it has to be multifactorial to cover the different aspects of physical performance in the sport. Therefore, the exercise performed should, whenever it is possible, resemble the activities during competition as closely as possible. It is useful to divide fitness training into a number of components related to the purpose of the training. The terms aerobic and anaerobic training are based on the energy pathway that dominates during the activity periods of the training session. Aerobic and anaerobic training represent exercise intensities below and above the maximum oxygen uptake, respectively. However, in some sport like ball games, in which the ball is used in the fitness training, the exercise intensity for an athlete varies continuously, and some overlap exists between the two categories of training (Bangsbo 2005). The separate components within fitness training are described briefly in the next few paragraphs.

**Aerobic training** Aerobic training causes changes in central factors such as the heart and blood volume, which result in a higher maximum oxygen uptake (Ekblom 1969). A significant number of peripheral adaptations also occur with this type of training (Henriksson & Hickner 1996). The specific aims of aerobic training are as follows:

- To improve the capacity of the cardiovascular system to transport oxygen. Thus, a larger percentage of the energy required for intense exercise can be supplied aerobically, allowing an athlete to work at higher exercise intensity for prolonged periods of time
- To improve the capacity of muscles specifically used in the sport to utilize oxygen and to oxidize fat during prolonged periods of exercise. Thereby, the limited store of muscle glycogen is spared and an athlete can exercise at a higher intensity towards the end of a competition
- To improve the ability to recover after a period of high-intensity exercise in team sports. As a result, an athlete requires less time to recover before being able to perform in a subsequent period of high-intensity exercise

**Components of aerobic training** Aerobic training can be divided into three overlapping components: aerobic low-intensity training (Aerobic<sub>LI</sub>), aerobic moderate-intensity training (Aerobic<sub>MO</sub>), and aerobic high-intensity training (Aerobic<sub>HI</sub>).

**Anaerobic training** In a number of sports an athlete performs activities that require rapid development of force such as sprinting, quickly changing direction or jumping, which are associated with a high rate of creatine phosphate (CP) utilization. Also in many sports, the lactate-producing energy system (glycolysis) is highly stimulated during periods of competition. Therefore, the capacity to perform high-intensity exercise, and in many sports repeated intense exercise, may specifically have to be trained. This can be achieved through anaerobic training.

The specific aims of anaerobic training are summarized as follows.

- To improve the ability to act quickly and to produce power rapidly. Thus, an athlete reduces the time required to react and elevates the performance of sprinting.
- To improve the capacity to produce power and energy continuously via the anaerobic energy-producing pathways. Thereby, an athlete elevates the ability to perform high-intensity exercise for a longer period of time.
- To improve the ability to recover after a period of high-intensity exercise, this is particularly important in ball games. As a result, an athlete requires less time before being able to perform maximally in a subsequent period of exercise, and in ball games the athlete will, therefore, be able to perform high-intensity exercise more frequently during a match.

**Components of anaerobic training** Anaerobic training can be divided into speed training and speed endurance training. The aim of speed training is to improve an athlete's ability to act quickly in situations where speed is essential. Speed endurance training can be separated into two categories: production training and maintenance training. The purpose of production training is to improve the ability to perform

maximally for a relatively shorter period of time, whereas the aim of maintenance training is to increase the ability to sustain exercise at a high intensity.

**Specific muscle training** Specific muscle training involved training of muscles in isolated movements. The aim of this type of training is to increase the performance of a muscle to a higher level than can be attained just by participating in the sport. Specific muscle training can be divided into muscle strength, muscle speed endurance, and flexibility training. The effect of this form of training is specific to the muscle groups that are engaged, and the adaptation within the muscle is limited to the kind of training performed.

**Strength training** In many sports there are activities that are forceful and explosive, e.g., high-jumping, hitting in boxing, and turning in ice hockey. The power output during such activities is related to the strength of the muscles involved in the movements. Thus, it is beneficial for an athlete in such sports to have a high level of muscular strength, which can be obtained by strength training.

The specific aims of muscle strength training are:

- To increase muscle power output during explosive activities such as jumping and accelerating
- To prevent injuries
- To regain strength after an injury

**Components of strength training** Strength training can be divided into functional strength training and basic strength training (Figure 2). In functional strength training, movements related to the sport are used. The training can consist of activities in which typical movements are performed under conditions that are physically more stressful than normal. During basic strength training muscle groups are trained in isolated movements. For these training different types of conventional strength training machines and free weights can be used, but the body weight may also be used as resistance. Strength training should be carried out in a manner that resembles activities and movements specific to the sport. Based on the separate muscle actions the basic strength training can be divided into isometric, concentric and eccentric muscle strength training (Figure 2).

## Conclusion

With appropriate training, performance of an athlete can be increased and the risk of injury can be reduced. To design an efficient training program it is important to be aware of the physical demands of the sport, the capacity of the athlete which can be determined by various tests, and the different components of fitness training. Aerobic training increases the ability to exercise at an overall higher intensity during competition, and minimizes a decrease in technical performance induced by fatigue. Anaerobic training elevates an athlete's potential to perform high-intensity exercise. Muscle strength training, combined with technical training, improves an athlete's power output during explosive activities in a match. Each type of training has a number of subcategories, which allows for a precise execution of the training when the aim of the training is known.

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## **Effect Of Interval Training And Pranayama On Physiological Variables Among College Men Students**

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### **Abstract**

The purpose of the study was to find out the effect of interval training and pranayama on physiological variables among college men students. To achieve for this purpose 30 students ranging 18-20 years of age. The subjects were divided into three equal groups. The following physiological variables are maximum oxygen consumption and breath holding time were selected and the pre-test and post-test design applying of co-variance technique was adopted for interpreting the results.

Keywords: Interval Training, Pranayama, Maximum oxygen consumption, breath holding.

### **Introduction**

Physical Training is to bring oneself to the required pitch of physical condition to acquire skill and precision in movement, by steady practice for general fitness, for a specific contest or forms of sports. Training builds efficiency, in body adaptability which enhances body's adjustments while performing an activity requiring maximum or near maximal performance over a considerable period of time. A sound training programme causes functional biochemical and morphological changes in the body resulting in adaptation in training load. Interval training is to subject the body to repeated but short intermittent periods of reduced intensity. The intensity of the training as the length of the recovery period can be ascertained by checking the runner's pulse when his pulse has returned to 80 percent and 90 percent of normal, he is ready to begin his next interval. The purpose of pranayama is to purify the nerves and thereby to strengthen the nervous system. It is as easy to do as it is useful. Increase its duration gradually after attaining the concentration of mind.

Training the athlete is a matter of constructing exercise programs that develop what the individual will need for his or her specific event. Athletes might be considered easier to train, as he should know which specific energy systems must be developed for their particular activities to work and achieve high performance.

Maximum oxygen consumption and Breath Holding time

Total Blood volume is influenced by training in addition blood volume plays an important role in heat dissipation, since the blood transports heat from the deep core of the body to outer peripheral areas. As a result of training the blood volume and blood composition. The amount blood volume was definitely not proportional to body size, assuming that the maximal oxygen uptake is proportional to blood composition when one holds one's breath at rest a total of about 600 ml. Oxygen is available and can be utilized. This is enough to last about 2 minutes 'Normal' maximal breath holding time is 30 to 60 Sec. Many athletic events are performed with the breath held. The physiology of breath-holding involves respiratory, circulatory and cardiac changes. The most obvious changes when the breath is held are increasing level of carbon dioxide and decreasing level of oxygen in the air.

Statement of the problem

The study under investigation involves the experimentation of Effect of pranayama and interval training on  $VO_2$  max and breath holding time among college men students.

Hypotheses

It was hypothesized that there not be significant effect due to interval training and pranayama on maximum oxygen consumption and breath holding time.

## Methodology

In this methodology the selection of subjects, variables, selection of tests, reliability of tests and data, orientation to the subjects, collection of data, tests administration experimental design and statistical process has been explained.

### Statistical Analysis

The data collected from pranayama group, interval training group and control group or  $VO_2$  max and breathe holding time before and after training were analyzed through analysis of co-variance.

### Results of the study

Maximum oxygen consumption

The analysis of covariance on maximum oxygen consumption of the pre and post-test scores of pranayama group, Interval Training group and control groups have been analyzed and presented in Table-I.

Analysis of co-variance of data on maximum oxygen consumption ( $VO_2$  max) between pre and post test means of pranayama group, interval training group and control group (in liters per minute)

Table-I

	Pranayama Group	Interval Training Group	Control Group	Source of Variance	Sum score	D/	Max. sq.volue	'F' ratio
Pretest Mean	2.43	2.45	2.56	Between	0.179	2	0.09	
				Within	12.650	87	0.15	0.6 <sup>NS</sup>
Post-test mean	2.51	2.58	2.55	Bewteen	0.073	2	0.037	
				Within	9.600	87	0.110	0.34 <sup>NS</sup>
Adjusted Post test mean			-0.01	Between	0.130	2	0.070	
				Within	0.330	86	0.004	17.5 <sup>**</sup>
Meang	0.08	0.13						

NS -- Not Significant

\*\* -- Significant at 0.1 level

Table-IA

Ordered adjusted Maximal oxygen consumption Means, Differences Between means among pranayama, Interval Training and Control Groups.

Pranayama group (N = 10)	Interval Training Group (N=10)	Control group (N = 10)	Mean difference
2.55	2.61		0.06 **
	2.61	2.48	0.13 **
2.55		2.48	0.07 **

HSD need for significance

0.039 at - 0.5 level

0.049 at - 0.1 level

\*\* Significant at 0.1 level

Table-I: Shows the analysed data in maximum oxygen consumption ( $VO_2$  max). The pre-test means were 2.45 liters for interval training group 2.43 liters for pranayama group and 2.56 liters for control group. The result of 'F' ratio of 0.6 which indicated that the three groups were not significant in maximum oxygen consumption at the beginning of the training. The difference between post-test means 2.58 liters 2.51 liters and 2.55 liters for the same groups respectively yielded and 'F' ratio of 0.34 was not significant at both levels. The difference between the adjusted post- test means of 2.61, 2.56 and 2.48 liters per minutes for the groups respectively showed an "F" ratio of 17.5 which highly significant at .01 level, for the degree of freedom 2 and 86. Hence null hypothesis was rejected.

As given table-II with regard to the differences between paired adjusted final means, the difference of 0.06 between pranayama, interval training group, the difference of 0.13 between Interval training and control groups, and the difference of 0.07 between pranayama and control groups were significant at .01 level as the difference were greater than the resultant confidence interval of 0.049 at .01 level as resulted through HSD method.

The result indicates that the pranayama and interval training groups had significantly increased in VO<sub>2</sub> max interval of means gains.

#### Breath Holding Time

Computation of analysis of Co-variance of pre-test and post-test breath holding time of interval training, pranayama and control groups. (in seconds)

Table-II

	Pranayama group	Interval group	Control group	Sources of variance	Sum of scenes	Df	Mean scores	'F' ratio
Pre-test means	50.62	48.00	50.69	Between	140.87	2	70.44	1.9 NS
				Within	3230.79	87	37.14	
Post-test means	61.30	56.17	50.94	Between	1611.04	2	805.52	17.63**
				Within	3976.05	87	45.70	
Adjusted post test means	60.48	56.87	50.06	Between	1758.29	2	879.15	73.82**
				Within	324.61	86	11.91	
Mean gains	10.68	8.17	0.25					

NS – Not significant

\*\* Significant at .01 level

Table – IIA

Ordered Adjusted breath holding time means and difference between means among pranayama, interval training and control groups (in seconds)

	Pranayama group (N=10)	Interval training group (N=10)	Control group (N=10)	Mean Difference
	60.48	56.87		3.61**
		56.87	50.06	6.81 **
	60.48		50.06	10.42**

HSD need for significance

2.13 at .05 level

2.68 at .01 level

\*\* Significant at .01 level

#### Result of the study

Table-III reveals that the difference between the pre-test means of breath holding were 48 seconds for interval training group, 50.62 seconds for pranayama group and 50.69 seconds for control group and yielded an F-ratio of 1.9 insignificant at both the .05 level and .01 level the difference between the post-test means of 56.17 seconds, 61.3 seconds and 54.94 seconds for the same groups respectively requested in an F-ratio of 17.63, significant at .05 level. The difference between adjusted means of 56.87 seconds, 60.48 seconds and 50.06 seconds for the same groups respectively were founded highly significant with 'F1' ratio of 73.82 well beyond .01 level for degree of freedom 2 and 86 and the null hypothesis was rejected. As shown in table II regarding the differences between paired adjusted final means, the mean differences of 3.61 between interval training and pranayama group, 6.81 between interval training and control groups. 10.42 between pranayama and control groups were significant as these values were greater than the required confidence intervals (HSD) of 2.13 at .05 level and 2.68 at .01 level. The analysis of breath holding data revealed that during experimental period, the pranayama group had significantly increased the breath-holding time when compared with interval training and control groups.

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## **Calendar self-concept and psychological security and aggression among the physically disabled athletes in the city of Mosul in Iraq**

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### **1 - Definition search**

#### **1.1 Introduction and the importance of research**

Lies the importance of research in the study of the psychological variables, security and self-concept and aggression among disabled athletes in the Games, the city of Mosul practitioners collective ( volleyball , soccer ) , and try to evaluate these psychological variables important for the development of disabled sports figure and thus the development of achievement and performance .

#### **1-2 research problem**

From here, the research problem emerged when a researcher in the study of the most important psychological variables that have an impact and a great relationship sporting achievements in the field of sports for the disabled , especially variables ( self-concept and psychological security and aggressive ) , as it appears the problem of searching through the following questions :

- What is the degree of self-concept among disabled athletes practitioners of collective games in the city of Mosul .What is the degree of psychological security of the disabled athletes practitioners of collective games in the city of Mosul .What is the degree of aggression among disabled athletes practitioners of collective games in the city of Mosul .

#### **1.3 Research Objectives**

The current research aims to identify :

1.3.1 degree of self-concept among disabled athletes for the Games collective practitioners in the city of Mosul in Iraq .

1.3.2 degree of psychological security of the disabled athletes for the Games collective practitioners in the city of Mosul in Iraq .

1.3.3 degree of aggression among disabled athletes for the Games collective practitioners in the city of Mosul in Iraq .

1.3.4 correlation between the three variables Search ( self-concept and psychological security and aggressive ) among disabled athletes for the Games collective practitioners in the city of Mosul in Iraq .

#### **1-4 Research Hypothesis**

The researcher assumes the following:

1.4.1 presence is a significant correlation between the three variables Search ( self-concept and psychological security and aggressive ) among disabled athletes for the Games collective practitioners in the city of Mosul in Iraq .

#### **1-5 areas of research**

1.5.1 the human sphere : mass games for players with disabilities (volleyball , football , soccer bell ) in the city of Mosul in Iraq .

1.5.2 temporal sphere : the period from 02/01/2014 till 16/03/2014 .

1.5.3 spatial domain : sports stadiums for the teams with disabilities in the city of Mosul .

### **2 - search procedures**

#### **2.1 Research Methodology**

The researcher used the descriptive survey manner for suitability and the nature of the current research



## 2-2 research community and appointed

Included the research community on the disabled athletes practitioners Events mass sports ( football , soccer ball , volleyball ) and those between the types of disabilities among motor disability ( paralysis , amputation ) in the lower limbs , and disabilities audio-visual equipment , totaling 42 players. The research sample was represented by (39) as a player and after excluding the forms are incomplete answers of ( 3) form , and so the percentage of the research sample ( 92%) of the total community to search

## 2-3 means of data collection

The researcher used to arrive at his findings the following standards :

2.3.1 measure of self-concept for the Disabled ( Mind , 2009 : 205-209 ) .

2.3.2 measure of psychological security for the Disabled ( Mind , 2009 : 199-204 ) .

2.3.3 Scale aggressive Disabled ( Aziz , 2009 : 7) .

## 2-4 transactions scientific standards used in the research

2.4.1 the validity and reliability standards

As the researcher to extract honesty virtual gauges the three used in the search through the display metrics on a group of gentlemen experts and specialists in physical education , and asked them to judge the appropriateness of the paragraphs of the three measures to measure variables that purports researcher measured the disabled athletes in the city of Mosul , and resulted in this process of verification honesty virtual three metrics and to identify the validity of the measure three variables for athletes with disabilities in the city of Mosul .

The three measures have the stability that has been calculated in previous studies , the study Aziz 0.2009 and the study of the mind of 0.2009 , so it was used directly on the current research sample and that the similarity of the samples used in the present study and previous studies , a sample of disabled athletes

## 2-5 major experiment to search

Was applied three measures ( self-concept , and psychological security , aggressive ) , the research sample of ( 39) players are disabled in the city of Mosul, from practitioners of the activities of the collective ( football for the deaf and dumb , volleyball sitting , soccer ball ) , and during the period of 15/02/2014 until 12/03/2014 .

## 2-6 means statistical

The researcher used the statistical means of the following :

Percentage, mean , standard deviation , simple correlation coefficient (Pearson ) , coefficient of variation, average hypothesis , law (t) for a single sample .

## 3 - Results and discussion

### 3-1 Results

**Table (1) :Shows the statistical parameters of the psychological variables for disabled athletes in three events combined**

Variables	Number	mean	standard deviation	coefficient of variation	the average value of the hypothesis	T the calculated
Self-concept	39	209.28	26.71	12.76%	192	19.809
Psychological security	39	165.15	23.20	14.04%	146	13.950
Aggressive	39	11.69	1.46	12.48%	13	19.72

• The value of (t) the degree of freedom when the spreadsheet (38) and the level of significance (0.05) 2.02

**Table (2) :Matrix shows the links between research variables**

Variables	Self-concept	Psychological security	Aggressive
Self-concept	1	0.80	0.01-
Psychological security	0.80	1	0.13
Aggressive	0.01-	0.13	1

• The value of (r) at a temperature of tabular freedom (38) and the level of significance (0.05) = 0.30

### **3-2 discuss the results**

By the results presented in Tables ( 2 and 3) shows the existence of a correlation between the two variables of psychological security and aggressive disabled athletes practitioners Games collective in the city of Mosul in Iraq , did not show a significant correlation between the two variables of psychological security and self-concept and also did not show a significant correlation between the concept of self and aggressive practitioners of disabled athletes for the Games in the city of Mosul collective in Iraq .Attribute researcher cause of these results , especially the relationship between the psychological security and aggressive as a player disabled the greater psychological security has a sense of security with members of the team and the parents and the coach said the degree of aggression towards the opponent has , recalling ( Alothari 0.1994 ) in his study of the words of security and fear to what was said ( Ragheb) of the security "means the demise of the soul and tranquility of fear " and as defined by (Abu Hassan Jerjani ) that he " hated not to expect in the following decade " Alothari , 1994.109 ) .As the aggression " is any act or idea is thrust or thrust psychological harm or physical or physical -oriented non- or self , or to both of them together and be expressed in different ways depending on the cultures of the individual that he learned in his life," From here came the current score that the player in case he felt psychological security and lack of fear of the future reflected this feeling on his performance during the competition and the degree of aggressiveness towards the opponent players , especially in the events that characterized by the presence of a nearby opponent player as to the effectiveness of football for the deaf and dumb. As for the results of the lack of correlation between the variables of psychological security and self-concept as well as between the two variables of self-concept and Aladowneh , this result comes depending on the level the sample and the extent of their awareness of the psychological concept of self and the existence of the exercises psychological for the players, which lacks most of the Iraqi teams for both healthy people or teams to the disabled , which led to the emergence of these results , which can be adjusted and developed if given a chance to correct training Alemtemashi psychological training exercises with sports teams and physical and tactical skills to achieve better results in the future.

## **4 - Conclusions and recommendations**

### **4.1 Conclusions**

The researcher concluded the following:

- 4.1.1 affected by aggressive practitioners of disabled athletes for the Games collective psychological security they have, as it affects each other in a positive sound .
- 4.1.2 is not affected by the psychological concept of self- security , as there is no relationship between the two disabled athletes in the city of Mosul in Iraq .
- 4.1.3 is not affected by the variable aggressive self- concept , as there is no relationship between the two disabled athletes in the city of Mosul in Iraq .

### **4.2 Recommendations**

The researcher recommends the following:

- 4.2.1 need to educate players have the concept of self in order to identify their personalities are larger
- 4.2.2 the need to provide clinical psychologist for players with disabilities , especially because they feel inferior to the presence of physical disability they have , which makes them feel that they are less than the rest of humanity .
- 4.2.3 involve disabled players in tournaments and formal sessions and friendly for strengthening the psychological and personal attitudes toward collective events .

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## Indian Nation Needs Sports Emergency

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### Introduction

The most second populous country in the world having nearly 120 million people in the country, but no double no of gold medals have been secured by Indian teams so far, since the Olympics has been started from 776.BC till now 2012 London games.Olympic games is treated as the highest achievements in the game and sports in the world the smallest country in the world one winning gold, silver, and bronze every time for eg:- Jamaica's population is nearly 30 lakhs only, but it has won nearly 150 medals in the Olympic games. And china our neighbor country is performing excellence in winning the medals in all games and sports at Asian and Olympic level. Then where we are standing in the race of winning the medals.In the year 1960's we won silver medal in Rome Olympics in Hockey. In the year 1964 gold, 1968 Mexico – Bronze, 1972 – Munich 1976 – 7<sup>th</sup> place, 1980 – Moscow gold medal (This is the last gold for team event) in the year (London Olympic 2012) he stood last rank in the hockey. Somehow individual interest of the players who Are working hard in their own events are getting some medals so far even though they are not encouraged by the nation as neighbor countries facilitates them with grate honor.

### Discussion:

Olympic games is the highest Sporting event in the world getting a medal in this Competition is a fortune for the Participants.In ancient days at Greece Olympic Sports Event was Conducted for every 4 years to develop a friendly atmosphere among the people for the 1<sup>st</sup> time in 776 B.C Olympic games we conducted in the Athens Capital of Greece, The winner is awarded with the olive leaves crown later it was stopped. Again it was started in the year 1896 by the Frenchman Piere de Cubertain who is admirer of the games himself modern Olympics games was started in the year 1896 at the Athens capital of Greece. The Olympic games motto was Citious, Altious, Fortious,(Faster, Higher, and Stronger)

### Budget For Sports In India:

The budget for the fiscal year was awarded a few days ago the sports budget has been an increase of 17.51% from last year. But not all of has been divided equally among all sports and not all of its goes towards the direct development of any particular sports. When I limited hunted down the sports budget, I exported to scroll down straight with Basket ball allotted , 100Crores or something. I could not have been further from truth.Generally one may just assume that the budget is divided among the various sports federations, but it's a lot more complex than that for a complete understanding of where the money goes, here the first part of series giving a detected break down of the sports budget here they are at a glance.

Secretariat social service

Amount 14.72 crore last year 15.60 crore total sport budget 1.2%

Nehru yuva Kendra sagathan.

Around is – 124.22 crore

Last year – 127.48 crore

Total Sports budget – 10.00%

National service scheme.

Around – 79.87 crores

Last year – 76.31 crore

Total Sports budget is – 6.55%

National discipline scheme.

Around – 2 crores

Last year – 2 crores

Percentage of total sports Budget is 0.16

National Programme for Growth and adolescence developments (NPY AD)

Around – 20.50 crores

Last year – 20.60 Crores.

% of total Sports Budget 1.68%

If the things are in this manner, how sports and games will develop in India, LET US THINK AT ONCE  
***Some Of The Measures Recommended For The Development Of Sports & Games In India.***

**A.) COMPULSORY PHYSICAL EDUCATION SUBJECT IN SCHOOLS AND COLLEGES:**

To develop the games and sports in India Physical Education subject must be made mandatory to all the students in the Schools and Colleges. So that parents and society will know the importance of the subject. In many Schools and Colleges in India they never bother about sports and Physical fitness instead of studies.

**B). BUDGET ALLOCATION MUST BE INCREASED TO GAMES AND SPORTS:**

Only 17.51% budget is allocated to Games and Sports, this type of amount does not help in developing the nation in Sports. Tax holiday is to be given for all the sports made articles which are available for cheaper rates to the players.

**C). PRIVATE COMPANIES SHOULD COME FORWARD:**

Private companies should allow certain space and time for sporting activities for these Employees this again face them back in the form of healthy and Re-generated employees working in a qualitative manner

**D). RESEARCH SPORTS CENTERS MUST BE ESTABLISHED:**

Till today India does not have any well advanced research laboratory to do skill test or experiment tests for sports people, how can we assess the strength, stamina and capability of a player without these Laboratories

**E). SPONSORSHIP TO THE PLAYERS:**

Indian government should may compulsory sponsoring to the players by the multinational firms. Permission should be given to those firms who give sponsorship to the players.

**F). INDIAN SPORTS SERVICES:**

Like CIVIL SERVICES Indian government should pass a resolution for creating an INDIAN SPORTS SERVICES. To uplift the games and sports in Entire Nation like IAS. IPS., ISS (INDIAN SPORTS SERVICES)

**G). ESTABLISHMENT OF NEW SPORTS SCHOOLS:**

Formation of new Sports Schools for Primary and Middle schools should be implemented in every district in the Entire Nation. So that we can catch the Young talents in any corner of India, which will boost the games and sports where Indian sports will become the Pride of Nation

**Conclusion:**

Keeping all the views for consideration Indian nation must announce a statement of EMERGENCY OF SPORTS IN INDIA. So that at least some percent of sports and games will develop and we can facilitate infrastructure facilities in India. We can't win Medals at Olympics at a time. But we can improve our standards and perform better than the past times.

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## **Investment the Time of Physical Education Lesson and The Effect of Using Tow Teaching Methods on proving the Students' Achievement in some of the Volleyball Skills**

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### **Abstract**

This study aimed at knowing The Effect of using tow teaching methods on utilizing the time of physical education lesson and on improving the students' achievement in some of the volleyball skills. The specimen of the study has been deliberately chosen from grade seven students in( ten class in alnhda school Secondary al qdisia iraq) The specimen comprised 40 students. The students were randomly divided in tow groups. The experimental group comprised 20 students and was taught through the self-programmed style. The control group comprised 20 students and was taught through the training style. In order to achieve the objectives of the study, the researchers designed the self-learning program by using computer to learn the volleyball skills. These skills are the front set, back bass, front bass skills. The experimental group has been taught through the programmed self-learning style whereas the control group used the training style. The researchers used Anderson form to measure the utilization the time of physical education lesson, and used the skills tests in volleyball to measure the improvement in the students' achievement in some of the volleyball skills. To verify the validity of the hypothesis, the researcher found out the mathematical mean, the standard deviation, The results of this study has reflected statistical differences hypothesis. The results of this study has reflected statistical differences hypothesis. The results of this study has reflected statistical differences experimental group in the improvement of the students achievement the skill of front set, back bass, front bass, and it was for advantage of the post measurement. The results of this study has also reflected significant statistical differences between the control group and the experimental group in the improvement of the students achievements in front set, back bass, front bass skills for the advantage of the experimental group. It also reflected differences between control group and the experimental group in utilizing the time of the physical education lesson, and for the advantage of the experimental group In the light of these results, the study has recommended to lay more importance on using learning programmed methods, and using the programmed self-style in teaching the students .

### **Introduction**

The physical education in various branches of scientific technological revolution, contributing . involves field Last in the provision of means and tools that aim to develop methods of learning and teaching, and confirms Balawi . (2007) that the technological revolution has encouraged the use of innovative educational methods and renewed its will . To provide effective educational climate that helps the teacher to arouse the interest of students and the improvement of control Learning outcomes. The Schools of Education, a place for the application of physical education lesson and tributary to provide his children Knowledge of kinetic and psychological and social and refine their talents , and the development of their personalities and the development of life experiences , and the student is the basis of the educational process and indicate Abdul Karim (1990) that the student is the focus of the educational process . Performs thrown on him from the programs . The teacher is the leader and planned educational programs and choose physical education teacher teaching method appropriate to be a channel of communication between him and the student and teacher successful he can achieve his goals by hiring faculty to invest the time in locomotor activity and confirms full (2003) and (joyce & connie) that the use of stylistic teaching optimization in He studied physical education leads to the success of the lesson with a positive relationship between the teacher and the pupil as education is a continuum between the teacher and the pupil lead this series in the end to a process of change in the behavior of individuals or the pupil ( Mohammed 2003)

Significance of the study

And crystallized the importance of the study to identify the latest styles that contribute to the learning process in a positive Mharlt volleyball Wi-two modes best time to invest in physical education lesson and volleyball to enrich the educational process working in the most effective tactics of other

The objective of the study:

: The study aimed to identify

The effect of using my style of teaching on the improved performance of students in some of the skills of volleyball The impact of the use of my style of teaching to invest time physical education lesson

**Methodology:** The number of respondents 40 students , then Distributed randomly into two groups : the experimental group learned using the method of self- programmed , And consisted of 20 students . The control group learned style training , and consisted of 20 students . To achieve the objectives of the study, the researchers designed a program of self-learning by using the computer to learn Some volleyball skills , and these skills are: scroll from the top of the front , from the top of the scroll In front of the ( setting) , scroll to the top of the back , has been teaching the experimental group using the method Programmed self-learning , and the control group used the training method

**Results:**This Study and statistically significant differences between pre and post measurement of the control and experimental groups Improvement in the performance of students in preparation for the skill in front of and behind the preparation of the slider and the top of the fingers And in favor of telemetric The results of this study showed the presence of statistically significant differences between Control and experimental groups in the improved performance of students in preparation for the skill and preparation before Back and scroll from the top of the fingers and in favor of the experimental group, and showed the existence of differences between Control and experimental groups in the investment of time he studied physical education and in favor of the group Pilot

**Discussion:** Teaching methods are the key to the educational process and the result on the basis of the organization of work between the teacher The student , choosing the method of teaching needs to reflect on how it is used and implemented by Capabilities and tools , and age group , and individual differences among students , and more recently have been used Teaching methods in their various forms of direct and indirect . Volleyball is very vast field of kinetic skills , and teaching methods need to be of During the implementation process of learning and cognitive skills applied , and after reviewing the literature on the theoretical methods Teaching multiple researchers found that teachers in the field did not care at the time of learning how to invest Academic and tie the modern ways of teaching , and through the experience of the researchers on the ground in the field of teaching Volleyball in schools and universities show that there is a failure to use teaching methods Modern and especially indirect investment of time and linked to learning Aloakadimi Pal compared with methods Direct teaching . So researchers used the method of direct instruction ( training ) and the method of teaching self- compiled And linked to an investment of time learning the academic results arrived to reinforce the positions of such a problem in The field of volleyball

**Conclusion:** In light of these findings the study recommends using interest means the code in Learning, and the need to use the method of self-programmed into the education of pupils because of its importance in education Pupils.

**Suggestions and recommendations:** -Interest in using software tools in learning .The need to use the method of self-programmed because of its importance in the education of pupils - .Mention of the student code that is not an alternative to the teacher, because the teacher puts human tutorial

The full content of its parts .

-Further studies in the field of self-learning programmed and compared with other methods  
Investment in the field of physical education lesson time

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## Comparison of anthropometry and body composition between high and low achievers of RDT hockey academy hockey players

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**Abstract:**The purpose of this study was to compare high and low achievers on Anthropometry and Body composition of hockey players from RDT Hockey Academy, Anantapur, A.P. To achieve this purpose, a total of 29 boys from RDT Hockey Academy, were considered. These players were classified into two groups namely high achievers (17) and low achievers (12), on the basis of level of participation in tournaments. This data was collected during the academic year 2011-12. The anthropometric measures height, weight, % BF, LBM was measured initially for all the subjects. The criterion variables chosen for this study were anthropometer for measuring the height, weighing machine a skin fold caliper, a small sliding caliper for the breadths and a flexible steel or fiber glass tape for the girths. And a body composition which was measured by body fat % is an easy method of discovering correct body weight and composition. Beneath the skin is a layer of subcutaneous fat, and the % of total body fat can be measured by taking the 'skinfold' at selected points on the body with a pair of calipers. This test only requires four measurements. ANOVA of unequal sample was employed to know the difference between high and low achievers hockey players. The high and low achievers youth hockey players have no significant difference in height and weight. The percent body fat content is greater in low achievers will act as a hindrance in their performance. The high achievers (40.00) LBM is greater than low achievers (35.99).

**Key Words:** Anthropometry, Body Composition, Hockey Players Training

### Introduction

Field hockey is one of the popular games which underwent very dynamic changes during history and especial in the last years (rules, equipment, quality of field). One of the most important changes was the swap from natural to artificial grass. This transformation demanded changes in training process which must taking into consideration competitive loads of players as a specific model of target preparation. Contemporary field hockey requires competitors to be very fit. The effective time of a match is two times approximately 35 minutes with consecutive attacks and defenses performed with high and very high intensity. The optimal physical preparation of elite field hockey players has become an indispensable part of the professional game, especially due to the increased physical demands of match-play, it can be observed during international competitions e.g. Olympic games or Asian games. To assess the level of player preparation a battery of different tests (laboratory or field) are used, which show actual possibilities of single player or whole team to realize training and competitive loads, e.g. on the basis of hypothetical model of changes on the main abilities in macrocycle (Konarski, 2010). The purpose of this investigation was to estimate the changes on selected Anthropometric and body composition as a result of systematic hockey academy training program for a year.

### Methodology

The study was proposed to compare RDT hockey academy male players of high and low achievers in terms of morphophysiological variables. To accomplish the purpose of the study, twenty nine (29) male youth field hockey players were selected at random as subjects, who volunteered to participate in this study. These players were classified into two groups namely high and low achievers. The high achievers group constitutes of 17 players and low achievers group constitutes of 12 players. High achievers subjects who represented highest level of competition and low achievers are immediately below high achievers level. The mean age of the selected subjects was  $4.9 \pm 2.1$ .

## Results

The data collected on selected criterion variables for hockey players of different levels of achievement was subjected to statistical analysis and it was presented in this tables.

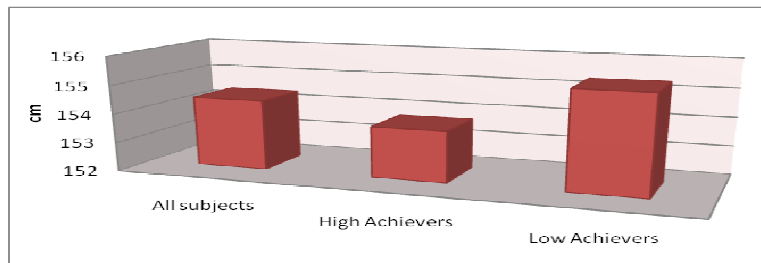
**Table 1**  
**Mean (sd) and results of ANOVA for height among field hockey players classified by level of performance**

Groups	Mean $\pm$ sd	SOV	Sum of square	df	Mean square	F ratio	P value
Total subjects (29)	154.43 $\pm$ 8.15	B	18.241	1	18.241	0.267	.610
High achievers (17)	153.76 $\pm$ 9.26	W	1846.121	27	68.375		
Low achievers (12)	155.37 $\pm$ 6.55	T	1864.362	28	-		

SOV – Source of variance, B – Between groups, W – Within groups, T – Total

The mean value and standard deviation of high and low achievers on height are 153.76 $\pm$ 9.26 and 155.37 $\pm$ 6.55 respectively. Levene's test has shown that the variance is not significant since  $p = 0.103$ . So Homogeneity of variance is assumed. The results of the ANOVA on height showed no significant difference between high and low achievers field hockey players from RDT Hockey Academy, Anantapur, Andhra Pradesh (see Table 1). Since the obtained F ratio of 0.267 is less than the required table value of 4.20 at  $\alpha = 0.05$  for the df of 1 and 27. Hence the null hypothesis is rejected since  $p < 0.05$ .

**Figure 1**  
**Height of high and low achievers field hockey players**



**Table 2**  
**Mean (sd) and results of ANOVA for weight among field hockey players classified by level of performance**

Groups	Mean $\pm$ sd	SOV	Sum of square	df	Mean square	F ratio	P value
Total subjects (29)	39.09 $\pm$ 6.33	B	16.836	1	16.836	.411	.527
High achievers (17)	38.45 $\pm$ 6.14	W	1106.702	27	40.989		
Low achievers (12)	40.00 $\pm$ 6.76	T	1123.539	28	-		

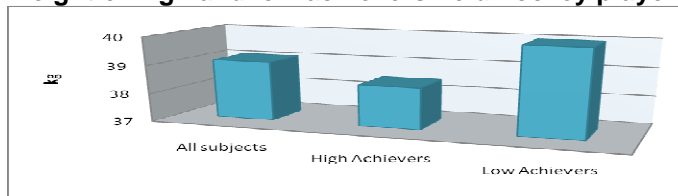
SOV – Source of variance, B – Between groups, W – Within groups, T – Total

The mean value and standard deviation of high and low achievers on weight are 38.45 $\pm$ 6.14 and 40.00 $\pm$ 6.76 respectively. Levene's test has shown that the variance is not significant since  $p = 0.737$ . So Homogeneity of variance is assumed. The results of the ANOVA on weight showed no significant difference between high and low achievers field hockey players from RDT Hockey Academy, Anantapur,



Andhra Pradesh (see Table 2). Since the obtained F ratio of 0.411 is less than the required table value of 4.20 at  $\alpha = 0.05$  for the df of 1 and 27. Hence the null hypothesis is rejected since  $p < 0.05$ .

**Figure 2**  
**Weight of high and low achievers field hockey players**



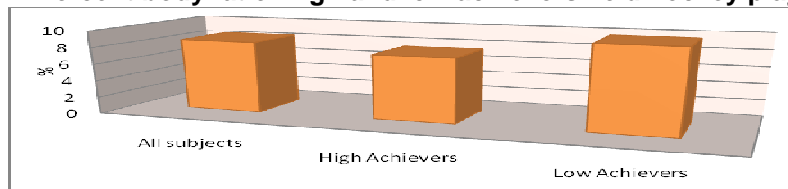
**Table 3**  
**Mean (sd) and results of ANOVA for percent body fat among field hockey players classified by level of performance**

Groups	Mean $\pm$ sd	SOV	Sum of square	df	Mean square	F ratio	P value
Total subjects (29)	8.55 $\pm$ 3.16	B	32.755	1	32.755	3.581	.069
High achievers (17)	7.65 $\pm$ 3.20	W	246.938	27	9.146		
Low achievers (12)	9.81 $\pm$ 2.73	T	279.692	28	-		

SOV – Source of variance, B – Between groups, W – Within groups, T – Total

The mean value and standard deviation of high and low achievers on percent body fat are 7.65 $\pm$ 3.20 and 9.81 $\pm$ 2.73 respectively. Levene's test has shown that the variance is not significant since  $p = 0.739$ . So Homogeneity of variance is assumed. The results of the ANOVA on percent body fat showed no significant difference between high and low achievers field hockey players from RDT Hockey Academy, Anantapur, Andhra Pradesh (see Table 3). Since the obtained F ratio of 3.581 is less than the required table value of 4.20 at  $\alpha = 0.05$  for the df of 1 and 27. Hence the null hypothesis is rejected since  $p < 0.05$ .

**Figure 3**  
**Percent body fat of high and low achievers field hockey players**



**Table 4** Mean (sd) and results of ANOVA for lean body mass among field hockey players classified by level of performance

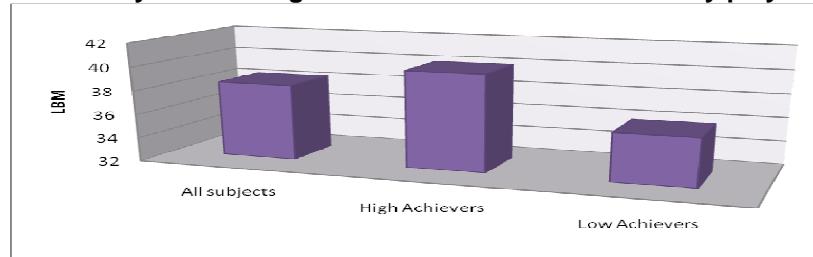
Groups	Mean $\pm$ sd	SOV	Sum of square	df	Mean square	F ratio	P value
Total subjects (29)	38.39 $\pm$ 6.21	B	118.368	1	118.368	3.321	.080
High achievers (17)	40.09 $\pm$ 6.22	W	962.444	27	35.646		
Low achievers (12)	35.99 $\pm$ 5.58	T	1080.812	28			

SOV – Source of variance, B – Between groups, W – Within groups, T – Total

The mean value and standard deviation of high and low achievers on lean body mass are  $40.09 \pm 6.22$  and  $35.99 \pm 5.58$  respectively. Levene's test has shown that the variance is not significant since  $p = 0.403$ . So Homogeneity of variance is assumed.

The results of the ANOVA on lean body mass showed no significant difference between high and low achievers field hockey players from RDT Hockey Academy, Anantapur, Andhra Pradesh (see Table 4). Since the obtained F ratio of 3.321 is less than the required table value of 4.20 at  $\alpha = 0.05$  for the df of 1 and 27. Hence the null hypothesis is rejected since  $p < 0.05$ .

**Figure 4**  
**Lean body mass of high and low achievers field hockey players**



## Discussion

The present data of the study showed that there is no significant difference between high and low achievers hockey players from RDT Hockey Academy on height and weight, it indicates that groups are closely linked to one another. The result showed that low achievers are taller and heavier than high achievers. Percent body fat level of high achievers is 7.65 and low achiever is 9.81. As mentioned earlier low achiever is heavier than high achievers thereby their percent body fat level is higher than high achievers. The percent body fat content is greater in low achievers will act as a hindrance in their performance. The high achievers (40.00) lean body mass is greater than low achievers (35.99), who will therefore achieve better performance since the more the lean body mass the greater will be the energy output and the higher will be the cardio respiratory fitness.

## Conclusion

The high and low achievers youth hockey players have no significant difference in height and weight. The high and low achievers youth hockey players have no significant difference in percent body fat and Lean body mass.

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## **Optimum Nutrition-A Tool for Effective Sports Performance**

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### **Introduction:**

Nutrition is the selection of foods and preparation of foods, and their ingestion to be assimilated by the body. By practicing a healthy diet, many of the known health issues can be avoided. The diet of an organism is what it eats, which is largely determined by the perceived palatability of foods. When it comes to changing the look of your body, proper nutrition is more than important, it's essential. The food you feed your body is the primary catalyst in changing how your body looks. In sports the maximum performance of the athlete based on their optimum nutrition. Sports nutrition looks at the intake of vitamins, minerals, supplements and organic substances such as carbohydrates, proteins and fats. The athlete needs to consider that nutrition is an important component of good health and for sports performances. Optimum nutrition helps to get a maximize athletic performance in five ways such as by maximizing the energy stores, achieving ideal weight, ensuring sufficient minerals and vitamins, maintaining adequate hydration and optimizing pre-competition and competition food intake. Carbohydrates and fats are the two most important sources of energy required in sporting activities and they help in maximizing energy stores. Protein makes a relatively minor contribution, but becomes more significant with the depletion of carbohydrate stores and inadequate energy intake.

### **Significance of Optimal nutrition**

It has been known for some time now that nutrition plays a vital role in any serious fitness enthusiast's considerations-with the right nutrition, you can greatly improve the effectiveness of your workout and reap greater results, benefitting from improved all-round health along the way.

From fuelling to recovery, muscle building to weight making. Optimal nutrition ensures the best platform for our sporting success, at whatever level you participate. The concepts of traditional sports nutrition, focused on exercise performance and recovery, with the concept of functional nutrition, which recognizes that every athlete responds differently to training, recovery, environmental factors and diet and therefore requires an individual approach. Sports nutrition experts therefore apply the latest sport science theories to optimize performance and recovery within a framework that also promotes long-term health. This approach ensures that you will receive a bespoke plan, tailored to your specific lifestyle, exercise and recovery requirements allowing you to gain maximum benefit in a practical, achievable and sustainable way.

### **Importance of optimum nutrition for good sports performance**

At the most basic level, nutrition is important for sport performers because it provides a source of energy required to perform the activity. The food we eat impacts on our strength, training, performance and recovery. Not only is the type of food important for sports nutrition but the times we eat throughout the day also has an impact on our performance levels and our bodies ability to recover after exercising.

Meals eaten before and after exercise are the most important in sports nutrition but you should really be careful with everything that you put into your body. As a general rule of thumb sports performers should eat about two hours before exercising and this meal should be high in carbohydrates, low in fat and low to moderate in protein. Carbohydrates are the main source of energy that powers your exercise regime and protein is required to aid muscle growth and repair. After exercising you need to replace the carbohydrates you have lost and you need to ensure proper muscle recovery by including protein in your post training meal. The proportions of protein and carbohydrates that you require will vary depending on both the intensity and type of sport so to get your individual balance right you should contact a qualified dietitian for professional help with your sports nutrition. Our expert dietitians can help all level athletes to achieve optimal sports nutrition in order to meet their performance goals.

Far too often nutrition in endurance sports has all been about fuelling up on carbohydrate and keeping hydrated through fluid intake, and while these are still important issues to manage during exercise, replenishment post exercise is widely overlooked and neglected. The pressures of training and competition can make it difficult to gain the nutrition you need through consuming regular foods, therefore creating the demand for supplementation to maximize athletic performance.

Products such as gels, bars and isotonic sports drinks make it possible for the modern day endurance participant to consume the nutrients they need when it's not easy to take on whole foods e.g. during exercise or during periods of excessive training.

#### Role of Nutrition in Sports Fitness and Performance

Over the last decade, sports nutrition has come a long way. A great deal of research and development has been carried out on creating nutritional products to cater to the serious bodybuilder, with impressive results. Modern whey protein and other sports supplements can offer a range of benefits. These can include high concentrations of protein proportionate to serving size, quality carbohydrates to aid endurance .. Used in moderation and combined with a healthy overall diet, these kinds of supplemental nutritional items can really give your workout the edge it needs.

Sports nutrition assumes critical importance because long before deficiency symptoms start appearing, physical performance declines. It would not be prudent to think in terms of minimum needs to keep the blood levels or enzyme levels at normal limits. Rather attempts should be made to find out the level below which physical performance starts showing changes. The level, which permits the athlete to achieve the maximum possible physical performance should be the minimum level aimed in the sports nutrition.

Iron transports oxygen to all parts of the body, including muscles, and helps release energy from cells. If iron levels are low, you can feel tired and low in energy. Iron deficiency is a common problem for athletes, particularly women, vegetarians and adolescents. Hard training stimulates an increase in red blood cell production, increasing the need for iron. Iron can also be lost through damage to red blood cells and loss of blood from injury and sweat.

Calcium. Adequate calcium consumption is necessary to develop and maintain strong bones that are resistant to fracture and osteoporosis in later life. Whilst most athletes will have above average bone mass, some female athletes are at high risk of developing osteoporosis prematurely. Loss of periods (known as amenorrhea) due to hard training and low body fat levels means that the body produces less estrogen, which stops bones from reaching peak mass and strength. Most athletes need three daily serves of dairy foods to ensure that they get enough calcium. A serve of dairy could include one glass (250mL) of milk, one tub (200g) of yogurt or two slices (40g) of cheese. Teenage athletes should aim for four serves to meet their increased recommended daily intake of calcium.

#### Conclusion

Food sources should always be considered as the first option for meals and snacks. Overuse may lead to inappropriate replacement of whole foods. Like many areas of nutritional science, there is no universal consensus regarding the effects of meal frequency on body composition, body weight, markers of health, and markers of metabolism, nitrogen retention, or satiety.

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## **Information and communication technology in Education, physical education and sports training.**

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### **Abstract**

21<sup>st</sup> century is revolutionary era of information communication technology in physical education and sports. Use of ICT has much more importance in coaching and training process. To face the challenges 21<sup>st</sup> century training colleges have to adopt new communication techniques and tools. This paper light on the use and importance of ICT in teaching, training and learning process in the field of physical education games and sports. The purpose of this paper is to enlighten on use of ICT in teacher education and how ICT is useful and utilized in teaching learning process. To improve critical thinking and to enhance teaching learning process how ICT in necessary is discussed and its impact on teaching learning process is studied exotically. Conceptualization of various skills and new innovative trends has core importance in the process of teaching, learning. Virtual learning challenges class room concepts are new emerging trends of 21<sup>st</sup> century. To face new challenges ICT plays an important role in training colleges.  
Keyword – ICT, Physical Education, Sports ,Training etc.

### **Introduction**

An information technology is the most important buzzword of the present century. The 21<sup>st</sup> century is literally the century of information technology. This is the age when man has progressed in almost all the fields related to human life, Physical Education is moving forward to the direction of a remarkable progress and development.

Conceptualization of skills and new innovative trends has the core importance in the process of teaching, coaching learning. E-learning is going to cover the entire system of education – computers and internet being the prime necessity and thus all the concerned personals: teachers, teacher educators, administrative authorities as well as management body should accept the fact that without implementing it in education, no one can go a single step further towards predetermined goals, the destination may be different for various agencies and aspects of education but the most probable and desirable way path is the implementation of internet and computers as early as possible, if one is deprived of it. We have virtual reality that creates virtual word inside the mind. Entire global business may be done on the net. Today we can see a change of growth of information and application of information technology in the form of high degree of computerization and transmission of electronic information. Modern communication technologies will improve communication, increase participation, and disseminate information and share knowledge and skills. Internet is one of media for communication in Physical education and it is very effective on education. Information and communication Technology (ICT) in Physical Education is a relatively new phenomenon of Coaches, researcher, institutions and thinkers.

ICT is an essential wall for achieving sustainability and will help in enabling better the teaching, coaching training and learning process. Teaching, learning and coaching is a process in which the teacher and athlete students create an interactive environment.

ICT permeates the business environments it underpins the success of modern Corporations and it provides governments with an efficient infrastructures. A same trice ICT adds values to the processes of learning and in the organization and Management of learning institutions.

The internet is a driving force for much development and innovation and both development and developing countries.

Technology developments lead changes in work and changes in the organization of work, and required competencies are therefore changing, gaining in importance.

The following competencies.

Critical thinking, Generalist (broad) Competencies, ICT Competencies enabling expert work, Decision making, Handling of dynamic Situations, Working as members of a team & Communication effectively

A secondary ICT curriculum should contribute to building up of teams of professionals with new competencies. The of ICT cuts across all aspects of economic social life. Technology developments in ICT are much repaid. Technology quickly becomes absolute new skills and knowledge. Curriculum and Teacher Development keeping pace with technological development and the changing competencies required of both. Students and teachers require a state of the art curriculum and appropriate teacher development.

### **Professional development for teacher and coaches**

Teachers need to be adequately prepared to implement a state of the art ICT curriculum. Introducing any new Curriculum calls for careful preparation. Management, resourcing and continuing support today a classroom place different place from what in used to be. The blackboard and chalk in being supported by computers, with the emerging new technology the teaching and coaching performance is everything from an emphasis on teacher centered, lecture-based instructions to student centered interactive learning environments. Designing & implementing successful ICT enabled teacher education programmes is the key fundamentals wide-ranging educational reforms

### **ICT in Physical Education:**

The UNESCO (2002) documents Information and Communication Technologies in physical Education a planning guide states the importance of ICT in teacher education as follows

“With the emerging new technologies, the teaching and coaches profession is evolving from an emphasis on teacher – centered, lecture-based instruction to student-centered interactive learning environments. Designing and implementing successful ICT – enabled teacher education programmes is the key to fundamental wide- ranging educational reforms...” Teacher education and physical education institutions may either assume a leadership role in the transformation of education or be left behind in the swirl of rapid technological change. For education to reap the full benefits of ICT in learning, it is essential that pre-service and in-service teacher have basic ICT skills and competencies. Teacher education institutions and programmes must provide the leadership for pre-service and in-service teachers and must be model in the new of pedagogies and tools for learning. They must also provide leadership in determining how the new technologies can best be used in the context of cultural, needs and economic condition within their country.

The above documentary passage clearly states the vital need for incorporating ICT in teacher education programme i.e. both in service and pre-service. The document further suggests that there should be ‘articulation and disseminations of a vision of how ICT fit into the broad society and education. Therefore to improve the teaching-learning process, the both policy maker and educators can build a strong national policy regarding use of ICT. Teacher should know –

How to use ICT in teaching their subject  
How to use ICT for lesson preparation  
How to access people work when ICT has been used. How ICT can be used to keep up-to-date share best practices and reduces bureaucracy. Thus ICT in physical education is not merely developing ICT skills and competencies; it involves developing in the student teachers the ability to continuously update them, to ascertain the kind of ICT suitable for the learning experience to be provided and the use ICT to optimize the process of education.

### **How ICT is useful?**

The information technology provides facilities for chat, e-mail, voice-mail, video-mail etc on internet. It can be used in physical education for improving the process of education as follows:

#### **1] Updating information:**

A lot of information is available on the different websites and which may be accessed through internet. Information relating different aspects such as curriculum development, ET, examination, innovations in physical education, new techniques for developing skills, thinking, performance, etc. may be accessed easily through internet. If physical educators can be given these facilities of surfing the websites then they can find the most useful information for updates their knowledge.

## **2] Developing coaching Competencies:**

It is widely believed that coaching competencies once developed, continue to develop by themselves, however it does not happen by itself now days CD's are available, which demonstrate various coaching competencies in real field situation, these can be seen by any trainer or physical educator. The teacher can be used video mail and video recording for the performance.

## **3] Becoming acquainted with the latest techniques/ method of teaching**

In these days innovative technique like model of teaching have not been introduced by the different universities in their teacher education curriculum. Advances in Information Technology have made it possible to use alternative means. Many video cassettes on models of teaching are easily available now.

## **4] Sharing Instructional Material:**

Instructional material for teaching different topics is also available on the websites.

## **5] Developing Research Competencies:**

Many teachers working in different colleges of the different universities are not involved in any research work activity and hence standard of research work conducted is declining day by day. This happens due to the poor research competencies of teachers. This may be one of the reasons of it. This can be improve by using e-mail and chat on internet.

## **6] Enriching Teacher Education Curriculum:**

The UGC and NCTE have put the teacher education curriculum on their website. This agency seeks comments of practicing of teacher educators and subject specialist. Their comments may suggest modification of the curriculum before it is finalized. The good comments / points may be incorporated in new curriculum being drafted. This will go a long way in improving the quality of teacher education curriculum.

## **7] Research and Development:**

Researchers working in education can also contribute their share by conducting the needed type of research. The potential area of research and development are instructional materials, training programmes for developing, reasoning, thinking, creativity, reading and compression etc. The efforts can be enrich by using ICT.

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## **Validation Of The 32 Items Hypomania Check List (Hcl-32) As An Instrument For Detecting Bipolar Disorder Symptoms For Athletes**

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**ABSTRACT:** Bipolar disorder is a physical disease of the brain affecting the thoughts, feelings, perception, and behavior of the afflicted. The name "bipolar" stems from the nature of the illness. The moods of a person suffering from bipolar disorder typically range from euphoria to despondence. The main purpose of this study is to analyze the validation of the 32 items hypomania check list as an instrument for detecting bipolar disorder symptoms for athletes. The main aim was whether the top level athletes are mentally affected and or they may have symptom of bipolar disorder? This is the major doubt in the field of sports and games. Total of 100 university level athletes was selected in physical education colleges from Puducherry and Kerala states in India. Their age group ranged between 21 to 28 years. The bipolar disorder (Hypomania) among the athletes is the main dependent variable and the sub variables from the Hypomania check list are Potentially bipolar (major depressed), Active hypomania (active bipolar), Risk taking hypomania and Non bipolar (normal). Hypomania symptoms check list questionnaire was used to the score the screening for bipolar disorder symptoms for the university level athletes in physical education colleges. The questionnaire was given to the athletes and collected back with filled forms. The yes or no question was converted into numerical data. These data were analyzed with percentile and descriptive statistical application. The analysis of the data from the hypomania check list (HCL-32) which was collected from the 100 samples, the mean value of the bipolar disorder was 9 points, the risk taking hypomania point was 49, the active hypomania was 30 points, most of 66 points for potentially bipolar and only 25 mean value for non-bipolar disorder among the inter university level athletes of Puducherry and Kerala state.: The results shows that from the total of 100 athletes 5% of the respondents were having bipolar disorder, 27% of the respondents were having risk taking hypomania, 17% of the respondents were having active hypomania, 37% of the respondents were suffering from potentially bipolar and only 14% of athletes were non-bipolar disorder. From the conclusion strongly recommend that bipolar disorder and its symptoms are commonly affected the athletes.

**Key words:** Bipolar Disorder, Hypomania, Risk taking Hypomania, Active Hypomania, Potentially Bipolar, Athletes.

### **Introduction**

Mood disorders, also called affective disorders, involve persistent feelings of sadness or periods of feeling overly happy, or fluctuations from extreme happiness to extreme sadness. The most common mood disorders are depression, mania, and bipolar disorder.

Depression is common, affecting as many as 15% of men athletes and 25% of women athletes in their lifetime. In athletes the depression level will be different during competition eve. It is feeling down and low and hopeless for weeks at a time. It interferes with daily living and normal routine and affects the sufferer and those close to them. There are degrees of depression, going from mild to moderate to severe. Generally the earlier can recognize the symptoms of depression and make positive changes to counter it; the less likely it is to worsen. Depression can come about in many different ways. Generally, it is accepted that social circumstances, specific incidents and/or individual thought patterns can contribute to someone becoming depressed. While everyone feels sad from time to time, if that occurs most days for more than two weeks, it could mean that clinical depression is occurring. Bipolar disorder is the name used to describe a set of 'mood swing' conditions, the most severe form of which used to be called 'manic depression'. The term describes the exaggerated swings of mood, cognition and energy from one extreme to the other that are characteristic of the illness. (Kaplan & Sadock's, 2009)



People who have bipolar disorder can have periods in which they feel overly happy and energized and other periods of feeling very sad, hopeless, and sluggish. In between those periods, they usually feel normal. You can think of the highs and the lows as two "poles" of mood, which is why it's called "bipolar" disorder. Bipolar disorder can look very different in different people. There are four types of mood episodes in bipolar disorder: mania, hypomania, depression, and mixed episodes. Each type of bipolar disorder mood episode has a unique set of symptoms.

Signs and symptoms of bipolar depression are

Feeling hopeless or sad.

Irritability.

Inability to experience pleasure.

Fatigue or loss of energy.

Physical and mental sluggishness.

Appetite or weight changes.

Sleep problems.

Concentration and memory problems.

Feelings of worthlessness or guilt.

Thoughts of death or suicide.

Hypomania is a mood state characterized by persistent disinhibiting and pervasive elevated (euphoric) or irritable mood, as well as thoughts and behaviors that are consistent with such a mood state. It is most often associated with the bipolar spectrum. Many who are in a hypomanic state are extremely energetic, talkative, and confident.

#### OBJECTIVE OF THE STUDY

The main objective of this study is whether the top level athletes are mentally affected and or they may have symptom of bipolar disorder? This is the major doubt in the field of sports and games. Most of the literatures are says that involved in sports and games the person can avoid from mental illness and depression free life.

#### METHODOLOGY

##### Selection of Subjects

Total of 100 university level athletes were selected in physical education colleges from Pondicherry and Kerala states in India. Their age group ranged between 21 to 28 years. All athletes were studying physical education courses in the physical education colleges and universities.

##### Selection of Variables

To interpret the doubts on bipolar disorder among the athletes the Hypomania (bipolar disorder) is the main dependent variable and the sub variables from the Hypomania check list are Potentially bipolar (major depressed), Active hypomania (active bipolar), Rick taking hypomania and Non bipolar (normal) were selected for the purpose of the study.

##### Administration of Test

Hypomania symptoms check list questionnaire was used to the score the screening for bipolar disorder symptoms for the university level athletes in physical education student. The test consist of 32 yes/no questions. The HCL-32 items include positive and negative consequences across different areas.

##### Collecting of Data

The HCL-32 item is a self-applied questionnaire for the assessment of hypomania that investigates the presence of a variety of symptoms. Participants are requested to focus on "the 'high' periods" and to indicate whether specific thoughts or emotions were present during this state including low-threshold symptoms such as "making jokes" and "I am less shy and inhibited". In addition, the HCL-32 includes to positive and negative consequences across different areas. The nature and importance of the study is explained to the subjects for their maximum participation. The questionnaire was given to the athletes and collected back with filled forms. The yes or no question was converted into numerical data. These data were used for analysis with statistical application.

##### Experimental Design and Statistical Analysis

For the purpose of the study total of 100 university level athletes were selected in physical education colleges from Puducherry and Kerala states in India. The experimental design for the study was random sampling design, the athletes who were participated in the inter university level competition from various sports and games.

The percentile was used to determine the bipolar disorder symptoms among the athletes. The descriptive statistics was used to find mean difference in the various symptoms of bipolar disorder for the athletes.

#### Result Of The Study

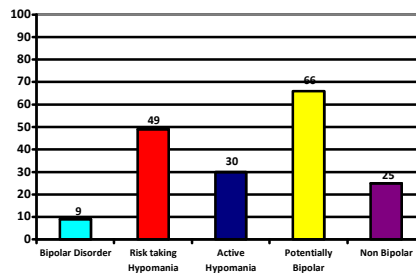
The statistical analysis and interpretation of data has been prescribed in the below table. The test was administered to 100 inter university level athletes studying physical education courses from Pondicherry and Kerala states in India.

Table 1  
 MEAN AND PERCENTAGE OF BIPOLAR DISORDER SYMPTOMS FOR ATHLETES  
 (Mean in points)

Sl. No.	Items	Mean	N	Percentage
1	Bipolar disorder (hypomania)	9	100	5%
2	Risk taking hypomania	49		27%
3	Active hypomania (active bipolar)	30		17%
4	Potentially bipolar (major depressed)	66		37%
5	Non bipolar (normal)	25		14%

The table 1 shows that the total number of samples is 100, and the mean value of the bipolar disorder was 9 points, the risk taking hypomania point was 49, the active hypomania was 30 points, most of 66 points for potentially bipolar and only 25 mean value for non-bipolar disorder among the inter university level athletes of Puducherry and Kerala state. This finding depicts the fact that the athletes possess the symptoms of bipolar disorder, which is typically a mood disorder.

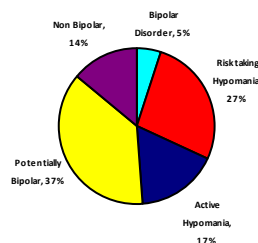
Figure 1: MEAN OF BIPOLAR DISORDER SYMPTOMS FOR ATHLETES (in points)



Bipolar disorder (Hypomania) ■  
 Risk taking Hypomania (Risk Bipolar) ■  
 Active hypomania (Active bipolar) ■  
 Potentially Bipolar (Major depressed) ■  
 Non-Bipolar (Normal) ■

The figure 2 shows that, the results of percentile calculation among the athletes on bipolar disorder symptoms. Out of total 100 athletes, 5% of the respondents were having bipolar disorder, 27% of the respondents were having risk taking hypomania, 17% of the respondents were having active hypomania, 37% of the respondents were suffering from potentially bipolar and only 14% of athletes were non-bipolar disorder.

Figure 2: Percentile Of Bipolar Disorder Symptoms Of Athletes (In Percentage)



## **Discussion On Hypothesis**

The hypothesis states that there would be no bipolar disorder in the athletes. The result shows that 5% of total population was affected bipolar disorder in the athletes. Except 14% of university players other all other players noted that they were affected in the bipolar disorder symptoms, so that the hypothesis was rejected.

## **Conclusions**

Based on the analysis of the results and discussions of findings on this study, the following conclusions have been drawn.

From this study it was concluded that the university level athletes having affected more depression status it may found symptoms of bipolar disorder.

The Results has shown that 5% of University level athletes of Physical Education students have Bipolar disorder (Hypomania), 27% of the respondents were having risk taking hypomania, 17% of the respondents were having active hypomania, 37% of the respondents were suffering from potentially bipolar and 14% of the respondents were found non-bipolar disorder.

Result also shows that out of 100 athletes 14% of athletes that is total 25 points found to be normal that means they are strong in mind and not causes bipolar disorder symptoms.

Only 5% of athletes strongly affected by bipolar disorder symptom. This might have reason of not only participating in the sports and also may influence by personal factors.

## **Recommendations**

With the experience gained in this study, investigator makes the following recommendations for further studies.

From the conclusion strongly recommend that bipolar disorder and its symptoms are commonly affected the athletes. The athletes are recommend should do preventive measures to control depression.

The athletes should do regular relaxation techniques in their training protocol it may to control the potentially bipolar disorder.

Frequent test should be conducted for athletes to maintain their depression level not fall in bipolar symptoms.

The same study may be conducted on more number of subjects to ascertain the facts.

Similar study may be carried out on other age group, different condition, and locality.

The investigator hopes that the present study will be beneficial for the coaches, trainers, physical educationist and those concerns with theory building in this area.

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## **Physical Activity: The Best Medicine recommendations For Healthy Living**

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### **Introduction:**

For children and young people, physical activity includes play, games, sports, transportation, chores, recreation, physical education, or planned exercise, in the context of family, school, and community activities. The recommendations to improve cardio-respiratory and muscular fitness, bone health, and cardiovascular and metabolic health biomarkers are:

1. Children and youth aged 5-17 should accumulate at least 60 minutes of moderate - to vigorous-intensity physical activity daily.
2. Amounts of physical activity greater than 60 minutes provide additional health benefits.
3. Most of the daily physical activity should be aerobic. Vigorous-intensity activities should be incorporated, including those that strengthen muscle and bone, at least 3 times per week.

### **Recommendations On Physical Activity For Health 18-64 Years**

In adults aged 18-64, physical activity includes leisure time physical activity, transportation (e.g. walking or cycling), occupational (i.e. work), household chores, play, games, sports or planned exercise, in the context of daily, family, and community activities. The recommendations in order to improve cardio-respiratory and muscular fitness, bone health, reduce the risk of NCDs and depression are:

1. Adults aged 18–64 should do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week or do at least 75 minutes of vigorous-intensity aerobic physical activity throughout the week or an equivalent combination of moderate - and vigorous-intensity activity.
2. Aerobic activity should be performed in bouts of at least 10 minutes duration.
3. For additional health benefits, adults should increase their moderate intensity aerobic physical activity to 300 minutes per week, or engage in 150 minutes of vigorous-intensity aerobic physical activity per week, or an equivalent combination of moderate - and vigorous-intensity activity.
4. Muscle-strengthening activities should be done involving major muscle groups on 2 or more days a week.

### **Recommendations On Physical Activity For Health 65 Years And Above**

In older adults of the 65 years and above age group, physical activity includes leisure time physical activity, transportation (e.g. walking or cycling), occupational (if the individual is still engaged in work), household chores, play, games, sports or planned exercise, in the context of daily, family, and community activities. The recommendations in order to improve cardio-respiratory and muscular fitness, bone and functional health, reduce the risk of NCDs, depression and cognitive decline are:

1. Older adults should do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week or do at least 75 minutes of vigorous intensity aerobic physical activity throughout the week or an equivalent combination of moderate- and vigorous-intensity activity.
2. Aerobic activity should be performed in bouts of at least 10 minutes duration.
3. For additional health benefits, older adults should increase their moderate intensity aerobic physical activity to 300 minutes per week, or engage in 150 minutes of vigorous-intensity aerobic physical activity per week, or an equivalent combination of moderate-and vigorous-intensity activity.
4. Older adults, with poor mobility, should perform physical activity to enhance balance and prevent falls on 3 or more days per week.
5. Muscle-strengthening activities, involving major muscle groups, should be done on 2 or more days a week.
6. When older adults cannot do the recommended amounts of physical activity due to health conditions, they should be as physically active as their abilities and conditions allow.

## **Exercise Protocol For Predicting The Sensitive Zone On Heart Rate Max. Among Untrained School Girls**

**Karanam Shilpa Valli –Osmania University-Hyderabad**  
**Bora Venkata Reddy –Ph.D Scholar A.N.U Guntur**

**Introduction:**

Physiology: Study of functioning of living organism or their constituent tissues or cells.2. Heart Rate: The number of times the heart contracts per minute to pump blood around the body.

AIM: The purpose of the study is to determine the significant change in Heart Rate max. Capacity of untrained School Girls in the age group of 14-16 years.

Significance of the study:1. The study will help to estimate the significant change in Heart Rate max. 2 This will also help to find out the intensity of the exercise (or) training sensitive zone to improve Heart Rate max. 3.This study may help the physical education teachers, coaches and other related physical educational professionals dealing with the children on sports, fitness etc.4.This research may also help in bringing new scope relating to Heart Rate max.

Hypothesis:It is hypothesized that Medium intensity duration exercise brings a significant change in Heart Rate max. Capacity in the children Delimitations: 1.This study is delimited to the Students between the age group of 14-16 year Girls of Hyderabad Region only.

2. All the Students selected for this study were not trained in the past.Limitation: factors like socio economic status, daily routine life style and food habits of the subjects which may have an influence on the Heart Rate max. Capacity of the children could not be controlled.

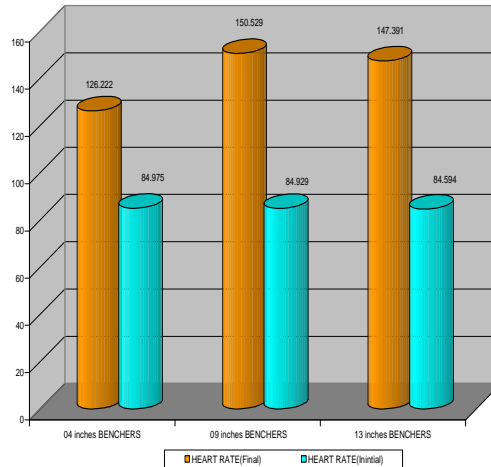
**Methodology:**

The purpose of this study was to compare the Heart Rate Max. among untrained school children of HyderabadCity. To achieve this purpose, 90 students were selected randomly and were categorized in three different groups, i.e. high intensity group, middle intensity group and low intensity group as random samples. They were ranged in age between fourteen to sixteen years only.The test is more economical in terms of space and the time aspects.In order to assess the Heart Rate Max., the Harvard Step Test method was used on the students of Hyderabad City.

1. Harvard Step of 13 inches height for higher grouped students
2. Harvard Step of 9 inches height for middle grouped students
3. Harvard Step of 4 inches height for lower grouped students

**Analysis Of Data And Results Of Study:**

Heart Rate (Final)	N	Mean	Standard Deviation	Standard Error
4 inches benchers	30	126.2222	12.81244	2.33922
9 inches benchers	30	150.5295	4.93529	.90106
13 inches benchers	30	147.3907	9.72754	1.77600
Total	90	141.3808	14.49490	1.52790



**Conclusions:**

Based on the results of the above study the investigator has drawn the following conclusions:

Among this three groups 9 inches medium group have better average compare to 13 inches High bench and 4 inches Low bench group Girls.

This speaks that 9 inches Medium bench test improves the Heart Rate Max. among the untrained school Girls between the age group of 14 to 16 years.

**Recommendations:**

In the light of the facts presented above the investigator has made the following recommendations. All coaches who are giving training in improving Heart Rate Max must be specialized in their own field so that the best learning can be made possible among the participants' Good scientific and systematic coaching help the players to achieve the high level of sport performance. Educational institutions are the main agencies to promote players since childhood educational institutions must provide adequate facilities to the Girls to become fit by taking part in various physical activities.

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## **Effect Of Meditational Practices On Movement Time, Reaction Time, Anxiety And Perception, Anxiety And Perception Among Elite Athletes Of Andhra Pradesh.**

**Bora Venkata Reddy –Ph.D Scholar - A.N.U Guntur  
Karanam Shilpa Valli –Osmania University-Hyderabad**

### **Abstract**

The aim of the present study is to find out effect of meditational practices on MOVEMENT TIME, REACTION TIME, ANXIETY AND PERCEPTION, ANXIETY AND PERCEPTION among elite athletes of Andhra Pradesh. The study was formulated based on the simple random sampling. The samples were collected from the 80 No.s of the elite athletes studying in class IX, X, XI, and XII in the age group of 13 to 18 years. These sample were randomly selected the boys and girls of Elite (National, International) athletes of Andhra Pradesh Sports School. The study was based on simple random sampling. The sample consists of 60 elite adolescent athletes of 13 to 18 years. Age group of Andhra Pradesh Sport School may divided into 2 groups boys and Girls consist of 30 in each group [30 +30 = 60] out of which one group may be controlled and another will be experimental group in each category. The meditational training for 6 weeks may be given to the experimental group and the controlled group may not be given any meditational yogic practices. The purpose of the study is to investigate the effect of meditational practices on selected personality traits viz – MOVEMENT TIME, REACTION TIME, ANXIETY AND PERCEPTION, of elite athletes of Andhra Pradesh Sport School. The experiment will last for 6 weeks, there will be one session every day of 1 hour each for both boys and girls experimented groups. The controlled group is not allowed to participate any meditational practices except their routine sports training schedule. Data for selected variable may be collected at the beginning by conducting pre-test and after 6 weeks by conducting post test the test results may be analyzed with evaluation. To measure MOVEMENT TIME TEST: - Nelson speed of movement time. To measure REACTION TIME TEST - REACTION TIME To measure the Reaction time [visual and auditory] of the Athletes. The level of significance was set at 0.05, the results of the study revealed that there was a significant difference between Experiment and Control group on selected variables.

### **Introduction:**

Sports an aspect of physically education recreation and competition are its two poles or axes on a common continuum. Psychology plays a key role in (elite sports highly advanced stage person) of the two teams are equally trained, nourished, but the only team wins which is (mentally) psychologically strong. The word "Meditation" is used to describe a number of different uses of the mind from contemplation and concentration to devotion and chanting.

### **Methodology:**

#### **Sample Of The Study:**

The study was formulated based on the simple random sampling. The samples were collected from the 80 No.s of the elite athletes studying in class IX, X, XI, and XII in the age group of 13 to 18 years. These sample were randomly selected the boys and girls of Elite (National, International) athletes of Andhra Pradesh Sports School.

**Procedure For Data Collection:**

The study was based on simple random sampling. The sample consists of 60 elite adolescent athletes of 13 to 18 years. Age group of Andhra Pradesh Sport School may divided into 2 groups boys and Girls consist of 30 in each group [30 +30 = 60] out of which one group may be controlled and another will be experimental group in each category. The meditational training for 6 weeks may be given to the group and the controlled group may not be given any meditational experimental yogic practices.

**Tools Used:**

To measure the speed of movement of the Athlete. One yard scale, Table and Two chairs. To measure the Reaction time [visual and auditory] of the Athletes. Electronic reaction timer or chronometer. Table, Two Chairs and Power Supply.

**Statistical Techniques Used:**

The data collected in this study was subjected to statistical analysis with appropriate tools. The descriptive statistics was used to find out the mean, standard deviation and t – test f - test was computed. For graphical presentation excel package of MS-office was used for better compliance.

**Conclusion:**

Meditation is one of the yogic techniques which improve the performance of the athletes by changing the psychological variables in positive manner. Research found significant change in levels of Movement Time, Reaction Time, Anxiety And Perception. Means The Movement Levels Of Athletes Before 6 weeks training was low than after the training (meditational)

**Recommendations:**

Similar studies may be conducted on large scale  
similar studies may be conducted on other selected variables  
Similar studies may be conducted at sports academics and sports training institutions.  
Similar study may be conducted on adult age groups.



## **A Study Of Sports Marketing Ecosystem In India**

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### **Abstract**

Sport marketing is a relatively new dimension within the broad concept of marketing. Its origins can be traced to the early Roman and Greek eras when the royals and the wealthy promoted athletic festivals. For instance, Gladiator duels were watched and cheered by tens of thousands in the massive Roman Coliseums to pomp their power and pelf. Today, sports marketing has evolved into a science on its own with various channels like media agencies, specialised sports agencies and even brands and broadcasters trying to tap into its latent potential. The positive passions and emotions associated with sports can create a positive image with consumers, which is well nigh impossible to achieve through static promotional platforms like television.

### **Introduction**

What makes a business idea work? Does it only take money? Why are some products a huge success and similar products a dismal failure? How was Apple, a computer company, able to create and launch the wildly successful iPod, yet Microsoft's first foray into MP3 players was a total disaster? If the size of the company and the money behind a product's launch were the difference, Microsoft would have won. But for Microsoft to have won, it would have needed something it's not had in a while—good marketing so it can produce and sell products that consumers want.

So how does marketing get done? Marketing is defined by the American Marketing Association as “the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large.” [1] If you read the definition closely, you see that there are four activities, or components, of marketing:

**Creating.** The process of collaborating with suppliers and customers to create offerings that have value.

**Communicating.** Broadly, describing those offerings, as well as learning from customers.

**Delivering.** Getting those offerings to the consumer in a way that optimizes value. Exchanging. Trading value for those offerings.

### **Sport marketing**

Sport marketing is a relatively new dimension within the broad concept of marketing. Its origins can be traced to the early Roman and Greek eras when the royals and the wealthy promoted athletic festivals. For instance, Gladiator duels were watched and cheered by tens of thousands in the massive Roman Coliseums to pomp their power and pelf. Today, sports marketing has evolved into a science on its own with various channels like media agencies, specialised sports agencies and even brands and broadcasters trying to tap into its latent potential. The positive passions and emotions associated with sports can create a positive image with consumers, which is well nigh impossible to achieve through static promotional platforms like television.

To put it pithily, sports marketing has become a mini-industry in itself. According to the Pitch-Group Mesp Survey, the size of the sports marketing industry is a tad over Rs 1,900 crore, and is growing around 25 percent annually. So, how does this industry work? Who are the players? What's driving this? Pitch interviewed and analysed a whole host of players in the sports marketing arena—from corporates to broadcasters to sports icons to media agencies and specialised agencies to arrive at what we call the 'sports marketing ecosystem' in the country. This ecosystem has the following characters who are trying to grow the market further: the fans, sports, sport icons, brands, broadcasters, and various media and specialised sports marketing agencies. Group Mesp (Entertainment, Sports and Partnerships), an arm of

the largest communications conglomerate WPP's media business, managing partner Hiren Pandit opines, "sports marketing has still a long way to go in our country. Traditionally, the property owner was also the sports expert. This has an inherent problem: does one maximise revenue for the property or does one give value to the client. Our belief is that property owners are sellers and clients are buyers, and clients need valuation from a neutral party. That's the role sports consultants or managers need to play." The fans are the centre-point of this ecosystem whom everyone targets. Fans follow sports because of sport icons like a Sachin Tendulkar or a David Beckham. So icons are very important to successfully market any sport.

### **The fans**

They are the ones everyone's chasing and interested in. Billions watch the Olympics and Fifa World Cup matches. Over 100 million watch the English Premier League, so do millions of our cricket sports enthusiasts. It's the fans who everyone targets, for a sport sans a major fan following will fall flat; all the money that's being pumped into sports today is only to target these eyeballs. On the upcoming Champions League T20 matches (the latest T20 spinoff from the BCCI stable), Indian Premier League chairman Lalit Modi says, "more people are going to watch cricket; in our day to day life we are having lot of stress and problems, and one way to vent them out is go and watch some great cricket, in a great atmosphere like in the Champions League. We hope that it would become bigger than the IPL."

### **The Sports**

The discipline which makes everything work, even the sporting icons are the products of sports. Cricket, soccer, tennis etc are among the most popular sports globally because of their global fan-following. Every country has one or two popular sports which attract marketer's maximum attention, while the rest have to find a way out to enthruse marketers. Experts suggest that it's very important for every sport to be television-friendly to attract viewers. And the T20 cricket is a case of innovation. But for any sport to flourish, the respective association has to act professionally and in tune with the market demands. The BCCI is one of the cleverest sports bodies that has exploited the popularity of cricket by innovating all the times, IPL T20 being the latest. Brandon D'souza of Tiger Sports, the golf specialist agency opines that one of the major problems in our country is the apathetic attitude of sporting bodies to market themselves. They need to learn a lesson or two from cricket as to how to rake in money."

Legendary cricketer Kapil Dev adds, "sports is the only profession in the country that is not run by sportspersons. In any other discipline, the first thing is to look for qualified personnel to run these organisations. That is the reason why sports have lagged in our country. Only a person who has played the game will understand the trials and tribulations of that particular sports."

StarcomMediaVest Southeast and South Asia chief executive Ravi Kiran opines that "three things are paramount for the success of any sport—heroes (they bring in fans, whom the marketers chase), television, and sponsors," he says. Havas Media chief executive Anita Nayyar says, "the role of sports associations is critical to make the sport deliver the objectives of the marketers and ensure value. This will certainly pump a lot of oxygen into non-cricket sports."

### **The Icons**

Cricket would not have been what it's today without a Sachin or for that matter soccer without a Pele and Maradona. Anil Singh, the managing director of Procams International, that promotes the Mumbai and Delhi marathons, says fans don't watch sports they watch icons. So for any sports to survive, it has to produce icons. Experts like Vyas Giannetti Sport's business head and IMG Sports India director Andrew Wilblood also agree that this is where cricket wins hands down in the country and that if other sports have to rise, they must produce icons, which needs long-term support from sponsors to identify talent, develop them and then leverage them.

### **The Broadcasters**

Sports broadcasters like ESPN Star Sports, Zee Sports, Ten Sports and Neo Sports among others play a major role in popularising a particular sport. Cricket T20 is a perfect case of innovation in the sporting arena, though strictly speaking the BCCI has copied it from the Aussies. But what is notable is that they made it really successful. Sneha Rajani, business head of SET Max which owns the IPL telecast rights, points out that "through the IPL we made cricket a family entertainment event. We didn't market it as sports but as an entertainment event for the whole family." Another case in point is bowling, which is done very interestingly by broadcasters in Southeast Asia, and is a popular sport, even though many consider it to be a boring ball-throwing game.

Neo Sports marketing head Abhishek Verma says, "there is a growing base of viewers who are interested in other sports like golf, football, tennis and motorsports. Earlier only large big ticket events like the tennis grand slams were shown live, but now other important signature events like WTA tennis are available." the brandEvery expert says, and probably we all know that brands follow eyeballs and whichever sport delivers that they put their money in it. This is despite the fact that most media agencies and sports marketing experts advise brands to look at long-term and help develop other sports. Experts also opine that this will also de-risk brands from their now near-full dependence on cricket. DentsuSports's Tarun Chaudhry says, "sports marketing leaves much to be desired. The unprofessional approach to both marketing of sports and marketing through sports is a combination of poor management of sporting bodies, and a lack of strategic approach by marketers. More often than not, investments into sports are made on an ad hoc basis without a long-term goal."

### **Conclusion**

As the market gets cluttered, brand differentiation becomes the key. Here in comes the role of specialised sports agencies which help brands best leverage sporting disciplines through research and analysis. In a way they are the drivers of the sports marketing machine. Sports marketing agencies are of two types media agencies and specialised independent agencies. Media agencies having a sports arm where they use their proven media strategies to advice marketers on how to best leverage a particular sports property. Some of the leading players are GroupMesp, Madison Media, Havas Sports, Vyas Giannetti Creative Sports and Aegis Media are among others. There are also specialised sports agencies which promotes sport properties and do celebrity management. Some of the key players in this are LatikaKhaneja-promoted Collage Sports, Percept Talent Management, Tiger Sports, Procam International etc.

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## Analysis of body composition and somatotype between high and low achievers of RDT hockey academy hockey players

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### Abstract

The purpose of this study was to compare high and low achievers on Body composition and Somatotype of hockey players from RDT Hockey Academy, Anantapur, A.P. To achieve this purpose, a total of 29 boys from RDT Hockey Academy, were considered. These players were classified into two group's namely high achievers (17) and low achievers (12), on the basis of level of participation in tournaments. This data was collected during the academic year 2011-12. The anthropometric measures height, weight, % BF was measured initially for all the subjects. The criterion variables chosen for this study were body composition which was measured by body fat % is an easy method of discovering correct body weight and composition. Beneath the skin is a layer of subcutaneous fat, and the % of total body fat can be measured by taking the 'skinfold' at selected points on the body with a pair of calipers. This test only requires four measurements. And an anthrop meter for measuring the height, a skin fold caliper, a small sliding caliper for the breadths and a flexible steel or fiber glass tape for the girths. ANOVA of unequal sample was employed to know the difference between high and low achievers hockey players. The percent body fat content is greater in low achievers will act as a hindrance in their performance. The high achievers (40.00) LBM is greater than low achievers (35.99).The somatotype of high and low achievers is mesomorphic ectomorph because ectomorphy is dominant, with mesomorph second in dominance.

*Key Words: Body Composition, SomatoType, Hockey Players Training*

### Introduction

Field hockey is one of the popular games which underwent very dynamic changes during history and especial in the last years (rules, equipment, quality of field). One of the most important changes was the swap from natural to artificial grass. This transformation demanded changes in training process which must taking into consideration competitive loads of players as a specific model of target preparation. Contemporary field hockey requires competitors to be very fit. The effective time of a match is two times approximately 35 minutes with consecutive attacks and defenses performed with high and very high intensity. The optimal physical preparation of elite field hockey players has become an indispensable part of the professional game, especially due to the increased physical demands of match-play, it can be observed during international competitions e.g. Olympic Games or Asian games. To assess the level of player preparation a battery of different tests (laboratory or field) are used, which show actual possibilities of single player or whole team to realize training and competitive loads, e.g. on the basis of hypothetical model of changes on the main abilities in macro cycle (Konarski, 2010).The purpose of this investigation was to estimate the changes on selected body composition and somatotype as a result of systematic hockey academy training program for a year.

### Methodology

The study was proposed to compare RDT hockey academy male players of high and low achievers in terms of morphophysiological variables. To accomplish the purpose of the study, twenty nine (29) male youth field hockey players were selected at random as subjects, who volunteered to participate in this study. These players were classified into two groups namely high and low achievers. The high achievers group constitutes of 17 players and low achievers group constitutes of 12 players.

High achievers subjects who represented highest level of competition and low achievers are immediately below high achievers level. The mean age of the selected subjects was  $4.9 \pm 2.1$ .

## Results

The data collected on selected criterion variables for hockey players of different levels of achievement was subjected to statistical analysis and it was presented in this tables.

Table 1 Mean (*sd*) and results of ANOVA for percent body fat among field hockey players classified by level of performance

Groups	Mean $\pm$ <i>sd</i>	SOV	Sum square	of df	Mean square	F ratio	<i>P</i> value
Total subjects (29)	8.55 $\pm$ 3.16	B	32.755	1	32.755	3.581	.069
High achievers (17)	7.65 $\pm$ 3.20	W	246.938	27	9.146		
Low achievers (12)	9.81 $\pm$ 2.73	T	279.692	28	-		

SOV – Source of variance, B – Between groups, W – Within groups, T – Total

The mean value and standard deviation of high and low achievers on percent body fat are 7.65 $\pm$ 3.20 and 9.81 $\pm$ 2.73 respectively. Levine's test has shown that the variance is not significant since  $p = 0.739$ . So Homogeneity of variance is assumed. The results of the ANOVA on percent body fat showed no significant difference between high and low achievers field hockey players from RDT Hockey Academy, Anantapur, Andhra Pradesh (see Table 1). Since the obtained F ratio of 3.581 is less than the required table value of 4.20 at  $\alpha = 0.05$  for the df of 1 and 27. Hence the null hypothesis is rejected since  $p < 0.05$ .

Figure 1 Percent body fat of high and low achievers field hockey players

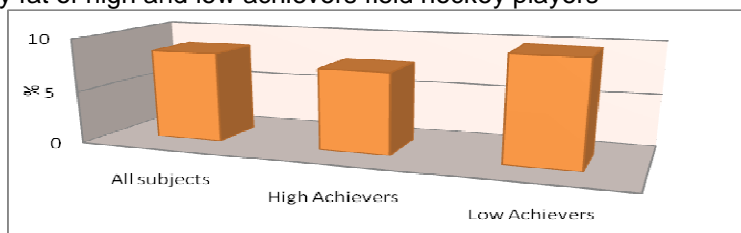


Table 2 Mean (*sd*) and results of ANOVA for lean body mass among field hockey players classified by level of performance

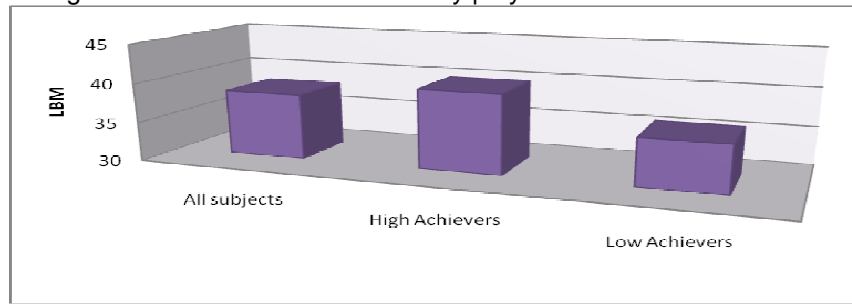
Groups	Mean $\pm$ <i>sd</i>	SOV	Sum square	of df	Mean square	F ratio	<i>P</i> value
Total subjects (29)	38.39 $\pm$ 6.21	B	118.368	1	118.368	3.321	.080
High achievers (17)	40.09 $\pm$ 6.22	W	962.444	27	35.646		
Low achievers (12)	35.99 $\pm$ 5.58	T	1080.812	28	-		

SOV – Source of variance, B – Between groups, W – Within groups, T – Total

The mean value and standard deviation of high and low achievers on lean body mass are 40.09 $\pm$ 6.22 and 35.99 $\pm$ 5.58 respectively. Levine's test has shown that the variance is not significant since  $p = 0.403$ . So Homogeneity of variance is assumed.

The results of the ANOVA on lean body mass showed no significant difference between high and low achievers field hockey players from RDT Hockey Academy, Anantapur, Andhra Pradesh (see Table 2). Since the obtained F ratio of 3.321 is less than the required table value of 4.20 at  $\alpha = 0.05$  for the df of 1 and 27. Hence the null hypothesis is rejected since  $p < 0.05$ .

Figure 2  
Lean body mass of high and low achievers field hockey players



## SOMATOTYPE

Table 3

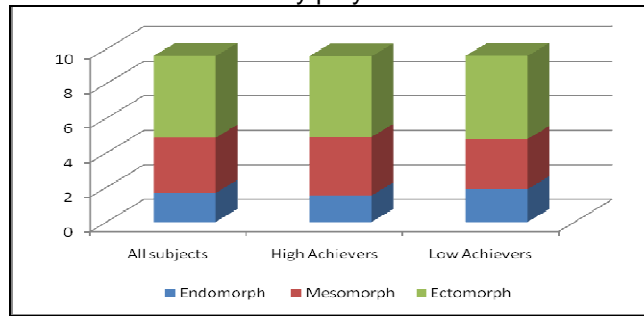
Mean scores (*sd*) and ANOVA of somatotypes of field hockey players classified by level of performance

	Groups	Mean $\pm$ <i>sd</i>	SOV	Sum of square	df	Mean square	F ratio	<i>P</i> value
Endomorph	Total subjects (29)	1.68 $\pm$ 0.62	B	.954	1	.954	2.594	.119
	High achievers (17)	1.53 $\pm$ 0.64	W	9.930	27	.368		
	Low achievers (12)	1.90 $\pm$ 0.54	T	10.884	28			
Mesomorphy	Total subjects (29)	3.19 $\pm$ 0.78	B	1.679	1	1.679	2.940	.098
	High achievers (17)	3.39 $\pm$ 0.80	W	15.415	27	.571		
	Low achievers (12)	2.90 $\pm$ 0.68	T	17.093	28			
Ectomorphy	Total subjects (29)	4.72 $\pm$ 0.81	B	.132	1	.132	.194	.663
	High achievers (17)	4.66 $\pm$ 0.83	W	18.350	27	.680		
	Low achievers (12)	4.80 $\pm$ 0.81	T	18.482	28			

SOV – Source of variance, B – Between groups, W – Within groups, T – Total

Table 3 shows that field hockey players from RDT Hockey Academy, Anantapur, Andhra Pradesh, showed mesomorphic ectomorph (1.68 - 3.19 - 4.72). When they are classified into two groups based on performance level high achiever showed mesomorphic ectomorph (1.53-3.39-4.66) and low achievers also possessed mesomorphic ectomorph (1.90 - 2.90 - 4.80). The somatotype of high and low achievers is mesomorphic ectomorph because ectomorphy is dominant, with mesomorph second in dominance. The obtained *p* value for endomorph - 0.608, mesomorph – 0.614 and ectomorph – 0.894 in Levene's test has shown that the variance is not significant. So Homogeneity of variance is assumed. The study also reveals that there is no significant difference on endomorph, mesomorph and ectomorph of high and low achievers field hockey players from RDT Hockey Academy, Anantapur, Andhra Pradesh (see Table 3). Since the obtained F ratio of endomorph - 2.594, mesomorph - 2.940 and ectomorph - 0.194 is less than the required table value of 4.20 at  $\alpha = 0.05$  for the df of 1 and 27.

Figure 3  
Somatotype of high and low achievers field hockey players



## Discussion

The present data of percent body fat accords with the proposal that percent body fat value among high and low achievers hockey players should be within the range of 6-14% and 6-15%, respectively (Wilmore & Costill, 1999). Percent body fat level of high achievers is 7.65 and low achiever is 9.81. As mentioned earlier low achiever is heavier than high achievers thereby their percent body fat level is higher than high achievers. The percent body fat content is greater in low achievers will act as a hindrance in their performance (Bandyopadhyay, 2007; Bandyopadhyay & Chatterjee, 2003; Chatterjee *et al.*, 2005). The high achievers (40.00) lean body mass is greater than low achievers (35.99), who will therefore achieve better performance since the more the lean body mass the greater will be the energy output and the higher will be the cardio respiratory fitness (Bandyopadhyay, 2007; Bandyopadhyay & Chatterjee, 2003; Chatterjee *et al.*, 2005). These are the two reasons for differentiating RDT hockey academy players as high and low achievers on performance aspect: greater percent body fat and lower lean body mass existing among low achievers. In this study, somatotype values of the field hockey players from RDT Hockey Academy, Anantapur, Andhra Pradesh, are determined as 1.68 -3.19- 4.72 (*mesomorphic ectomorph*); the value of high achievers group as 1.53 -3.39-4.66 (*mesomorphic ectomorph*); and the values of the low achievers group as 1.90 -2.90 - 4.80 (*mesomorphic ectomorph*). The somatotype of high and low achievers is mesomorphic ectomorph because ectomorphy is dominant, with mesomorph second in dominance.

## Conclusion

The high and low achievers youth hockey players have no significant difference in percent body fat and lean body mass. Percent body fat level of high achievers is 7.65 and low achiever is 9.81. As mentioned earlier low achiever is heavier than high achievers thereby their percent body fat level is higher than high achievers. The high achievers (40.00) lean body mass is greater than low achievers (35.99), The high and low achievers youth hockey players have no significant difference in endomorph, mesomorph and ectomorph. Somatotype of field hockey players from RDT Hockey Academy, Anantapur, Andhra Pradesh, showed mesomorphic ectomorph (1.68 - 3.19 - 4.72), when they are classified into two groups based on performance level high achiever showed mesomorphic ectomorph (1.53 -3.39 - 4.66) and low achievers also possessed mesomorphic ectomorph (1.90 - 2.90 - 4.80). The somatotype of high and low achievers is mesomorphic ectomorph because ectomorphy is dominant, with mesomorph second in dominance.

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## Study of correlation Between 100m sprinters performance and his anthropometric body measurements

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### Abstract

The objective of the study is to see the correlation between 100m sprinters performance and their anthropometric body measurements. For the above study researcher has selected tools which were standing height, leg length, foot & palm length, quadriceps circumference, calf circumference for anthropometric measurements and for measuring their 100 meter performance researcher has used 100m run as a tool. 50 students were selected using convenient sample method in which subjects that were selected aged Between 18-25 and have been participating in the state level athletic competitions. Researcher has used Pearson's coefficient of correlation for interpreting the data and results obtained through interpretation showed that there was no significant correlation found between 100m sprinters and other variables which includes standing height leg length, foot palm length, calf circumference length performance of the athletes but quadriceps circumference and 100m sprinters performance showed significant correlation at 0.01 level of significance.

Keywords- performance, anthropometric measurements

### Introduction

Playing is natural tendency of every person. From child to adults, everybody loves to play. People chose their games depending upon the culture of their country, time , place , situation, culture , environment. Playing is an art as well as science. If you want to progress in any field then you base should be scientific. It is just like a tree, if the roots of the tree goes deep inside the base, then the main branch of the tree becomes stable and strong.We must not give chance to a wrong person or a person not possessing those qualities to be able to excel in that particular sport. The future of sport is in the dreams like an idea, training is also similar to dreams because there are so many things which are new for the science and which are yet to be discovered and invented by the scientists. Sport is an event where different situations happen and sometime it is very difficult to understand the reasons behind these performances done by the players.

### Research procedure

Researcher has used correlation research method from descriptive research method. The study has been conducted by choosing five tools to measure their Standing height, Leg length, Foot palm length, Quadriceps circumference, Calf circumference in Centimeter anthropometric measurements and 100 meter run in second tool to measure their performance and Population of this study was 70 subjects amongst the 35 districts of Maharashtra and from population researcher has selected 50 students aged Between 18 to 25 as a sample for study.

Result

Table no. 1Descriptive statistical analysis of performance and body measurement

Name	n	Mean	Std dev	Std error	Mini	Maxi
100 meter sprinters performance	50	11.69	0.596	0.08429	10.30	12.60
Standing height	50	171	6.50	0.91956	152	185
Leg length	50	97	4.98	0.70552	86	110
Foot palm length	50	25	1.58	0.22345	22	28
Quadriceps circum	50	47	4.36	0.61605	40	57
Calf circumference	50	33	2.83	0.39913	28	42



Above table showing that after statistical data interpretation mean of 100 meter sprinters performance is 11.69 and standard deviation is 0.596 and standard error is 0.08429. Minimum performance is 10.30 sec. and maximum performance is 12.60. and Mean of standing height of 100 meter sprinters performance is 171, standard deviation is 6.50 and standard error is 0.91956 minimum in standing height is 152 and maximum is 185. Mean of leg length of 100 meter sprinters performance is 97, standard deviation is 4.98 and standard error is 0.70552 minimum in leg length is 86 and maximum is 110. Mean of foot palm length of 100 meter sprinters performance is 25, standard deviation is 1.58 and standard error is 0.22345 minimum in foot palm length is 22 and maximum is 28. And Mean of quadriceps circumference of 100 meter sprinters performance is 47, standard deviation is 4.36 and standard error is 0.61605 minimum in quadriceps circumference is 40 and maximum is 57. Mean of calf circumference of 100 meter sprinters performance is 33, standard deviation is 2.83 and standard error is 0.39913 minimum in is 28 and maximum is 42. Table no. 2: Interpretation of 100 meter sprinter performance and body measurements

Variables	Numbers	Pierson's co-efficient of correlation	Significance level
Standing height	50	- 0.08	0.580
Leg length	50	- 0.172	0.233
Foot palm length	50	- 0.207	0.150
Quadriceps circumference	50	- 0.580	0.001**
Calf circumference	50	- 0.236	0.099

In the above table after interpretation of data the correlation between 100 meter sprinters performance and standing height is 0.08 and significance level is found 0.580 which states that there is no correlation between the two components and not significant at the 0.05 level of significance. The leg length and performance of 100 meter sprinter is not significant at 0.05 level of significance as correlation found between the two components is 0.172 and significance level is found 0.233. The foot palm length and performance of 100 meter sprinter is also not significant at 0.05 level of significance as correlation of coefficient between the two components is found to be 0.207 and significance level is found 0.150. There is good correlation found between the quadriceps circumference and performance of 100 meter sprinters as correlation of coefficient is found to be 0.580 and significance level is 0.001 which is significant at 0.05 level. The calf circumference and performance of 100 meter sprinter is not significant at 0.05 level as it showed correlation of coefficient 0.2 and significance level is found to be 0.099.

### Conclusion

Standing height, leg length, foot palm length, calf circumference has no significant correlation but quadriceps circumference has significance correlation with 100 meter sprinters performance

### Discussion

Researcher has found no correlation between standing height and 100 meter performance of the athletes also if we have a look at the previous researches done in the same field in the year 2010 by Uye Tak Uei who found that there was very less correlation between the same components also research done in the year 1973 by James found out through biomechanical analysis of 100 meter performance that stride length and stride frequency are two essential components in sprinting event. He found that even though players have good height and good stride length but were not having good stride frequency but in case of those having small height, small stride length were having good stride frequency. Hence he proposed that there is no correlation between standing height and 100 meter sprint.

Researcher only found correlation between 100 meter performance and quadriceps circumference also other researchers H.J. Rechael and E.J. Rechael found out that there is a good correlation between 100 meter performance and quadriceps circumference, type of the muscle fibre and length of the muscle fibre in the quadriceps muscle. Hence researches found proposed that circumference of the quadriceps muscle relates to the 100 meter performance of the athletes. Hence there is direct relationship between the same components.

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## Effect Of Eight Weeks Maximum And Dynamic Effort Training Program For Improving Powerlifters Performance

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Research scholar

### **Abstract:**

The purpose of this study was examining the effect of eight weeks maximum and dynamic effort training program for improving power lifters performance. It was an experimental study in which pre-test & post-test non equivalent groups design was used. 30 male power lifters selected through to simple random technique as sample from Aurangabad District. They were equally divided into two groups, Experimental group (n=15) and Control group (n=15). Maximum Strength 1RM Bench press, 1RM Squat and 1RM Deadlift Test was conducted on both the groups. Pre test conducted on experimental and control groups. Experimental group were given the 60 minute maximum and dynamic effort training program in the duration of training program was eight weeks which was given four days in a week. In the program two day in week upper and lower body maximum effort training to given to high load and low repetition and two days dynamic effort training low load and high repetition but control group did not participate in maximum and dynamic effort training program. Control group was doing daily routine weight training program focus to one day two muscles group program. After the conducted eight weeks training program. Post test was conducted both groups. Obtained data was analyzed by using Independent 't' test. Result shows that Descriptive Statistics gain of maximum and dynamic effort training program was useful to improve powelifters performance. It was further calculated that experimental group score of Bench press was (M=4.87 kg  $\pm$ 2.371) was superior to control group (M=2.70 kg  $\pm$ 1.373) where 't' value was 3.062 which is statistically significant at 0.05 level, Squat test (M=6.833 kg  $\pm$ 1.654) was superior to control group (M=3.833 kg  $\pm$ 1.507) where 't' value was 5.190 which is statistically significant at 0.05 level and Deadlift test (M=8.766 kg  $\pm$ 3.150) was superior to control group (M=5.000 kg  $\pm$ 1.861) where 't' value was 3.987 which is statistically significant at 0.05 level It is observed that there is improvement of performance 1RM Bench press, 1RM Squat & 1RM Deadlift of Experimental group in comparison to control group due to the treatment given to it which is significant.

**Keyword:** Maximum & Dynamic effort training program, 1RM Bench press, 1RM Squat and 1RM Deadlift.

### **Introduction**

Strength training is a type of physical exercise specializing in the use of resistance to induce muscular contraction which builds the strength, anaerobic endurance, and size of muscles. When properly performed, strength training can provide significant functional benefits and improvement in overall health and well-being. Sports where strength training is a central are bodybuilding, weightlifting, power lifting, and strongman. Shot-put, discus throw and javelin throw.

Power lifting is a strength sports that consist of three attempts at maximal weight on three lifts squat, bench press and dead lift. lifting weight in three attempts power lifting evolved from a sports known as "odd lifts". Power lifting requires specialized training techniques that are focused on strength and explosive power. Traditional training methods dictated low repetitions with maximal weight. These practices are still true today, however training methods have advanced to include emphasis on explosive power. This may be achieved dynamic exercises which utilize lighter weight and alternating repetition patterns. The squat bench press and dead lift are the three main lifts in competition. In order to maximize their effectiveness at these lifts athletes typically train with a cyclic routine a common. Maximum and Dynamic effort training split this training split basically modified version of the upper and lower body power lifting. This type of workout buildup the muscle power of lifter and related to power lifting game workout to max & dynamic effort training program through to improve the power lifting performance of lifter

## Material and Method

### Subjects

Total 30 subjects (age 28 year under) were selected by simple random technique from, in Aurangabad and equally divided into 15 each of experimental & control group.

### Selection of Variables

The study was taken to pinpoint the maximum strength variables. Therefore, based on literary evidence and scholar's own understanding the following variables were selected for the purpose of this study: 1RM Bench press, 1RM Squat and 1RM Dead lift.

### Procedure

Experimental and control group after conducted the pre-test on both group experimental group. Were informed one day in advance for pre-test & given the explanation about tests i.e., Bench press 1RM Test, squat 1RM Test, and Dead lift 1RM Test was given to the selected sample. Next the subject were asked to do 10 minute warm up & than pre-test was conducted detailed information about the training program had given to experimental group. Where control group was doing their regular workout. Eight week maximum and dynamic effort training program was implemented on the experimental group the control group was not participated on the maximum and dynamic effort training program. FITT formula was used & progression of exercise load was increased in every week as per subject's adaptation, after the successful implantation of training program, post-test was conducted further the data was analysis statistically to see the effect of eight week maximum and dynamic training program on significant changes in improvement of experimental & control group. Statistical Techniques Descriptive statistics is used for data analysis the researcher collected the data by training a pre-test & post-test to know the difference between the control group and experimental group Independent sample 't'-test was used the total descriptive of the statistical analysis.

### Results

**Table no 1: Experimental & Control pre-post test Descriptive statistics**

Group		Bench press		Squat		Dead lift	
		pre	post	pre	post	pre	post
<b>Exp</b>	N	15	15	15	15	15	15
	Mean	98.7	98.9	98.7	105.6	143.6	152.4
	Std. Dev	12.2	12.5	12.2	12.8	11.7	13.8
<b>Con</b>	N	15	15	15	15	15	15
	Mean	82.6	90.2	82.6	86.4	132.1	137.1
	Std. Dev	8.6	6.4	8.6	8.49	7.3	6.5

**Table no 2: Descriptive statistics Change in performance of Bench press, Squat & Deadlift**

Group	N	Mean	Std Dev
Bench Exp	15	4.86	2.37
Con	15	2.70	1.37
Squat Exp	15	6.83	1.65
Con	15	3.83	1.50
Dead Exp	15	8.76	3.15
Con	15	5.00	1.86

**Table no 3: Comparison between change in performance of maximum & dynamic effort training program using Independent sample Test**

	T	Mean diff	df	Sig(2 tail)
Bench	3.06	2.16	28	0.005
Squat	5.19	3.00	28	0.000
Deadlift	3.98	3.76	28	0.000



**Fig no 1:-** Change in means of experimental & control group

It was further concluded that in the further study experimental group score of bench press was ( $M=4.87\pm 2.371$ ) kg was superior to control group ( $M=2.70\pm 1.373$ ) kg where 't' value was 3.062 which is statistically significant at 0.05 level, squat test ( $M=6.833\pm 1.654$ ) kg was superior to control group ( $M=3.833\pm 1.507$ ) kg where 't' value was 5.190 which is statistically significant at 0.05 level and Deadlift test ( $M=8.766\pm 3.150$ ) kg was superior control group ( $M=5.000\pm 1.861$ ) kg where 't' value was 3.987 which is statistically significant at 0.05 level It is observed that there is improvement of performance 1RM Bench press, 1RM Squat & 1RM Deadlift of Experimental group in comparison to control group due to the treatment given to it which is significant.

#### Discussion

O' Shea and Wagner, (1981) Studied the effect of weight training program on maximum strength 1RM Bench press and 1RM Squat in thirteen male and thirteen female lifters. This study was designed to evaluate the effect of six weeks weight training program on squat and bench press the results shows that 1RM Bench and Squat was significantly improve the 1RM performance so may be recommended the weight training program improve maximum strength. It was observed from the findings that the Tianaweiss, Jerica (2010). Studied the effect of resistance training program on muscular strength 1RM Deadlift and Squat in 38 lifters. This study was designed to evaluate the effect of functional resistance training on muscular fitness the results shows that 1RM Dead lift and 1RM Squat were significantly increase Dead lift and squat 1RM was significant improve performance so may be recommendation the resistance training program improve maximum strength. Hence the null hypothesis that, there will be no significant effect of maximum & dynamic effort training on maximum strength was rejected. This indicated that maximum and dynamic effort training program had positive effect on the power lifter's performance of experimental group.

#### Conclusion

On the basis of the result obtained in the study the researcher made the conclusion that the eight weeks maximum & dynamic effort training program has significant effect on maximum strength of improvement of power lifter performance. From the finding of the study further conclusion are made. After treatment to the Experimental group it was observe that It is observed that there is improvement of performance 1RM Bench press, Squat and Dead lift of Experimental group in comparison to control group due to the treatment given to it which is significant.

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## **A Study Of Sports Psychology**

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### **Abstract**

Sports and exercise psychology experiments were first set up by Norman Triplett in the late 1890's, other experiments were set up by Coleman Roberts-Griffith in 1925 and was known around the world as the "father" of modern sports psychology. Although sports psychology had an early start, not much real testing has been done until 1960 and 1970. In 1990, sports psychology made a leap into modern day psychology with the influx of athletes who wanted to know how they're teams worked. Sports psychology has had its benefits throughout the times. As we progress in our own journeys in the field of physical education, many questions bounce back and forth; but I will concentrate on the team aspect of a sport. Although sport psychology is a relatively young field in the domain of psychology, it has history dating back to 1925, when Coleman Griffith was hired by the University of Illinois to improve the performance of athletes. He is considered the first to have taught a sport psychology class and to have a sport psychology lab. He also wrote the first book on the psychology of coaching and was the first psychologist hired by professional sports team (The Chicago Cubs). For his contributions, he is considered "the grandfather of sport psychology."

### **Introduction**

Sports psychology is a field of psychology which emphasizes on "performance enhancement through the use of psychological skills training", "Issues that are specific to the psychological well-being of athletes", "working with the organizations and systems that are present in sport settings", and "social and developmental factors that influence sport participation." Sport psychology is recognized as a field of study within the kinesiology and physical education departments. Sports and exercise psychology experiments were first set up by Norman Triplett in the late 1890's, other experiments were set up by Coleman Roberts-Griffith in 1925 and was known around the world as the "father" of modern sports psychology. Although sports psychology had an early start, not much real testing has been done until 1960 and 1970. In 1990, sports psychology made a leap into modern day psychology with the influx of athletes who wanted to know how they're teams worked. Sports psychology has had its benefits throughout the times. As we progress in our own journeys in the field of physical education, many questions bounce back and forth; but I will concentrate on the team aspect of a sport. In the 1970s and early 1980s, the focus of sport psychology became much more cognitive in nature. It focused on understanding the impact of athletes' thinking on their performances. The 1980s marked a significant point, as the field of sport psychology really began to grow and gain credibility, partly through better documentation of the effectiveness of interventions to enhance performance. An important development of the 1980s was the recognition by the United States Olympic Committee (USOC) of sport psychologists. In 1983, the USOC established an official Sport Psychology Committee and registry of qualified sport psychologists. Another critical development was the formation, in 1985, of the Association for the Advancement of Applied Sport Psychology (AAASP). Soon after, in 1987, the American Psychological Association (APA) officially recognized sport psychology as a domain and created Division 47: Sports Psychology.

The 1990s brought continued growth and progress regarding professional issues, one of the primary issues being certification. In 1991, AAASP implemented criteria for individuals who wished to be certified. USOC adopted these standards in 1996 and continues to use those criteria in their process of adding consultants to their registry. In 1994 and 1996, specific ethical standards and guidelines related to sport psychology were developed for AAASP.

### **Discussion**

The Association for Applied Sport Psychology (AASP, formally AAASP) is the primary professional organization for sport psychology. It is an international organization with 1,200 members from North America and twenty-eight countries in other continents. AASP incorporates information and expertise from exercise and sport sciences as well as from psychology. AASP is comprised of three interrelated focus areas: Performance Enhancement/Intervention, Health and Exercise Psychology, and Social Psychology. AASP is also the organization that offers certification to become a Certified Consultant. Visit AASP's website to review its resources. Consider becoming a member of the organization if you would like to become more involved in sport psychology, would like to attend conferences, or are considering certification. APA Division 47 (Sport Psychology) is a subdivision of the American Psychological Society. Division 47 represents the field of exercise and sport psychology, defined as an interdisciplinary specialization that cuts across psychology and the sport sciences. The Division 47 website states that the division's goal is "to further the clinical, educational, and scientific foundations of exercise and sport psychology. Through Division 47, both practitioners and scientists with common interests have the opportunity to interact and to further their personal and professional capabilities."

### **Certification**

One of the most controversial issues in the field of sport psychology is the question of who is qualified to call themselves "sport psychologists." Much of the debate stems from differences in backgrounds of sport sciences versus psychology and differences in terms, such as titles of "sport psychologist" versus "sport psychology consultant." Many argue that only licensed psychologists can use the title of "psychologist" in any way (the term "psychologist" is restricted by law in most states). It is commonly agreed that anyone practicing sport psychology should have significant exercise and sport-specific training.

As a step in ensuring the competency of those practicing sport psychology, the USCO and AASP developed a minimum set of criteria that must be met. AASP has created the designation of "Certified Consultant, AASP." To obtain this certification, one must apply, complete a certification document outlining degree (i.e., doctorate in an area related to sport psychology), coursework, experience, supervised hours, etc. Individuals do not need to be licensed as psychologists but must meet minimum requirements, which include psychology and counseling courses. The AASP website outlines the specific requirements. The USOC developed the Sport Psychology Registry as a way to identify qualified sport psychology professionals in three categories: Clinical/Counseling Sport Psychologist, Educational Sport Psychologist, and Research Sport Psychologist. The Registry does not license or authorize, but minimum criteria must be met. The AASP requirements meet the USOC requirements.

At this time, the National Collegiate Athletics Association (NCAA) does not provide formal recognition or certification regarding sport psychologists. However, there are certain rules that apply to sport psychologists working in the university setting. Current regulations have been interpreted as stating that sport psychology can occur only in a group, during scheduled practice within the twenty hours allotted for NCAA compliance rules, or individually, in the sport psychologist's office (which does not count toward the twenty hours). If sport psychologists are on the athletic field to work with athletes, they may be considered extra coaches. There are no regulations about attending/observing practice.

### **What Does a Sport Psychologist Do?**

Sport psychologists fall into three main categories: clinical/counseling sport psychologists, educational sport psychologists, and research sport psychologists. Both clinical/counseling sport psychologists and educational sport psychologists do applied work with teams, athletes, and coaches. This might include teaching mental skills to athletes, doing team workshops/talks, and consulting with coaches. Topics covered are wide ranging and include topics related to performance enhancement, such as motivation, confidence, imagery/visualization, focus/concentration, self-talk, pre-performance routines, relaxation, goal setting, and many others we will cover in this course. One thing that differentiates **clinical/counseling sport psychologists** from educational and research sport psychologists is their background in general psychology and competence in working with psychological issues. They are able to work with both performance and psychological issues. These sport psychologists, if appropriately

licensed, may also work with athletes with clinical concerns, such as substance abuse, eating disorders, depression, anxiety, etc.

**Educational sport psychologists** often come from a sports sciences or physical education background and focus on teaching the correct principals of sport and exercise psychology to athletes and coaches for performance enhancement. **Research sport psychologists** study topics in sport and exercise psychology, often teaching and conducting research in the field. Typically, they are in academic positions at colleges and universities. Aside from these formal roles as sport psychologists, it is clear that all coaches and leaders in sport can benefit from an understanding of the psychological principles of sport and exercise. Multicultural Considerations

In today's world, it is critical that we acknowledge and appreciate the importance of multiculturalism. Multiculturalism includes many identifying factors, including race, ethnicity, gender, sexual orientation, religion, disability status, age, socioeconomic status, and much more. The athletes we work with will undoubtedly be individuals of diverse backgrounds with different world views and ways of thinking about sport.

In recent times, the field of sport psychology has emphasized issues surround diversity and inclusion. The majority of sport psychologists at this time are Caucasians, while many athletes are not. Universities and sport psychology organizations, such as AASP, have made efforts to recruit more diverse individuals to the field. Given the current differences, it is of utmost importance that those who are leaders in sport develop cultural competence. Cultural competence is complex and requires the sport leader to understand the client's racial identity, his or her own racial identity, and the role that race/ethnicity plays in the relationship.

As coaches, we invest great time, effort, energy, and emotion in preparing and teaching our athletes to have greater physical, physiological, and motor skill capabilities so that they can experience success. And we all understand and recognize the truth that the psycho-emotional capabilities such as the "Cs" identify here are critical for allowing that great performance and success to be realized.

They don't happen by accident. These capabilities, these "Cs" are learned, just like all of the other important capabilities that coaches help athletes develop so that they can perform better and achieve more. They are learned by developing great plans and then by daily, repetitive, patient, persistent, determined, intentional investment and effort in understanding, training, and developing the skill of "thinking right in sport."

If you have these understandings and have developed training plans for your athletes and are working at applying them every day in your coaching, then I commend you, congratulate you, and encourage you both to continue and to share your ideas regularly with your colleagues. If you have not yet developed a specific mental training plan just like your conditioning and skill development training plans, I encourage you to recognize the critical importance of doing so and also that you are more than capable of doing so!

Conclusion

You do not need a Ph.D. to be great at this aspect of coaching your athletes. This is not rocket science! It just takes basic knowledge and understanding, the establishment of priority, strong intention, a little creative artistic genius, some empathic wisdom, and good common sense. This plan is then woven into your current training plan and brings you closer to fulfilling the stated intention of achieving thorough preparation of your athletes. All athletes—that is, every single athlete—some time are confronted with the challenge of needing to understand and apply "thinking right in sport." As with other skills, they need to learn these understandings and skills now, so that they have them and are expert at thinking right when they meet the ever-growing challenges of sport. It's like car insurance: you don't buy it right after you hit the tree! Every athlete can be engaged in growing in his or her "thinking right" skills every day.

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## **Sport Management And Role Of Higher Education In India**

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### **Abstract**

Universities deliver a multifaceted focus of teaching, research and industry service and leadership for the sport industry. Educating future sport managers in areas across governance, facility management, social or legal issues and marketing plays a key role. Also, conceptualising key questions, undertaking research and interacting with and leading discussions are all key functions of sport management programmes across the world. What are the specific skills that a specialized sports management programme offer? Certainly at the professional level, there are aspects of the sport industry that have reached professional status and act very much like 'generic' corporate businesses or organisations. However, there are unique aspects of the industry such as a greater need for co-operation between organisations, the highly emotional nature of sport consumption, and the public nature of sport that leads to the need to balance outcomes for multiple and complex sets of stakeholders

### **Introduction**

With the evolution of education, one aspect which is very much visible is the emergence of newer academic areas and study programmes. The role of education today is not confined to gaining knowledge only. It has today become a path leading to a successful career and a better future. As a result we see more specialized academic programmes catering to dedicated fields. One such growing programme is Sports Management. As Dr Adam Karg says, "Considering its full impact, the sport industry employs thousands, delivers services to millions and generates billions of dollars in both established and emerging economies."

### **Scope and Opportunities of sports marketing and management as an academic area**

Considering its full impact, the sport industry employs thousands, delivers services to millions and generates billions of dollars in both established and emerging economies. The increasing emergence of professional organisations in India is reflective of more established sport markets worldwide, where many countries support a range of sport-related industries. In line with this, there are a range of academic bodies who work with sport management institutions, associations and groups to connect and move the industry forward.

### **Role of universities and business schools in the area of Sports Management**

Universities deliver a multifaceted focus of teaching, research and industry service and leadership for the sport industry. Educating future sport managers in areas across governance, facility management, social or legal issues and marketing plays a key role. Also, conceptualising key questions, undertaking research and interacting with and leading discussions are all key functions of sport management programmes across the world. What are the specific skills that a specialized sports management programme offer? Certainly at the professional level, there are aspects of the sport industry that have reached professional status and act very much like 'generic' corporate businesses or organisations. However, there are unique aspects of the industry such as a greater need for co-operation between organisations, the highly emotional nature of sport consumption, and the public nature of sport that leads to the need to balance outcomes for multiple and complex sets of stakeholders.

As such, what has emerged is a specific sport management discipline, with specific structures, theories and frameworks relevant to the industry. Some examples include sport development frameworks, governance system and specific marketing theories developed for the sport context. In short, the role of the sport manager necessitates both a business background and knowledge and understanding of the sport industry as a unique and distinct one.



### **Impact of new forms of marketing on consumers and organizations.**

Sport organisations, particularly those with a marketing orientation are increasingly adopting a consumer-centric focus and realisation that the building of communities and movements is central to the engagement and identification so vital to successful and sustainable sport brands. As such some of the key impacts and requirements of sport marketing (and the focus of our recent Deakin workshops in India) include: Understanding the emerging need for greater consumer and relationship marketing focuses in sport marketing Understanding the need and opportunities for organisations and consumers to work together to create value Developing strategic approaches to fan development and fan engagement Understanding that sport consumption includes a mix of functional and emotional aspects Accepting the role of data as a core dimension in strategy, with marketing and engagement in sport a balance of 'art' and 'science' Understanding that a myriad of new media tools and opportunities provide new ways to communicate, share, educate and engage consumers of high involvement products like sport Understanding that one size does not fit all, and that the brand in question, the sport and any geographic context plays an important role in marketing strategy

### **key challenges that a budding sports manager faces in the industry**

Primarily in India, it is clear the discipline of sport management is still being established, and as such, the option for students to consider sport management as a viable career path is likewise in development. Generally, then, the visibility of Sport Management as a career, educating managers and encouraging and implementing strong governance as well as ushering in professionalization and commercialisation processes present as industry challenges. The signs are good in India, with passionate sporty public, new successful leagues and teams, and a range of new organisations being established to service the industry. Among the current and emergent generation of managers in India, we can see the first round of specially trained and educated sport managers, many of whom have studied (in part or in full) with programmes overseas. Importantly, the need and demand for qualified and capable sport managers is already apparent, but the industry lacks development and visibility – both key issues. In Australia, strong systems and an understanding of the role of sport has been apparent for 30 years or more and remains highly reliant on government support through policy, direction and funding. Other systems around the world are likewise successful but may rely more on private or commercial funding models. Generally though, there are a number of building blocks of successful sport systems including funding, strong levels of participation, talent identification and pathways for coaching and development, events, facilities, strong governance and a culture of performance.

### **Conclusion**

Firstly, it is important to realise that not all sport management programmes around the world are delivered from business schools, despite the clear emergence of sport as a viable and sustainable business stream and industry. Sport Business International (an industry magazine) releases a list each year of the top ranked postgraduate programs. Deakin University (Australia) leads the rankings for Asia Pacific institution, with Ohio University (North America) and the FIFA master (delivered in Europe) the leading programmes in other regions.

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## Impact of Exercise Training on hs-CRP, Insulin Resistance and Plasma Lipocalin2 levels in Obese Young Men

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### Abstract:

obesity has been known as major public health problem, was reported to be associated with insulin resistance, type 2 diabetes mellitus and cardiovascular disorders. Therefore the purpose of this study was to examine the effects of Aerobic exercise training on Insulin Resistance and plasma lipocalin2 (as Lcn2) in obese young men. thirty healthy young men (aged  $27.83 \pm 1.69$  years, height  $1.71 \pm 5.37$  cm, BMI  $30.1 \pm 1.49$  kg/m<sup>2</sup>, mean  $\pm$  SD) participated as subjects in this study. The subjects were randomly assigned to aerobic training group (n=15) or control group (n= 15). Aerobic training group underwent an 8-week intervention, with a frequency of 3 d/wk at an intensity corresponding to 65 – 80% maximum heart rate for 35 – 55 min. the results showed that body fat percent, WHR, BMI, were decreased ( $P < 0.05$ ), in the training group compared with control group. Maximum oxygen consumption ( $VO_{2max}$ ) on the other hand, increases significant ( $P < 0.05$ ) in the training group compared with the control group. Adipokin lcn-2, LDL-c, TG, TC, and insulin resistance determined by HOMA-IR decreased ( $P < 0.05$ ) and HDL-c increased ( $P < 0.05$ ). hs-CRP, did not change in the aerobic training group compared with the control group. It seems that 8 weeks aerobic training induced change in adipose tissue, decrease plasma Lipocalin2 and improve insulin resistance in young obese men.

Key words: Aerobic training, Lipocalin2, Insulin Resistance, obese men.

### Introduction

One of the most prevalent and well documented health problems in adults of the developed world is obesity. It is a serious health problem for increases the risk of developing cardiovascular diseases, type2 diabetes, hyperlipidemia, hypertension, and increased mortality (Yang, 2005). It's also an increase in fasting glucose, blood pressure, triglycerides and a decrease in high density lipoprotein (HDL) So it's known as metabolic syndrome (Wang, 2007). The increasing prevalence of obesity in individuals is linked with the metabolic syndrome which greatly increases disease risk. Studies have demonstrated close associations between obesity and increased circulating concentrations of proinflammatory molecules, including acute-phase proteins, cytokines, adipokines, and chemokines (Tataranni. 2005; Weisberg, 2003). In obese states, these proinflammatory factors are produced predominantly from enlarged adipocytes and activated macrophages in adipose tissue and liver. Many of these inflammatory factors, such as interleukin-6 (IL-6), tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) and hs-CRP, can directly induce glucose intolerance and insulin resistance by antagonizing insulin's metabolic actions at peripheral tissues, especially in liver and skeletal muscle (Fantuzzi, G. 2005). Insulin resistance usually connotes resistance to the effects of insulin on glucose uptake, metabolism, or storage. Insulin resistance in obesity and type2 diabetes is manifested by decreased insulin-stimulated glucose transport and metabolism in adipocytes and skeletal muscle and by impaired suppression of hepatic glucose output. Adipokin Lipocalin2 (Lcn2) also known as neutrophil gelatinase associated lipocalin, sidrocalin and 24p3, is another member of the lipocalin family recently reported to have possible metabolic roles. (Fantuzzi, G. 2005). Lipocalin2 is expressed in many tissue, including neutrophils, macrophage, kidney, liver, lung, thymus, small intestine mammary tissue as well as adipocytes and is known to play a role in inflammation. Lcn2 has been recognized as an adipocyte drive acute phase protein that is positively correlated with potential effect in obesity inflammation and insulin resistance in mice and humans (Choi. 2009; Wang, 2007). It also has been showing that circulating levels of this adipokin has a strong direct correlation with other inflammation factors as an acute phase protein (Van Dam. 2007). With the increased prevalence of obesity and insulin

resistant disorders, research has attempted to elucidate the potential mechanisms driving these disease processes, with the hope of ultimately providing cost effective interventions.

Aerobic exercise training has been well documented to improve glucose tolerance and insulin action in patients who are obese (Goodpaster, Kelley, 2003). The lack of physical activity in daily life induces obesity and increases the risk of hypokinetic diseases; diabetes mellitus, hypertension, heart diseases etc. It's also well known as the cornerstone treatment for obesity-related metabolic complications, including insulin resistance, hypertension, impaired glucose tolerance or diabetes, hyperinsulinemia, and dyslipidemia, that are characterized by elevated adipose accumulation (Hu, 2001; Tuomilehto. 2001). Therefore one of the best strategies for preventing obesity and its associated inflammation is participation in regular physical activity (Petersen & Pedersen, 2005). On the other hand, exercise has been shown to have beneficial effects on obesity, type2 diabetes and the metabolic syndrome. Although the changes in Lcn2 levels might be an important clue for understanding the beneficial effects of exercise, data on exercise-induced changes of inflammation factors such as adipokin Lipocalin2, insulin resistance and hs-CRP...is still unclear. Recently, Damirchi (2011) reported that Lcn2 increased after single bout graded exercise in obese and normal weight men. Choi et al (2009) in an only available study, isn't reported that any change in Lcn2 level in obese women after 12 weeks moderate exercise training. The physiological and biochemical responses to resistance exercise are different from those exhibited in response to aerobic exercise (Kraemer, 1994). Despite the numerous studies demonstrating the benefits of exercise training intervention in obesity and/or insulin resistant states, there are no studies to date that have examined the effects of this aerobic exercise protocol on obese young men. In order to develop appropriate treatment programs in obese patients, we need to understand how exercise affects insulin resistance and inflammatory adipokin secretion in this disease process, Therefore the present study was designed to determine the effects of aerobic training on insulin resistance, hs-CRP and Lcn2 concentration in obese young men.

## **Material And Methods**

### **Subjects**

Thirty healthy and university students aged (aged  $27.83 \pm 1.69$  years, mean  $\pm$  SD) enrolled in this study. The inclusion criteria were men who had body mass index (BMI)  $\geq 29.9$  kg/m<sup>2</sup> did not engage in regular exercise training at the time of their enrolment. Student who were afflicted with heart diseases, hypertension, pulmonary diseases and diabetes, who needed orthopedic treatment, and who had neurological limitations to physical exercise were excluded. All the subjects were asked to complete a personal health and medical history questionnaire, which served as a screening tool. The subjects were given both verbal and written instruction outlining the experimental procedure, and written informed consent was obtained. All the subjects completed the 3-day diet recall forms and were instructed to maintain their normal physical activity and dietary habits throughout the study. The subjects were randomly assigned to one of the experience group (n=15) and control group (n=15)

### **Exercise training**

The participant's of experience group (aerobic training) underwent three exercise training sessions per week for 8 weeks. The training exercise consisted of a 10-minute warm-up period, as well as muscle stretches. It's also consisted of walking and running at 65-80% of maximal heart rate (HR<sub>max</sub>) for 35-55 min per day, 3 days per week, for 8 weeks. The programme started with 30 min running for the first few sessions, and this was then changed to 45 min per session until the end of training. Each training session finished with a cool down. The exercise intensity was controlled by the authors, using a heart rate monitor, who ensured that it was between 65 and 80% of HR<sub>max</sub> throughout the trial.

### **Measurements: (Anthropometric and body composition measurements)**

Height and body weight were measured, and body mass index (BMI; kg/m<sup>2</sup>) was calculated from height and weight of each subject. Waist circumference was determined by obtaining the minimum circumference (narrowest part of the torso, above the umbilicus) and the maximum hip circumference while standing with their heels together. The waist to hip ratio (WHR) was calculated by dividing waist by hip circumference (cm) (ACSM, 2005). Subcutaneous body fat was measured at 3 sites (chest, abdominal, and thigh) with a Lafayette caliper. Body fat percent was calculated from the formula developed by Jackson and Pollock (1985). VO<sub>2max</sub> was determined by Rockport One-Mile fitness walking test. In this test, an individual walked 1 mile (1.6 km) as fast as possible on a track surface. Total time was recorded and HR was obtained in the final minute (ACSM, 2005) VO<sub>2max</sub> was calculated by following formula:

$VO_{2max} = [139.68 - (0.388 \times \text{age (year)})] - [0.077 \times \text{body mass (pb)}] - [3.265 \times \text{time (min)}] - [0.156 \times \text{HR}]$ .

### Biochemical analyses:

Approximately 10 milliliters of blood was collected into plain and EDTA filled vacutainer tubes after an overnight fast of at least 12 hours at the same time before and after 8 weeks intervention. The tubes were then centrifuged and serum and plasma were drawn off and stored at -80°C until analysis. Plasma glucose was determined by the enzymatic (GOD-PAP, Glucose Oxidase-Amino Antipyrine) colorimetric method (Pars Azmoun, Tehran, Iran). The intra and inter-assay coefficients of variation for glucose were <1.3% and a sensitivity of 1 mg/dl. The serum insulin level was measured by a radioimmunoassay (RIA) and the insulin resistance index was calculated according to the homeostasis model assessment (HOMA-IR) which correlates well with the euglycemic hyperinsulinemic clamp in people with diabetes (Matthews, 1985). hs-CRP levels were determined in duplicate via an ELISA kits (Diagnostics Biochem Inc, Canada). The intra and inter-assay coefficients of variation for hs-CRP were <5.7% and a sensitivity of 10 ng/ml. The adipokin Lcn2 level was measured in duplicate using an enzyme-linked immunosorbent assay (ELISA) kits (Uscn Life Science Inc, Wuhan, China). The sensitivity of kit was 0.12 ng/ml. Serum cholesterol, triglycerides, HDL-c and LDL-c were assayed with automated techniques.

### Statistical Analysis

Statistical analyses were performed with SPSS program (version 16, SPSS, Inc., Chicago, IL). Values were expressed as mean  $\pm$  standard deviation (SD). Independent t-test and paired t-test were used to evaluate changes in variables. General linear regression analysis and Pearson's correlation were performed to calculate a correlation between variables in response to training. P-values less than 0.05 were considered statistically significant.

### Results

Anthropometric, physiological and metabolic characteristics of subjects are shown in Table 1. The results showed that body weight, body mass index (BMI), body fat percent and WHR were decreased ( $P < 0.05$ ) after aerobic training. Maximum oxygen consumption, on the other hand, increases significant ( $P < 0.05$ ) in the training group compared with the control group. Plasma lipocalin-2, LDL-c, TG, TC, and insulin resistance determined by HOMA-IR decreased ( $P < 0.05$ ) and HDL-c increased ( $P < 0.05$ ) after 8 weeks aerobic training (Table 1). For hs-CRP, there was no significant different between aerobic training group and control group after 8 weeks exercise. Pearson's correlation demonstrated a positive relationship between, adipokin (Lcn-2) levels at baseline ( $P < 0.05$ ) with body fat percent, WHR and BMI. No significant relationship between HOMA-IR with biochemical variables were found in the endurance group after 8 weeks intervention.

Table 1. Anthropometric and metabolic characteristics of study subjects (mean  $\pm$  SD)

Variables	Control group		Training(Endurance group)	
	Pre test	Post test	Pre test	Post test
Body weight (kg)	81.30 $\pm$ 6.76	81.29 $\pm$ 6.40	83.65 $\pm$ 7.04	80.90 $\pm$ 6.77 *
BMI (kg/m <sup>2</sup> )	28.49 $\pm$ 10.45	28.50 $\pm$ 10.43	28.67 $\pm$ 1.50	27.67 $\pm$ 1.41 *
%Body fat	23.56 $\pm$ 1.53	23.36 $\pm$ 1.65	23.66 $\pm$ 2.22	22.48 $\pm$ 2.0 *
WHR	.90 $\pm$ .03	.90 $\pm$ .03	.93 $\pm$ .02	.89 $\pm$ .03 *
VO <sub>2max</sub> (ml.kg <sup>-1</sup> .min <sup>-1</sup> )	35.76 $\pm$ 3.37	35.96 $\pm$ 3.23	35.9 $\pm$ 2.77	43.68 $\pm$ 2.39 *†
Triglyceride (mg/dl)	1.61 $\pm$ 2.03	1.58 $\pm$ 2.03	1.71 $\pm$ 4.56	1.48 $\pm$ 4.41
Cholesterol (mg/dl)	1.89 $\pm$ 2.7	1.88 $\pm$ 2.6	1.96 $\pm$ 4.22	1.85 $\pm$ 3.33
LDL-c	1.27 $\pm$ 2.57	1.27 $\pm$ 2.39	1.32 $\pm$ 3.1	1.24 $\pm$ 2.74 *
HDL-c	38.01 $\pm$ 4.98	38.23 $\pm$ 5.27	35.4 $\pm$ 6.81	42.1 $\pm$ 6.51 *
Lipocalin2 (ng/ml)	23.56 $\pm$ 2.26	23.02 $\pm$ 2.8	23.79 $\pm$ 2.82	19.33 $\pm$ 2.45 *†
HOMA-IR	52.56 $\pm$ 12.54	51.41 $\pm$ 11.93	55.65 $\pm$ 10.99	54.12 $\pm$ 12.66
Hs-CRP	.83 $\pm$ .88	.86 $\pm$ .88	.78 $\pm$ .73	.72 $\pm$ .55

\*  $P < 0.05$  for between-group differences.

†  $P < 0.05$ , pretraining vs. posttraining values

## Discussion

Insulin resistance can be defined as a condition in which normal concentrations of insulin produce an inadequate metabolic response by insulin sensitive tissues (skeletal muscle, liver, and adipose tissue) (Kahn, 1978). The hallmarks of impaired insulin sensitivity in these three tissues are decreased insulin-stimulated glucose uptake into skeletal muscle, impaired insulin-mediated inhibition of hepatic glucose production in liver, and a reduced ability of insulin to inhibit lipolysis in adipose tissue. On the other hand, Lipocalin2 has been identified as a novel adipokine associated with obesity, type2 diabetes and the metabolic syndrome. The effects of aerobic training on Insulin resistance and plasma Lcn2 are still unclear, thus this study aimed to investigate the effects of aerobic training on these factors in obese young men. In this study, results showed that Plasma Lipocalin-2 decreased ( $P < 0.05$ , 11.2%) in response to 8 weeks aerobic training compared to the control group. Choi (2009) indicated that there was no significant change in the Lcn2 in obese women after 12 weeks moderate exercise training. This discrepant result may be attributed to variation in the exercise protocols and differences in subject. On the other hand, there was the positive relationship between plasma lipocalin2 and body fat percent at baseline populations. The results showed that body weight; body mass index (BMI), body fat percent and WHR were decreased after aerobic training, thus exercise-induced changes in body fat, especially visceral adipose tissue, may attribute to plasma Lipocalin2 decrease and after the training. The results are in agreement with previous reports showing that there was a significant positive relationship between plasma lcn2 levels with body mass, body fat percentage and WHR, suggesting that the increased fat mass might account for the elevated blood levels of this adipokine in obese individuals. Wang (2007), showed a higher concentration of Lcn2 in obesity and this adipokine is positively related to the BMI, Waist circumference and body fat percentage. Choi et al (2008) demonstrated that a positive relationship between Lcn2 and body mass and Damirchi et al. (2011) showed a positive relationship between Lcn2 level with waist circumference, fat mass and BMI. Body fat percent decreased 8.8% after 8 weeks aerobic training, thus it seems that the aerobic training could offer a sufficient stimulus for plasma Lcn2 decreases. We found a significant related between Lcn2 and insulin resistance determined by HOMA-IR. A number of previous studies have investigated the effect of aerobic exercise training on insulin sensitivity in obese humans with impaired glucose tolerance. These studies have demonstrated that chronic aerobic exercise training resulted in improved glucose tolerance during glucose clamp conditions and ultimately improved insulin sensitivity. Arciero et al showed that effect of aerobic exercise training in humans with impaired glucose tolerance or mild T2DM resulted in increased whole-body glucose disposal during hyperglycemic clamp conditions (Arciero, 1999). Choi et al reported that HOMA-IR is not a very sophisticated measure of insulin resistance, although it has been used widely in clinical and epidemiological studies (Choi et al, 2009). Results showing no significant relationship between Lcn2 and hs-CRP after 8 weeks aerobic training. Suggesting that decrease of the other inflammatory markers might decrease Lcn2 and CRP concentration. Serum CRP levels correlated with serum IL-6 and TNF- $\alpha$  concentration in this study, which then affects the production of CRP by the liver.

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## Self Confidence - A Boost To Enhance The Performance Of Sports Persons

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### Abstract:

Self confidence is a player's belief in their ability to perform well in any situation, practice or game. Confidence is derived from a baseline assessment of past performances, training, and preparation. As competency or skill mastery grows, confidence becomes proportionately stronger. In order for players to develop high levels of confidence, they must have a clear understanding of the factors that boost and undermine their confidence, such as high expectations. Confidence is a core mental game skill because of its importance and relationship to other mental skills. Confidence as a mindset based on tangible sources such as one's past success in sports. Many athletes believe that confidence comes from past success, playing well or positive experiences in their sport. Confidence also varies depending on the task that is performed. For example baseball players may be very confident in their hitting, but less confident with their defensive play. Doubt, indecision and negative thoughts are the opposite of confidence.

Key words: Self confidence, Sports, Athletics, Performance, Skill, Training, Experience.

### Introduction:

Self confidence is the keystone to performing at your best. When athletes are confident, their mind and body are relaxed allowing them to perform at their best. There are a few things that can be done to ensure you have the highest level of confidence possible. First of all, engineer your approach to competition so that you are doing things that you have already successfully done in the past. Just knowing that you done it successfully before, will give you confidence. Almost everyone understands that self confidence in sports and self belief plays a major role in actual performance of the athlete. Great athletes have slumps too, and sometimes these slumps are from a lack of confidence. It is very common that many athletes can perform very well during practice or exhibition games, but in competitive matches especially the big games, they find it hard to perform to their actual abilities. Many seem to become another player altogether. Self-confidence is commonly defined as the sureness of feeling that is equal to the task at hand. This sureness is characterised by absolute belief in ability. You may well know someone whose self-belief has this unshakeable quality, whose ego resists even the biggest setbacks. If athletes maintain doubts prior to or during their performance, this indicates low self-confidence. One intervention is by refuting doubts and instilling a positive/confident belief system. Another intervention to enhance confidence is helping athletes developing a confidence resume of all the reasons an athlete as to feel confident. This entails athletes taking control of their confidence level and being proactive with their confidence. Confidence is related to personality and those who exude self-confidence across a range of contexts, say at work, socially and in their sport, are said to be high in trait confidence. However, confidence can also be very specific – to a particular situation or with reference to a set of circumstances – in which case it is known as state confidence or self-efficacy.

### GAINING SELF CONFIDENCE IN SPORTS:

To perform at a high level in sports (and any other thing for that matter), concentration and focus is required. An athlete fully concentrated and focused on the task at hand will perform to his/her best. The difference between the best and the rest may not be due solely to skills or ability, but to who has the better ability to focus their mind on the one thing only, which is to perform at their optimal best.

The more competitive the match, the more important it is to be able to concentrate fully and not be distracted. During competitive matches, the mind races through so many thoughts. The fear of losing the game, letting down the teammates, making a fool out of yourself in front of the crowd, meeting expectations, that the opponent is stronger than you etc. That is why athletes normally perform worse during competitions. They are not solely focused on the task at hand. In practice there's nothing on the line. No one is watching, it doesn't matter if you lose, it's just practice, just a game. Without all those distractions, the mind & body can focus only on the game and performing to the best. Having stillness of

the mind frees from all distractions. Then you are able to focus only on the moment. At that moment your universe only contains yourself and the ball, the track etc. Gaining stillness can be done through various methods, some of which are by practicing meditation, quieting the mind frequently, and breathing exercises.

### **Discussion:**

The confidence an individual feels during a particular activity or situation is generally derived from one or more of the following six elements, which are presented in order of their relative importance:

Performance accomplishments are the strongest contributor to sport confidence. When you perform any skill successfully, you will generate confidence and be willing to attempt something slightly more difficult. Skill learning should be organised into a series of tasks that progress gradually and allow you to master each step before progressing on to the next. Personal success breeds confidence, while repeated personal failure diminishes it. Being involved with the success of others can also significantly bolster your confidence, especially if you believe that the performer you are involved with (eg a team-mate) closely matches your own qualities or abilities. In effect, it evokes the reaction: 'if they can do it, I can do it'.

Verbal persuasion is a means of attempting to change the attitudes and behaviour of those around us, and this includes changing their self-confidence. In sport, coaches often try to boost confidence by convincing athletes that the challenge ahead is within their capabilities: 'I know you're a great player so keep your head up and play hard!' An athlete might reinforce this by repeating the message over and over to him or herself as a form of self-persuasion. A tip here is to avoid stating what you want in the negative; so, rather than 'I really don't want to come off second best' try 'I really want to win this one'. Accordingly, your mind will not need to consider what is not required in order to arrive at what is.

Imagery experiences have to do with athletes recreating multi-sensory images of successful performance in their mind. Through creating such mental representations, mastery of a particular task or set of circumstances is far more likely. What you see is what you get. Physiological states can reduce feelings of confidence through phenomena such as muscular tension, palpitations and butterflies in the stomach. The bodily sensations associated with competition need to be perceived as being facilitative to performance and this can be achieved through the application of appropriate stress management interventions such as the 'five breath technique' and 'thought-stopping'.

Emotional states is the final source of self-confidence and relates to how you control the emotions associated with competition, such as excitement and anxiety. Very often, the importance of the occasion creates self-doubt, which is why it is essential to control your thoughts and emotions.

### **Conclusion:**

The secret to confidence starts on the inside - within you and not equipment or conditions of the playing field. For the most power, it has to. Yes, confidence is based on results, practice and abilities, etc., but it's called self-confidence. Self-confidence is a belief in own ability - the specific talents bring to the sport, large or small. Don't put all your faith in that lucky bat, club, or shoes. What happens when the luck is all used up? and go searching for something else? The magic is within, not in the equipment. The most confident athletes in sports do not just have tons of confidence. They have sturdy levels of confidence built on years of success, instead of fragile confidence based only on the last failed or successful performance. Anyone can feel confident for a few fleeting moments during practice, but enduring self-confidence is the mark of a champion. One reason is that many athletes maintain an unhealthy belief that they are only as good (or as confident) as the last performance. Self confidence is simply a belief about one's ability that sometimes is overwhelmed by other beliefs such as doubts, indecision, and irrational thinking. One of the confidence improvement goals is to brush aside mistakes, immediate results, or small errors that may influence the current state of confidence. The confidence should be based on years of practice and play instead of the last shot, play, routine, or point.

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### Speed – 30 Meter Flying Test for 9TH Standard Girls In Ahmednagar District: A Study

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**Abstract:** The purpose of this study is to measure athletes track speed which determines maximum speed. The paper attempts to find out the capacity of 9<sup>th</sup> standard girls living in ahmednagar district for the 30 m flying test. The paper is the abstract of Ph.D. thesis titled " Health related physical fitness and to determine selected motor ability norms of 9 standard secondary school girls in Ahmednagar district" submitted to S.R.T.M.University Naded,(M.S)

Keywords : Flying test, Speed, javelin, cones, marking rope

#### Introduction

Process of Conducting Test: Teacher are advised to stand near K. When student cross the ,A-1, , A-2 imaginary line , teacher should start the stop watch and stop the watch when the student pass the B -1 and B -2. The fig. 1 shows the process of conducting the test. The time required to cross the 30 m distance are recorded which shows the result. The instructions are generally given to the student line they should start from point A before 10 m distance means they should start with staring line with maximum speed. Instead of stopping at B point they should run 10 to 12 \m ahead after end line.

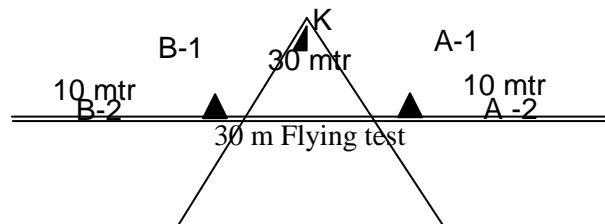


Fig. 1

#### Objectives:

To find out the speed of 9<sup>th</sup> standard girls of Ahmednagar district with the help of 30 m flying test.

To compare the speed of 9<sup>th</sup> standard girls taluka wise living in Ahmednagar district.

**Hypothesis:** Flying test selected for test research work are standard and calibrated.

#### Methodology:

The study was conducted on 2480 girls studying in 9<sup>th</sup> standard and living in Ahmednagar districts during the period Nov. 2012- Jan 2013. Competitive performance was taken during the trials. The performance in under given test were recorded. The stop watch, javelin, cones, marking rope were used for measuring the speed. Students were instructed to stand on before starting line without touching toe near the line. Students are advised to run after blowing vessels.. The best performances were recorded.

#### Sample size :

Ahmednagar district consist the 14 talukas in which there are 819 secondary schools. Five schools from each taluka were randomly selected for the study. Total samples 2480 were selected for the test.

#### Limitations:

If the lines are not marked properly there will be chance of error. Special equipments are necessary.



**Results:**

The different statistical tests were carried out to analyze the data. Mainly Standard deviation, ANOVA test were used.

**Table No. 1: Speed - 30 M flying Test**

Statistics	Flying test
Mean	4.65
Median	4.57
Mode	4.12
S.D.	0.89
Skewness	0.01
Std. error	0.02
Kurtosis	-1.08
Range	3.2
Min	3
Max	6.2

**Table No2 : Speed - 30 M flying Test - Norms**

Perce ntile	SPEE D 30M	Perce ntile	SPEE D 30M	Perce ntile	SPEE D 30M	Perce ntile	SPEE D 30M	Perce ntile	SPEE D 30M
99	6.71	79	5.36	59	4.85	39	4.4	19	3.87
98	6.47	78	5.33	58	4.83	38	4.38	18	3.83
97	6.32	77	5.3	57	4.8	37	4.35	17	3.8
96	6.2	76	5.27	56	4.78	36	4.33	16	3.76
95	6.11	75	5.25	55	4.76	35	4.31	15	3.73
94	6.03	74	5.22	54	4.74	34	4.28	14	3.69
93	5.96	73	5.19	53	4.71	33	4.26	13	3.65
92	5.9	72	5.17	52	4.69	32	4.23	12	3.6
91	5.84	71	5.14	51	4.67	31	4.21	11	3.56
90	5.79	70	5.11	50	4.65	30	4.18	10	3.51
89	5.74	69	5.09	49	4.63	29	4.16	9	3.46
88	5.69	68	5.06	48	4.6	28	4.13	8	3.4
87	5.65	67	5.04	47	4.58	27	4.1	7	3.34
86	5.61	66	5.01	46	4.56	26	4.08	6	3.27
85	5.57	65	4.99	45	4.54	25	4.05	5	3.19
84	5.53	64	4.97	44	4.51	24	4.02	4	3.09
83	5.5	63	4.94	43	4.49	23	3.99	3	2.98
82	5.46	62	4.92	42	4.47	22	3.96	2	2.82
81	5.43	61	4.9	41	4.45	21	3.93	1	2.58
80	5.4	60	4.87	40	4.42	20	3.9		

**Conclusion:** It can be concluded from the test that the time required for the test considering talukawise results was not that much differentiating. From the observation it is found that 95 percent girls have taken 3.27 seconds to 6.27 seconds to complete the test. It has been also found that the girls living in rural areas are performing better than the girls living in urban areas.

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## “A Study on Anxiety of Sprinters, Middle & Long distance runners for Effective Performance “

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**Abstract:**

Anxiety is a psychological and physiological state characterized by emotional, cognitive, and behavioural components. It is the displeasing feeling of fear and concern. The root meaning of the word anxiety is in either presence or absence of psychological stress, anxiety can create feelings of fear, worry, uneasiness, and dread. It is also associated with feelings of restlessness, fatigue, concentration problems, and muscle tension.. The sample for the study consists of 150 Sprinters, 150 Middle distance runners and 150 Long distance runners those who have participated in the Inter District Tournaments of Andhra Pradesh state. The Standardized Sinha’s Comprehensive Anxiety Test is used for the study. It was found the Long distance runners are having high Anxiety than Sprinters, and Middle distance runners because the Long distance runners has to run a very long distance and the duration of the event is very long. They have to compete under the Psychological stress, anxiety, feelings of fear, and physical as well as psychological fatigue. Whereas in sprints the event duration is very short and muscle power and technique is needed.

Key words: Anxiety , athletes, sprints, Middle distance, long distance etc.

**Introduction:**

Sport Psychology is the scientific study of people and their behaviours in sport. The role of a sport psychologist is to recognize how participation in sport exercise and physical activity enhances a person’s development. Every person has some sort of Anxiety in their daily activities. Athlete has to participate in competitions against their opponents to win the race. He is the winners who overcome psychological stress, anxiety, fear, feelings of restlessness, fatigue, concentration problems, and muscle tension.

Track and Field dominated the ancient Greek athletic festivals, and was also popular in Rome, but declined in the Middle Ages. In England track was revived sporadically between the 12th and 19th century the first college meet occurred in 1864 between Oxford and Cambridge universities

Sample which Study among below sprinters, Middle and long distance runners

SPRINTS	100 M. 200 M.,400 M.,110 M.Hur.,400M.Hur	Muscle endurance events
MIDDLE DISTANCE	800 M., 1500 M.	Muscle Heart Endurance events
LONG DISTANCE	3000 M. St.Ch.,5000 M.,10000 M. Marathon (42.195 k.m.) 20 K.M. Walk, 50 K.M. Walk	Heart Endurance events

Purpose of the study: The purpose of the study is to find out the Anxiety among Sprinters and Middle and Long distance runners.

**Methodology:**

The sample for the study consists of 150 Sprinters, 150 Middle distance runners and 150 Long distance runners those who have participated in the Inter District Tournaments of Andhra Pradesh state of Hyderabad District. The Standardized Sinha’s Comprehensive Anxiety Test was used for the study. The Questionnaire was administered in small groups of runners.

**Results:**

It was found the Sprinters are having normal Anxiety, Middle distance runners are having High anxiety, and Long distance runners are Extremely high Anxiety.

**Discussion:**

The decision must be made by Long distance runners is final for their performance. Whereas in sprints where muscle power and technique is needed. Anxiety level differs from event and individual.

Table No. 1

Sprinters, Middle Distance Runners and Long Distance Runners Shows the Mean, S.D, S. E. and F value of Anxiety

Dimension	Group	A	B	C	Total
Anxiety	Mean	24.58	28.23	32.86	28.55
	S. D.	2.28	1.99	2.50	4.07
	S. E	0.19	0.16	0.20	0.19
	N	150	150	150	450

A = Sprinter    B = Middle Distance Runners    C = Long Distance Runners

From the Table no.1 it is seen that Mean value of anxiety score of the Sprinters is 24.58, which is falling in Normal anxiety level. Sprinters have control over their feelings & emotions. They represent essentially normal individuals. Middle distance runners mean is 28.23, which is falling in High Anxiety level. They are little excited before and during competition. And Long distance runners mean is 32.86, which is falling in Extremely High Anxiety level. They are feeling restless. They are regarded as hyper-anxiety individuals. They are excited about their performance, they have fear of defeat. Their personality is little complicated, and they may be in need of counseling and psychotherapy. Long distance runners have more anxiety than Sprinters and Middle distance runners.

**Conclusion:**

Middle distance runners have significantly high anxiety than the sprinters. Long distance runners have significantly high anxiety than the sprinters. Long distance runners have significantly high anxiety than the middle distance runners. Sprinters have control over their feelings & emotions. They represent essentially normal individuals. Middle distance runners are having High Anxiety level. They are little excited before and during competition. Long distance runners have Extremely High Anxiety level. They are feeling restless. They are regarded as hyper-anxiety individuals. They are excited about their performance, they have fear of defeat. It is concluded that Middle distance runners are having comparatively high Anxiety than Sprinters, because they set goals and aims to give level best performance to win the Competition, where as the Sprinters concentrate on technique at the start & finish and muscle power to give the high level of performance. It is recommended that for all sports persons must be trained to overcome Anxiety to achieve high excellence in sports. The Coaches must prepare the athletes to minimise the Anxiety before and during competition.

**Recommendations:**

1. This type of Study is useful to the Coaches and Physical Education Teachers to train the Students as per the requirements of the Psychological variables for the better performance in sports.
2. Conducting a similar study, by adding other psychological factors such as goal setting, Achievement motivation, concentration and imagery.
3. Doing a similar study on Individual and Team Games.
4. Comparing anxiety and self confidence between elite and non-elite athletes in different regions.
5. Conducting a similar study among female sprinters, Middle and long distance runners.

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## Comparison of IKDCSKEF among healthy and injured football players

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### Abstract

International Knee Documentation Committee Orthopedics Scores Knee Form (IKDCSKEF) is a standard form and the highest scoring instrument in all categories for use in all publications of results of treatment of knee ligament injuries. The aim of this investigation was studying about the comparison of the IKDCSKEF among Football players. Twenty healthy football players who play in leagues of Iran and twenty football players who had anterior cruciate ligament (ACL) reconstruction were respectively contributed in control and experimental groups. Independent t.test was used and means of IKDCSKEF in control and experimental groups were 98.57 and 52.17 respectively. The results of IKDCSKEF questionnaire demonstrated that there was a significant difference between healthy and injured football players. It seems that players who have ACL reconstruction have knee problems after 5 months of rehabilitation protocols and their IKDCSKEF scores are low. It is suggested that IKDCSKEF is evaluated monthly during the rehabilitation period. Increasing of their scores can be one of the markets of their treatment.

Keywords: IKDCSKEF, ACL, Football players.

### Introduction

Professional athletes risk injury every time they train, practice, and compete. Growing participation in physical exercise and sports in recent years, especially by girls and women has been accompanied incidence of injuries (Hong, 2008). Injuries are an integral part of sports and the athletes experience injury frequently and spend a period of their sport life in completing rehabilitation process. Injury in Anterior Cruciate Ligament is one of the most reasons of severe and chronic pain in the knee. Injuries of this ligament are mostly because of sudden decrease of speed in running, changing in the direction and the other contact injuries of the knee. The contact sports may cause extension of the knee and the forces from outside enter the knee and causes hyper extension of ACL (Khabazan, 2014). Athletes who participate in high demand sports like soccer, football, and basketball are more likely to injure their ACL (Nadali et al, 2014). So the ACL plays a role in limiting rotation of the tibia. Statistical results had shown that 80 to 250 thousand of ACL injuries occur yearly that the most of them have 15 to 25 years old (Garrick et al., 2001). Female athletes are currently reported to be four to six times more likely than males to sustain a sport-related non-contact anterior cruciate ligament (ACL) injury (Gregory D Myer and et al, 2012). In most countries such an injury is considered as a disaster for the athletes and the sport teams, because it keeps the athlete far from the competitions for a long time. There is immediate pain at the time of injury and the player may experience a sensation of a 'pop'. Almost always the player will be unable to continue playing (Jeffery, 2011). Reconstruction of this ligament is the most common method of treatment for those who encounter such an injury. Special care and physiotherapy after surgical operation, together with the special exercise may help the athlete to return to competitions after some months.

In clinical practice and research, the magnitude of change in patient-reported outcome is often used to assess the outcome of treatment. However, a clinically meaningful change in patient-reported outcome

may not be associated with an acceptable state that corresponds to “feeling well”, which is also called the Patient Acceptable Symptom State (PASS). Thresholds for common patient-reported outcome measures for achieving a PASS after ACL reconstruction has not been determined. IKDCSKEF as the indicator of "feeling well" or "PASS" can be as the signal of the treatment. Researchers want to know that IKDCSKEF can accept as a good criteria for treatment or completing of it.

### Methodology

The method of this research is experimental. Statistical population of present research includes all of the adult football players in the premier league of Iran. According to aim of research, 20 football players who encounter ACL tear (in purposive sampling) aged 21 to 31 years from football's premier league of Iran were invited and considered in the experimental group. 20 healthy football players among football players in the premier league of Iran (through the cluster sampling) were invited to the control group. They were voluntary joined to present research. After explaining the procedure of the present study, they filled the forms. This study was done on Mehregan rehabilitation center during the season of 2012 – 2013. In order to analysis the data different statistical method were used to make appropriate conclusions from the data. In the descriptive way statistics such as average, standard deviation, variance and frequency table were used. The independent t – test was used in inferential statistics. Data was analyzed statistically by SPSS software, Version 19. The significance level in all statistical analysis was set at  $p < 0.05$ .

### Result and Discussion

As it has shown in table 1, means of IKDCSKEF in control and experimental groups are 98.57 and 52.17 respectively. According to Levene's significant level (0.0001) and Independent t. test (12.273) results indicate that obtained “P” value is 0.0001 ( $P < 0.05$ ) so significant difference between scores of IKDCSKEF among two groups is accepted. Results indicated that the IKDCSKEF scores in the control group were significantly higher than scores of IKDCSKEF in the experimental group and revealed that there is a significant difference in IKDCSKEF between experimental and control groups. This form was filled in the same time by two groups.

Table 1: Independent t. test of IKDCSKEF in control and experimental group

Groups	Mean	SD	F	Levene's Test Equality of Variances	t	Df	P – value
Control	98.57	1.6					
Experimental	52.17	14.55	29.021	0.0001	12.273	14.34	0.0001

As it is mentioned in patient-reported outcome that associated with an acceptable state or corresponds to “feeling well”, which is also called the Patient Acceptable Symptom State (PASS). Result witness that IKDCSKEF as the indicator of "feeling well" or "PASS" can be as the signal of the treatment. According to the results it seems that football players, who had ACL reconstruction, did not have a stable situation of normal activity. They suffered and endured pain in their knees after surgery and rehabilitation period. Scores on the IKDCSKEF vary by age, gender, and history of knee problems (Anderson et al, 2006). Hambly et al (2008) reported that the IKDCSKEF was the highest scoring instrument in all categories for knee problems. Previous studies have shown that IKDCSKEF results were significantly lower in patients than control or healthy subjects. Oliaei et al (2008) obtained scores IKDCSKEF 94.3 for healthy people and 78.5 for patients. My results in the present study are similar to their results. Hambly et al (2010) also reported that Seventy-eight percent of the items from the IKDC were experienced by more than half of the patients. For patients 12 months or more after anterior cruciate ligament reconstruction, 94% of the IKDC items had a frequency-importance. Khabazan et al (2013) reported that the mean score of IKDCSKEF questionnaire was  $97.06 \pm 4.48$  SD among healthy Futsal players that their result was similar to the results of the present study. This indicates that after ACL reconstruction, achieving an acceptable symptom state is more dependent on the ability to participate in sports than in the absence of symptoms or participation in activities of daily living (Muller et al, 2013). The IKDC SKF is a suitable alternative to other commonly used knee-specific instruments for measuring symptoms, daily function, and level of symptom-free sports activity in patients undergoing articular cartilage surgery (Greco et al, 2010).

## Conclusion

Patient Acceptable Symptom State (PASS) can obtain by IKDCSKEF. It can use as the indicator of "feeling well" or "PASS" as the signal of the treatment.

## Acknowledgement

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## An Analytical Study On Speed, Endurance And Agility Among Junior National Basket Ball Players And Kho-Kho Players

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### Introduction

Physical fitness test total fitness can be defined by how well the body performs in each one of the components of physical fitness test as a whole. Some components of physical fitness test are often used in our school systems, health clubs and fitness centers to gauge how good a shape we are truly in. physical fitness test throughout the 20<sup>th</sup> century, scientific evidence emerged demonstrating the usefulness of strength training and aerobic exercise in maintaining overall health, and more agencies began to incorporate standardized physical fitness test. They are commonly employed in educational institutions as part of the physical education curriculum, in medicine as part of diagnostic testing and as eligibility requirements in fields that focus on physical ability such as military or police. A physical fitness test is a test designed to measure physical strength, agility and endurance.

### SAMPLE OF THE STUDY:

The study was formulated based on the simple random sampling. The samples were collected from the 50 Basket ball players and 50 Kho - Kho Players in the age group of 18 – 20 years from Warangal District was considered.

### Tools Used:

The present study under investigation selected the following physical fitness.

Physical Fitness

Speed (50 yard dash), Endurance (Cooper Test 12 Minute Run / Walk) and Agility (4x 10Mts Shuttle Run).

### Data Collection Procedure

The subjects of the study were in the age group between 18 to 20 years, 50 Basket ball players and Kho - Kho players of Karimnagar district were considered. The study is delimited for the Karimnagar district. The researcher has collected the data separately for Basket ball players and Kho - Kho players. The subjects were tested in three categories of Physical Fitness i.e. Speed (50yard dash), Endurance (Cooper Test 12 Minute Run / Walk) and Agility (4x 10Mts Shuttle Run).

### Results And Discussions:

Table: 1 showing that the significant difference between Basket ball players and Kho - Kho Players in relation to their speed are presented.

Sl. No.	Subjects	N	Mean	SD	df	t-value	p-value
1	Basket ball players	50	9.01	0.989	98	3.053	1.658
2	Kho - Kho players	50	11.66	1.276			

Table: 2 showing that the significant difference between Basket ball players and Kho - Kho Players in relation to their Agility are presented

Sl. No.	Subjects	N	Mean	SD	df	t-value	p-value
1	Basket ball players	50	9.36	1.212	98	4.23	1.563
2	Kho - Kho players	50	10.26	1.865			

Table: 3 showing that the significant difference between Basket ball players and Kho - Kho Players in relation to their Endurance are presented

Sl. No.	Subjects	N	Mean	SD	df	t-value	p-value
1	Basket ball players	50	2016	296.76	98	4.01	0.01
2	Kho - Kho players	50	2264	238.62			

### Conclusion:

Physical fitness is the ability to perform vigorous physical activity. It is not measured in terms of achieving specific motor skills, but rather it is assessed in terms of muscle strength, endurance, and flexibility. The circulatory and respiratory systems are also involved because of their role in supplying muscles with blood and oxygen.

In considering muscles, strength is the maximum force that can be exerted by a muscle, and endurance is the ability to perform a muscular activity at less than maximum force, for example, in doing a series of chin-ups. Flexibility is the ability of a joint to move through a normal range of motion. The components of physical fitness (strength, endurance, flexibility, and capacity of circulatory and respiratory systems) can only be maintained through regular exercise. Although the percentage of body fat is not a main factor in physical fitness, it must be considered because of its effect on a person's ability to exercise.

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## **A Comparative study of cardiovascular fitness between sportsperson and non sportsperson”**

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### **Abstract**

The research paper carried out to assess the cardiovascular abilities between sportsperson and non sportsperson. The sample of the study is 100. The sample has selected using purposive sample technique consist of 50 sportsperson and 50 non sportsperson of women’s university students, To get the appropriate data Harvard cardiovascular test was conducted. The calculated the data has applied to statistical technique, the calculated Mean, SD, score of Sports women after the rest period is 58.70, Sd is 5.80 and Non- Sports women Mean 84.85 and SD is 7.005 respectively. And calculated “t” value is 12.15 it is greater than the table value, hence formulated hypothesis accepted and null hypothesis is rejected. It can conclude that it is due to regular participation in Sports and training there will be improvement in cardiovascular fitness.

### **Introduction:**

Sport is not purely a physiological phenomenon but a complex interplay of the mind and body. It is now becoming more and more competitive and has also become a career with an emphasis on monetary gains and the desire to win at any cost. Therefore, it is important to find solutions to the changing sports scene of today. A sports person needs four basic qualities: Speed, Skill, Strength and Stamina. To achieve these in professional sports, the daily life of a sports person calls for discipline in training, a balanced diet, a balanced lifestyle and an inner focus and determination. Sport training is a planned and controlled process in which, achieving a goal, change in complete motor performance, ability to act and behavior are made through measures of content, methods and organization.

### **Objectives of study:**

To assess the influence of sports participation on cardiovascular fitness abilities among the sportsperson and non sportsperson.

**Methodology:**The present paper made an attempt “To assess the impact of sports participation on cardiovascular fitness between sportsperson and non sportsmen” is in framework of empirical research. The particulars of the samples, tools, collections of the data and statistical techniques are given as under. The toll samples consists of 100 sportsmen and non sportsperson samples selection made randomly and the age level ranging from 20 to 25.

**Table no1 Showing distribution of sample**

Variables	Sex
Sportsperson	50
Non sportsperson	50
<b>Total</b>	<b>100</b>

**Tools:** Harvard bench step test was used to collect the pulse rate of sportswomen and non sportsperson

**Statistical tool:** To assess the cardiovascular ability of sportswomen and non sportswomen 't' test was applied

### **Discussion and analyses of result:**

The main objective of the study is to measure the Cardio-vascular endurance among the sportswoman and non-sportswoman because participation and physical activities and sports brings significant changes in the cardiovascular and fitness among the participants.

To measure the general capacity of the body and especially heart and circulatory system to adopt and recover from hard work is depends upon cardiovascular endurance. Various studies proved that regular practice and training of the sports develops cardiovascular fitness of the sportsperson.

Hence, researcher here made an attempt to assess the significant influence of participation in sports and non-participation on cardiovascular fitness.

**Table No -1.** Showing the Mean, SD, and 't' values of the resting pulse rate of the Sports women and Non-Sports women

Harvard steps test, Resting pulse rate Per Minute	Sports women	Non-Sports women
Mean	58.70	84.85
SD	5.80	7.005
't' Value	12.15	

\*Significant at 0.05 level

The formulated hypothesis is that there is significant difference in Endurance abilities among the participants on the rationale that involvement in Physical activities and sports develops Cardio-vascular and fitness, among participants and also develop general fitness, capacity among Sports women. Hence, collected data was applied to the statistical techniques to find out the influence of the participation, the Mean, SD, score of Sports women is 58.70 Sd is 5.80 and Non-Sports women Mean 84.85 and SD is 7.005 respectively. And calculated 't' value is 12.15 it is greater than the table value, hence for formulated hypothesis accepted and null hypothesis is rejected. It can conclude that it is due to regular participation in Sports and training.

**Table. No -2** showing the Mean, SD, and 't' values of Sports women and Non-Sports women at conducting the Harvard step test for one minute.

Harvard Step test, Ability per minute	Sports women	Non-Sports women
Mean	63.5000	37.500
SD	6.5646	4.76252
't' value	15.50	

\*Significant at 0.05 level

The table reveals that mean, Sd, and 't' value of the sportswomen while recording pulse rate after the performance of 1 ½ minute's, and collected data was applied to the statistical techniques to find out the influence of the participation, the Mean, SD, score of Sports women is 63.5000 Sd is 6.5646 and Non-Sports women mean, 37.4500 and SD is 4.76252 and calculated 't' value is 15.50, it is greater than the table value. Hence formulated hypothesis accepted and null hypothesis is rejected, it was concluded that it is due to regular participation in sports and training. (Sportswomen performed more steps than the Non-sports women)

**Table. No -3** showing the Mean, SD, and 't' values of pulse rate recorded after 1 minutes of Sports women and Non-Sports women

After 1 minute pulse rate	Sports women	Non-Sports women
Mean	88.20	112.10
SD	5.845	9.634
't' value	10.53	

\* Significant at 0.05 levels

The Hypothesis is formulated that there is significant difference in Endurance abilities among 20 Sports women and 20 Non-Sports women on rationale that the participation in Physical activities and Sports to develop Cardio-vascular and fitness, among participants and also develop general fitness, capacity among sports women, hence collected data was applied to the statistical techniques to find out the influence of the participation, the Mean, Sd, score of Sports women is 88.20 Sd is 5.845 and Non-Sports women Mean, 112.10 and Sd is 9.634 and calculator 't' value is 10.53 it is greater than table value, hence formulated hypothesis accepted and null hypothesis is rejected, It is due to regular participation in Sports and training.

**Conclusion:** study reveals that participation of sports activities effects development of physical development and cardiovascular fitness among the participants, Hence study suggest that incorporate the physical education curriculum in the syllabi of school and college.

**Reference:**

Kumaraswamy, "A Comparative Study of Physical Fitness of Rural and Urban High School Boys in Malur Taluk (Unpublished Masters Thesis, Bangalore University, 2003).

## “A Study of Competitive Anxiety and Self Confidence of National Male Gymnasts in Relation to their Competition Performance”

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### **Introduction:**

Competitive gymnastics is not for everyone; not everyone has the mind and body to prepare for elite competitive gymnastics some of the gymnasts are not successful due to lack of mental preparation. To gain required mental preparation during practice, prior to and during competition, the sport psychology plays a vital role in the mental preparation of the gymnasts. Sports performance during competitions is influenced by many factors. The most important factor which influences sport performance, during competition, seems to be the level and incidence of competition anxiety (Debnath & Bawa 2005). Top athletes each have a zone of optimal state anxiety in which their best performance occurs. Outside this zone, poor performance occurs (Hanin 1986). Self confidence is one of the key factors to get success.

**OBJECTIVES OF THE STUDY:** The study has been conducted with the following objectives: To find out the anxiety (Somatic and Cognitive) and self confidence status of the Indian male gymnasts and relationship of competitive anxiety and self confidence with competition performance. The other objective of the study is to find out whether the high performance gymnasts significantly differ from medium and low performance gymnasts in competition performance, anxiety and self confidence.

**HYPOTHESES:** The study was based on the following hypotheses:

That there would be significant relationship between Self Confidence and Competition Performance.

That there would be a significant relationship between anxiety and competition performance.

There would be significant difference in competition performance, anxiety and self confidence between High and Medium Performance Group, High and Low Performance Group & Medium and Low Performance Groups in gymnastics.

**Subjects:** 48 senior male gymnasts were selected as subjects for study who participated in the National level Gymnastics Championship.

### **Tools Used:**

Competitive State Anxiety Inventory-2 (CSAI-2) by Martens et al. (1990) was used to find out the anxiety and self confidence level of each gymnast.

**Administration of the test:** Verbal instructions were given for filling up the questionnaire to all the subjects.

**Scoring:** The CSAI-2 was scored by computing a separate total for each of the three sub-scales, with scores ranging from a low of 9 to a high of 36. The higher the score, the greater the cognitive or somatic A-State or the greater self confidence. The cognitive A-State sub-scale is scored by totaling the responses for the following 9 items: 1,4,7,10,13,16,19,22 and 25. The somatic A-State subscale is scored by adding the responses to the following 9 items: 2,5,8,11,14R, 17,20, 23 and 26. Scoring for item 14 must be reserved in calculating the score for the somatic A-State subscale as indicated: 1=4, 2=3,3=2,4=1. The state of self confidence subscale is scored by adding the following items: 3,6,9,12,15,18,21,24 and 27.

(b) Competition Performance:

The data regarding competition performance of all the subjects was obtained from the official competition results on the basis of their competition performance.

### **Statistical Procedure:**

Coefficient of Correlation, Mean and Standard Deviation of each variable of each group was computed to find out the significance difference in competitive anxiety (Somatic and Cognitive) and self confidence between high and medium, high and low, medium and low performance groups, t-test was applied.

### Analysis And Findings Of Data

Analysis:(Table-1) Coefficient of Correlation among various variables (N = 48)

Correlation Matrix

Coefficient of Correlation	Competition Performance	Somatic Anxiety	Cognitive Anxiety	Self Confidence
Competition Performance	1.00	0.18	-0.20	0.07
Somatic Anxiety	-	1.00	0.17	-0.19
Cognitive Anxiety	-	-	1.00	-0.30
Self Confidence	-	-	-	1.00

(Table – 2)Means. Standard Deviations and t-test values in various variables between High Performance Group

(H.P.G.) and Medium Performance Group (M.P.G)

	Variable	H.P.G.(N=16)		M.P.G (N=16)		M.D	S.E.M.D	t-value
		Mean	SD	Mean	SD			
1	Competition Performance	45.64	0.864	43.09	0.73	2.55	0.283	9.020**
2	Somatic Anxiety	17.81	3.125	17.25	3.77	0.56	1.230	0.457
3	Cognitive Anxiety	18.31	3.950	20.06	3.75	1.75	1.360	1.285
4	Self Confidence	24.50	7.560	26.94	5.93	2.44	2.390	1.020

\*\* Significant at 1% level

Table – 3:Means. Standard Deviations and t-test values in various variables between High Performance Group

(H.P.G.) and Low Performance Group (L.P.G)

	Variable	H.P.G.(N=16)		L.P.G (N=16)		M.D	S.E.M.D	t-value
		Mean	SD	Mean	SD			
1	Competition Performance	45.64	0.864	38.80	2.65	6.84	0.670	9.82**
2	Somatic Anxiety	17.81	3.125	16.25	5.00	1.56	1.470	1.06
3	Cognitive Anxiety	18.31	3.950	20.13	2.87	1.82	1.220	1.49
4	Self Confidence	24.50	7.560	26.38	4.56	1.88	2.190	0.86

\*\* Significant at 1% level

Table – 4

Means, Standard Deviations and t-test values in various variables between Medium Performance Group (H.P.G.) and Low Performance Group (L.P.G)

	Variable	M.P.G.(N=16)		L.P.G (N=16)		M.D	S.E.M.D	t-value
		Mean	SD	Mean	SD			
1	Competition Performance	43.09	0.73	38.80	2.65	4.29	0.69	6.240**
2	<i>Somatic Anxiety</i>	17.25	3.77	16.25	5.00	1.00	1.57	0.639
3	Cognitive Anxiety	20.06	3.75	20.13	2.87	0.07	1.17	0.060
4	Self Confidence	26.94	5.93	26.38	4.56	0.56	1.87	0.300

\*\* Significant at 1% level

Discussion of Findings:Gymnastics is one of the most beautiful sports, consists of complicated, thrilling and exciting movements on six apparatuses in men section. Performance in competitive gymnastics depends upon many factors such as physical, technical, psychological abilities etc. The most important factor in gymnastics is the psycho-physical fitness of the individual. To give optimum performance in competition, optimum level of anxiety and high self confidence is required in gymnastics. The results of the present study indicated that there is non-significant relationship between competition performance and somatic anxiety, competition performance and cognitive anxiety and competition performance and self confidence. The findings also reveal that there is non-significant relationship between somatic anxiety and cognitive anxiety. However, the results of the study reveal that there is significant relationship between cognitive anxiety and self confidence. Gymnastics competition performance is evaluated on the basis of degree of difficulty of exercises and their execution. Both the factors play an important role in obtaining high performance during competition. When a gymnast increases a degree of difficulty, it is generally observed that he becomes little more anxious and feels insecure, if he does not have complete mastery over the movements which he performs, it also affects his self confidence. Self confidence and mastery of the movement go hand to hand.

From the results given in Table 2,3and 4 it is observed that there is non-significant difference in somatic anxiety and cognitive anxiety between high performance group and medium performance group, high performance group and low performance group, and medium performance group and low performance group. It has also been observed that high, medium and low performance groups showed more cognitive anxiety than somatic cognitive. It was also found that there is non-significant relationship in self confidence level between high and medium performance groups, high and low performance groups, and medium and low performance groups. However, the self confidence is slightly lower in high performance group in relation to its counter parts i.e., medium and low performance groups. The reasons may be due to the degree of difficulty of exercise is higher, lack of mastery due to less repetitions over particular skills, lack of safety measures, level of competition, higher expectations from the coach or gymnast, more concerned about winning of medal, ego-oriented motivation, organized audience etc. While attempting greater degree of difficulty, the gymnast will come across these things which disturb the self confidence level of gymnast. When the gymnast is attempting greater degree of difficulty, the chances of occurring injuries are also higher with the result the gymnast becomes more anxious. Keeping in view greater complex skills, safety of the gymnasts and to enhance the confidence level of the gymnasts, the FIG has permitted the coach to stand at the specific apparatuses and place supplement mats.

## Effect Of Plyometric Training,Circuit Training And Combined Training On Selected Muscular Srtength And Muscular Power Among The Secondary Girls Students.

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**Introduction** :- Training plays a vital role in today's competition field where records are being practically rewritten and are being excelled mostly in every successive competition. It is becoming possible with different kinds of training methods adopted by the sports coaches and sports teachers. In order to exhibit top level performance at higher level of competition one should undergo continuous and systematic plan of training.Muscular Strength and Muscular Power are the two important physical fitness components to be possessed by a sports person to showcase their talent in sports and games activities, particularly in short duration activities. Muscular Strength is the capacity to exert force or the ability to perform the work against the resistance whereas the Muscular Power is the ability to release maximum muscular force in an explosive manner in the shortest possible duration. Various training methods are designed to enhance the muscular strength and muscular force such as Circuit Training, Interval Training and Plyometric Training, etc.

**PLYOMETRIC TRAINING**:- Plyometrics is a type of fast exercises in which the muscles are not allowed to fully contract after being extended typically involving Jumping and Bouncing'.(Double Tongued Dictionary)

**CIRCUIT TRAINING**:- Circuit training is a type of interval training in which strength exercises are combined with endurance/aerobic exercises, combining the benefit of both a cardiovascular and strength training workout. 'CIRCUIT 'means a group of activities and refers to a number of selected 'stations' positioned around the facility that are to be visited in rapid succession. The range of stations includes and depends upon to the needs of the components to be developed (e.g. hydraulic equipment or free weights as well as allocated spaces to do squat thrusts, pushups, jumping jacks, sit ups and other exercises). Each person should complete the activity in one station before they proceed to the next station.

**STATEMENT OF THE PROBLEM**:- The purpose of the study was to compare the Effect of Plyometric Training, Circuit Training and Combined Training on Muscular Strength and Muscular Power among the secondary students.

**Methodology**:- Research Scholar used four different groups to find out the effect of the above trainings on muscular strength and muscular power. Untrained school Girls of Ekashila High School Warangal in the age group of 14-15 years those who have not participated intensively in games and sports or any special coaching programme were selected for the study. However they were allowed to attend the regular physical education classes conducted at their school. 40 students were selected randomly by lot from the total population of 300 subjects after eliminating physical handicapped students. Those forty students were further divided into four equal groups randomly consisting of 10 subjects in each group .The groups were named randomly by lot as Plyometric Training group, Circuit Training group, Combined training group and control group and their performances were measured before and after 12-weeks of Training. In Plyometric Training eight exercises (four for Upper body and four for lower body ) and in Circuit Training eight exercises were used. The Combined Training group subjects were asked to join with the Plyometric Training group on Tuesday, Thursday, and Saturday and with Circuit Training group on Monday, Wednesday and Friday .

The following component and test items were used.

- 1):-Push-Ups to measure Muscular Strength
- 2):-Standing Broad Jump to measure Muscular Power

The control group did not participate in any Training programme except their routine activities. The 't' test and Anacova were used find out the Training effect and to compare the Training effect respectively.

## Results And Discussion

The applying the above mentioned statistical techniques the following results are obtained.

Table:1.1 Results of consolidated 't' test Push-Ups

Test Items	Obtained "t" value				Required "t" value at 0.01 level
	Plyometric Training group	Circuit Training group	Combined Training group	Control group	
Push-Ups	<u>9.62*</u>	<u>24.19*</u>	<u>9.35*</u>	<u>0.32</u>	<u>3.2</u>

\*significant at 0.01 level

From Table:1 it is observed that the performance of the Training groups improved significantly with result to Push-ups. These results supported by C.Nicholas, A Ratamess N.A

Table:1.2 Analysis of covariance. Push-Ups

Source of variation	d.f	SSx	SSy	SSxy	SSyx	MSSyx
Treatment group Mean	N-1 4-1=3	1.8	437.88	19.7	475.11	158.37
Error	N-K-1 40-4-1=35	241.8	362.9	230	144.12	4.12
Total	38	243.6	800.78	210.3	619.23	

\*significant at 0.01 level,  $F_{yx}=38.44$   $F_{0.01}=4.35(3,35)$

Since obtained values varies and are also greater than the Table value F.05 it is concluded that all the Training methods are not equally effective, in improving the performance of Muscular Strength . In order to find out which Training method is more effective. Pair wise comparison analysis on adjusted means of post test data was carried out.

Table:1.3 Schiff's Post Hoc Test.Push-Ups Comparison Adjusted Post Test Mean

Control Group	Plyometric Training Group	Circuit Training Group	Combined Training Group	Mean Difference	Confidence Interval 0.01 Level
16.21	24			7.79*	4.00
16.21		24		7.79*	
16.21			26	9.79*	
	24	24		0	
	24		26	2	
		24	26	2	

Table :1.3 shows that the Training methods Plyometric Training group and Combined Training group are equally effective , Combined Training and Circuit Training are equally effective and also Plyometric Training and Circuit Training are equally effective. It is therefore concluded that if a choice has to made out of three treatments i.e., Plyometric Training, Circuit training and combined training treatment, Combined Training group should be preferred. In other words Combined Training programmed may be recommended for improving the performance.

Table:2.1 Results of consolidated 't' test Standing Broad Jump

Test Items	Obtained "t" value				Required "t" value at 0.01 level
	<u>Plyometric Training group</u>	<u>Circuit Training group</u>	<u>Combined Training group</u>	<u>Control group</u>	
<u>Standing Broad Jump</u>	6.2*	6.7*	7.56*	0.41	3.2

\*significant at 0.01 level

From Table:1 it is observed that the performance of the Training groups improved significantly with result to Standing Broad Jump. These results supported by C.Nicholas, A Ratamess N.

Table:2.2 Analysis of covariance. Standing Broad Jump

Source of variation	d.f	SSx	SSy	SSxy	SSyx	MSSyx
Treatment group Mean	N-1 4-1=3	0.2	0.81	0.06	0.74	0.25
Error	N-K-1 40-4-1=35	0.55	0.73	0.33	0.53	0.02
Total	38	0.57	1.54	0.39	1.27	

\*significant at 0.01 level,  $F_{yx}=12.5$   $F_{0.01}=4.35(3,35)$

Since obtained values varies and are also greater than the Table value  $F_{0.01}$  it is concluded that all the Training methods are not equally effective, in improving the performance of Muscular Power. In order to find out which Training method is more effective. Pair wise comparison analysis on adjusted means of post test data was carried out.

Table :2. 3 Scheffe's Post Hoc Test .Standing Broad jump Comparison Adjusted Post Test Mean

Control Group	Plyometric Training Group	Circuit Training Group	Combined Training Group	Mean Difference	Confidence Interval 0.01 Level
1.28	1.59			0.31*	0.25
1.28		1.61		0.33*	
1.28			1.6	0.32*	
	1.59	1.61		0.02	
	1.59		1.6	0.01	
		1.61	1.6	0.01	

Table :2.3 shows that the Training methods Combined Training group and Circuit Training group are equally effective , Circuit Training and plyometric Training are equally effective and also Combined Training and Plyometric Training group are equally effective. It is therefore concluded that if a choice has to made out of three treatments i.e., Combined Training, Circuit training and Plyometric training treatment, Circuit training should be preferred. In other words Circuit training programmed may be recommended for improving the performer

**Conclusion:**

From the discussion of Findings the following conclusions were made

1. All the Three Training Groups plyometric training group, circuit training group and combined training group shown significant improvement due to 12 weeks of training on Muscular Strength and Muscular Power.
2. On comparing the training effect there was no significant difference among the three training groups. i.e plyometric training group, circuit training group and combined training group on Muscular Strength and Muscular Power .
- 3 The control group failed to produce significant improvement on Muscular Strength and Muscular Power.



## **Analytical Study On Specific Psychomotor Skills And Psychological Factors Of Football Players & Hockey Players In Telangana Universities**

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### **Introduction**

It is an emerging field of psychology is viewed as an attempt to understand describe and explain the behaviour of sports persons in athletic setting both practice and competitive- with a view to enhance performance. Today there is no sport without sports psychology. It is well known that psychology grew out of philosophy and within a few decades of the modern era of science and education, it shaped into a huge banyan tree with hundreds of branches and offshoots making it difficult to distinguish its stem from its tentacles. Sports psychology is a recent phenomenon-a distinct addition to that ever-expanding family of psychology. Known as hybrid science, a fusion of sport, science and psychology-sports psychology is all about sports behavior especially with muscle-mind interactions, there influences and their outcomes in the context of sports, which is basically a from of active reaction, but which has turned intensely competitive on account of the growing Olympism well over a century.Sports Psychological intervention coping strategies, mental skills such as imagining concentrating, are focusing excreta. Team interaction and convention are all practical tasks in which athlete’s teachers/coaches and sports psychologists play reciprocally cooperative but decisive roles. All other things being equal athletic event/sports are winning in the mind. One of the goals of applied sports psychology is to investigate human performance stabilize and to enhance sports performance.

### **Statement of the Problem**

The purpose of the study is to find out whether or not any significant difference found on movement time, eye hand coordination, Motivation, and Aggression of football and hockey players in Telangana Universities.

### **Sample of the Study**

The study was formulated based on the simple random sampling. The samples were collected from the 100 football players and 100 hockey players in the age group of 20- 25 years from 2 universities of Telangana region.

### **Showing the Sample of the study**

Sl.No	Name of the Universities	Number of ball players	Foot Hockey players	Number of subjects
1.	Osmania University	50	50	100
2.	Kakatiya University	50	50	100

### **Tools Used**

Movement time – Nelson speed of movement.

Eye-hand coordination – Lafayette electrical operator (two arm tracing apparatus).

Motivation- The Sport Motivation Scale (SMS-28) - Luc G. Pelletier, Michelle Fortier, Robert J. Vallerand, Nathalie M. Brière, Kim M. Tuson and Marc R. Blais, 1995.

Aggression - The aggression questionnaire Buss, A. H., & Perry, M. P. (1992).

### Data Collection Procedure

The subjects of the study were in the age group between 20 to 25years from two groups i.e., football players and hockey players. The football players consisting 100 men and the hockey players consisting of 100 men of Kakatiya University and Osmania University.

### Results & Discussions

Table -1 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Osmania University Players in relation to their movement time

Sl. No.	Subjects	No. of subjects	Mean	SD	df.	't' value	p-value
1.	Football players	50	1.9801	0.1935	98	4.550	0.000
2.	Hockey players	25	2.1240	0.0973			

Table-2 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Kakatiya University Players in relation to their movement time

Sl. No.	Subjects	No. of subjects	Mean	SD	df.	't' value	p-value
1.	Football players	50	1.5429	0.1736	98	3.420	0.000
2.	Hockey players	25	2.0968	0.0634			

Table -3 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Osmania University Players in relation to their Eye-hand coordination

Sl. No.	Subjects	No. of subjects	Mean	SD	df.	't' value	p-value
1.	Football players	50	8.1032	1.4256	98	5.416	0.000
2.	Hockey players	50	6.8361	1.0426			

Table -4 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Kakatiya University Players in relation to their Eye-hand coordination

Sl. No.	Subjects	No. of subjects	Mean	SD	df.	't' value	p-value
1.	Football players	50	9.1160	1.6690	98	6.737	0.000
2.	Hockey players	50	7.0529	1.3720			

Table -5 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Osmania University Players in relation to their Motivation

Sl. No.	Subjects	N	Mean	S.D.	df.	't'-ratio	P- value
1.	Football Players	50	29.82	7.28	98	3.86	0.00
2.	Hockey Players	50	27.08	9.46			

Table -6 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Kakatiya University Players in relation to their Motivation

Sl. No.	Subjects	N	Mean	S.D.	df	't' ratio	P value
1.	Football Players	50	30.84	8.96	98	4.26	0.01
2.	Hockey Players	50	27.68	9.76			

Table -7 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Osmania University Players in relation to their Aggression

Sl. No.	Subjects	N	Mean	S.D.	df.	't'-ratio	P -value
1.	Football Players	50	35.85	9.98	98	2.18	0.01
2.	Hockey Players	50	28.24	7.95			

Table -8 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Kakatiya University Players in relation to their Aggression

Sl. No.	Subjects	N	Mean	S.D.	df	't' ratio	P value
1.	Football Players	50	26.78	6.56	98	2.18	0.05
2.	Hockey Players	50	37.64	8.97			

### Conclusion

Sport psychology is sometimes called mental preparation or training, mind games, or mind over matter. The aim is for the team to play games at peak performance in every match. Sports psychology is not a substitute for skills, and it is vital to emphasize the importance of skills, particularly when coaching youth. A sports psychologist can identify weaknesses in the psychological make-up of a player and can provide the necessary counseling so that the player can continually play at his optimal level of performance.

In conclusion the major role of the sport psychologist is to impart knowledge and help the team players to cope with the effects of sport by offering techniques and strategies to increase concentration, confidence, consistency, control and motivation. Sport psychologists can help the team players to cope with the pressures of sport by helping individual athletes to learn different coping skills and stress management skills. In the present scenario the sports psychology have been playing a significant role in the creeping performance of the games. The fluctuations noticed specific psychomotor skills will be attributed to the educational background of the football and hockey players. Finally it was observed that football players at Osmania University have shown low level of anxiety when comparative to hockey players as mean average score were less to football players when compared to hockey players, the reasons for the high level of anxiety may be attributed to their level of participating intensity of participation and various other environmental factors. For the present study psychological factors noticed attributed to the educational background of the football and hockey players. But, the fact here was both players were well trained in all aspects due to their difference in exposure to various situations the results differ. By and large, the players exposed at higher levels of competition need to be fit physically, mentally and technically, so that the standards of the power game will remain at its best all the time at international level.

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## The Effect Of Pranayama on Expiratory Reserve Volume (ERV) Of Lungs

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### **Introduction:**

Yoga GuruPathanjali's Astanga Yoga has given wider scope of doing research for human well-being. It emphasizes on human, Personal Discipline, Postures, Vital sensory, Withdrawal senses, concentration, Meditation and Super-Consciousness. Among the elements of Astanga yoga pranayama is one of the important factor of human well-being, which basically works more on respiratory organs. Respiratory health gives active movement in all physical activities and its capacity for accumulation of high volume of oxygen is one of the source of well-being. Here the researcher investigates the difference of expiratory reserve volume (ERV) i.e. the volume of air through the forceful expiration after a normal expiration.

### **Methodology:**

**Selection of the Subjects:** 30 student's kabaddi Players, 30 Student's non kabaddi-Players of our college. Kabaddi Players are kept under control group and non kabaddi-Players are under Experimental Group.

**Selection of variable:** 1. The independent variable of this study of pranayama are Anulom, vilom, Ujjayi, Suraya Bhandan. 2. The training programme for 10 weeks and the dependent variable of the study was Expiratory Reserve Volume.

**Pilot Study:** The training programme consists practice of pranayama as per schedule every day in the evening half an hour for 10 weeks to Experimental Group of non kabaddi-Players.

**Test Administration:** The dependent variable ERV is the volume of air forcefully exhaled after normal exhalation. (normal breath, forceful exhalation into Computerized by KoKo peck Pro6 spirometer).

**Selection of the test equipment:** the volume of air has been measured by using Computerized KoKo peck Pro6 spirometer and easy to analyzed respiratory capacity. It has easy to read LCD screen with graphic animation, for colour zone 'traffic light' readings for quick assessment and single operating button for ease of use.

**Analysis:** The experimental and the control group were tested for ERV prior to, and after Pranayama training programme. The collected data was subjected to ANCOVA. The level of significance to test the 'F'- ratio, obtained the covariance was fixed at .05 level.

**Statistical Analysis:** The study was designed to find out the influence of Pranayama on Expiratory Reserve Volume (ERV) between control group and experimental group. The subjects of two groups were tested ERV prior and after training period. The analysis of covariance (ANCOVA) was applied to find out the variance ERV. The level of significance to test and 'F'- ratio, obtained covariance was fixed at .05 level of confidence.

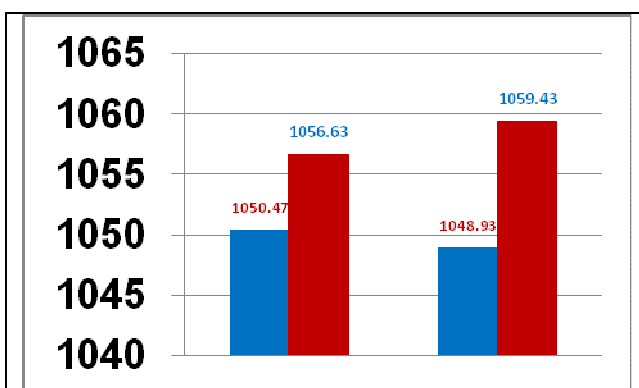
The results have been presented in table – I.

Table – I

	Control Group	Experimental Group	Sources of Variance	df	Sum of squares	Mean square	'F' - ration
<b>PRE – TEST</b>							
MEAN	1050.47	1048.93	Between	1	570.42	570.42	<b>1.17</b>
S.D	23.22	14.79	With in	58	28364.43	489.04	
<b>POST - TEST</b>							
MEAN	1056.63	1059.43	Between	1	1653.75	1653.75	<b>7.76</b>
S.D	20.96	14.41	With in	58	12367.23	213.23	
<b>ADJUSTED POST - TEST</b>							
MEAN	1049.00	1059.37	Between	1	1582.00	1582.00	<b>7.30</b>
			With in	57	12355.10	216.76	

Significant at .05 level of confidence. The value for significance at 0.05 with df 1 and 58 and 1 and 57 are 4.024 and 4.021 respectively.

Table – 1 indicated that the pre-test means of Expiratory reserve Volume of Control group and experimental group were 1050.47,  $\pm$  23.22 and 1048.93,  $\pm$  14.79 respectively. The obtained "F" – ratio of 1.17 indicated that the pre-test means were not significant at 0.05 level of confidence. The post-test means of Expiratory Reserve Volume of the control group was 1056.63,  $\pm$  20.96 and 1059.43,  $\pm$  14.41 respectively. The 'F'- ratio of 7.76 is higher than the table value 4.024. It indicates that the post-test mean were significant differ at 0.05 level confidence. The adjusted post-test means of expiratory Reserve Volume of Control group and experimental group were 1049.00, and 1059.37, respectively. The obtained 'F' - 'ratio was 7.30 and it was greater than the tabulated 'F'- ratio for improvement after the experimental period. The mean values of control group and experimental group were graphically represented in Figure – I



### **Findings and Conclusions:**

The study reveals that the pranayama practitioners has improved the Expiratory Reserve Volume (ERV) rather than the control group of kabaddi players, it is very good culture for all to have good health by less effort and especially for kabaddi players. It is very easy to practice in limited area.

## **Comparison Of Lung Functions Of Smokers And Non-Smokers Of Master Of Physical Education Students , Osmania University ,Hyderabad.**

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### **Introduction:**

Although the effects of smoking are almost universally known and have been stated in considerable details by numerous authors, yet people smoke and the number of smokers is constantly on the increase. Even the statutory warning that smoking is injurious to health, has not made any impact on those addicted. Tobacco industry is flourishing and their profits are increasing from year to year. Students in schools and colleges, besides participating in physical education activities to develop physical fitness, must maintain good eating and health habits. The efforts of a physical education teacher to maintain physical wellbeing of students under his charge will amount to little, if students did not continue some form of physical activity and exercise control over their diet and health habits in their adult life. Improper nutrition, consumption of alcoholic beverages and smoking, all combine to form a nuisance to the physical education teacher and a threat to the health and fitness of the students under his care. Of the three factors mentioned above, smoking is probably the largest single preventable cause of ill health. According to Mckennell and Thomas, those students who start smoking at an early age, their chances of giving up smoking grew lesser and lesser as they became habitual smokers. The physical education teacher, who is directly involved with a sizable portion of the population at a decisive age, where they may become chronic smokers or may stay non-smokers, is in a position to guard against this dreadful evil. Suggestions for not picking up the habit and to give it up, if one has already acquired it, will be considerably facilitated if the specific ill effects of this evil habit are communicated to the students by their teachers.

Scientists and physicians working in this field for the last two centuries have observed that several diseases, such as Cancer Peptic, Ulcer, Coronary Heart Disease, Bronchitis, Emphysema and fatal disorders have a link with smoking. Besides causing the diseases mentioned above, smoking produces more sinister effects on the fitness and performance level of sportsmen of all calibers-causing a decreased performance capacity during the present, immediate and distant future. This abort-term impairment of performance, occurring repeatedly, leads to marked reduction in trainability and finally, long term reduction of performances. Numerous studies have been conducted on the effect of smoking on physical fitness, growth, performance, and medical aspects, on different types of subjects, including athletes.

Butts (1) conducted a study on the effects of four weeks smoking withdrawal on certain physiological measures during rest and exertion. He concluded that vital capacity, timed vital capacity and maximum breathing capacity increased significantly and minute ventilation decreased significantly during the period of withdrawal. Oring (4) conducted a study on cardio-pulmonary parameters and body composition in smokers and non-smokers. He concluded that smokers had a smaller maximum breathing capacity, a significantly smaller tidal volume and significantly higher terminal and recovery respiration rates. Vincent (5) investigated the effects of smoking on respiratory efficiency and found no significant differences in respiratory efficiency following smoking or abstaining.

**Procedure :**

The male students studying in the Master of Physical Education (regular course) classes during the year 2012 were classified into two groups, namely smokers and non-smokers. Twenty five students, who were habitual smokers for more than last five years and smoked more than 20 cigarettes per day were selected as subjects for the smokers group. From all the non-smokers available, twenty five students were selected at random as subjects for the non-smokers group. The subjects belonged to different states / UT'S of India and abroad age ranged between 25 and 40 years.

For the purpose of comparing the lung functions of the two groups, the tests selected were : Breath Holding Time, Vital Capacity, Air Flow Rate and Peak Flow Rate. Breath Holding Time was measured in seconds with the help of a stop watch, Vital Capacity was recorded in Liters using Wet Spiro meter and Air Flow and Peak Flow Rates were measured in Liters / minute with the help of Air Flow and Peak Flow Meters respectively. The subjects were familiarized with the correct way of using instruments and the testing procedures so that correct and optimal values could be obtained for each test. The tests were administered in the Physiology Laboratory of the college of Physical Education, Andhra Pradesh. There is a difference between Smokers and Non Smokers in Lung functioning capacity.

**Discussion :**

The chemical analysis of smoke indicates that it contains several harmful organic components, such as Nicotine, Nitrogen Oxide, Hydrocyanic Acid (HCN), Carbon Monoxide, Particulate Carbon, Tar (smoke-condensate) and inhalation of these constituents of smoke adversely affects various systems of the body. The inhaled smoke causes increase of air resistance in the lung air passages, thereby reducing the pulmonary ventilation. The fine carbon particles present in the smoke affect the involuntary muscles of lungs and cause broncho constriction and thereby air space in the lung air pockets is reduced which ultimately reduces lung volume. Vital Capacity, Air Flow and Peak Flow Rates also depend upon the maximum extension of the thoracic cavity and the contractile power of the intercostals, diaphragm, abdominal muscles and muscles of the back and tongue to produce maximum possible expiration. The carbon monoxide present in the smoke combines with hemoglobin and forms carbon-monoxide hemoglobin compound which reduced the oxygen carrying capacity of the hemoglobin and would cause reduction in the power of above muscles as maximum supply of oxygen to these muscles will be reduced. Therefore, the higher values in the case of non-smokers with respect to Vital Capacity, Air Flow and Peak Flow Rates could be attributed to above reasons.

**Conclusion :**

1. Habitual smoking adversely affects lung functions by reducing the lung volume and in addition may adversely affect the efficiency of the expiratory muscles by reducing their contractile power for forceful expiration and causes reduction in Vital Capacity, Air Flow and peak Flow Rates of smokers.
2. Smoking may not adversely affect Breath Holding Time of an individual as in addition to physiological process, psychological factors may have an important influence on this variable.

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## **Common Sports Injuries Among The Sprinters, Long Distance Runners, Jumpers And Throwers In Athletics**

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### **Introduction**

Professional athletes need to be fitter today than those athletes in previous year. They compete more frequently and often at higher level, as witnessed by the speed with which records fall. The stress with which athletes encounters by their bodies are enormous. The term "sports injury," in the broadest sense, refers to the kinds of injuries that most commonly occur during sports or exercise. Some sports injuries result from accidents; others are due to poor training practices, improper equipment, lack of conditioning, or insufficient warm-up and stretching. Although virtually any part of your body can be injured during sports or exercise, the term is typically reserved for injuries that involve the musculoskeletal system, which includes the muscles, bones, and associated tissues like cartilage. Athletic injuries may stem from a single traumatic episode or from repeated over-use of a body part. The status of the athlete at the end of the practice or competition to determine whether a reportable injury has occurred

Athletics: Athletics is vast and worldwide sport. It is an exclusive collection of sporting events that involves competitive running, jumping, throwing events and walking. The simplicity of competition and lack of need for expensive equipment, makes athletics one of the most common competed sports in the world. .

#### **Significance Of The Study:**

The investigator decided to under taken survey with the following purposes and objectives.

1. To study the nature and type of injury among the male athletes
- 2 .Cause of sport injury
3. Prevention of sport injury

#### **Delimitation Of The Study:**

The study was delimited to male athletes of Hyderabad.

For the present study 10 sprinters, 10 long distance runners, 10 jumpers and 10 throwers.

The study further delimited to the physical education teachers and coaches as sours of information

For the purpose of the data collection interview conducted keeping in view of purpose of the present study.

#### **Limitation Of The Study:**

Following limitations have been identified during the study.

Athlete age, health and physical aspects, economical status, habits, coaching and training background may have some influence on the present findings and above factors were not direct concern of investigator.

Hypothesis: Not made any kind of hypothesis because this survey is descriptive and informative.

#### **Operational definitions:**

Sports injury: It is a kind of injury that most commonly occur during sports or exercise.

Key words: Athletes, injuries, sportspersons etc.

#### **Sports specific injuries:**

Every sport predominated by some specific body parts and specific movement patterns that lead to some sports specific injuries. Within the context of any project that deals with research in the area of injuries, is the central question, what is an injury? The two most popular procedures for developing a definition of injury are accumulating medical diagnosis and time lost from participation. Injury may be because of Extrinsic /Exogenous causes of sports injuries or Intrinsic /Endogenous causes of sports injuries. An Injury Classified In To Acute And Overuse Leads To Chronic Injury.

#### **Runners:**

Sprinters: Muscle tears and strain of quadriceps, hamstring and adductors of thigh. Shin splints.



Joint injuries: Tearing of the medial and lateral collateral ligaments of knee.

Long distance runners:March fracture: Is a stress fracture of third metatarsal bone.

Knee injuries: From simple sprain to periostetis of lateral femoral condyle.Heat injuries.

Foot injuries: Bruising of soft tissues and metatarsal bones.Achilles tendinitis, teno-synovitis.

Jumpers:

Broad jumpers:Bruised heels.Lower back injuries.Ankle and Knee sprain.

High jump:Patellar tendinitis.Low back injuries.Bruising of metatarsals.Stress fractures.

Pole vault:Muscle pulls especially in Hamstrings and Adductors of thigh.Bruising on the side of the leg.Ankle sprain.

Throwers:

Discuss:Rupture of extensor tendons of terminal phalanges

Hammer:Injury to pectorals major, rhomboids.Injury to extensor of the back.

Javelin:Sprain of ligaments of elbow.Fracture of radial head and neck associated with olecranon fracture and/ or dislocation of elbow.Dislocation of shoulder joint.

Shot-put:Muscular tear of the lower limb.Meniscus injuries of the knee.Muscle injury to the back.

Sprain of ligaments of back.Rupture of extensors of the back and avulsion fracture of cervical and thoracic spines.Injury to bicep tendon.Wrist sprain.

**General Preventive Measures:** Education, Choice of sport, Proper Protetcion,Proper Clothing and foot wear, Environment,.Balanced training, Preparation: warming up etc. Technique,Fitnes Warming up,Equipment and Obey rules

**Specific Preventive Measures:**

Individual PlayerPhysical condition.,Coaching.,Attitude.Skill level and personality characteristics.

Artificial turf versus natural grass.,The athletic arena Balanced Competition.Equipment.

Role Of Coach And Teacher:

Supervision the practice session is an important role of teacher/coach. Careful analysis of the individual skill development and correction of errors is also challenges to the teacher /coach, who may intensity of training or continue the skill repetition after giving feedback. Finally, the coach or teacher must exercise judgment in identifying actions which involve unacceptable risk to the athlete or the opponents.

**Conclusion:**

The sports personals and coach/teacher must aware about cause of injuries, prevention of injury.Careful management by the coach can be effective in injury prevention.

**Recommendations:**

Similar study may conduct on large scale.Similar study may conduct on female athletes.Similar study may conduct on different games and sports.

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## Goal Keeper – It Is The Best Position On The Field Hockey

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### **Introduction:**

**Hockey** is a family of sports in which two teams play against each other by trying to maneuver a ball or a puck into the opponent's goal using a hockey stick. In many areas, one sport is generally referred to simply as hockey.

Field hockey is played on gravel, natural grass, sand-based or water-based artificial turf, with a small, hard ball approximately 73 mm (2.9 in) in diameter. The game is popular among both males and females in many parts of the world, particularly in Europe, Asia, Australia, New Zealand and South Africa. Hockey positions are discussed, notions of fluidity are very common. Each team can be fielded with a maximum of 11 players and will typically arrange themselves into forwards, midfielders, and defensive players (fullbacks) with players frequently moving between these lines with the flow of play. Each team may also play with:"

\* a goalkeeper who wears a different color shirt and full protective equipment comprising at least headgear, leg guards and kickers; this player is referred to in the rules as a goalkeeper; or

\* a field player with goalkeeping privileges wearing a different color shirt and who may wear protective headgear (but not leg guards and kickers or other goalkeeping protective equipment) when inside their defending 23m area; they must wear protective headgear when defending a penalty corner or stroke; this player is referred to in the rules as a player with goalkeeping privileges; or

\* Only field players; no player has goalkeeping privileges or wears a different color shirt; no player may wear protective headgear except a face mask when defending a penalty corner or stroke.

The goalkeeper is unique. He or she has the capacity to change the score line, to make or break a team's success and yet it is increasingly hard to get players who want to step up and take on this role. Even with the tremendous developments in the protective equipment worn by the goalkeeper, the more fashion sensitive colours, shapes and accessories available to them, still the position of goalkeeper is one that often requires coercion to fill. Are parents worried that their child will be injured or hurt? Is it because the position of goalkeeper is so overwhelming and requires perhaps the greatest skill level that players do not feel confident to take up the challenge?

Analysing, Deciding, Acting: Decision Making - A Key Selection Criterion :

Right attitude, concentration, speed, power, agility, reflexes like lightning, technically proficient and yet goals still go in that really should not go in! A key keeper selection criterion that cannot be overlooked is the goalkeeper's capacity to make correct decisions.

Amazingly some goalkeeper's have the natural ability to correctly analyse, decide and act in crucial situations; most, however, learn about the game, study patterns, attacking and defensive manoeuvres and this is what enables them to develop their capacity to make correct decisions. The goalkeeper cannot live outside of the team, he or she must understand the game and study the defensive and attacking movements presented in various situations. Obviously good goalkeepers are resilient and they learn from their mistakes by watching footage of the play leading up to a goal being scored or the wrong decision being made, by talking candidly with their coach and by training in 'game situation' mode where they can replicate problem situations. A goalkeeper must be able to make correct decisions in all situations, but especially when the team is under pressure.

The goalkeeper must be able to correctly decide whether to stay or go out in situations and in some cases he or she must decide which type of save technique to use that will give his or her team the best

possible clearance and counter attack. The goalkeeper must also be able to decide to stay on his or her feet or make a slide or reverse stick diving save. A goalkeeper that spends too much time on the ground is a serious concern to a coach.

Whilst the technical skills and physical attributes are vitally important to any goalkeeper and certainly must be considered during a selection process, the ability to make correct decisions is paramount and is a key selection criterion. Goalkeepers and coaches must focus on this aspect and work hard at developing this skill. When it comes down to selecting between two goalkeepers who have very similar skill proficiency and physical attributes, their decision making capacity should always set them apart.

#### **Refocusing After a Goal is Scored :**



#### **So how do you manage to bounce back after a goal is scored?**

The goalkeeper must realise that his or her body language, attitude and communication impacts on the team as well as the opposition. When a goal is scored the keeper must remain composed and must try and hide the visible frustration, anger and disappointment that they have let a goal into the net. They must realise that the negative reaction will only lift the opposition more and it will make his or her team feel the frustration and disappointment of the error. The goalkeeper's reaction after a goal is scored must be pre-meditated.

#### **Conclusion:**

The key is to remain positive, use positive affirmations, visualise the good saves have made and realise that part of the responsibility of being the team goalkeeper is to be prepared for the next passage of play, to be focused and ready to make the next save. This resilience is vital and this is also something that coaches must help to develop in their goalkeepers, something that selectors should also consider. The ability to bounce back from a set back is a vital element to any team's success and during a game this ability often is bought to life because the goalkeeper believes and inspires those around him or her, even after a goal is scored.

#### **Reference:**

united sports academy, kelly lockward and Patrick  
Wikipedia Hockey

## Goal Line Technology & Dual Referee System In Soccer

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### Introduction

GOAL LINE TECHNOLOGY is a method used when the ball has completely crossed the goal line with the assistance of electronic devices and at the same time assisting the referee in calling a 'Goal or not'. The GLT must provide a clear indication as to whether the ball has fully crossed the line, and this information will serve to assist the referee in taking his final decision.

Significance of the study

The study is to determine the use of the goal-line technology and dual system in soccer / football game to reduce human errors in soccer game, for development of the game.

Objective of Goal Line Technology

The objective of goal-line technology (GLT) is not to replace the role of the officials, but rather to support them in their decision-making.

Default Goals / NEED FOR GLT:

In 2009, during an EPL game Manchester United's goalkeeper, Roy Carroll, attempted to save Tottenham's Pedro Mendes goal accidentally fumbled the ball over his own line. He quickly hauled the ball back into play. Neither the referee nor assistant referee saw the goal and the games ended 0-0.

More recently, during the England vs. Germany game in the 2010 FIFA World Cup, Frank Lampard's goal was disallowed as neither the referee nor assistant referee had direct line of sight on the play. Fans watching the replay could clearly see the ball had in fact completely crossed the goal line.

Both of these incidents undoubtedly prove that there is a gap that needs to be filled in order to ensure that football is played evenly and fairly, especially now that there is so much money involved in the sport.

The fact that GLT could remove any doubt that a goal was or wasn't a goal, coupled with many other factors makes a strong case for the introduction of GLT into Football and minimizes the case against the introduction of GLT.

Goal line technology: (Hawk-Eye TECHNOLOGY)

Hawk-Eye is an existing technology currently used in cricket and tennis.

It is 'based on the principle of triangulation using the visual images and timing data' provided by high-speed video cameras at different locations around the area of play. The system uses high frame rate cameras to track the ball in flight. The software calculates the ball's location in each frame by identifying the pixels that correspond to the ball and can also track the ball and predict the flight path, even if several cameras are being blocked.

The system also records the ball's flight path and stores it in a database that is used to create a graphic image of the flight path, so the images can be shown to commentators, coaches and audiences. The data from the system can also be used to determine statistics for players and analyze trends.

The system sends the message to Referee.



Application: GOAL LINE TECHNOLOGY AND FUTURE

The technology in football debate has been raging for quite some time now. Disallowed goals and allowed non-goals are the key factor in the debate for the introduction of goal-line technology into football. The

fact that FIFA are testing nine different goal-line technologies and have discussed its possible inclusion in the 2012-13 English Premier League proves to be positive. However, there is also concern for other factors such as unseen handballs and offside players. There have been recent cases of both such issues which have both resulted in goals. Although it may take a significant amount of time, eventually football will have technology that can determine if a goal was really a goal or if it wasn't and if players are offside. Both technologies able to determine the aforementioned are able to do so instantaneously. However, technology used to establish if a player handballed is not instant. Due to the fact the technology is not instant; the technology is not likely to be implemented, as it does not meet the strict testing criteria developed by FIFA. Ultimately, the decision is up to the International Football Association Board (IFAB), who establishes the football rules and is the only one that can change them. However, it is clear that the introduction of technology in football has the potential to reduce human error and to make goal-line controversies, such as Frank Lampard's disallowed goal at the 2010 FIFA World Cup in South Africa, a thing of the past.

**The Referee**

Professional soccer games are run by four officials, usually dressed in black or some bright color designed to clash with the jerseys of both teams. Each has a separate but important function during the match and they are all in constant communication with each other in certain leagues thanks to the recent introduction of microphones and earpieces.

The authority of the referee Each match is controlled by a referee who has full authority to enforce the Laws of the Game in connection with the match to which he has been appointed.

**Decisions of the referee**

The decisions of the referee regarding facts connected with play, including whether or not a goal is scored and the result of the match, are final. The referee may only change a decision on realising that it is incorrect or, at his discretion, on the advice of an assistant referee or the fourth official, provided that he has not restarted play or terminated the match.

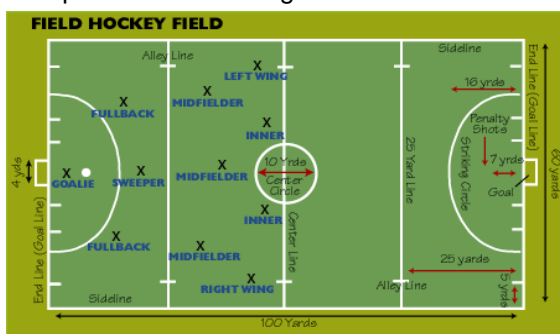
**The Assistant Referees**

The assistant referees also assist the referee in controlling the match in accordance with the Laws of the Game. In particular, they may enter the field of play to help control the 9.15 m (10 yds) distance. In the event of undue interference or improper conduct, the referee will relieve an assistant referee of his duties and make a report to the appropriate authorities.

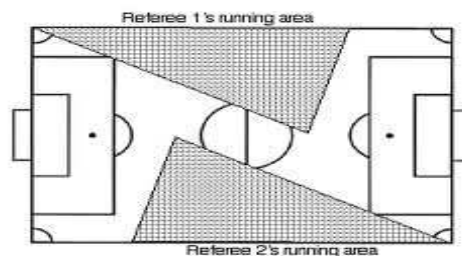
**Problem facing by the referee**



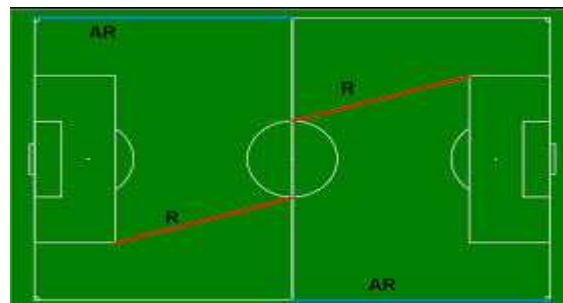
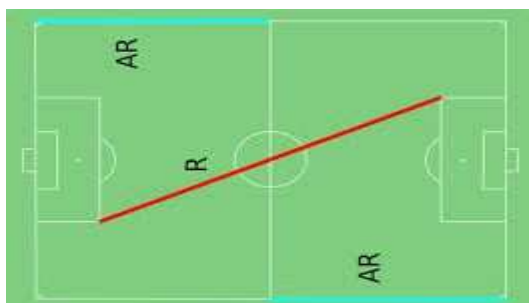
**Comparison with other game**



## Discussion of Referee and dual Referee



## Dual / 2 Referee System



## Conclusion

Fixing camera under the middle of the cross bar on the goal line. The referee, assistance referee has to use electronic device / watch on the wrist that will receive the message from the camera/ system. Technology which used in the tennis were the beep sound comes when the ball cross the lane. Here the same technology can be used but not sound, only a message can send to referee and assistance referee on to the wrist watch. Ref is not a machine / robo to run back after the ball for every second, after all he is the human being with human error. Even if he physical fit, psychological strong and will sighted he can do errors on the field. He has to run around 13 to 15 km on the field were has a player can take a rest but there is no scope for the ref. to minims the efforts of the ref the dual ref system can do the justification for the players as will for the development of the game.

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## Some Remarks On The Nature Of The Aesthetic Experience Of Medieval Stone Sculptures In The Winchester Cathedral From The Perspective Of Art In History And History In Art.

Wiesna Mond-Kozłowska

### Introduction:

The topic *Art in History, History in Art* has juxtaposed two different orders of being just in one line, namely visible workings of history and invisible *modus operandi* of arts. There is no doubt that both interact influencing each other, history seemingly serving as a kind of dynamic ontological niche for a piece of art, contextualizing its meaning according to ever-changing pattern of man's historical existence. And a work of art, in reverse, as in the most sublime and absolute example of the Egyptian pyramids or the Grecian Parthenon temple on Acropolis hill, indeed, a true work of art seems to be persistent in its form, immune to changes, as if embodying the most fundamental and constitutional, or unchangeable laws of Nature. Accordingly, Aristotle argues in *Poetics* that poetry, *ergo* art, is superior to history because poetry, *ergo* art, speaks of what must or should be true rather than merely what is true. The human art is only younger from Homo Sapiens Idaltuas evidence for the earliest complex human art appears with the first arrival of *Homo sapiens sapiens* in Europe during the Aurignacian period (dating broadly from c.45,000- to 35,000 BCE) <sup>1</sup>. Our ancestors had been spreading across West Asia and Europe, where art first manifested itself with the appearance of humans during the Upper Paleolithic Age (40,000-10,000 BCE). Paul Klee in his "Creative Confession and other writings" published in 1920 says that "Art is a simile of the Creation.... Art plays an unknowing game with ultimate things, and yet achieves them". <sup>2</sup>

Philologically, a word art derives from Latin *artem* (of Nominative *ars*) meaning 'work of art; practical skill; a business, craft'. It is indebted to PIE \*ar-ti- as compared to (cf. Sanskrit *rtih* meaning 'manner, mode' or Greek *arti* standing for 'just', and *artios* 'complete, suitable' while *artizein* means 'prepare'. An interesting fact is that a Lithuanian word for art is *menas*, while English term *man* (sing.) / *men* (pl.) stands for the human being. Both words stem out from Pre-Indo European matrix, indicating highly probably that creativity was always a crucial determinant of mankind. <sup>3</sup>

In turn, the English etymology <sup>4</sup> of the word "history" refers to Old French *estoire, estorie*, becoming *histoire* in Modern French; history is first of all relation of incidents, regardless true or false. Philosophy of history explains *Geschichte*, a German word for history. It ramifies into two branches, that is critical philosophy of history and speculative philosophy of history. The former studies the theoretical aspect of history investigating the nature of historical evidence, and the degree to which objectivity is possible, the latter is concerned with presumable and implied significance of the human history.

If we assumed, following Klee, that art is a simile of Creation, could history be perceived as such as well?

I'd rather say that history is created, regardless its apparent dramatic character. Ontologically history is given, as we do not create it, we just live history. In consequence, in terms of form, art would appear as *naturanaturans*, while history would emerge as *naturanaturata*. Coincidentally enough, the inscription on the self-portrait by Albrecht Dürer reads: 'things happen to me as it is written on high'. The picture was painted in 1493, now in Louvre, Paris. Pursuing the meaning of history is a real brainteaser, if one is really concerned. Different concepts of history, including relative concept of time are understandable, as in each culture the people have had a distinct consciousness of what history is. Thus history can be perceived as developing in determined teleological linear direction, with its starting and ending points, what

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<sup>1</sup>The reckoning by the most recent calibration of the radiocarbon timescale.

<sup>2</sup> Paul Klee, *Creative Confession and other writings*.p.13, Tate Publishing, London 2013.

<sup>3</sup> I discuss this issue at length in my recent book in the field of comparative aesthetics entitled: *On the Essence of Rhythm on the Borderlines of Dance, Music and Poetry in the Greek, Persian and Hindu Antiquity*, Krakow 2012.

<sup>4</sup> <http://www.etymonline.com/index.php?term=history>

Christianity proposes. But a linear sense of time for some people means also that it is an infinite continuum of moments that have no relationship to each other, except for that fact that one comes after another. In consequence, they hold that all is by chance. For others time is a kind of a loop making that what has happened before will just happen again, so according to this view, all is preordained fate. The contemporary Western thought tends to follow an assumption of linear progression in history accounting clearly "this happened, and then that happened; that happened because this happened first." This particular way of ordering the human affairs explained through cause and effect logics, laid foundation for the philosophical concept of causality. It has been shaped the Western mentality in the Aristotelian mode since V century BCE. While the Hindu speculate on the cyclical evolution/involution of the Universe, the Hasidic teaching of RavNatanBreslov, 1780-1844, explains history as evolving spiral, where linear sense of time is combined with eternal return of time in its cycles. Thus man's existence is believed to be intertwined in that circular dynamics producing accordingly his or her individual mortal coil.

Before I focus on the main issue of my paper, which is unique pieces of Medieval English Art, I would like to introduce the historical context that allowed their mutilation. **The Greek word eikon is image, while klastes stands for a breaker. An iconoclast is an image breaker. Iconoclasm or "image breaking" can be caused by religious, political and aesthetic differences and results in the targeted attacks on cultural heritage. illuminators formed the shape of all kinds of intricate geometric patterns, flowers, animals or humans by a virtue of tiny words, leaving magnificent work of pictorial art in their own right.<sup>5</sup> The Winchester sculptures were mutilated in September 1568 by the English Reformation barbarians.** The following examples epitomize the extension of the vandalism in the temple:

Example 1.



The seated figure of *The Madonna and Child*, limestone and pigment, height 48cm, width 34cm, depth 20cm, was re-assembled from fragments in the 19th century. The sculpture is estimated to be one of the major achievements of medieval art, without any parallel in Great Britain. It is praised for its realism and its extraordinary combination of divinity and humanity: "her facial expression is calm and reflective, her downward gaze fixing on the now mutilated image of the Christ Child"

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<sup>5</sup>D.M. Gill, *Illuminated manuscripts*, p.72, Brockhampton Press, 1996.



Example 2.

Head of *God the Father*, limestone, pigment, height 37.4cm, width 28.7cm, depth 16.2 cm was discovered in rubble infill in the North Transept in 1885 and has been generally known since then as a "Head of God the Father". The figure, of which no trace of the body remains, is wearing a papal triple tiara, whose top is missing and there is damage to the face, beard and hair.



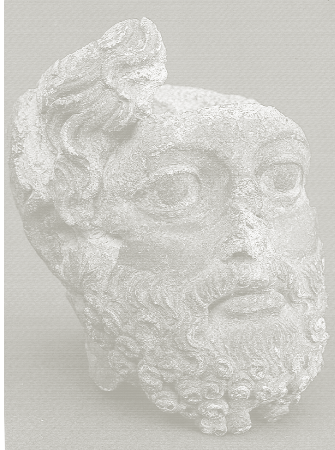
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The aesthetic experience is about how we respond to what we see. The Greek word *aisthesis* means "sense perception". In case of a work of art, the perception is tantamount to an intentional act consisting in fundamental change of attitude. From ordinary perceiving to aesthetic perceiving there is then a change from categorical structures to qualitative harmony structures, the process resulting in generating pleasure while an aesthetic object is being constituted. The aesthetic object, woven by senses activity is utterly dependent on aesthetic perception. Ontologically it is a different entity from an artistic object, which is in itself a work of art objectively existing, self-identical work.

Phenomenologically, an aesthetic object is representation of the work of art in our mind, after it was perceived through senses and apprehended by mind following three indispensable and consecutive moments of aesthetic perception, that is Presence, Representation and Reflection, as delineated by Ingarden. I will come back to this triad in a while.

Philosophical studies on a piece of art and aesthetic experience flourished on the ground of Husserlian phenomenology in the first half of the 20<sup>th</sup> century. Roman Ingarden and Nicolai Hartmann were investigating independently an aesthetic object issue, arriving at almost identical epistemic and definitional conclusions. In the second half of the 20<sup>th</sup> century, their theories were significantly extended by the concept of the sentient body, *le corps vécu*, the felt body, as presented in writings by Martin Heidegger, (indebted much to Nietzsche's views on art), Marcel Merleau-Ponty, Jean-Paul Sartre and Mikel Dufrenne. While for Ingarden a bearer of meaning, which triggers a constitution of an aesthetic object was equal to bearer of presented, Mikel Dufrenne, an existential phenomenologist, found a bearer of meaning in the sensuous or in the sense perception. For him work of art is a sensuous and perceptible element and serves as the ultimate ground of the constitution of the aesthetic object.

I'd rather say that Mikel Dufrenne extended an objective reality of the aesthetic experience, that was defined primarily by Ingarden and Hartmann. He considered a beholder's perception as the total response of the sentient body to a perceived object. A body understood as a mind and flesh unity, with its intrinsic all senses perception.



3. The Head of Zeus, 5<sup>th</sup> century BCE, found in Etruria, Museo do Villa Giulia, Rome, (from the author's archive)

Having just recapitulated ontological premisses of the aesthetic object as constituted in the aesthetic experience, a particular variation/alternative of the aesthetic object constituted while watching the mutilated sculpture is yet-to-be-explored.

To start with, one cannot overlook the fact that *Madonna and a Child* sculpture is broken in different way than the ancient Venus de Milo or Zeus. Peter Fuller in his book *Art and Psychoanalysis*<sup>6</sup> has already addressed the question of why this broken statue of antiquity arouses more interest than undamaged one. Much earlier Roman Ingarden introduced a concept of *imaginative concretization* in the course of an aesthetic object constitution. According to Polish philosopher, an involved beholder can unearth latent artistic/semantic potential of a piece of art or can complete the missing part, as in case of the Venus of Milo or Zeus in a mental act of imaginative concretization. Fuller links the pleasure of restoration to a psychoanalytic concept of restoration, as discussed by Melanie Klein. A propensity to complete an object perceived as incomplete was also studied in the current of Gestalt psychology. Now Gestalt as a research term meaning "unified whole" refers to theories of visual perception developed by German psychologists in the 1920<sup>th</sup>. One of the Gestalt principles that organize visual elements in the act of perception is called closure. Closure occurs when the object is incomplete or a space is not completely enclosed. It happens by virtue of viewer's perception which completes a shape. Here inevitable question rises, investigating a nature of the causing factor of the process and its very nature.

Yet as for the aesthetic experience of the mutilated Winchester sculptures the polyphony of voices so far presented adding up to a multiplicity of perspectives does not necessarily provides a satisfactory and exhaustive answer to a question put. The medieval religious art was not damaged by time, but by history embodied in the human barbaric performance grounded in sheer ignorance and cruelty. Addressing a piece of art destroyed in such a barbaric act, a piece of art representing a concept of divinity in the form of the human body might provoke a feeling of pain. In this particular case, Ingarden's imaginative concretization that can complete the missing part of the almost obliterated sculpture, be it Madonna or God the Father, is probably embedded in the psychic state called phantom limb pain or sensation. Obviously, it would occur if we implied the beholder's ability to experience a feeling of empathy and compassion. A neurophysiologist Ronald Melzack in his 1989 paper *Phantom Limbs, The Self and The Brain*<sup>7</sup> proposed a theory of neuromatrix. It explains that the our experience of the body is created by a wide network of interconnecting neural structures. The following investigation showed that the primary somatosensory cortex, which is located in the postcentral gyrus, undergoes substantial reorganization after the loss of sensory input through the body part mutilation. Experiencing a missing body part as perceptual correlate of cortical reorganization in the brain results from topographic relationship between physical body and its mental representation in the brain build up through neural transmission.

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<sup>6</sup> Peter Fuller, *Art and psychoanalysis*, Writers & Readers, 1981.

<sup>7</sup> Ronald Melzack, *Phantom Limbs, The Self and The Brain*, 1989, and more in *Journal of Dental Education*, v.65, no.12, 2001, pp.1378-1382.

Having all limbs intact and feel pain through panthom limb sensation can happen by virtue of imagination and compassion.



#### 4. A Figure of Bishop, mutilated in 1568, Winchester Cathedral

Conclusion. The ancient Greek has two correlates for the English word life, that is *bios*, standing for physical, perishable one, and *zoe*, for immortal imperishable continuous life. The concept of the human body as the microcosm mirroring the macrocosm, the Universe, seems to intertwine mortality with immortality. As a metaphysical concept it was discovered or invented independently on the two hemispheres, having both Eastern and Western origins. Regardless its cultural connotations, it always regards the human body as a measure unit of the Cosmos. Thus mental representation of the body is a mental representation of the Universe. The inexhaustible power of life manifesting itself as *zoe* renews and regenerates *bios* in the continuous chain of generations that struggle to be humans according to a generic pattern encoded in the brain cortex, both as the unity of mind and body and the set of exclusively human values, grasped by the Grecian in the notion of *kalokaghatia*.

As we have seen in the example of the Winchester sculptures, imaginative concretization, being some interrelated brain/mind activity bases on the fundamental human attitude called empathy. It possesses an overarching power to reconstruct the ideal aesthetic whole perceived, despite incomplete shape of the mutilated piece of art. Thus beauty and good can be brought to life. Such an attitude of man's mind and heart was highly probably meant by Yeats in his piece of poetry: **"I hail it the superhuman/I call it death-in-life and life-in-death"**

#### Credits:

Photographs of the Winchester sculptures with kind permission of the Dean and Chapter, Winchester Cathedral, Winchester, Hampshire, UK

**Standardization Of Fitness Norms Among Trained And Untrained Senior Secondary School  
Students Of Hyderabad**

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**Introduction**

Physical fitness is the ability to perform vigorous physical activity. It is not measured in terms of achieving specific motor skills, but rather it is assessed in terms of muscle strength, endurance, and flexibility. The circulatory and respiratory systems are also involved because of their role in supplying muscles with blood and oxygen. In considering muscles, strength is the maximum force that can be exerted by a muscle, and endurance is the ability to perform a muscular activity at less than maximum force, for example, in doing a series of chin-ups. Flexibility is the ability of a joint to move through a normal range of motion. The components of physical fitness (strength, endurance, flexibility, and capacity of circulatory and respiratory systems) can only be maintained through regular exercise. Although the percentage of body fat is not a main factor in physical fitness, it must be considered because of its effect on a person's ability to exercise. There is debate in the fitness community about whether an individual can be considered fit if he or she is overweight.

**Significance of the study**

This study aims to know the physical efficiency of the senior secondary school students of Hyderabad. The results of this study might help to give an idea to physical education teachers, coaches and players.

**HYPOTHESES**

There might not be any significant difference among trained and untrained in relation to their Physical fitness speed.

There might not be any significant difference among trained and untrained in relation to their Physical fitness Agility.

There might not be any significant difference among trained and untrained in relation to their Physical fitness endurance.

**SAMPLE OF THE STUDY:**

The study was formulated based on the simple random sampling. The samples were collected from the 50 trained players and Untrained Players in the age group of 15-18 years from Senior Secondary School Hyderabad was considered.

**Data Collection Procedure**

The subjects of the study were in the age group between 15 to 18 years, 50 trained players and untrained players of Senior Secondary School Hyderabad were considered. The study is delimited for the Hyderabad. The researcher has collected the data separately for trained players and untrained players. The subjects were tested in three categories of Physical Fitness i.e. Speed (50yard dash), Endurance (Cooper Test 12 Minute Run / Walk) and Agility (4x 10Mts Shuttle Run).

### Results And Discussions:

**Table: 1** showing that the significant difference between trained players and untrained Players in relation to their speed are presented.

Sl. No.	Subjects	N	Mean	SD	df	t-value	p-value
1	Trained players	50	8.08	0.952	98	3.035	1.360
2	Untrained players	50	11.66	1.210			

**Table: 2** showing that the significant difference between trained players and untrained Players in relation to their Agility are presented

Sl. No.	Subjects	N	Mean	SD	df	t-value	p-value
1	Trained players	50	10.44	1.203	98	3.72	1.320
2	Untrained players	50	12.41	1.490			

**Table: 3** showing that the significant difference between trained players and untrained Players in relation to their Endurance are presented.

Sl. No.	Subjects	N	Mean	SD	df	t-value	p-value
1	Trained players	50	2016	296.76	98	4.01	0.01
2	Untrained players	50	2264	238.62			

### Conclusion:

The study under report has scientifically examined the various factors which influence the power game, especially the Senior Secondary School Players of physical fitness variables pertinent to speed and endurance. A trained individual is in a better state of physical fitness than the person who follows a sedentary, inactive life. When two persons, one trained and one untrained or approximately the same build are performing the same amount of moderate muscular work, evidence indicates that the trained individual has a lower oxygen consumption, lower pulse rate, larger stroke volume poor heartbeat, less in blood pressure, greater red and white blood cell counts, slower rate of breathing, lower rate of lactic acid formation, and a faster return to normal of blood pressure and heart rate.

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## Effect of kriyas on intelligence of adolescent girls

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### Introduction

Kriya yoga also known as kundalini yoga. The word kriya means activity or movement and refers to the activity or movement of consciousness. Kriya also refers to type of practical or preliminary practice leading to total union, the final result of practice. Kriya yoga does not curb mental fluctuations but purposely creates activity awakening in consciousness. In this way all faculties are harmonized and flower into their fullest potential The word Kriya is composed of two syllables, kri and yâ. In Sanskrit, kri means karma dhatu - action of the elements, and yâ means Soul or Atma. The word Kriya indicates action of the Soul or prâna karma. The first and most important action of the Soul is breath. The word yoga comes from Sanskrit yuj which means union. The union of the individual soul with Spirit.The purpose of the study was find out Effect of kriyas on intelligence of adolescent girls.

### Methodology

The methodology adopted in the present study related with selection of subjects, selection of variable, and selection of test.

#### Selection of subjects

The purpose of the study was to find out "Effect of kriyas on intelligence of adolescent girls" To achieve this purpose 50 adolescent girls in Kendriya vidyalaya Bijapur, Karnataka state

#### Selection of Variables

The following kriyas were selected for giving 8 weeks training for 50 subjects.

Criterion variable intelligence was selected and measured for pre test and post test of both experimental and control group

The following are three kriyas exercises is given below

Jalneeti,Kapalbhati,Tratak.

Table -1 Table showing the selected intelligence test item and criterion measurement:

S I .No	Variable	Test Item	Criterion Measurements
1	Cognitive variable	intelligence	The Mixed type group test of Intelligence is a test of human intelligence developed by Dr.P.N.Mehrotra

## Analysis and interpretation of data

Table. 2 showing the significance difference between pre-test and post-test scores of the subjects on intelligence test among groups

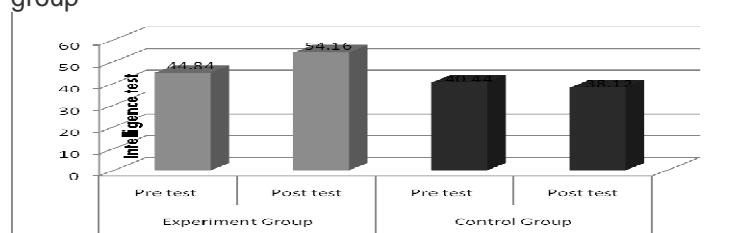
Group	test	Mean	Std. Deviation	t-value
Experiment Group	Pre test	44.84	9.89	11.84
	Post test	54.16	8.52	
Control Group	Pre test	40.44	8.22	4.99
	Post test	38.12	7.68	

\*Significant level of Experimental group is 0.05, t-value being=11.84

T-value of control group is less than that of experimental group, hence it is significant.

Table -2 indicates the pre test and post test scores of the subjects on intelligence for the experimental and control group. There was no significant difference in the pre test and post test scores of cognitive among control group. There was significant difference between the pre- test and post- test subjects on intelligence among experimental group. Higher number of intelligence indicates higher cognitive performance. Less number of cognitive indicates lower cognitive performance. Further it is observed that the resting pulse rate of experimental group has significantly improved through pranayama training. The same has been displayed in the figure 2.1

Figure 2.1 showing the intelligence performance of pre test and post test of the experimental and control group



The above figure 2.1 indicates that the post- test intelligence performance value is higher than the pre-test value of the experimental group. Hence it is significant. The intelligence performance of the control group in the pre test and post value is not significant as compared to experimental group.

## Summary

The purpose of this study was to find out the Effect of kriyas on cognitive performance of adolescent girls. To achieve this purpose, Eight weeks kriyas training was given to selected experimental adolescent female subjects. To know the effect of kriyas training on the cognitive performance level of the intelligence was used for pre test and post test of the subject. The result shows that eight week kriyas training develops intelligence.

## Discussion

The result of the study generally supported to the proposed hypothesis the kriyas training, should play a vital role in improving the intelligence performance of adolescent girls. The variables were selected and measured by using the mixed type group test of intelligence developed by Dr.P.N.Mehrotra. It was used for pre test and post test. It shows the effect of 8week kriyas training.

## Conclusion

On the basis of the study and with the limitations, it was concluded that, after eight weeks of kriyas training significant improvement was found in intelligence performance of experimental group.

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## **Effect of yogic Exercises on Flexibility of women**

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### **Introduction**

Yoga is a tradition method of meditation developed by the saints of ancient India. They practiced yoga as an effective method of controlling their mind and bodily activities. Yoga in Daily Life is a system of practice consisting of eight levels of development in the areas of physical, mental, social and spiritual health. When the body is physically healthy, the mind is clear, focused and stress is under control. This gives the space to connect with loved ones and maintain socially healthy relationships. When we are healthy we are in touch with inner Self, with others and surroundings on a much deeper level, which adds to spiritual health. Yoga increases the flexibility of the spine, improves body's physical condition and heightened awareness to the importance of relaxation. It has been emphasized that each exercise be practiced slowly, coordinating movement with the breath, pausing motionless in each position and always with full concentration. The purpose of the study was find out "Effect of yogic Exercises on Flexibility of women."

### **Methodology**

**Selection of subjects**

The purpose of the study was to find out "Effect of yogic Exercises on Flexibility of women." To achieve this purpose 30 female students studying in Smt. Bangaramma sajjan Arts and Commerce College for women, Bijapur Karnataka were selected as subjects.

**Selection of Variables**

The following yogasanas were selected for giving 6 weeks training for 30 subjects.

Padmasan, Vajrasan, Vakrasana, and Paschimottanasana.

Tadasana, Vrikshasana, Garudasana, and Trikoasana.

Shavasana, Naukasana, Halasana, Sarvangasana.

Makarasana, Bhujanagasana, Dhanurasana, Shalabhasana.

The training session included 10 minutes for warm-up 40 minutes for practicing yoga posture and 10 minutes for cool down procedure was adapted.

Criterion variable Flexibility was selected and measured by using Sit and Reach Flexibility test. It was used for pre test and post test.

**Test Item and Measurement**

Sl.No	Test Item	variable	Measurement
1	Sit and Reach test	Flexibility	Ruler or Measurement tape.



### Analysis And Interpretation Of Data

The purpose of the study was to measure the “Effect of Yogic Exercises on Flexibility of women.”

To achieve this purpose the data collected for the study were put into analysis and results of which are presented in the table.

Table showing the pre test and post test performance of Flexibility.

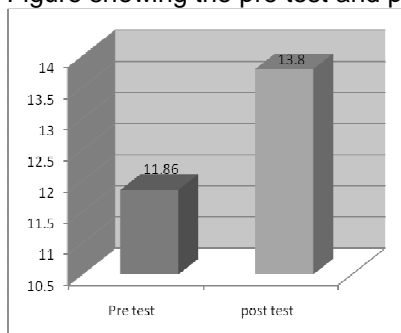
Name of the subject	Samples size	Mean	Sd	t value
Pre test	30	11.86	2.59	6.302
post test	30	13.80	2.56	

The level of Significant is 0.05 = table value = 2.045.

Table Indicates that the ‘t’ value is more than the table value, hence it is Significant.

The Pre test mean value is 11.86 and post test mean value is 13.80. The post test mean value is greater than the pre test mean value it indicates significant improvement in the Flexibility performance of female owing to the six weeks yogasana training the same as displayed in the figure.

Figure showing the pre test and post test performance of Flexibility.



The above figure indicates that the pre test mean value is 11.86 and the mean value of the post test is 13.80. The post test mean value is higher than the pre test mean value. Hence it is Significant.

Therefore it is concluded that Six weeks yogasana training has improved The Sit and Reach Flexibility test of the subjects.

### Summary

The purpose of the study was to evaluate and the “Effect of Yogic Exercises on Flexibility of women.” Six weeks yogasana training for 30 students who were tested on pre test and post test basis. The result of performance of post test indicates improvement in sit and Reach Flexibility test. It shows the effect of Six weeks yogasana training.

### Discussion

The result of the study generally supported to the proposed hypothesis the yogic exercises training, should play a vital role in improving the performance of flexibility of female. The variable were selected and measured by using Sit and Reach Flexibility test. It was used for pre test and post test. It shows the effect of 6 week yogasana training.

### Conclusion

The yogasana training develops Flexibility.

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## **Comparative Study on Psychological variables among Elite and Non-elite High School Kabaddi Players of Hyderabad District in Telangana**

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### **Introduction :**

Sports Psychology is part of the larger field of Sport Science. Sports Psychologists study human behaviour in the sports environment and the benefits of mental training. The goal of sports psychology and mental game coaching is to help players and team perform their best by improving participant "Mental Skills" youth sports psychology aim to help coaches, parents and players create a healthier, more satisfying experience in sports (Patrick, J.Cohn, 2009).

### **Statement of the Problem :**

This study aims to conduct regarding Anxiety Levels (Semantic anxiety, cognitive anxiety Trait anxiety) in different among Elite and non-elite High School Kabaddi players of Hyderabad District in Telangana.

Objectives of the study :

The main objectives of the study were as follows :

Was there any significant difference somatic anxiety among elite and non-elite high school Kabaddi players of Hyderabad District in Telangana. Was there any significant difference cognitive anxiety among elite and non-elite High School Kabaddi players of Hyderabad District in Telangana. Was there any significant difference trait anxiety among elite and non-elite High School Kabaddi players of Hyderabad District in Telangana.

### **Methodology:**

**Sample:** For the present investigation, 60 Kabaddi players will be considered as shown below.

<b>S.No.</b>	<b>Name of the District</b>	<b>Number of Kabaddi players</b>	<b>Total Number of subjects</b>
1	Hyderabad	Elite Kabaddi player – 30	60
		Non- Elite Kabaddi player – 30	

### **Tools used :**

Three questionnaires were employed to obtain data in this investigation :

- 1) Demographic Questionnaire
- 2) Competitive State Anxiety Inventory–2 (CSAT-2) was developed (Martens).
- 3) Sport Competitive Anxiety Test (SCAT, Martens, 1997).

### **Data Collection Procedure :**

There are many High School in around the city of Hyderabad from this population 8 High schools were taken. To achieve the purpose of the study, the investigator randomly selected 30 Kabaddi players, who have represented State and National Level Kabaddi Competition (elite players) and 30 Kabaddi players were represented for Inter schools (noelite players), the age group of the players ranged from 14–16 years. The players are from different region socio-economic back ground, different traditions, culture and living conditions. To measure the anxiety in order to assess the suitability of the Questionnaire before actual adoption for the main study, a pilot test was conducted, researcher explained the nature of the study, demographic Questionnaire and Trait competitive anxiety SCAT were distributed among subjects approximately 24 hours before the first competition. Last stage elite and non-elite players completed Competitive State Anxiety Inventory (CSAI-2). Just before the warm-up phase. Approximately 1 hour before the competition, this time frame has been used consistently in previous research (Woodman & Hardy 2001) given only one answer to each question and answer all question. Each questionnaire took approximately 15 minutes to complete.

**Results and Discussions :**

**Hypothesis – I :** There may not be any significant difference in levels of Somatic anxiety among elite and non-elite High school Kabaddi players of Hyderabad District in Telangana.

Group	N	Mean	MD	SD	SDM	T	Required 'T'
Elite Kabaddi players	30	50.03	3.07	3.14	1.34	2.29*	1.699
Non-elite Kabaddi players	30	53.10		6.63			

\* Significant at 0.05 level.

**Hypothesis – II :** There may not be any significant difference in levels of cognitive anxiety among Elite and non-elite High School Kabaddi players of Hyderabad District in Telangana.

Group	N	Mean	MD	SD	SDM	T	Required 'T'
Elite Kabaddi players	30	48.02	-2.09	2.14	1.03	2.09*	1.433
Non-elite Kabaddi players	30	51.03		5.64			

\* Significant at 0.05 level.

**Hypothesis – III:** There may not be any significant difference in level of trait anxiety among elite and non-elite High school Kabaddi players of Hyderabad District in Telangana.

Group	N	Mean	MD	SD	SDM	T	Required 'T'
Elite Kabaddi players	30	49.03	-2.34	2.35	1.23	2.18*	1.589
Non-elite Kabaddi players	30	52.01		5.74			

\* Significant at 0.05 level.

**Summary and Conclusions :**

The results proved that there was significant difference between Elite Kabaddi players and non-elite Kabaddi players of Hyderabad District on Psychological variable, anxiety (Arlin Cunic, About Guide 2010) predicted that the players would report more performance worries and concluded that fostering a mastery climate helps elite players tackle competitive pressure. Thus it was found that players by repeatedly involved in practical sessions and competitions reduce their anxiety than non-elite Kabaddi players. And the findings of this study are in agreement with this study. It may be due to the fact that the players regularly participate. The findings of this study proved that the Elite Kabaddi players were reduced anxiety than, non-elite Kabaddi players and are in agreement with the findings of the previous research. Thus, the research found that Elite High School Kabaddi players of Hyderabad District had reduced anxiety than non-elite High School Kabaddi player in Hyderabad district of Telangana.

The results of this study proved that Elite High School Kabaddi players had lesser anxiety than non-elite High School Kabaddi players. It was concluded that Hyderabad district non-elite Kabaddi players improved the performance, which would be more helpful for managing anxiety.

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## Analysis of Basketball Match between Madras University and SRM University in the All India Inter Zonal Inter university Women tournament

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### Introduction

Basketball is a popular game in the world. This is evident from the number of countries playing this game all over the world. Basketball is an anaerobic game played with high intensity. The players have to perform their best within the stipulated 40 minutes duration, the fundamental skills being passing, dribbling, and shooting. In this paper, the researcher has made the analysis of the match between Madras University and SRM University teams in the All India interuniversity Basketball women tournament held at Vijayawada in the month of this Dec 2013. The tournament was conducted on league come knock-out basis and the match chosen was the quarterfinal match. All aspects of the match such as layup shots, jump shots or set shots, three point shots and offensive rebound shots were analyzed. The Madras University won the match with a score of 82-73.

### Methodology

#### Samples and Variables

In order to carry out this study, the research scholar has video graphed the total match and analyzed the match in detail. Three experienced Basketball coaches were involved in analyzing these matches. A total of 213 attempts were made during the match by both the teams. Madras University has attempted 120 times whereas S.R.M University has attempted 93 times. Madras University was successful in 49 attempts, and unsuccessful in 71 attempts. Whereas S.R.M University was successful 32 times and was unsuccessful 61 times.

Further analysis of Drive in shots, Jump shots, 3Point shots, Pivot shots, and Rebound shots.

Table 1: Analysis of scoring

Madras University				S.R.M University		
Type of Attempts	Total Attempts	Converted Baskets	scores	Total Attempts	Converted Baskets	Converted scores
Drive-in shots	21	7	14	19	6	12
Free throw	34	19	19	9	4	4
Jump Shots \Set Shoots	29	9	18	19	7	14
3 Point Shots	15	3	9	39	13	39
Pivot Shots	14	7	14	7	2	4
Rebound Shots	7	4	8	0	0	0
Total	120	49	82	93	32	73

The table indicates that Madras University has scored more rebound shots than its counterpart. However, SRM University has compensated by scoring more points through 3point baskets. Madras University has the advantage of scoring more points through free throw as SRM University has committed more fouls.

In drive-in shots indicates Madras University has attempted more drive-in shots than those of SRM. However their success rate was less when compared to SRM.

From the Free throws it can be observed that Madras University has attempted more Free throws than SRM; however their success rate was high when compared to SRM. The jump shots shows that Madras University has attempted more jump shots and set shots than SRM, however their success rate was less when compared to SRM. The 3points clearly indicates Madras University has attempted less number of times than SRM; however their success rate was less when compared to SRM. The pivot shots clearly indicate that the success rate of the Madras University in pivot shots is higher than SRM. It is evident from the above table that the Madras University totally dominated with a conversion eight out of fourteen rebounds with a scoring percentage of 57.14

The table indicates that the success rate in Rebound collection of the Madras University is higher than that of SRM.

Table 2: Overall attempts

University	Total Attempts for score	Converted Points	Unconverted attempts	% score
Madras University	221	82	139	37.1
S.R.M University	216	73	136	33.8

The table clearly indicates that the Madras University has got the advantage of successful attempts in gaining more number of points than that of SRM.

Table 3: Comparison of the selected variables

	Driven in	Free throw	Jump Shot \Set Shoot	3 Point Shot	Pivot Shot	Rebound Shot
Madras University	14	19	18	9	14	8
S.R.M University	12	4	14	39	4	0
Madras University H S	2	15	4	–	10	8
S.R.M University HS	–	–	–	30	–	–

The table clearly indicates that Madras University has scored more rebound shots than its counterpart. However, SRM University has compensated by scoring more points through 3point baskets. Madras scored more free throws as they got the advantage of SRM University committing more fouls

### Conclusion

On the basis of the results of the study the following conclusions were drawn in the women basketball match between Madras University and S.R.M University.

The madras university team members have collected more number of rebounds and converted them successfully. So they have the edge over S.R.M team.

As the SRM University made more number of fouls, Madras university women team was awarded as many as 36 free throws out of which they converted 20 free throws adding 20 points to their total score with. With these two factors of Rebound and free throw conversion, the madras university gained lead against S.R.M University who lost the match. Because the team was good in both offensive and defensive rebounds. Madras University won this match because of the ability of collecting the offensive rebounds and converting them into baskets, and collecting defensive rebounds near the board of their own side and by preventing the opponents to score the points.

## Sports and Stress

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### **Introduction:**

Various studies have shown that exercise helps relieve stress in young and old people. However, stress can be both helpful and harmful in terms of adolescent sports. Sports can have both positive and negative influences on adolescent. Many sports can improve adolescents' physical well being and health, self confidence, motivation to excel and ability to work with others. In some cases, adolescents who spend considerable time in sports are less likely to get engage in drugs and delinquency. Sports are beneficial and can lead to a well balanced healthy lifestyle because they teach team work, dedication, responsibility and many other qualities you will rely on latter in life

### **Discussion:**

Positive and Negative Aspects of Sports:

#### Positive Aspects

Experiencing stress in sports can be a positive and good learning experience. Sports participation can teach the athletes to handle completions, defeats and also performance anxiety. Positive aspects of sports include a sense of belonging, competition, a feeling of accomplishment and enjoyment.

#### Negative Aspects

The negative aspects may refer to unhealthy view of competition, less time on academics and teaching aggression. For most of the young people athletics can and should be a positive experience. When supervised and coached by people who care, sports can be a great learning experience. Sports provides great outlet for adolescents, an outlet in which they can take lot of valuable lessons away from, only if handled appropriately.

#### Good Stress v/s Bad Stress in Sports (Eustress v/s Distress)

Eustress is defined as a good type of stress that stems from the challenge of pleasant activities. It pumps you up, providing health spark for any task you undertake.

Distress is defined as a bad type of stress that arises when you must adopt to too many negative demands.

Ex: - Golf player Tiger Woods used to often tense up on the golf course, which worried his father, but golf player Tiger Woods explained that is just how he enjoys.

What seemed like Distress to his father was Eustress to golf player Tiger Woods.

Examples for Distress:-

I can't do this.

I am not as good as the other others.

I am hopeless; I have let the team down!

If sports make you so nervous that you get headaches, become nauseated, or can't concentrate on other things, then you are experiencing symptoms of unhealthy, potentially chronic stress which is long lasting and continuous.

#### Causes of Athletes Stress

- Much emphasis on winning. "Winning at all costs".
- Increased high expectations from parents and coaches to win at all costs.
- Competition anxiety and self centeredness.
- Adolescents become over looked and begin to see sports as too demanding when pressured by parents and coaches.

### Time management

Balancing studies and sports is not an easy task. It is proved to be very stressful. Other stressful events can pile on, eventually leading to what has come to be called as 'Burn out'.

Negative consequences of overwhelming stress may include chronic fatigue, depression and loss of previously learned skills.

Burn out can also result from over training, encouraged by overzealous parents, coaches, or teenagers.

#### **Recommendation:**

Relaxation techniques that help to ease pressure

- Deep breathing.
- Muscle relaxation.
- Visualization (Thinking happy thoughts).
- Mindfulness (Watching out for disposing of negative thoughts).
- Hanging out with friends or good book.
- Find something that keeps you always happy.
- listening to music.
- Discussing ones problem with someone

There are other numbers of techniques that can be helpful in preventing or reducing sports related stress. Relaxation training, meditation, hypnosis, breath control, yoga, prayer and bio feedback are all techniques that help you from harmful stress.

## Need And Scope For General Physical Fitness

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### Introduction:

Play and physical activity are instinctual in nature. Once the basic needs like food etc. are met, the organism becomes playful and express its joy through physical means. Among children, it is an urge that they involve in play as a means of necessity which is likely to stimulate the growth and development process of the body and also enable the child to acquire the skill in basic physical activities which are essential in adult life.

As per the modern concepts of physical activity, physical fitness is of two types namely, the general fitness and the game/sport specific fitness. This concept is universally applicable. For instance, out of the total strength of the student population in a school, about 10 to 15 percent of students aspire for the competitive sports and the remaining thrive physical activity as a means of fitness and recreation. Therefore, enough provision is to be made to cater to the needs and interests of the majority of population while paying specific attention to the programmes of those who aspire to win at competitions.

### Why Physical Activity?

To maintain the mental alertness, emotional balance, member of society, excess energy, physique, efficiency of body etc

It is well known that the human beings have acquired the present form of the anatomical structure of the body as an outcome of the activities which their predecessors have thrived through out the evolutionary process. Thus, it is essential to retain the present form of the human body by mocking such activities like walking, running, jumping, lifting, throwing, crawling, shooting, climbing and carrying. Man continued with his practices of the above activities as part of his culture, play, and recreation and part of martial arts and war related combative activities.

Similarly, various functions of the body are also associated with the evolutionary activities and thus, man is warranted to thrive similar activities to keep them function efficiently. Apart from the above, systematic physical activity allows greater functional efficiency in day-to-day life, thus reducing the probability of malfunctioning of the organism. One has to thrive continuous physical activity to lead functionally efficient life. Physical activity stimulates the blood circulation; thereby improving upon efficient transportation of oxygen and nutrients to organs, tissues and cells all over the body and in removal of waste products from such remote parts of the body through various means of excretory system.

Physical activity also enables the individuals to gain emotional balance and better mental alertness by improving the ability of crisis management and reaction time thus enabling the individual to lead a blissful life. The individual will be able to control his anger, jealousy thus, keeping away destructive mind and develop characteristic like co-operation, leadership, sense of responsibility and respect for others rights and duties. Participation in games and sports bring individuals together promoting interpersonal relationships and cooperation thus promoting brotherhood among them. This kind of interaction between persons makes them feel that they live together, share together and lead happy lives together. Physical activity brings in greater sociability among the individuals.

Indulgence of oneself in physical activity leads to spending of excess energy from the body by increasing the metabolic rate this achieving a healthy balance between the energy input and output. Among children, involvement in physical activity stimulates the growth and development besides spending excess energy.



### **Components Of Physical Fitness:**

The following are some of the important components of physical fitness:

Strength, Speed, Endurance, Agility, Flexibility, Co-Ordination, Balance and Reaction Time

Strength is the ability of overcoming resistance. Different forms of strength are applicable in different games and sports. For example performance on dynamometer is static strength, performing a clean and jerk in weight lifting is dynamic strength and putting shot is power activity of explosive strength form activities.

Speed is the ability to perform a given task in a shortest duration of time. Sprint running is the best example in sports for speed endurance.. The type of speed demonstrated by sprinters while running 100 mtrs. Is again the speed that is couples with power. The athlete with great speed power over a longer period of time is likely to emerge the winner in such a event Here, in this example, one can notice that running 100 mtrs. At peak levels involve all three important components of physical fitness. Likewise other components such as agility, flexibility balance etc., are also have their role in deciding a winner.

Agility is referred to be the quality by which an individual will be able to change the direction of his body/motion in a shortest time and in a graceful manner. Many events in day to day life and in sports warrant this kind of efficiency on the part of the individuals to cope up various situations. Flexibility is the ability of possessing full range of motion around joints in the body. Flexibility reduces the injury proneness in day to day life and in sports and under various occasions. This componenet hs its bearing on stride length in running, perfection in executing follow through actions involved in performing almost all executing follow through actions involved in performing almost all activities and in connection with the body space aesthetics. The flexibility can be improved by stretching exercises, calisthenics and practice of Asanas.

Co-ordination is the ability of smooth transition from one task to the other with out disturbing the rhythm in the continuity of motion or action. loorn order to be efficient in this component one has to develop the eyehand coordination, eye leg coordination in sports and games.

Balance is one most important component of physical fitness and motor fitness. It is the ability of keeping the line of gravity within the base. This can be achieved by effecting modification in the body position, thus bringing the line of gravity with in the base; so that the balance of the body is maintained at all times. Reaction time is referred to the time taken by individuals to react in a given situation it is the time elapsed between reception of information and execution of response action in a given context. This phenomenon is associated with the quickness of neural reflex action in reception, perception and reaction in a given situation.

### **Discussion:**

Individuals imbibe certain basic characteristics and potentialities form their hereditary back ground. Certain of these are transemitted from the parent to the offspring. The blood groups, quality of the muscles, skeletal structure, health, freedom form diseases etc are some of the characteristics that are carried over from the parent to the offspring and they have a great bearing on the future potentialities for physical fitness among many other things.

Similarly, environment has a great influence on the physical fitness of the individuals. It provides scope for individuals to thrive in activities and enable them to improve their fitness. It begins with the family; then the neighbourhood, the school, place of vocation etc., wherever the individual comes into interaction with the other people Social interaction among the people is likely to lead to some from of physical activity at one stage or the other.

For the development of physical fitness, one can thrive any of the following activities depending upon the availability of facilities. Interests, guidance and scope for excellence. The list of such activities begin with walking, jogging, running, isometrics, yoga practices, begin with walking, jogging, running, isometrics, yaga practices, calisthenics, recreational games, hiking, trekking, mountaineering, and all major games and sports.

In school situation, where the majority of students are in the age group of adolescence and positively ready to take off with little guidance, connseling and encouragement, it is the duty of the Physical Education Teachers to intervance and provide necessary motivation for the children to indulge in healthy pursuits of physical activities.

## Different Relaxation Techniques for Hypertension Patients

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**Abstract:** Hypertension is a major risk factor for stroke myocardial infarction, heart failure, chronic kidney disease, peripheral vascular disease, cognitive decline and premature death. The purpose of this paper is to enhance the human relaxation from hypertension. True relaxation is experienced by the body and mind when little or no energy is consumed. It is Nature's way of recharging. Since every action, conscious or unconscious, uses stored energy, relaxation is necessary for good health and peace of mind. Without proper relaxation the body and mind become overloaded and inefficient. Body's natural relaxation response is a powerful antidote to stress. Relaxation techniques such as yogic asana, yogic breathing method, psychosomatic practices, transcendental meditation, Zen meditation, music relaxation efficiency of water and other nature care methods were explained in this paper. The physical, mental, spiritual benefits of yoga provide a natural counterbalance to hypertension and strength the relaxation response in our daily life. The paper is giving a new look to the patient suffering from hypertension who really wants a support of some technique to overcome through it, the mentioned relaxation techniques of hypertension will be a great support to them, if they practice these techniques regularly. The patients who are the victims of hypertension are need not to be worried for this disease but have to fight back to kill this disease by using all the mentioned technique.

**KEYWORDS:** - Hypertension and Relaxation Techniques

### Introduction

#### Hypertension

In normal course of blood circulation, the heart received impure blood in its right atrium and sends it to the right ventricle which further sends it to the lungs for purification. The purified blood from the lungs is sent back to the left atrium of the heart which passes it to the left ventricle. Then the blood is distributed to various body organs. Every bit of this blood transport step requires stipulated amount of pressure to carry the blood further. This is called blood pressure. Due to certain physiological disorders of the lumen of the arteries constrict, their volume also reduces. This creates increased pressure inside the arteries which is then referred to as "Hypertension". Normally the blood pressure during systole (when the left ventricle contracts) should be not more than 120 to 130 mm / Hg. During Diastole (when the left ventricle relaxes) the pressure should be about 80 to 85 mm / Hg. When these values remain elevated for a considerable amount of time, the person is said to be "Hypertensive". High B.P. may have a hormonal cause among other causes leading to disruption of rennin – angiotensin – aldosterone actions, high B.P. may also be as a result of renal disorders. The so called essential hypertension does not show definite correlation to any factor as yet. Hypertension places patients at high risk for target organ damage including, retina, brain, heart, kidneys etc.

#### Yoga Therapy

Yoga is a complete science, focusing on breathing, movement, posture and meditation. Specific exercises are taught consisting mainly of simple stretching, breathing and relaxation. There is a wealth of scientific research available confirming that advanced yogis have remarkable control over the functioning of their nervous system, heart and lungs.

Yoga is beneficial for the health in ways that modern science is just beginning to understand. Even though it has been applied with therapeutic intention for thousands of years, Yoga Therapy is only just

now emerging as a discipline in itself. Yoga therapy is that facet of the ancient science of Yoga that focuses on health and wellness at all levels of the person: physical, psychological, and spiritual. Yoga therapy focuses on the path of Yoga as a healing journey that brings balance to the body and mind through an experiential understanding of the primary intention of Yoga: awakening of Spirit, our essential nature.

### **Purpose Of The Study**

The word Hypertension to most patients implies a condition related to increased stress that by some mechanism results in an elevation of the arterial pressure. Although the role of stress as an etiologic factor in the development of hypertension, the effective application of relaxation therapy in managing hypertension is becoming clearer. In recent years nondrug therapies have been increasingly advocated in the initial management of mild hypertension, especially when the diastolic blood pressure remains in the range of 90 to 94 mm of mercury. Furthermore, non pharmacologic approaches are a useful adjunct in treating moderate or severe hypertension and lead to the use of fewer medications in lower doses. Even though the morbid outcomes from untreated hypertension have not been shown to be lowered by the use of non pharmacologic therapy, these interventions are generally accepted on the basis that they are not associated with significant risks or side effects. There are more than 60 published studies on the use of relaxation techniques which includes yoga nidra, transcendental meditation, several biofeedback techniques and teaching muscular relaxation in the therapy for hypertension. Uses of relaxation techniques to reduce blood pressure are one of the best ways introduced by many health professionals and doctors. With a relaxed body and mind, your heart rate will start to drop and the blood will flood more smoothly through the blood vessel, lowering the blood pressure and strengthen your overall health situation. Below are some of the commonly used relaxation techniques:

The High blood pressure will damage the arteries, which lead to complications like stroke and heart attack. Using relaxation techniques to reduce blood pressure is the best way to maintain a healthy body. Lowering the blood pressure will help to maintain your mental and physical health. Some high blood pressures are caused by anxiety and stress, see native treatment for anxiety and depression to find more information.

### **Methodology**

Uses of relaxation techniques to reduce blood pressure are one of the best ways introduced by many health professionals and doctors. With a relaxed body and mind, your heart rate will start to drop and the blood will flood more smoothly through the blood vessel, lowering the blood pressure and strengthen your overall health situation. Below are some of the commonly used relaxation techniques:

#### **Effective relaxation techniques that reduce blood pressure:**

Regular Exercise to relax the muscle and help blood regulation which includes :

Quick Relaxation Technique – Breathing and Feeling

Instant Relaxation Technique – Stretch and Relax

Deep Relaxation Technique – Autogenic relaxation : Part by Part relaxation

Progressive Muscle Relaxation

Visual Relaxation

Yoga Nidra – Psychic Sleep

Many relaxation techniques are very effective to reduce blood pressure, below are some of the less common relaxation techniques. What really important is the methods are to be practiced regularly without fail. Let's look at some recent and upcoming methods.

**Progressive Muscle Relaxation.** Begin with your toes, make fist with the toes and tense for 5 seconds, then open and relax your toe muscles for 30 seconds, next, move your focus to the legs, asses, tummy, arms, neck, head. Repeat the process few times from toe to head and from head to toe until you feel all of the muscles in your body are relaxed. Remember to deep breathing during the exercise.

**Visual Relaxation-** This amazing relaxation technique to reduce blood pressure teaches you to visualize mental images of a peaceful and calm situation or place. Try to exercise as many of your senses as you can- sounds, sights, textures and smells. The best way to do this would be to sit at a quiet and calm

place, wearing loose cotton clothing. You should be able to close your eyes and focus on the peaceful visions for optimum effect.

**Autogenic Relaxation** - Autogenic refers to "something that originates within you." Both body awareness and visual imagery are used in this technique, to reduce stress. Muscle tension in your body is reduced by repeating self help words or suggestions in your mind to. You have to develop an active imagination system where you need to imagine peaceful surroundings, develop a relaxed breathing and focus on it, or imagine other physical sensations like relaxing your body parts one after the other to master this relaxation technique to reduce blood pressure.

**Yoga Nidra**- It is a state of conscious deep sleep. During the practice of yoga nidra, one appears to be sleep, but the consciousness is functioning at the deeper level of awareness. It is sleep with a trace of deep awareness. It is state of mind in between wakefulness and dream. Normally when we sleep, we lose track of our self and cannot utilize this capacity of mind. Yoga nidra enables the person to be conscious in this state and nurture the seed of great will power, inspire the higher self, and enjoy the vitality of life.

**The Wholistic Technique for Relaxation:** Most people think that relaxation is simply reclining and closing your eyes. When you are tired you simply go to bed .But unless you are free from muscular, mental and emotional tensions, you are never relaxed. That is the reason why many of wake up in the morning with a feeling of fatigue, restlessness and inadequate rest. In order to relax completely, the inner tensions, emotions and mind must be released; this complete state of relaxation can be achieved through yoga nidra.

Yoga nidra restructures and transforms our whole personality from within. With every session of yoga nidra we are actually burning our old samskaras, habits and tendencies in order to be born anew. This process is quicker than other systems that work on an external basis. In yoga nidra, sowing of seeds of change is found in sankalpa, which you make for yourself during each practice. Sankalpa is a Sanskrit word, which can be translated as resolve or resolution. It is the most powerful method for reshaping your personality.

### **Conclusion**

High blood pressure will damage the arteries, which lead to complications like stroke and heart attack. Using relaxation techniques to reduce blood pressure is the best way to maintain a healthy body. Lowering the blood pressure will help to maintain your mental and physical health. Some high blood pressures are caused by anxiety and stress, see native treatment for anxiety and depression to find more information.

Yoga nidra has widespread application in the management of diseases of all kinds, and promises to play a far greater role in the future. Yoga nidra can be utilized either by itself or in conjunction with other conventional forms of medical therapy. It has been found useful in both acute and chronic conditions, especially in degenerative and stress related conditions such as hypertension, heart diseases. Diseases with high psychosomatic component such as asthma, peptic ulcer and migra

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## **Study Of Effect Of Specific Training Programme For the Promotion of Motor Fitness Components required In High Jump Performance**

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### **Abstract:**

Motor Fitness has direct relevance to performance in sports. It enable an individual to participate in games and sports with greater muscular power, speed, agility, flexibility and coordination and it makes him of attaining good performance in sports. Specific training for the development of required specific motor skill is now become a common phenomenon. It is therefore to find out utility of specific training programme for the promotion of Motor fitness components which are commonly required in High Jump skill. With this purpose in mind the following study was under taken and executed. Initial test was conducted on experimental and control group for measuring the four components of Motor Fitness viz. Strength, Power, Agility and Flexibility and performance in High Jump. After imparting the specific training for the period of six weeks, final test was conducted and it was observed that the specific training can cause significant improvement in Motor Fitness components as well as performance in High Jump event.

### **Introduction:**

The term motor fitness was introduced during World War II as the test that could be given quickly to many subjects with a minimum of equipment were constructed for use by various branches of the Armed forces. Actually motor fitness is a limited aspect of general motor ability, with emphasis placed on the underlying element of vigorous physical activity, but does not include neuromuscular coordination involved in motor skill. Motor fitness, general motor ability and physical fitness are interrelated terms. The basic physical fitness components are muscular strength, muscular endurance and circulatory – respiratory endurance. Muscular power, agility, speed and flexibility are added to compare motor fitness. Today coaches are continuously confronted with task of improving the performance of the athlete with the help of specific training programme. Motor fitness has direct relevance to performance in sports. It enables an individual to participate in games and sports with greater muscular power, speed, agility, flexibility, coordination and reaction time and it turn makes him capable of attaining good performance in sports.

Some of the study emphasis on development of muscular power and strength is of prime importance to develop the performance of an athlete in achieving maximum distance in jumps and throws. In recent years High jump has become more aggressive and faster event in athletics. It requires a high degree of muscular strength, power and flexibility etc. Now a days various specific training methods are developed for attaining the high performance in specific skills. It is therefore interesting to find out utility of specific training programme for the promotion of motor fitness components. With this purpose in mind the following design was chalked out and executed.

### **Materials And Method**

Forty students of age 14 years were selected by using the McCloy's classification Index. They were equally distributed in two groups namely A & B. Group A was experimental group and group B was control one. Initial test was conducted on all the two groups for measuring the four motor fitness component viz. Strength, Power, Agility, and flexibility. Performance of High jump was recorded before employing the training. For measuring the strength AAHPER's strength test was selected and record of sit-up was recorded. For measuring the Power 'Standing Broad Jump' test was selected. Borrow's motor ability test and Well's sit and reach test was selected for measuring the Agility and Flexibility factors. Pre and Post training Performance of High Jump was recorded.

After having the initial test of all the groups, specific training programme including Rim Jump, Depth Jump to rim jump, Skipping, Barrier Hop, Spring Board Jump, Leg Push Off, High Knee Action, Medicine Ball

Throw, Both Leg Ankle Hopping and 30 Mt. Stride was imparted for the duration of six weeks. After the expiry of training period the final test was conducted on experimental and control groups & readings were recorded as per initial test. Data of both the tests was processed through statistical procedure.

### Analysis And Interpretation Of Data

After analysing the data significant improvement in strength (Sit-up) was observed in experimental group. Difference of mean of experimental group was found significant whereas mean difference of control group was not significant. To know whether the score was significant or not, under the null hypothesis t-test was applied. (See Table No. 1)

Table No. 1. Comparison between Pre and Post Training Performance of Strength Items.

Components	Group	Mean of Initial Score	Mean of Final Score	Difference of Mean	Remarks	Cal't'
Strength	A	23.94	39.00	15.06	Significant diff	3.68
	B	20.17	19.62	0.55	Not Signi.	0.00
Power	A	5.33	5.95	0.62	Significant diff	3.73
	B	5.7	5.7	0.00	Not Signi.	0.00
Agility	A	31.68	30.78	0.9	Significant	4.22
	B	31.65	28.8	2.85	Not Signi.	1.32
Flexibility	A	1.88	3.12	1.24	Significant	8.12
	B	1.32	1.30	0.02	Not Signi.	.068

The improvement in the performance of agility, flexibility, and Power was also found in experimental group. Difference of mean of experimental group was found significant whereas mean difference of control group was not significant. To know whether the score was significant or not, under the null hypothesis t-test was applied.

Regarding the performance of High Jump, training of specific exercise has cause improvement in performance of experimental group. After comparing the mean gain of control group and experimental group it was found that the training improves the total motor fitness of the subject significantly. The null hypothesis tested by applying 't' test at .000 ( $p < 0.05$ ) level. (See Table No. 2)

Table No.- 2. Comparison of Mean Gain in High Jump Performance between Expl. and Control Group

Group	Mean of Initial Score	Mean of Final Score	Mean Gain	Mean Difference	Cal 't'	Remark
A	96.50	99.83	3.33	6.166	5.362	Significant .000 $P < 0.05$
B	92.66	89.83	-2.83			

### Conclusions

Post-training values indicating improvement of Motor fitness components of Experimental Group. When compared with the same values of control group have shown remarkable improvement in their original values therefore it may be inferred that the Specific training Programme can cause significant improvement in the Motor fitness factors of the subjects under study.

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## A Study on Body Proportions and the Results of the Toe-Touch Test

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### Introduction

The 'Toe-Touch' Test (TTT) constitutes a frequently utilized tool both individually in frames of physiotherapy and as a part of batteries of motor tests that aim to evaluate the level of flexibility. Flexibility itself is most often defined as the range of motion of one or several joints. This ability seems to be of great importance in human physical fitness. The TTT is used as an indicator of total body flexibility. 'Limitation of flexibility appears as the first symptom of days-function, preceding either pain or insufficiency, or both'. The outcome of the TTT creates an important motivating. The result may also facilitate identification of the cause of flexibility limitation. The results of the TTT are correlated with ranges of motion of the spine and hip joints. The results of this test are dependent on the length and elasticity of posterior structures of the thigh. The mentioned test does not constitute the only tool for quantifying flexibility, but simple and easy application is still the main causes of its frequent utilization.

On the other hand, it describes one of the components of overall fitness, and therefore such testing procedures as International Fitness Test, Fitness Index by Zachora or Test Battery for Adult's Fitness by Association for Promoting Physical Education take advantage of it.

The objective of the study

The main objective of the study was to determine the relationships between results of the 'toe-touch' test (TTT) and selected length indexes of the human body

### Methodology

For the purpose of the experiment 25 men adult subjects were selected. None of the subjects indicated signs of any ailment arising within the motor system both during measurements and directly preceding them. The average body mass and height were  $65.3 \pm \text{kg}$  and  $171. \pm \text{cm}$  respectively. Average age of the subjects was  $25.19 \pm \text{years}$ . The anthropometric measurements were taken with a non-elastic medical tape. During the evaluations subjects stood barefoot in the neutral anatomic position. The precision of measure equaled 0.5 cm. The first measurement included the length of the lower extremity, from the greater trochanter to the ground (B).

The upper limbs were measured from acromion (a) to the tip of the third finger (da), the trunk from the pubic symphysis (sy=as between the bodies of vertebrae) in which the bony surfaces are connected by pads of fibrous cartilage without a synovial membrane) to the jugular notch (sst) and the head together with neck (the Frankfurt position) from the top of the head (v) to the spinous (lender and pointed like a spine) process of C7 vertebrae (c). During the last measurement, to avoid bends of the tape on the surface of the skull a spirit level was placed on the top of the head and the outcome was recorded as the perpendicular distance from the line created such way and C7. Body height of the body was also taken. Using the basic anthropometric variables the following indexes were calculated: The distance from the tip of the third finger (da) to the surface of the platform was recorded. The result was recorded as a negative value if the subject was not able to reach the surface; otherwise the result had a positive value. The 'toe-touch' test (TTT) was performed three times and the best performance was recorded.

As soon as the linear anthropometric measurements were taken the 'toe-touch' test (TTT) was performed. The subject was standing barefoot on the small platform with his/her toes placed on its edge, then was instructed to perform a deep forward bend keeping knees straight.

The above Figures showing the "toe-touch" test. All the results obtained were subjected to statistical analysis with the use of Statistical 5.0 software. Pearson's correlation coefficients were calculated between the results of the TTT and linear measurements as well as body indexes.

## Results

The results do not show any significant relationships between the outcome of the 'toe-touch' test (TTT) and length variables (Tab.1.) as well as the majority of calculated body indexes (Tab.2.). The only exception from this rule appears in case of the head and height index, where a weak, but a significant correlation was found in (Tab.2).

Table-1- Showing the Pearson's correlation coefficients between the results of the TTT and length variables.

Variable	Correlation coefficients	level of significance
Lower extremity	r= -.035	p=.607
Upper extremity	r= -.067	p=.290
Trunk	r= .048	p=.470
Head and Neck	r= .115	p=.068

\* Statistically significant

Table-2 Showing the Correlation coefficients and level of significance.

Index	Correlation coefficients	level of significance
Extremity	r= -.078	p=.210
Extremity and Height I	r= -.056	p=.390
Extremity and Trunk I	r= -.110	p=.70
Extremity and Height II	r= .029	p=.638
Extremity and Trunk II	r= -.77	p=.217
Trunk and Height	r= .109	p=.68
Head and Trunk	r= .80	p=.244
Head and Height	r= .175	p=.008*

\* Statistically significant

## Discussion

Valid and precise evaluation of flexibility is of great importance both in the field of physiotherapy and physical education. Flexibility has recently gained significant scientific attention; especially that lower back pain has become a common ailment. Flexibility may be treated as a resultant of range of motion of individual joints, however this approach and evaluation techniques have significant shortcomings.

First of all it takes quite a long time to measure the flexibility in several joints and therefore produces fatigue of the subject.

Secondly – information concerning global flexibility is still lacking.

In the end the human body creates a functional unity, and only a global view is most valuable and may provide complete information about it. For this purpose a valid and precise, simple tool serving the purpose of flexibility evaluation is desirable. When evaluating mobility the applied test should not be influenced by proportions of the body.

The 'toe-touch' test (TTT) shows a significant relationship with the range of motion of the spine and hip joints as well as functional length of the hamstrings. It seems reasonable to perceive it as a global flexibility test. The basic assumption is that the test favours subjects with longer upper and shorter lower limbs. Different conclusions were made in a group of 25 young, physically active men they showed that the outcome of the 'toe-touch' test (TTT) is not dependent on length variables. Only in unproportionally built subjects (long arms and short legs) the results do not go along with the level of flexibility. It seems that low number of subjects and female-based population create further bias of this study what makes it impossible to finally solve the argument. The results of this study are in accordance with Borer *et al.*, On the other hand, it is worth noticing that performing the 'toe-touch' test (TTT) with its deep-forward-bend position can escalate lumbar pain and is not suggested for the elderly. The conducted research adds to the validity of the 'toe-touch' test (TTT). The body proportions considered in this study does not significantly influence the results of 'toe-touch' test (TTT).

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## Comparison Of Coordinative Abilities And Physiological Variables Of Indoor And Beach Kabaddi Players At Different Levels

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### Introduction

A number of studies provide information regarding physical fitness and anthropometric characteristics in the game of Kabaddi. The findings in most of these studies indicate significant differences in term of anthropometric and selected physical tests (sprinting, agility, vertical jumping, and aerobic power) between young Kabaddi players at different levels. On the other hand, no single study conducted to know the significant difference at investigating the differences in selected Coordinative Abilities, Psychological and Physiological parameters and functional movement in the contact game between Indoor and Beach Kabaddi players.

The importance of assessing selected Coordinative Abilities sport-specific skills, as well as selected Psychological and physiological characteristics in between Indoor and Beach Kabaddi players, is vital to understanding sport performance, since the impact of high, physiological and selected Coordinative Abilities qualities always transfer to improve playing performance.

The present study aimed at investigating the differences in selected Coordinative Abilities and Physiological parameters and functional characteristics of Indoor and Beach Kabaddi players at different levels, according to their playing experience. Subjects underwent a detailed Physiological assessment and performed selected Coordinative Abilities, specific tests.

### 1 Physiological parameters and measures namely

**Resting heart rate** by Digitalized heart rate monitor.

**Peak expiratory flow rate** is assessed by Peak flow meter.

**Breath holding time** is assessed by Manual nose clip method.

**2. The playing Coordinative ability** The playing ability which is taken as the performance factor is subjectively assessed by the qualified Kabaddi coaches.

The study will be delimited to the following coordinative ability.

Among the five coordinative abilities (1) Orientation ability, 2) Differentiation ability, 3) Reaction ability, 4) Balance ability, 5) Rhythm ability, the researcher has administered only Balance ability, due to time feasibility, unavailability of proper facilities and other limitations to conduct these tests. So the researcher had to limit himself to take-up only Balance ability variable.

**Balance ability**-“Singer defined balance as the ability to maintain body position which is necessary for the successful performance of sport skill.” “Balance may be defined as the ability of the individual to maintain his neuromuscular system in a static condition.”

**Balance ability Tests** **Test No.1: Zig-Zag Run** Test Purpose: To measure Agility Ability. **Test No.2 - Beam walk** Test Purpose: To measure Balancing Ability **Test No.3: Differentiation Run** Test Purpose: To Measure The Differentiation Ability

**Statistical analysis:** The collected data on the two groups namely Indoor Kabaddi and Beach Kabaddi players. For analysis of the data Mean, standard deviation and t-test’ were calculated for the selected variable. All variables were tested for their conformity to the assumption of distributional normality tests. The results are presented as Means and Standard Deviations. Differences between groups were tested by student’s t-test for independent variables. Significance was set at the probability level of  $\alpha=0.05$ .

After the analysis and the discussion of the data the investigation observed the following findings for the present study.

### Results on Physiological parameters

Dependent Measures	Indoor Kabaddi players		Beach Kabaddi players	
	Mean	SD	Mean	SD
Resting heart rate	2.78	1.41	2.1	1.37
Peak expiratory flow rate	2.51	1.62	1.98	1.53
Breath holding time	3.25	1.52	2.30	1.45

**The Coordinative Balance ability test Zig-Zag Run test** between Indoor Kabaddi and Beach Kabaddi players

**Table 1 - Zig-Zag Test between Indoor and Beach Kabaddi players.**

Game	Mean	SD	SED	t-ratio
Indoor Kabaddi	24.21	.94	.288	.410
Beach Kabaddi	24.33	.88		

1. There is insignificant difference in terms of agility ability as one of the coordinative ability as measured through zig-zag run test between Indoor Kabaddi and Beach Kabaddi players.

**Table 2 Beam Walk test between Indoor and Beach Kabaddi players.**

Game	Mean	SD	SED	t-ratio
Indoor Kabaddi	11.20	2.77	.533	5.50
Beach Kabaddi	7.65	2.20		

2. There is significant difference in terms of balancing ability as one of the co-ordinative ability as measured through the Beam Walk Test between Indoor and Beach Kabaddi players. Indoor Kabaddi players have better balance ability than Beach Kabaddi.

**Table 3 Differentiation ability test for Indoor Kabaddi and Beach Kabaddi Players**

Game	Mean	SD	SED	t-ratio
Indoor Kabaddi	0.123	.56	.145	.456
Beach Kabaddi	0.050	.41		

3. There is insignificant difference in terms of differentiation ability as one of the co-coordinative ability as measured through the differentiation ability test between Indoor Kabaddi and Beach Kabaddi game players. The Indoor Kabaddi and Beach Kabaddi players have equal differentiation ability.

The above results showed the descriptive statistics-Mean and Standard deviation of physiological parameters & coordinative abilities at different level Indoor Kabaddi players and Beach Kabaddi players. The present study attempted to link the coaches rating as measure of coordinative abilities with the physiological parameters, at different level Indoor Kabaddi players and Beach Kabaddi players, analysis was made. The results revealed that there was a correlation exists between the playing coordinative abilities with the physiological parameters at different level Indoor Kabaddi players and Beach Kabaddi players, Breath holding time, and Self confidence. The results also revealed that coordinative abilities with the physiological parameters, and of college level Indoor Kabaddi players and Beach Kabaddi players, Total Mood Disturbance (TMD) become the common characteristics which can predict the playing ability in Kabaddi players.

### Discussion

The present study is the first to investigate differences in physiological characteristics of the subjects between Indoor and Beach Kabaddi players. The results of this study demonstrate that insignificant differences were observed between the two groups and in absolute and body dependent expressions of for the field tests selected Coordinative Abilities, specific tests were characteristics between Indoor and Beach Kabaddi players were observed.

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## A Study of Anxiety and Stress of Sportspersons

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### Introduction:

Anxiety is distinguished from fear, which is an appropriate cognitive and emotional response to a perceived threat and is related to the specific behaviors of fight-or-flight responses defensive behavior or escape. Anxiety occurs in situations only perceived as uncontrollable or unavoidable, but not realistically so. David Barlow defines anxiety as "a future-oriented mood state in which one is ready or prepared to attempt to cope with upcoming negative events, and that it is a distinction between future and present dangers which divides anxiety and fear. Another description of anxiety is agony, dread, terror, or even apprehension. In positive psychology, anxiety is described as the mental state that results from a difficult challenge for which the subject has insufficient coping skills.

Stress can come from any event or thought that makes you feel frustrated, angry, or nervous. Anxiety is a feeling of fear, unease, and worry. The source of these symptoms is not always known. Stress is a normal feeling. In small doses, stress can help you get things done. Stress does not affect everyone the same way. Many people feel stress symptoms in their body. You may be having pain in your abdomen, headaches, and muscle tightness or pain. However, explanation for its occurrence do not all accord with an explanation based on the interactive effects of cognitive and physiological arousal. For example; Smith et al 2000, present evidence to suggested that the problem may have a neuromuscular as well as psychological origins. Using the term 'focal dystonia' derived from the medical literature to describe similar conditions among musicians and typists. They postulate that it may originate in prolonged repetitive movements or abnormal posture. Over a professional sporting carrier, spanning in some instance several decades it is certainly plausible to believe that an athlete will have performed similar repetitive movements thousands possibly hundreds of thousands of time, the result of which may precipitate some form of neuromuscular dystonia.

At the same time the experiences of the young cricketers described above may not unequivocally support this proposal. When asked to describe how he felt prior to the event, he detailed a lack of confidence at the time (he was 16 yrs. old and opening the bowling in an under 21 side) together with increased feelings anxiety: Baumeister's 1984, proposal suggested that when under pressure, the expert reverts to a novice level of performance by attempting to invest an automatic process with conscious control. This destroys the fluidity of the skill, and has been termed by Deikman 1969 as 'de automatization' Supporting studies Hardy et al 1996; Masters,1992 shows that performers provided with explicit coaching points during acquisition of golf putting skills perform worse under pressure than those not provided with explicit knowledge. However these studies did not show a catastrophic breakdown in performance sometime reported It must be remembered though that these experimental studies have mainly involved.

Novices: Typically up to only 400 acquisition trials are provided. It is arguable how many repetitions of skill whether it be golf putting. Cricket bowling or dart throwing would occur over a sports career. If he 10 year rule of Erikson et.al. 1993 is accepted (i.e. that 10 year or so of intensive practice is needed for exceptional levels of performance to develop), than one would suspect many hundreds of thousands of trials are needed to reach the automaticity of the expert. Intriguingly perhaps you have to be an expert before a catastrophe can occur.

Aims & Objectives: To find out the relationship anxiety and stress of sportspersons.

Hypotheses: There will be No correlation between Anxiety and Stress of Sportspersons.

**Methodology:**

Sample: The present study we have selected 100 players from various games sports persons from Mumbai Region i.e. Football, Cricket, Hockey, Tennis and Runner Athlete. The ages of the all participants are 18 -22 years. Purposive Non Probability sampling technique was used.

Tools: 1). Sports Anxiety Test (SAT): This Sports Anxiety Test scale was used constructed by Dr. Quadri Syed Javeed. It is standardized test. In this test/scale consist of 30 Items Questions each question 'YES' or 'NO' type alternatives. Reliability of test was found by test retest method, and it was found to be .89 for Anxiety measure. Validity of the test was also validated by correlating the scores obtained on this test with scored obtained by the subject on V.N. Mishra 2003, Sports Competition Anxiety Inventory. The Concurrent Validity coefficient obtained is .84 which is significant beyond .01 levels.

2). Singh Personal Stress Source Inventory (SPSSI) : This test developed and standardized by Arun Kumar Singh. In this test total 35 questions. Players were to response to each question in terms of 'Seldom', sometimes and Fluently. Internal Consistency Reliability by odd even methods was to be .784 which was highly significant.

Sports Anxiety Test and Singh Personal Stress Source Inventory was distributed to the players in a small groups. While collecting the data for study for study the late approaches was adopted. The subject players were called in small groups and there seating arrangement made in classroom. Before filling of the answer of the scale/ test instructions was given to all players how to fill up the test accordingly suggested by the author of the tests. The test was administered and collected all field copies of the test.

Variables: Independent Variables & Dependent Variables



**Statistical Analysis & Data Interpretation:**

Statistical analysis of the data of Sportspersons Mean, Std. Deviation, Std. Error of the Mean and Person 'r' dimension on anxiety and stress.

Correlations

		Anxiety	Stress
Anxiety	Person Correlation	1	.69**
	Sig. (2-tailed)		.000
	N	50	50
Stress	Person Correlation	.69**	1
	Sig. (2-tailed)	.000	
	N	50	50

A SPSS 16 version was used for the statistical data analysis.

The result related to the hypothesis have been recorded Person ' r '(98) = .495 of the anxiety and stress of sports persons.Null hypothesis – there was no significantly deference between anxiety and stress of sportspersons was rejected and research hypothesis was accepted positive correlation between the anxiety and stress of sportspersons.

It cognitive anxiety is low, than the performance effects of physiological arousal of physiological arousal will be low; but if it is high, the effect will be large and sudden. To test this hypothesis, Hardy et, al 1994. Conducted the study where the cognitive anxiety levels and physiological arousal of experience crown green bowlers were manipulated, provided evidence in support of the model that is persuasive and also intuitively appearing.

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## Effects Of Yoga Circuit Training And Combined Training On Selected Glucose, Calcium And Total Protein Among Mild Intellectually Challenged Persons

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### Abstract:

The purpose of study was to find out the effects of yoga circuit training and combined training on selected glucose, calcium and total protein among mild intellectually challenged persons. Selection of Subjects: To achieve the purpose of this study, the researcher randomly selected sixty (N=60) Mild Intellectually Challenged People from AGAPE and Deebam special schools in Chennai and Their age group ranged between 18 and 30. Selection of Variables: Glucose, Calcium and Total Protein Experimental Design: The subjects (N=60) were randomly assigned to four equal groups of 15 Mild Intellectually Challenged People in each. The groups were designed as Experimental Group I Yogic Practices Group, Experimental Group II Circuit Training Group and Experimental Group III Combined Training (combination of yoga and circuit training) and Group IV was Control Group. Pretest was conducted for all the sixty subjects on Selected Metabolic Profile Variables. The Experimental Groups participated in the respective training for a period of twelve weeks. The post test was conducted on the above said dependent variables after a period of twelve weeks for all the four groups. Statistical Techniques: Analysis of Covariance's statistical techniques was used, to test the significant difference among the treatment groups. If the adjusted post-test results were significant, the scheffe's post hoc test was used to determine the paired mean significant. Conclusion: It was concluded that the Metabolic Profile such as Glucose, Calcium, Total Protein were significantly decreased due to the influence of Yoga, Circuit Training and Combined Training among Mild Intellectually Challenged Persons than the Control Group.

### Introduction:

Yoga is an art and science of living, and is concerned with the evolution of mind and body. Therefore, yoga incorporates a system of discipline or furthering an integrated development of all aspect of the individual. Mental retardation (MR), learning disability or intellectually challenged is a common disorder among the children, characterized by significantly impaired cognitive functioning and deficits in two or more adaptive behaviors. It has been historically defined as an intelligence quotient score under 70. Once focused almost entirely on cognition, the definition now includes both a component relating to mental functioning and one relating to individual's functional skills in their environment.

**Purpose:** The purpose of study was to find out the effects of yoga, circuit training and combined training on Glucose, Calcium, Total Protein, Albumin, among mild intellectually challenged persons.

**Selection Of Variables:** Glucose, Calcium And Total Protein. **Selection Of Subjects:** To achieve the purpose of this study, the researcher randomly selected sixty (N=60) Mild Intellectually Challenged People from AGAPE and Deebam special schools in Chennai and Their age group ranged between 18 and 30.

**Experimental Design:** The study was formulated as a true random group design consisting of a pre test and post test. The subjects (N=60) were randomly assigned to four equal groups of 15 Mild Intellectually Challenged People in each. The groups were designed as Experimental Group I Yogic Practices Group, Experimental Group II Circuit Training Group and Experimental Group III Combined Training (combination of yoga and circuit training) and Group IV was Control Group. Pretest was conducted for all the sixty subjects on Selected Metabolic Profile Variables. The Experimental Groups participated in the respective training for a period of twelve weeks. The post test was conducted on the above said dependent variables after a period of twelve weeks for all the four groups.

**Statistical Techniques:** Analysis of Covariance's statistical techniques was used, to test the significant difference among the treatment groups. If the adjusted post-test results were significant, the scheffe's post hoc test was used to determine the paired mean significant. Thirumalaisamy R. (1995)

The following tables illustrated the statistical results to the Effects of Yoga, Circuit Training and Combined Training on Glucose of Mild Intellectually Challenged people .

Table- I - Computation Of Analysis Of Covariance Of Glucose

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	117.4	116.06	115.27	116.54	B	35.79	3	11.93	0.03
					W	20765.2	56	370.81	
Post Test Mean	88.07	86	80.14	116	B	11506.19	3	3835.40	32.68*
					W	6572.67	56	117.40	
Adjusted Post Test Mean	87.94	86.03	80.25	115.98	B	11451.24	3	3817.09	33.43*
					W	6279.09	55	114.17	

Table F – ratio at 0.05 level of confidence for 3 and 56 (df)= 2.7, 3 and 55(df)= 2.72. \*significant

TABLE- I (a) - Computation Of Scheffe's Post Hoc Test Ordered Adjusted Final Mean Difference Of Glucose (Scores In Mg/dl)

Control Group	Exp Group -I	Exp Group -II	Exp Group -III	M.D	C.I
115.97	87.94	-	-	28.04	11.15
115.97	-	86.03	-	29.94	11.15
115.97	-	-	80.26	35.72	11.15
-	87.94	86.03	-	1.91	11.15
-	87.94	-	80.26	7.68	11.15
-	-	86.03	80.26	5.77	11.15

**Discussion On The Findings Of Glucose** From these analyses, it is found that the results obtained from The Experimental Groups had significant decreases in the Glucose level from it higher level to moderate when compared with one from the Control Group. This is due to the influence of Yoga, Circuit Training and Combined Training in the analysis of Experimental Groups.It is interesting to note that the results obtained from Experimental Group III had more significant effect then Experimental Group I and II on the decreased level of Glucose. Further, the results obtained from Experimental Group II had significant influenced on Glucose than the Experimental Group I and Control Group. These results are found to be in a good agreement with the earlier works done by different researchers. Agte VV, et.al, (2012) has proven that the Sudarshan Kriya yoga causes a decreased a blood glucose as an energy source during yoga.

Table- li-Computation Of Analysis Of Covariance Of Calcium

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	10.40	10.32	10.32	10.42	B	0.12	3	0.39	0.19
					W	11.11	56	0.20	
Post Test Mean	9.46	9.37	9.12	10.50	B	16.67	3	5.56	53.01*
					W	5.87	56	0.11	
Adjusted Post Test Mean	9.46	9.38	9.13	10.49	B	15.99	3	5.34	56.95*
					W	5.15	55	0.93	

Table- li (A) - Computation Of Scheffe's Post Hoc Test Ordered Adjusted Final Mean Difference Of Calcium (Scores in mg/dl)

Control Group	Exp Group -I	Exp Group -II	Exp Group -III	M.D	C.I
10.48	9.45	-	-	1.03	0.32
10.48	-	9.38	-	1.11	0.32
10.48	-	-	9.13	1.35	0.32
-	9.45	9.38	-	0.07	0.32
-	9.45	-	9.13	0.32	0.32
-	-	9.38	9.13	0.25	0.32

### Discussion On The Findings Of Calcium

From these analyses, it is found that the results obtained from the Experimental Groups had significant decrease in the Calcium level from the higher level to moderate with the one from the Control Group. This is due to the inclusion of Yoga, Circuit Training and Combined Training in the analysis of Experimental Groups. It is interesting to note that the results obtained from Experimental Group III had more significant effect than Experimental Group I and II on the decreased level of Calcium. Further, the results obtained from Experimental Group II were more influence compared to Experimental Group I and Control Group. These results are found to be in a good agreement with the earlier works done by different researchers. Deb S, et. al, (1985) done a study on the Calcium homeostasis in mentally handicapped epileptic patients.

Table- lii-Computation Of Analysis Of Covariance Of Total Protein

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	8.76	8.73	8.75	8.80	B	0.036	3	0.02	0.04
					W	17.99	56	0.33	
Post Test Mean	7.39	7.48	6.94	8.79	B	28.735	3	9.58	34.61*
					W	15.50	56	0.28	
Adjusted Post Test	7.39	7.49	6.93	8.78	B	27.77	3	9.26	55.59*
					W	9.16	55	0.17	

Table- III (a) - Computation Of Scheffe's Post Hoc Test Ordered Adjusted Final Mean Difference Of Total Protein (Scores in gm/dl)

Control Group	Exp Group -I	Exp Group -II	Exp Group -III	M.D	C.I
8.77	7.39	-	-	1.38	0.43
8.77	-	7.50	-	1.27	0.43
8.77	-	-	6.94	1.83	0.43
-	7.39	7.50	-	0.11	0.43
-	7.39	-	6.94	0.45	0.43
-	-	7.50	6.94	0.56	0.43

### Discussion On The Findings Of Total Protein

From these analyses, it is found that the results obtained from the Experimental Groups had significant decreases in the Total Protein level from the higher level to moderate when compared with the one from the Control Group. This is due to the influence of Yoga, Circuit Training and Combined Training in the analysis of Experimental Groups.

It is interesting to note that the results obtained from Experimental Group III had more significant effect than Experimental Group I and II on the decreased level of Total Protein. Further, the results obtained from Experimental Group I had significant influenced on Total Protein than the Experimental Group II and Control Group.

#### Conclusions:

Within the limitation of this study, the following conclusions were drawn:

It was concluded that the Metabolic Profile such as Glucose, Calcium, Total Protein were significantly decreased due to the influence of Yoga, Circuit Training and Combined Training among Mild intellectually Challenged Persons than the Control Group.

It was concluded that the Experimental Group III (Combined Training Group) showed greater significant decrease on the selected metabolic profile such as Glucose, Total Protein than Yoga Training Group (Experimental Group I) and Circuit Training Group (Experimental Group II).

## **Construction Of Norms And Standardization Of Physical Fitness Test On Selected Physical Fitness Variables For Physical Education Entrance In Tamil Nadu Physical Education Colleges**

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### **Abstract**

The study was designed to standardize physical fitness test for Physical Education entrance in Tamil Nadu Physical Education Colleges. To achieve the purpose, the investigator formed the research method in three phases, namely, Pilot Study Phase, Testing Phase for Validity and Reliability and Testing Phase for Objectivity. During the Testing Phase for Reliability and Validity of tests standardized, the researcher found the reliability of the tests through test – retest (intra class) methods. Reliability of the constructed tests were also done by inter-rater (outside expert) with the 60 subjects, 30 in the age group of 18 to 21 and 30 in the age group of 22 to 25 were selected for this purpose. To ascertain the validity (criterion related and construct related) the athletic ability was determined by three experts when the selected subjects were in actual competitions. The obtained athletic ability was related with the skill scores of the subjects to determine criterion related validity. To determine the construct related validity the athletic ability and physical fitness scores of the subjects in the age group of 18 to 21 and in the age group of 21.1 to 25 were found and related so that to find the validity of the tests for both the age groups. To find out the objectivity of the tests, the investigator administered the tests for 300 subjects. Based on the scores, hull scales were computed and the subjects were classified and thereby the objectivity of the skill tests could be proved. This study would help the Physical Education directors, Physical Education teachers and coaches in selecting the team and evaluate performance.

Key words : standardization, Norm, Fitness, skill etc....

### **Introduction**

Tamil Nadu Physical Education and Sports University have been formed and all the physical education colleges in the state have been affiliated with this University. It became the prime responsibility of the University to frame uniform selection tests and norms for selection of candidates for physical education courses, which would remove the disparities at the admission stage and might remove the imbalances in the finish product, namely, the physical education teachers trained through this University and affiliated colleges. Hence, the investigator was interested to standardize physical fitness tests through constructing norms for selected physical fitness variables.

#### **Statement of the problem**

The purpose of the study was to standardize the physical fitness tests conducted by different physical education colleges and to construct norms for the physical fitness variables that can be used to test candidates seeking admission in various colleges affiliated under the Tamil Nadu Physical Education and Sports University.

#### **Seletion of Subjects**

The purpose of this study was to standardize a battery of physical fitness tests for Tamil Nadu Physical Education and Sports University. To achieve this purpose 300 students, were randomly selected from five physical education colleges, at the age group of 18 to 25 years. The newly standardized batteries of physical fitness test were administered on the subjects, which actually to measure the capability of each individual candidate. The standardized physical fitness tests were correlated with subjectively assessed athletic ability of the subjects



## Results And Discussion

Table I: Test and Retest Mean, Standard deviation and Correlation values of speed, explosive power, abdominal strength, muscular endurance and athletic ability

Variable	Mean	Std. Deviation	N	Correlation	Sig.
Speed	14.76	0.929	60	0.984*	.000
Speed Retest	14.74	0.949	60		
Explosive Power	1.99	0.324	60	0.995*	
Explosive Power Retest	1.98	0.333	60		
Abdominal Strength	33.72	7.812	60	0.984*	
Abdominal Strength Retest	33.18	7.469	60		
Muscular Endurance	6.12	3.975	60	0.992*	
Muscular Endurance Retest	6.18	3.877	60		
Athletic ability	33.23	7.298	60	0.998*	
Athletic ability Retest	33.42	6.917	60		

\*Correlation is significant at the 0.01 level

As denoted in Table I mean values of test and retest on speed, explosive power, abdominal strength, muscular endurance and athletic ability has relationship at 0.01 level with the r value of 0.984, 0.995, 0.984, 0.992 and 0.998 respectively

Table II

Classification of Subjects based on the Hull scale norms

	Hull Scale	0-25	25-50	50-75	75-100
Speed	Number of Subjects	7	144	129	120
	Hull Scale	0-25	25-50	50-75	75-100
Explosive Power	Number of Subjects	10	127	152	11
	Hull Scale	0-25	25-50	50-75	75-100
Abdominal Strength	Number of Subjects	17	128	148	7
	Hull Scale	0-25	25-50	50-75	75-100
Muscular Endurance	Number of Subjects	-	174	99	27
	Hull Scale	0-25	25-50	50-75	75-100

As shown in Table IV total number of 300 subjects were classified into four category based on the hull scale norms of below 25, 50 and above 50, 75 on the athletic ability.

### Discussion on objectivity of the tests

To achieve the purpose of the study selected 300 subjects were classified based on the constructed hull scale norms for the raw scores obtained through speed, explosive power, abdominal strength, muscular endurance.

### Conclusions

It was concluded from the results of the study that the newly designed physical efficiency test has the reliability. Hence, it was proved by test and retest method. It was concluded that the speed, explosive power, abdominal strength and muscular endurance measures the physical efficiency (athletic ability) of an individual. It was concluded that constructed hull scale norms can be used to classify the subjects on athletic ability.

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## Comparison of club kinematic parameters between elite and amateur golfers during swing

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### ABSTRACT

A key focus of most golfers is to acquire better driving performance. The mechanics of swing has been long described as the most important for optimal golf performance. This study was conducted to compare the club kinematics between elite and amateur golfers during swing. It was hypothesized that elite golfers would perform better than amateur athletes during the swing. The following parameters were studied: the movement time, displacement, arc, velocity and acceleration of the club. In a cross-sectional study, two groups of elite and amateur golfers (n=72) aged 18 to 40 years old were recruited upon written consent. The participants were asked to perform swing and two-dimensional motion analysis system was used to capture swing in sagittal and frontal planes. The statistical analysis revealed that the maximum displacement of the club was higher for the elite than the amateurs, but it was not statistically different (3.91 m and 2.17 m, respectively;  $P = 0.123$ ). The swing time was similar in both elites and amateurs (2.3 s and 1.9 s, respectively;  $P = 0.365$ ). The club trajectory showed that both groups had comparable arc in backswing, while the arc radius was significantly different in forward swing. The elite participants showed significantly higher mean linear accelerations (199.94 vs. 146.97 m/s<sup>2</sup>,  $P = 0.001$ ) and angular accelerations (-169.63 vs. 291.22 m/s<sup>2</sup>,  $P = 0.001$ ) than the amateurs. The mean linear and angular velocities of the club were also significantly different between the elite and amateur golfers (0.94 vs. -0.60 m/s; -16.94 vs. -50.38 m/s;  $P = 0.001$ ). In short, the elite golfers performed more efficiently than the amateur golfers and showed improved timing of the movement path in comparison to the amateur group. It can be concluded that timing should be more emphasized in the training for beginners.

**Keywords:** amateur golfers, elite golfers, kinematic analysis

### Introduction

The main goal of golf players is to use the golf club to finish the game with the lowest number of strokes. The swing is a very speedy, multifaceted movement so that it is challenging for the golfers to identify their swing. Primary focus of most golfers is to achieve better driving performance. The swing mechanics has been studied for optimal golf driving performance (Adlington, 1996). Amateur golfers are trained on the best tactic to move the body and club during the swing in order to apply maximum energy to the ball and increase the driving distance (Farrally et al., 2003; Hume, Keogh, & Reid, 2005; Adlington, 1996). Previous research indicates that during the swing, the players should have a straight back, slightly bend forward and at right angle to the ground. During the backswing, the body mass should move towards the trailing foot (that is the left foot for a left-handed golfer) and then back towards the leading foot (that is the right foot for a left-handed golfer) at the end of the follow-through position. Moreover, from the ground up the drive of body segments should be consecutive (Adlington, 1996).

The golf swing motion has been investigated with the aim of providing valuable information to improve the swing and score. Some mathematical models have been also used to explain the swing (Penner, 2003). The motion capture system was employed as a scientific approach to golf training to measure the kinematics and kinetics of golfers. It is a common approach to identify the features that distinguish good golfers from the rest. In a study by Cooper and Mather (1994), it was found that professional golfers increased angular velocity of club head at ball impact, high-handicap players peaked in early downswing, while low-handicap players peaked exactly before the impact. Another study indicated that less-skilled players released and speeded the club too early (Robinson, 1994).

Professional golfers showed sequential trunk rotation and the trunk rotation was slower in amateurs than professionals (Robinson, 1994). High-handicap golfers adopt less and slower body mass shift back towards the trailing foot in the backswing and then shift forward towards the leading foot in the downswing.

**Purpose of the study**

Regardless of extensive motion analysis studies, there is limited research that on the importance of biomechanics of club swing and its role in optimizing the driving performance. The current study aimed to evaluate multiple variables throughout the golf swing to determine the key factors among them. This study was conducted to compare the club kinematics between elite and amateur golfers during swing. It was hypothesized that elite golfers would perform better than amateur athletes during the swing.

**Methodology**

In a cross-sectional study, the sample was selected from elite and amateur golfers. Total of 72 golfers (36 elites and 36 amateurs) participated in this study. The inclusion criteria was being free of injury and no significant history of joint injury at the testing time. The amateurs had undergone 1-day training. All the participants signed an informed consent as required by the institution's ethics board. The golf swing kinematic data were obtained in two locations; in the laboratory and in the driving range using high-speed camera working at 250 Hz. The golfers were asked to wear black clothes and 9 reflective markers were attached to the upper limb on the acromion, lateral epicondyle of the humerus, wrist, metacarpals and the club head. The markers trajectories were tracked by the camera and filtered by a cut-off frequency. The participants did typical warm-up prior to data collection and the following procedure was performed. The camera was positioned 5 m from the participant. Each participant was asked to hit 5 shots off the artificial turf tee box using Iron 7 club, and 2D motion capture was performed swing in sagittal and frontal planes. The following parameters were extracted from the data: the movement time, displacement, arc, velocity and acceleration of the club. The shot with highest distance was selected for the data analysis, which was performed using the Labview 7.1 and Visual Basic software. Statistical analyses were performed using the SPSS 16.0. Normality of the data was checked with the Kolmogorov–Smirnov test and the independent t tests were used to make comparisons between the elite and amateur golfers.

**Results**

The mean age, height and weight of the participants were 35.2±10.3 years, 1.67±0.54 m, 76.5±17.0 kg. Table 1 presents group means and standard deviations of variables. Figure 1 shows the velocity and acceleration values compared between the elite and amateur golfers.

Figure 1. Comparison of maximum velocity and acceleration between the elite and amateur golfers.

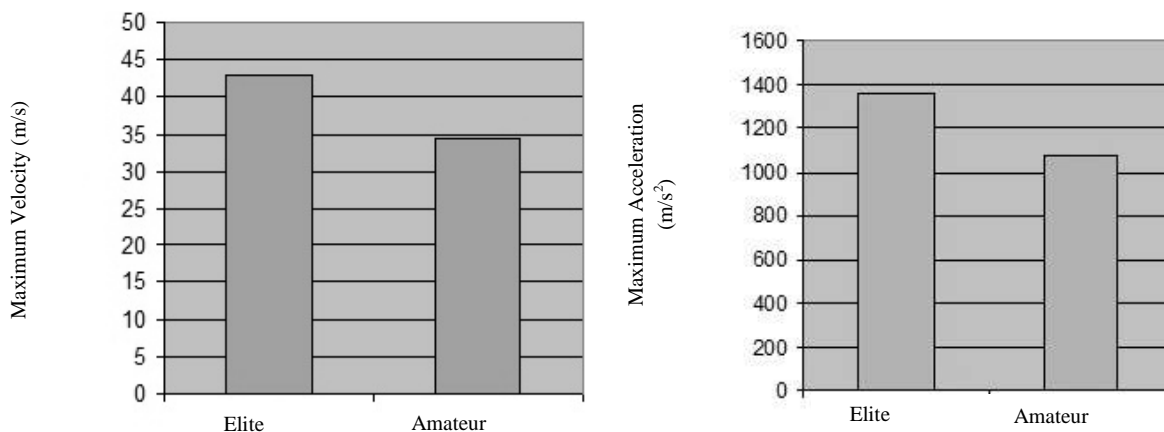


Table 1. Mean, standard deviation and *P* values of variables between the elite and amateur golfers.

Variables	Elites		Amateurs		<i>P</i> value
	Mean	SD	Mean	SD	
Time	2.3	0.3	1.9	0.5	0.365
Displacement (m)	3.91	1.06	2.17	0.91	0.123
Arc (deg)	206.72	73.76	194.61	98.09	0.001
Angular Velocity (rad/s)	-16.94	74.48	-50.38	78.92	0.001
Linear Velocity (m/s)	6.13	1.36	9.60	-0.60	0.001
Angular Acceleration (rad/s <sup>2</sup> )	291.22	81.00	-169.63	57.30	0.001
Linear Acceleration (m/s <sup>2</sup> )	199.94	18.18	146.97	7.38	0.001

### Discussion & Conclusion

This study aimed to examine the differences between elite and amateur golfers in terms of club swing parameters. The statistical analysis revealed that the swing time was similar in both elites and amateurs ( $P = 0.365$ ). All other parameters showed significant difference between the two groups. The velocity and acceleration of club head was significantly higher for elite golfers in comparison to the amateurs. This is consistent with the findings of Williams & Sih (2002) and Cheetham et al. (2008). On the other hand, there was no significant difference in the swing time between the two groups. These results might indicate that elite golfers were able to have improved control over the club by managing the time to achieve higher performance. Moreover, the club trajectory showed that both groups had comparable arc in backswing, while the arc radius was significantly different in forward swing. In conclusion, the elite golfers showed better timing of the swing compared with the amateurs. Optimal swing is resulted from the performance of all the upper limb joints as well as the club movement. Therefore, the upper limb trajectories should be also investigated through motion analysis. From the findings of this study, it is implied that more emphasis should be on timing in the training for amateurs.

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**The Paradigm Shift of Sports Sociology**  
**(A Study on Circuit Training Abilities of Selected Handball Players)**

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**Introduction:**

Sociology is concerned with the social and cultural context in which behavior occurs and the connection between that behavior and the setting, and sports sociology specifically focuses on the relationship between sports and society. It gives us a closer look at human social behavior within the sports context. It is within sports sociology that the issues surrounding the relationships between individuals, groups, and sports are considered, explored, analyzed, and explained. Since 1970 that sports sociology has gained significant attention as a serious area of study. This is in part owing to the increasing major role sports play in our lives and the intellectual traditions in both physical education and sociology.

**Methodology and Reliability of the Data**

For the purpose of this study 45 Handball players (Boys) from Kendriya Vidyalaya NAD and private Vikas school in Visakhapatnam, Andhra Pradesh, were selected as Subjects. The subjects were divided into three groups, such as Control group (15 subjects, from both KV and Private School) and Experimental group-I (kv-15 Subjects) Experimental group-II (Private School-15 Subjects) total 45 subjects. The age of the subjects were ranged between 14 to 16 years (Boys). The Experimental group-I & II underwent training for three days per week on alternate days for eight weeks. The control group did not participate in any special training programme. All the subjects were healthy, normal and obliged in participating in the training programmes effectively using 50 mts. dash, shuttle run, standing broad jump and Handball Skill Tests tested the selected criterion variables such as speed, explosive power, and agility, Goal shooting, passing, and dribbling skills respectively.

**Analysis of the Data and Results** The level of significance was to analyze the pre and post test mean difference by applying Paired-T test and the inter group variability by applying Anova with Scheffe's post hoc test, the level of significance was 0.05. T-test and Anova analyzed the mean difference of initial and final scores of the two experimental groups and one control group. The difference exhibited by these groups after the experimental period of eight weeks, under different training conditions, the six criterion measures to each school. The pre and post test Means of the two Experimental and one Control Group for 50 Mts Dash (Sec) and their Paired –T values are presented in Table 2 for KV- NAD, Visakhapatnam. The Researcher intended to find out the difference in the output of the subjects with respect to the 50 Mts dash event, before and after the training. As such, paired T-test was conducted and it is observed from Table (2) that the T-value (5.48) of control group was less than that of the remaining two groups i.e., Experimental Groups Circuit training. Further, it was found from the data that the T-value (10.13) of the Experimental Group-I(KVS) greater than Control Group and Experimental Group-II (Pvt.School).

**Table 2 - Paired 'T' Ratio for the 50 Mts Dash (Sec) scores in Hand ball players (Boys) for all the three groups**

50Mts Dash (Sec)	TEST	N	MEAN	S.D	T-VALUE	P-VALUE
CONTROL GROUP	PRE	15	7.8853	0.383	5.48	0.000
	POST	15	7.838	0.381		
	Difference	15	0.04733	0.0335		
EXPERIEMENTAL GROUP-I (KV)	PRE	15	7.652	0.3709	10.13	0.000
	POST	15	6.5807	0.3149		
	Difference	15	1.0713	0.40968		

EXPERIEMENTAL GROUP-II (Pvt.School)	PRE	15	7.672	0.3212	7.54	0.000
	POST	15	6.9347	0.4174		
	Difference	15	0.7373	0.3787		

The average mean of 50 Mts dash showed less in Experimental Group-I(KV) compared with Control Group and Experimental Group-II(Pvt.School). So it was concluded that the Experimental Group-I(KV) was significant in improving the subject's performance after the circuit training. The diagrammatic representation is shown below.

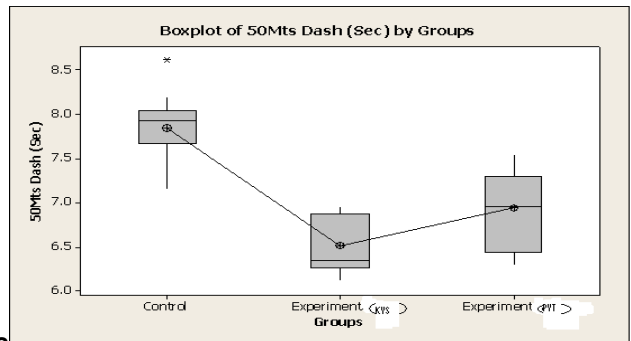


Fig.8

\* : Out layer

⊠ : Average Value

### Multiple Comparisons

(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					LowerBound	Upper Bound
1.00	2.00	1.3247*	.1374	.000	.9760	1.6734
	3.00	.9033*	.1374	.000	.5546	1.2520
2.00	1.00	-1.3247*	.1374	.000	-1.6734	-.9760
	3.00	-.4213*	.1374	.014	-.7700	-7.2644E-02
3.00	1.00	-.9033*	.1374	.000	-1.2520	-.5546
	2.00	.4213*	.1374	.014	7.264E-02	.7700

\*. The mean difference is significant at the .05 level.

(i) It is observed from the data that there is a significant mean difference in the output pertaining to Scheffe's Post Hoc Test between Control group and Experimental Group-I & II as the calculated P-values are significant at 0.05 level. It indicates that there is a difference of result with regard to the 50 Mts Dash event.

(ii) Similarly, there is a significant mean difference in the output pertaining to Scheffe's Post Hoc Test between Experimental group-I and control group, Experimental Group-II as the calculated P-values are significant at 0.05 level which also indicates that there is a difference of result with regard to the 50 Mts Dash event.

(iii) Further, there is a significant mean difference in the output pertaining to Scheffe's Post Hoc Test between Experimental Group-II and Control Group, Experimental Group-I as the calculated P-values are significant at 0.05 level. It concludes from the table that there is a significant mean difference between Control Group and Experimental Groups-I & II because the mean difference between these two groups is significant in 50 Mt Dash.

### **Major Recommendations**

- It is suggested to all Physical Education Teachers, Coaches and Hand ball Players to follow Circuit Training to improve Speed, Agility, Explosive Power, Goal Shooting Ability, Passing Ability and Dribbling Ability.
- In future, similar study may be conducted for Hand ball players of other age groups preferably by selecting physiological and psychological variables.
- Similar studies may be conducted for Volley ball players by applying Circuit in order to improve Spiking and Blocking Abilities.
- Similar studies may be conducted for Basket ball players by applying Circuit Training in order to improve Basket ball skills.

### **Conclusion**

Because sports are considered a microcosm of society, the same social issues that exist in larger society also exist in sports. Sociology uses critical and conflicting approaches that force us to explore alternative ways to view the place and organization of sports in society as well as how issues and problems presented by sports in society affect individuals. From this study it is concluded that the Circuit Training method was found Experimental Group-I KV to be significantly superior to other two Groups (Experimental Group-II and Control Group) with regard to Handball players.

(\* Handball players had shown significant improvement due to the 8 weeks of training on Speed , Agility, Explosive Power , Goal Shooting ability, Passing ability, Dribbling ability at 0.05 level of significance)

It is understood from the study that Experimental Group-I KV NAD (Circuit Training) was found to be the most effective and significantly better to improve performance in Hand ball skills & Motor Abilities. Similarly, Experimental Group-I KV (Circuit Training), is effective in the improvement of performance of players with regard to Hand ball Skills & Motor Abilities than the control group, but Experimental Group-I KV (Circuit Training) had a higher mean average value compared to the Experimental Group-II. Therefore, it is concluded that through Circuit Training method Experimental Group-I KV NAD was found to be good, to enhance the Skills & Motor Abilities of Hand ball players.

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## Isolated and combined effects of assisted and resisted sprint training on VO<sub>2</sub> max

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### **Abstract**

The aim of the study was to find out the effects of combination of assisted and resisted sprint training on VO<sub>2</sub> max among male soccer players. To achieve this purpose of the study, sixty college male soccer players from Udumalpet, Tirupur District, Tamilnadu, were selected at random as subjects. The age of the subjects was ranged from 18 to 23 years. The selected subjects were divided into four groups, Group - 1 those who underwent assisted sprint training (AST) Group - 2 those who underwent resisted sprint training (RST), Group - 3 those who underwent combined assisted and resisted sprint training (AST+RST) and Group - 4 was served as control participants. The VO<sub>2</sub> max was selected as dependent variable and it was measured by Queens's college step test. All the subjects of four groups were tested on VO<sub>2</sub> max prior and immediately after the study period of nine weeks. ANCOVA was used to find out significant adjusted post test mean difference of four groups. The results of the study revealed that VO<sub>2</sub> max of the male soccer players significantly differ and found high in combination of assisted and resisted training than other groups, similarly comparison with control group also showed significant changes consequent to nine weeks of selected training programme. It was concluded that combination of assisted and resisted sprint training significantly improves the VO<sub>2</sub> max of male soccer players.

Keywords: 1) Assisted Sprint, 2) Resisted Sprint, 3) VO<sub>2</sub> max.

### **Introduction**

Physical training is exposing the organism to a training load or work stress of sufficient intensity, duration and frequency to produce a noticeable or measurable training effect, that is, to improve the functions for which training is aimed (Astrand, 2003) The game of Football demands a high level of fitness that will enable the players to run strongly, to move quickly off the mark in any direction to control, to pass accurately and to tackle efficiently throughout the game (Heyward, 2010) Football requires a high standard of physical fitness along with skills. The faster player will succeed more often in soccer when compared with the slower one. Players can give themselves more chances for success by improving their sprinting ability, as it not only gets the player to more loose balls but also gives them the chance to create space. Players in open space will get more wide-open looks at the goal or more time to make productive passes (Jerrod, 2004). On defense, better sprinting ability will prevent the opposition from having space to make plays. In this study an attempt is made to find out the Isolated and combined effects of assisted and resisted sprint training on VO<sub>2</sub> max.

### **Methods**

Sixty (60) college male soccer players from Udumalpet, Tirupur District, Tamilnadu, were selected at random as subjects. The age of the subjects was ranged from 18 to 23 years. The selected subjects were divided into four groups, Group - 1 those who underwent assisted sprint training (AST) Group - 2 those who underwent resisted sprint training (RST), Group - 3 those who underwent combined assisted and resisted sprint training (AST+RST) and Group - 4 was served as control participants. The VO<sub>2</sub> max was selected as dependent variable and it was measured Queens's college step test. The collected data was evaluated using Analysis of Covariance (ANCOVA). Training approaches: The initial load of the subjects was fixed and the training programme for selected training was designed separately based on the performance in the pilot study. While constructing the training programme the basic principles of sports training were followed. Each day the training schedule was conducted only in the morning session that lasted for ninety minutes. Prior to and after every training session players of experimental groups had given each ten minutes of warm -up and ten minutes of warm down exercise involving jogging, mobility and stretching exercise.



### Results on VO<sub>2</sub> max

TABLE-I: ANALYSIS OF COVARIANCE ON VO<sub>2</sub> max OF DIFFERENT GROUPS  
(Scores in ml/kg/min<sup>-1</sup>)

Test	Group 1	Group 2	Group 3	Group 4	SV	SS	Df	MS	'F' Ratio
Pre Test									
Mean	47.27	48.00	47.40	48.00	Between	4.85	3	1.62	0.70
S.D.	1.75	1.51	1.40	1.40	Within	130.13	56	2.32	
Post Test									
Mean	49.20	50.00	50.40	46.80	Between	117.00	3	39.00	15.34*
S.D.	1.86	1.51	1.40	1.57	Within	142.40	56	2.54	
Adjusted Post Test									
Mean	46.96	49.50	50.52	46.92	Between	105.81	3	35.27	439.04*
					Within	4.42	55	0.08	

\* Significant at .05 level of confidence.

TABLE - I (A): SCHEFFE'S POST HOC TEST ANALYSIS ON VO<sub>2</sub> max

Group I	Group II	Group III	Group IV	Mean Differences	Confidence Interval Value
49.46	49.50	-	-	0.04	0.37
49.46	-	50.52	-	1.06*	0.37
49.46	-	-	46.92	2.54*	0.37
-	49.50	50.52	-	1.02*	0.37
-	49.50	-	46.92	2.58*	0.37
-	-	50.52	46.92	3.60*	0.37

\* Significant at .05 level of confidence.

Pre - Test: The AM± SD pre-test VO<sub>2</sub> max scores of G1, G2, G3 and G4 were 47.27 ± 1.75, 48.00 ± 1.51, 47.40 ± 1.40 and 48.00 ± 1.40 respectively. The obtained pre test F value of 0.70 was lesser than the required Table F value of 2.76. Hence the pre test means value of assisted sprint; resisted sprint and combination of assisted and resisted sprint and control group on VO<sub>2</sub> max before start of the respective treatments were found to be insignificant at 0.05 level of confidence for the degrees of freedom 3 and 56. Thus this analysis confirms that the random assignment of subjects into four groups were successful.

Post - Test: The AM± SD post- test VO<sub>2</sub> max scores of G1, G2, G3 and G4 are 49.20 ± 1.86, 50.00 ± 1.51, 50.40 ± 1.40 and 46.80 ± 1.57 respectively. The obtained post test F value of 15.34 was greater than the required Table F value of 2.76. Hence the post- test means value of VO<sub>2</sub> max show significant at 0.05 level of confidence for the degrees of freedom 3 and 56. Thus the results obtained proved that the interventions namely assisted sprint, resisted sprint and combination of assisted and resisted sprint on VO<sub>2</sub> max produced significantly different improvements among the four groups.

Adjusted Post - Test: The AM± SD post - test VO<sub>2</sub> max scores of G1, G2, G3 and G4 are 49.46, 49.50, 50.52 and 46.92, respectively. The obtained adjusted post - test F value of 439.04 was greater than the required Table F value of 2.76. Hence the post - test means value of VO<sub>2</sub> max show significant at 0.05 level of confidence for the degrees of freedom 3 and 55. Since the observed F value on adjusted post test mean among the groups such as assisted sprint, resisted sprint and combination of assisted and resisted sprint on VO<sub>2</sub> max produced significantly different improvements among the four groups.

Post-hoc test analysis: The significant difference of paired adjusted post test means of assisted sprint, resisted sprint, combination of assisted and resisted sprint and Control group on  $VO_2$ . The obtained mean differences between assisted sprint group and resisted sprint groups were 0.04. No differences were found on these comparisons, because of the confidential values 0.37 was greater than the mean differences. Remaining all group comparisons was greater than the confidential interval value on  $VO_2$ .

#### **Discussions:**

The present study demonstrated an increase in  $VO_2$  max of 0.01%, 0.02% and 0.03% for Assisted Training group, Resisted Training group and combination of assisted and resisted Training group respectively whereas the control group did not show any significant improvement on  $VO_2$  max.

#### **Conclusions:**

The three experimental training groups namely, assisted sprint training (AST) resisted sprint training (RST) and combined assisted and resisted sprint training (AST+RST) significantly improved on  $VO_2$  max of the male soccer players. Among the training groups Combined sprint training (AST+RST) has greater influence on  $VO_2$  max, among male soccer players, where as Resisted sprint training (RST) training has the next best level of performance on  $VO_2$  max. However assisted sprint training also influenced to certain extent among the soccer players.

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## **The Effect Of 10 Weeks Core Stability Training On Technical And Physical Attributes Of Malaysian Rhythmic Gymnasts**

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### **Abstract**

This study was conducted to identify the effect of 10-week core stability training on technical and physical attributes of Malaysian Rhythmic gymnasts. Forty female young rhythmic gymnasts from 2 clubs in Kuala Lumpur (n = 40); (age 8 to 12 years old) were recruited. These subjects were randomly divided into two groups, the experimental group (n = 20) and the control group (n = 20). The experimental group underwent regular training with additional core stability intervention programme and control group they did only regular RG training. Physical and Technical tests for both groups was obtained twice; pre-test and post-test. The paired-sample t-test was used to determine whether there were changes in physical and technical tests between before and after 10 weeks of training session. The results revealed that 10-week of core stability training induced significant improvement on the technical ( $t = -4.7, df = 19, p < .05$ ) and physical ( $t = -9.4, df = 19, p < .05$ ) attributes of rhythmic gymnasts. These results suggest that 10-week core stability training is an effective and suitable method to improve the technical and physical attributes of Rhythmic Gymnasts.

Keywords: Rhythmic Gymnastics (RG), Core Stability Training, Physical and Technical Tests

### **Introduction**

Rhythmic Gymnastics (RG) is a sporting modality that has been technically developing through alterations of the punctuation code and adaptations in the competition levels, of age group and others. More and more, for those that long for high results, the course becomes more difficult (Zisi et al., 2009).

The core has been identified as a key component for functional athletic performance in the field of sports science. The core is referred as the region of the body that provides an adequate support for upper and lower extremity movements, during athletic performance (Dendas, 2010). Some studies defined core stability as "The ability to control the position and motion of the trunk over the pelvis and legs to allow optimum production, transfer, control of force and motion to the terminal segment in integrated kinetic chain activities (Kibler et al., 2006).

For many strength and conditioning professionals, core stability is considered a key component in training to improve sport performance (Leetun et al., 2004). Many investigators have examined the effectiveness of core training programs on athletic performance levels (Scibek et al., 2001); in each of these studies measures of core stability were also taken before and after training. Although it has been established that focused core training has a positive effect in numerous sports, little is known about the effect in rhythmic gymnastics. Therefore, the purpose of this study was to investigate the effect of core stability training on technical and physical attributes of rhythmic gymnastics performance.

### **Objectives**

1. To compare the significance differences of technical and physical attributes between Pre and Post Intervention.
2. To compare the significance differences of technical and physical attributes between the experimental group and the control group after 10-week of intervention.

### **Methodology**

#### **Subjects**

The subjects of this research were chosen from 2 RG club in Kuala Lumpur. A total of 40 subjects (N = 40) were chosen to become the subjects of this research. The subjects were equally divided into two groups using a random sampling with a draw session. All subjects had picked up a number from a box which contained no.1 or 2 where no.1 is experimental group and no.2 is control group.

The experimental group (n = 20) and the control group (n = 20). The experimental group underwent regular training with additional core stability intervention program in 10-week (2 session per week) and control group they did only regular RG training in 10-week (2 session per week). The subject's ages between 8 and 12 years were recruited for the study.

#### Measurements

In order to assess the physical attributes, sit and reach test (sit and reach box), sit-up test (60 Second Maximum Sit-Up Test), vertical jump (**Vertex Vertical Jump Meter**), stork stand balance test was used as the instrument of this research. In order to assess the technical attributes, Scissors jump with arm circles, Right-leg balance with free leg in front at horizontal, Pivot passé 360 in passé position to the right with arms at sides with judge scoring used as technical test of this research. Before undergo the test, the subjects were required to carry out a gentle warm up and light stretching exercises focusing on the lower limbs for at least 5 minutes. According to Prentice (2007) the warm up routine increase body core temperature, stretches ligaments and muscles and increase flexibility. Warm up routine has been found to be important in reducing injury and muscle soreness (Prentice, 2007).

#### Procedure

The all subjects of experimental group were informed and explained that a research entitled "The Effect of 10 Weeks Core Stability Training on Technical and Physical Attributes of Malaysian Rhythmic Gymnasts". They were fully informed of identified procedures prior to enrolment in the study. According to Sato & Mokha (2009) the total session volume should increase to challenge strength improvement rather than performing the same volume throughout their treatment. Therefore, this study was designed to increase the volume of exercise sessions every 2 weeks (Sato & Mokha, 2009). All subjects in experimental training groups successfully completed the entire 10-week program. After completion of the 10 weeks of core stability training, both subjects from experimental group (n = 20) and the control group (n = 20) were asked to perform post-test using the same physical and technical tests.

#### Results

There was a significant differences of the technical and physical attributes between the pre and post-test for the experimental group respectively for technical attributes ( $t = -4.7, df = 19, p < .05$ ) and for physical attributes ( $t = -9.4, df = 19, p < .05$ ). On the other hand, this study revealed that no significant differences of the technical and physical attributes between the pre and post-test for the control group respectively for technical attributes ( $t = -0.6, df = 19, p > .05$ ) and for physical attributes ( $t = -1.00, df = 19, p > .05$ ).

Table 1 shows the independent samples  $t$  – test between the Experimental and Control group on the Technical attributes (post-test),  $p < .05$ . There was a significant differences of the technical attributes between the experimental and control group during post-test ( $t = 3.25, df = 38, p < .05$ ).

Table 1: Independent samples  $t$  – test between the Experimental and Control group on technical attributes (post-test),  $p < .05$ .

Group	Mean Diff.	S.E. Diff	$t$	$df$	Sig. (2-tailed)
Experimental Group & Control Group	0.77	0.14	3.25	38	0.002

Table 2 shows the independent samples  $t$  – test between the Experimental and Control group on the physical attributes (post-test),  $p < .05$ . There was a significant differences of the physical attributes between the experimental and control group during post-test ( $t = 3.30, df = 38, p < .05$ ).

Table 2: Independent samples *t* – test between the Experimental and Control group on physical attributes (post-test),  $p < .05$ .

Group	Mean Diff.	S.E. Diff	<i>t</i>	<i>df</i>	Sig. (2-tailed)
Experimental Group & Control Group	26.7	4.00	3.30	38	0.002

## Discussion

The purpose of this study was to determine the effect of 10-week Core Stability Training on Technical and Physical Attributes of Malaysian Rhythmic Gymnasts. The major finding of this study was that the intervention often weeks (2 sessions per week) for the experimental group ( $n = 20$ ) induced significant differences ( $t = -4.7$ ,  $df = 19$ ,  $p < .05$ ) on technical and ( $t = -9.4$ ,  $df = 19$ ,  $p < .05$ ) on physical attributes of Malaysian Rhythmic Gymnasts. Sato & Mokha (2009) investigated the effects of six weeks of participation in a core strengthening program on running kinetics, lower-extremity stability, and 5000 meter performance in runners. Although the researchers provided evidence of a significant effect on running time in the experimental group after six weeks of training, the core stability test did not significantly influence ground force production and lower-leg stability functions. Kolba (2005) stressed the importance of core stability training for gymnasts, because of the various components of spin and rotation involved in many gymnastic movements.

The result of this study expressed that there was a significant differences of the technical and physical attributes between the experimental and control group during post-test respectively ( $t = 3.25$ ,  $df = 38$ ,  $p < .05$ ) and ( $t = 3.30$ ,  $df = 38$ ,  $p < .05$ ). The results supported that core stability training can improve the technical and physical attributes of rhythmic gymnasts well within short period of time (during 10 weeks). From the result of this study it can be concluded that traditional core stability training is beneficial to gymnasts in terms of enhancing technical and physical attributes, which will be beneficial in performance.

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## **Changes of physiological and physical fitness of elite Karate athletes after preparative training period**

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### **Introduction**

There is the most popular martial arts in the world is Karate. Practicing karate consists of basic techniques (kihon), kata, and sparring or fighting (kumite) (Imamura, 1998). Nowadays sparring categories in karate tournaments follows the rule of competition of World Karate Federation. It is called non contact rule. Kumite training is one of important part of karate, it includes the execution of freely chosen defensive and offensive techniques applied against an opponent (Imamura, 2002). Kumite is a style fighting consists of explosive techniques by hands and legs separated by intermittent hopping movements that allow for rapid changes of body position (Iide, 2008). The modality of Kumite involves different muscular groups, with combined movements of explosive strenght, suddent changes of accelerations and disaccelerations (Imamura, 1998). The attack and defense short duration techniques are characterized by performance with maximum intensity, interrupted by small intervals (Beneke, 2004) and make the modality comparable to an intermittent exercise (Ravier, 2006). Finding out an available athletes base on professional technically skill, physical fitness and physiological adaptation that have a crucial influence on sport performance, where genetic factors could be of considerable importance (Vaeyens, 2008). Ravier (2004; 2006) identified the effect on some test movement performance and the blood markers of anaerobic metabolism in different categories of kumite athletes so that suggest a valid kumite-specific test battery. The results show that power, speed, as well as the ammonia and lactate accumulation, could be sensitive enough to detect the difference in performance level. Finally, Blazevic (2006) determined the 'motor structures' that are strong relation for successfully in kumite competition and found that the most important abilities were power and speed. The literature reviewed above suggests that despite the general importance of physical abilities and physiological characteristic for the objective of both selecting in sport and estimation of the training process (MacDougall, 1991; Sterkowicz, 2009), there is an apparent lack of data regarding the differences before and after preparative kumite training period in Vietnam's athletes. Therefore, within this investigation we evaluated the fundamental fitness and physiological performance of elite karate athletes. The expected results could be of importance not only for selecting in sport and training in karate, but also for designing discipline specific testing batteries for estimation of kumite athletes.

### **Methods**

#### **Subjects**

The research was carried out in a group of 12 elite karate athletes consist of 6 male and 6 female, ages 19 to 24 years old. Some of them were national athletes and international medalists. All of them had been professional athletes for more than 5 years experience. None of them reported any medical problem or recent injuries that could compromise the tested performance. The research was approved by the Ethical Committee of the Hochiminh City University of Sport. Prior to the experiment all participants received a complete explanation regarding the purpose and procedures of the research, as well as the possible risks. They signed an informed consent document according to the Helsinki Declaration.

Table 1. Anthropometric profiles of the karate athletes

	Male athletes n=6	Female athletes n=6
Ages (yrs)	19.8 ± 2.2	19.6 ± 1.62
Height (cm)	170.8 ± 7.1	161 ± 2.3
Weight (kg)	61.8 ± 6.6	54.7 ± 8.3
BMI	19.51 ± 2.4	21.1 ± 3.07

Body height (BH) and body mass (BM) were measured to the nearest 0.5 cm and 100 g, respectively. Thereafter, the body mass index was assessed ( $BMI = BM/BH^2$ ).

#### **Preparative training period**

The preparative training period were 12 weeks including general fitness training and specific fitness training from the 1<sup>st</sup> January to 30<sup>th</sup> March 2012. Athletes practiced 2 hours in the morning and 2 hours in the afternoon with six days per week. The main emphasis was laid upon the development of agility, explosive strength, speed, strength, endurance abilities. The testing of the athletes was performed twice before the starting of training program and after completing program. Subjects were relaxed and non physical activity 48 hours prior to the experiment to minimize the possible effect of fatigue. The experiment was carried out within two testing session. It included outdoor measurements and laboratory medical screening, followed by testing.

#### **Physiology test**

**Pulmonary volume:** The pulmonary testis a complete evaluation of the respiratory system including patient history and physical examinations. Pulmonary volume is also called Vital capacity is the maximum amount of air a person can expel from the lungs after a maximum inhalation. It is equal to the sum of inspiratory reserve volume, tidal volume, and expiratory reserve volume. Using Vital Capacity parameter model T.K.K. 11510 from Japan for measurement.

**Heart work:** Subject was required relaxing on chair for few minutes and was measured heart rate in 15 seconds (H1). Then they do the sit and stand test with the rhythm of 30 times per 30 seconds. Heart rate was measured 15 seconds immediately after stop the test and subject sit on chair (H2). A minute recovery after the test the heart rate measurement was counted in 15 seconds (H3). Heart work was calculated following the equitation:

$$\text{Heart work (HW)} = [(H1 \times 4 + H2 \times 4 + H3 \times 4) - 200] / 100$$

**Anaerobic power:** The Wingate test is a cycle test of anaerobic leg power, conducted over 30 seconds. The test is also known as the Wingate Anaerobic Test (WANT), and was developed at the Wingate Institute in Israel during the 1970's. The aim of this test is to measure the anaerobic power of the lower body. The subject should first perform a cycling warm up of several minutes. The subject is instructed to pedal as fast as possible for 30 seconds. In the first few seconds, the resistance load is adjusted to the pre-determined level, which is usually about 45 g/kg body weight (Fleisch) or 75 g/kg body weight (Monark) for adults.

$$\text{Power Output (kpm}\cdot\text{min}^{-1}) = [\text{revs} \times \text{resistance (kg)} \times \text{dist (m)} \times 60 \text{ (sec)}] / \text{time (sec)}$$

$$\text{Watts} = \text{kpm}\cdot\text{min}^{-1} / 6.123$$

$$\text{Watts/kg} = \text{Watts} / \text{body weight (kg)}$$

$$\text{Fatigue Index} = [(\text{Peak Power Output} - \text{Min Power Output}) / \text{Peak Power Output}] \times 100$$

**VO<sub>2</sub>max:** The 20m shuttle run testis a commonly used maximal running aerobic test. This test involves continuous running between two lines 20m apart in time to recorded beeps. The subjects stand behind one of the lines facing the second line, and begin running when instructed by the recording. The speed at the start is quite slow. The subject continues running between the two lines, turning when signaled by the recorded beeps. After about one minute, a sound indicates an increase in speed, and the beeps will be closer together. This continues each minute (level). If the line is reached before the beep sounds, the subject must wait until the beep sounds before continuing. If the line is not reached before the beep sounds, the subject is given a warning and must continue to run to the line, then turn and try to catch up with the pace within two more 'beeps'. The test is stopped if the subject fails to reach the line (within 2 meters) for two consecutive ends after a warning.

## **Physical fitness test**

### **Flexibility**

*Sit and reach:* This test was selected for direct assessment of back and legs flexibility. This test involves sitting on the floor with legs stretched out straight ahead. Shoes should be removed. The soles of the feet are placed flat against the box. Both knees should be locked and pressed flat to the floor - the tester may assist by holding them down. With the palms facing downwards, and the hands on top of each other or side by side, the subject reaches forward along the measuring line as far. *Hip flexibility test (Groin):* This simple test measures the flexibility in the adductor muscles. This test involves sitting on the floor with legs stretched out two sides. Both knees should be kept straight during action.

### **Agility**

*T-test:* This test was selected for the assessment of agility. It has been recently reported that the ability to change direction could be of high importance for success in martial arts (Blazevic, 2006). The T test course consists of two 10 m straight sections forming the shape of letter T. It includes a forward sprint (10 m), side shuffle to the left (5 m), side shuffle to the right (10 m), side shuffle back to the left (5 m), and back peddled 10 m back to the start.

*Illinois agility test:* The length of the course is 10 meters and the width (distance between the start and finish points) is 5 meters. Four cones are used to mark the start, finish and the two turning points. Another four cones are placed down the center an equal distance apart. Each cone in the center is spaced 3.3 meters apart. Subjects should lie on their front (head to the start line) and hands by their shoulders. On the 'Go' command the stopwatch is started, and the athlete gets up as quickly as possible and runs around the course in the direction indicated, without knocking the cones over, to the finish line, at which the timing is stopped.

### **Power and speed**

*Long jump test:* The athlete stands behind a line marked on the ground with feet slightly apart. A two foot take-off and landing is used, with swinging of the arms and bending of the knees to provide forward drive. The subject attempts to jump as far as possible, landing on both feet without falling backwards. It could also be of importance that the explosive action of the hip and knee extensor is essential for both the karate 'stepping' and leg kicks.

*A 30m sprint test:* The test involves running a single maximum sprint over a set 30m, with time recorded. Although the movement is not karate-specific, the test selection was based on the presumed importance of rapid movement initiation and speed for elite kumite competitors (Blazevic, 2006). The subjects were instructed to run from the standing posture as fast as possible until passing the 30 m mark. Electronic timing gates were used to evaluate these variables.

### **Strength**

*Arm grip:* The purpose of this test is to measure the maximum isometric strength of the hand and forearm muscles. Handgrip strength is important for any sport in which the hands are used for catching, throwing or lifting. Also, as a general rule people with strong hands tend to be strong elsewhere, so this test is often used as a general test of strength. The subject holds the dynamometer in the hand to be tested, with the arm at right angles and the elbow by the side of the body. The handle of the dynamometer is adjusted if required - the base should rest on first metacarpal (heel of palm), while the handle should rest on middle of four fingers. When ready the subject squeezes the dynamometer with maximum isometric effort, which is maintained for about 5 seconds. No other body movement is allowed. The subject should be strongly encouraged to give a maximum effort.

*Leg extension test:* Make sure the dial is reset to zero before the start. Stand upright on the base of the dynamometer with the feet shoulder width apart. Let the arms hang straight down to hold the center of the bar with both hands, and with the palms facing toward the body. Adjust the chain so that the knees are bent at approximately 110 degrees. In this position the back should be bent slightly forward at the hips, the head should be held upright, and subject should look straight ahead. Then without bending your back, pull as hard as possible on the chain and try to straighten your legs, keeping the arms straight. Pull against the weight steadily (no jerky movements), keeping the feet flat on the base of the dynamometer. Maximum performance will result when the legs are almost straight at the end of the lift. If not, adjust the chain length and starting position.

*Back extension test :* Make sure the dial is reset to zero before you start. Stand upright on the base of the dynamometer with the feet shoulder width apart. Let the arms hang straight down to hold the center of the bar with both hands, and with the palms facing toward the body. Adjust the chain so that the knees hang straight. In this position the back should be kept straight during action, the head should be held upright,



and subject should look straight ahead. Then without bending the back, pull as hard as possible on the chain and try to straighten the legs, keeping the arms straight. Pull against the weight steadily (no jerky movements), keeping the feet flat on the base of the dynamometer. Maximum performance will result when the legs are almost straight at the end of the lift. If not, adjust the chain length and starting position.

### Endurance strength

Push up in 20 seconds: The push-up fitness test (also called the press up test) measures upper body strength and endurance. A standard push up begins with the hands and toes touching the floor, the body and legs in a straight line, feet slightly apart, the arms at shoulder width apart, extended and at a right angles to the body. Keeping the back and knees straight, the subject lowers the body to a predetermined point, to touch some other object, or until there is a 90-degree angle at the elbows, then returns back to the starting position with the arms extended. This action is repeated, and test continues until times-up. The number of push-up was counted.

Sit up in 20 seconds: This is a general description of a sit-up test to measure abdominal muscle endurance (also called curl up or crunch test). The procedures and technique for this test can vary depending on which specific test you are performing. See the procedures section for links to instructions for the specific abdominal endurance tests. The curl up test measures abdominal muscular strength and endurance of the abdominals and hip-flexors, important in back support and core stability. The number of sit-up was counted.

### Endurance

1500m run: This test involves running a single maximal with time recorded. Although the movement is not karate-specific, the test selection was based on the presumed importance of rapid movement initiation and speed for elite kumite competitors (Blazevic, 2006). The subjects were instructed to run from the standing posture as fast as possible until passing the 1500 m mark. Electronic timing gates were used to evaluate these variables.

### Statistics

Standard descriptive statistics (mean and standard deviation) were calculated for each variable. Significant statistical differences between the before and after experiment were tested by means of the two-tailed, independent t-test. Statistical significance was set at  $p = 0.05$ . All statistical tests were performed using SPSS 16.0 (SPSS INC, Chicago, IL).

### Results

Table 2. Physiological and Physical profile before and after preparative training period

	Male athletes (n=6)					Female athletes (n=6)				
	Before		After		W%	Before		After		W%
	Mean	SD	Mean	SD		Mean	SD	Mean	SD	
Pulmonary volume (L)	3.93	0.25	4.50	0.24	6.77	2.77	0.17	3.68	0.16	14.09
Heart work	5.80	0.94	4.66	0.59	10.88	5.70	1.14	4.15	0.29	15.78
Anaerobic power (W)	569.38	21.82	637.14	25.80	5.62	415.90	13.74	463.25	24.76	5.39
VO2max (%)	49.20	1.81	52.18	2.06	2.94	40.78	2.93	44.20	2.79	4.02
Sit & reach (cm)	19.97	1.70	20.70	1.84	1.79	18.72	0.92	19.90	1.13	3.06
Hip flexibility (cm)	1.67	0.52	0.50	0.55	53.92	1.17	0.75	0.33	0.52	56.00
T-Test (s)	10.78	0.37	10.25	0.44	2.52	12.73	0.89	11.90	0.31	3.37
Illinois Agility(s)	17.33	0.43	16.75	0.45	1.70	19.67	0.46	18.93	0.41	1.92

Point	Male Karate Athletes				Female Karate Athletes			
	Pul. Volume	Heart work	Ana power	VO2max	Pul. Volume	Heart work	Ana power	VO2max
	(L)	(point)	(W)	(ml/kg/min)	(L)	(point)	(W)	(ml/kg/min)
10	>5.17	< 1.11	> 678.48	> 58.24	3.73	<1.21	484.60	35.43
9	4.93 - 5.17	1.11 - 2.04	656.66 - 678.48	56.44 - 58.24	3.45 - 3.73	1.21 - 1.97	470.86 - 484.60	52.50 - 35.43
8	4.68 - 4.92	2.05 - 2.98	634.84 - 656.65	54.63 - 56.43	3.28 - 3.44	1.98 - 2.87	457.12 - 470.85	49.57 - 52.49
7	4.43 - 4.67	2.99 - 3.92	613.02 - 634.83	52.82 - 54.62	3.11 - 3.27	2.88 - 3.77	443.38 - 457.11	46.64 - 49.56
6	4.18 - 4.42	3.93 - 4.86	591.20 - 613.01	51.01 - 52.81	2.94 - 3.10	3.78 - 4.67	429.64 - 443.37	43.71 - 46.63
5	3.93 - 4.17	4.87 - 5.80	569.38 - 591.19	49.20 - 51.00	2.77 - 2.93	4.68 - 5.70	415.90 - 429.63	40.78 - 43.70
4	3.68 - 3.92	5.81 - 6.74	547.56 - 569.37	47.39 - 49.19	2.60 - 2.76	5.71 - 6.84	402.16 - 415.89	37.85 - 40.77
3	3.43 - 3.67	6.75 - 7.68	525.74 - 547.55	45.58 - 47.38	2.43 - 2.59	6.85 - 7.98	388.42 - 402.15	34.92 - 37.84
2	3.18 - 3.42	7.69 - 8.62	503.92 - 525.73	43.77 - 45.57	2.26 - 2.42	7.99 - 9.12	374.68 - 388.41	31.99 - 34.91
1	2.93 - 3.17	8.63 - 9.56	482.10 - 503.91	41.96 - 43.76	2.09 - 2.25	9.13 - 10.26	360.94 - 374.67	29.06 - 31.98
0	< 2.93	>9.56	< 482.10	< 41.96	< 2.20	> 10.26	< 360.94	< 29.06

Table 4. The norm of physical fitness in Male athletes  
**Dissussion**

Male Karate Athlete												
Point	Sit&reach (cm)	Hip flex (cm)	T-Test (s)	Test Illinois Agility (s)	Long jump (cm)	30m sprint (s)	Arm grip (kg)	Leg extension (kg)	Back extension (kg)	Push up 20s/lần	Sit up 20s/lần	1500m run (s)
10	> 28.47	< -0.93	< 8.93	< 15.18	> 290.82	< 4.05	> 56.03	> 136.68	> 118.43	> 40.52	> 27.52	< 306.73
9	26.77 - 28.47	-0.41 - -0.93	9.30 - 8.93	15.61 - 15.18	280.99 - 290.82	4.22 - 4.05	54.40 - 56.03	135.51 - 136.68	117.61 - 118.43	38.55 - 40.52	26.15 - 27.52	311.35 - 306.73
8	25.07 - 26.76	0.11 - -0.40	9.67 - 9.31	16.04 - 15.62	271.16 - 280.98	4.40 - 4.23	52.77 - 54.39	134.34 - 135.50	116.79 - 117.60	36.58 - 38.54	24.78 - 26.14	315.97 - 311.36
7	23.37 - 25.06	0.63 - 0.12	10.04 - 9.68	16.47 - 16.05	261.33 - 271.15	4.58 - 4.41	51.14 - 52.76	133.17 - 134.33	115.97 - 116.78	34.61 - 36.57	23.41 - 24.77	320.59 - 315.98
6	21.67 - 23.36	1.15 - 0.64	10.41 - 10.05	16.90 - 16.48	251.50 - 261.32	4.76 - 4.59	49.51 - 51.13	132.00 - 133.16	115.15 - 115.96	32.64 - 34.60	22.04 - 23.40	325.21 - 320.60
5	19.97 - 21.66	1.67 - 1.16	10.78 - 10.42	17.33 - 16.91	241.67 - 251.49	4.94 - 4.77	47.88 - 49.50	130.83 - 131.99	114.33 - 115.14	30.67 - 32.63	20.67 - 22.03	329.83 - 325.22
4	18.27 - 19.96	2.19 - 1.68	11.15 - 10.79	17.76 - 17.34	231.84 - 241.66	5.12 - 4.95	46.25 - 47.87	129.66 - 130.82	113.51 - 114.32	28.70 - 30.66	19.30 - 20.66	334.45 - 329.84
3	16.57 - 18.26	2.71 - 2.20	11.52 - 11.16	18.19 - 17.77	222.01 - 231.83	5.30 - 5.13	44.62 - 46.24	128.49 - 129.65	112.69 - 113.50	26.73 - 28.69	17.93 - 19.29	339.07 - 334.46
2	14.87 - 16.56	3.23 - 2.72	11.89 - 11.53	18.62 - 18.20	212.18 - 222.00	5.48 - 5.31	42.99 - 44.61	127.32 - 128.48	111.87 - 112.68	24.76 - 26.72	16.56 - 17.92	343.69 - 339.08
1	13.17 - 14.86	3.75 - 3.24	12.26 - 11.90	19.05 - 18.63	202.35 - 212.17	5.66 - 5.49	41.36 - 42.98	126.15 - 127.31	111.05 - 111.86	22.79 - 24.75	15.19 - 16.55	348.31 - 343.70
0	< 13.17	> 3.75	> 12.26	> 19.05	< 202.35	> 5.66	< 41.36	< 126.15	< 111.05	< 22.79	< 15.19	> 348.31
Female Karate Athlete												
10	> 23.32	< -2.58	< 8.28	< 17.37	> 249.97	< 4.32	> 48.12	> 69.82	> 60.45	> 38.63	> 23.45	< 483.95
9	22.40 - 23.32	-1.83 - -2.58	9.17 - 8.28	17.83 - 17.37	238.61 - 249.97	4.50 - 4.32	44.86 - 48.12	68.49 - 69.82	59.56 - 60.45	36.77 - 38.63	22.56 - 23.45	486.56 - 483.95
8	21.48 - 22.39	-1.08 - -1.82	10.06 - 9.18	18.29 - 17.84	227.25 - 238.60	4.68 - 4.51	41.60 - 44.86	67.16 - 68.48	58.67 - 59.55	34.91 - 36.76	21.67 - 22.55	489.17 - 486.57
7	20.56 - 21.47	-0.33 - -1.07	10.95 - 10.07	18.75 - 18.30	215.89 - 227.24	4.86 - 4.69	38.34 - 41.60	65.83 - 67.15	57.78 - 58.66	33.05 - 34.90	20.78 - 21.66	491.78 - 489.18
6	19.64 - 20.55	0.42 - -0.32	11.84 - 10.96	19.21 - 18.76	204.53 - 215.88	5.04 - 4.87	35.08 - 38.34	64.50 - 65.82	56.89 - 57.77	31.19 - 33.04	19.89 - 20.77	494.39 - 491.79
5	18.72 - 19.63	1.17 - 0.43	12.73 - 11.85	19.67 - 19.22	193.17 - 204.52	5.22 - 5.05	31.82 - 35.08	63.17 - 64.49	56.00 - 56.88	29.33 - 31.18	19.00 - 19.88	497.00 - 494.40
4	17.80 - 18.71	1.92 - 1.18	13.62 - 12.74	20.13 - 19.68	181.81 - 193.16	5.40 - 5.23	28.56 - 31.82	61.84 - 63.16	55.11 - 55.99	27.47 - 29.32	18.11 - 18.99	499.61 - 497.01
3	16.88 - 17.79	2.67 - 1.93	14.51 - 13.63	20.59 - 20.14	170.45 - 181.80	5.58 - 5.41	25.30 - 28.56	60.51 - 61.83	54.22 - 55.10	25.61 - 27.46	17.22 - 18.10	502.22 - 499.62
2	15.96 - 16.87	3.42 - 2.68	15.40 - 14.52	21.05 - 20.60	159.09 - 170.44	5.76 - 5.59	22.04 - 25.30	59.18 - 60.50	53.33 - 54.21	23.75 - 25.60	16.33 - 17.21	504.83 - 502.23
1	15.04 - 15.95	4.17 - 3.43	16.29 - 15.41	21.51 - 21.06	147.73 - 159.08	5.94 - 5.77	18.78 - 22.04	57.85 - 59.17	52.44 - 53.32	21.89 - 23.74	15.44 - 16.32	507.44 - 504.84
0	< 15.04	> 4.17	> 16.29	> 21.51	< 147.73	> 5.94	< 18.78	< 57.85	< 52.44	< 21.89	< 15.44	> 507.44

The results from table 1 showed that the physiological adaptation were increased significantly with  $p < 0.05$  compare to prior training. The pulmonary increased 6.77% in male from  $3.93 \pm 0.25$  L to  $4.50 \pm 0.24$  L and 14.09% in female from  $2.77 \pm 0.17$  L to  $3.68 \pm 0.16$  L. The heart work improved 10.88% from  $5.8 \pm 0.94$  to  $4.66 \pm 0.59$  in male and improved 15.78% from  $5.7 \pm 1.14$  to  $4.15 \pm 0.29$  in female. The Aerobic power increased 5.62% in male from  $569.38 \pm 21.82$  W to  $637.14 \pm 25.80$  W and increases 5.39% in female from  $415.9 \pm 13.74$  W to  $463.25 \pm 24.76$  W. The VO<sub>2</sub> max increased 2.94% from  $49.20 \pm 1.81$  ml/kg/min to  $52.18 \pm 2.06$  ml/kg/min in male and 4.02% from  $40.78 \pm 2.93$  ml/kg/min to  $44.20 \pm 2.79$  ml/kg/min in female. The physiological function reflects the training ability, therefore the results indicated that athletes has been adapted after practice in preparative training period but they were still lower than Tusnia elite karate athletes (Chaabène, 2012, 2014; Tabben, 2013). It was also found the differences between the before and after preparative training period regarding physical fitness tests. The previous studies explained by similar aerobic demands of the athletes during both training and competition or, alternatively, by a relatively low sensitivity of the applied test (Bangsbo, 1992; Imamura, 1998; Bangsbo, 2008). Thus, we suggested using more specific endurance tests in future investigation, particularly those based on intermittent activity that would correspond to the duration of a typical karate competition (Kustrup, 2006; Bangsbo, 2008).

Regarding the physical fitness test the results showed that the ability training of athletes has been increased. Before taking part the training, some tests showed that the athletes' ability was lower compare to prior investigation in Hochiminh city team in explosive strength (long jump), strength velocity (30m sprint), endurance (1500m run), agility (T test). After preparative training period, the fundamental fitness has been increased. The explosive strength higher than Hochiminh city team in long jump test approximately 2 cm in male and 4 cm in female. In 30m sprint test, the male athletes were faster 0.02 s and the female athletes were faster 0.025s. The endurance performance was also higher than Hochiminh city team after training but the T test was still lower than them (Hue, 2008).

The study were also established the norm of training ability of Vietnam elite karate athletes in preparative training period with 16 tests. With totally 160 points for 16 tests, it has been identified the scale for fitness assessment: excellence (>144 points), good (112~143 points), average (80~111 points), poor (48~79 points), very poor (<48 points).

According this scale before taking part the preparative training period there were 6 male athletes in average level (100%) and 4 female athletes in average level (60%) and 2 in poor level (40%). After training period there were 3 male athletes in good level (50%) and 3 athletes in average level (50%), and 4 female athletes in good level (60%) and 2 athletes in average level. In addition, there were 58.3% athletes in good level and 41.7% athletes in average level were found.

It was the first time the results of Vietnam elite karate athletes have been published in international journal. The previous investigations published in local journal only which was written in Vietnamese, therefore it was hard to compare with other findings and limitation to search on internet.

### **Conclusion**

Finding indicates that during the preparative training period, the fitness was increase significantly but the ratio of average level was still high. Results support the usefulness of biological and physical conditioning evidence during training season so that adjusting training loads.

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## Impact Of Anaerobic Training And Resistance Training On Stride Length Among Adolescent Boys

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### Abstract

The purpose of this investigation was to find out the effect of anaerobic training and resistance training on stride length among adolescent boys. Thirty adolescent boys ( $n = 30$ ) were randomly selected as subjects and their age ranged between 14 and 17 years. The selected subjects were randomly assigned into three equal groups such as an anaerobic training group, resistance training group and the control group with ten subjects each ( $n = 10$ ). The anaerobic training group and resistance training groups underwent their respective experimental treatment for eight weeks for three days per week and a session on each day. The control group did not participate in any specific training apart from their daily activities. Stride length was taken as a variable for this investigation and video analysis was used as a test item. The collected data were analysed by using the statistical tool of analysis of covariance (ANCOVA). In determining the significance of 'F' ratio Scheffe's test was applied as a post hoc test to determine the paired mean. The confidence interval was fixed at 0.05 levels. The results revealed that there was a significant difference between anaerobic training group and the resistance training group along with a control group. It is clear from the post hoc test that the resistance training group has a significant difference ( $p \leq 0.05$ ) against the anaerobic training group on stride length.

Key Words: Anaerobic training, resistance training, stride length, adolescent boys

### Introduction

Anaerobic metabolism, or anaerobic energy expenditure, is a natural part of whole-body metabolic energy expenditure (Christopher, 2005). Fast twitch muscle (as compared to slow twitch muscle) operates using anaerobic metabolic systems, such that any recruitment of fast twitch muscle fibers leads to increased anaerobic energy expenditure. Intense exercise lasting upwards of about four minutes (e.g., a mile race) may still have a considerable anaerobic energy expenditure component (Medbo. *et al.* 2011). Resistance training has also become an essential method to improve athletes' speed and explosive power. Research results show that resistance training improves explosive power, vertical jump and speed in professional soccer players by affecting the leg extensor muscles. Stride length is defined as the average length covered by a step, that is, the distance between our 'right and left foot contacting the ground. It is also the distance the center of mass travels during a running stride. Stride length is therefore actually double the step length (assuming the left step is more or less the same as the right step). In other words, stride length is the distance covered between initial contact (IC) of one foot and the consecutive IC of that same foot. Step length, on the other hand, is the distance covered between IC of one foot and IC of the opposite foot, i.e. half. By the same reasoning, we will take twice as many steps per minute as strides, so stride frequency will be half that of step frequency.

### Materials And Methods

The purpose of this investigation was to find out the effect of anaerobic training and resistance training on stride length among adolescent boys. To achieve these purpose thirty adolescent boys students were taken from different schools at Chidambaram, Cuddalore district in Tamil Nadu. Twenty of them had undergone the training programme for anaerobic training and resistance training and the remaining students were acted as a control. The selected subjects were in the age group between fourteen and seventeen years.

The training protocol was planned for eight weeks and three sessions in a week (Monday, Wednesday & Friday). All the subjects involved in the training programme were questioned about their status throughout the training period. None of them reported any injuries. The data on stride length was collected by using the video analysis technique. The collected data were analysed by using the statistical tool of analysis of covariance (ANCOVA). In determining the significance of 'F' ratio Scheffe's test was applied as a post hoc test to determine the paired mean. The confidence interval was fixed at 0.05 levels, which is considered, appropriate enough for the study.

### Results And Discussion

Table – I: Analysis of Covariance on Stride length of Experimental and Control Groups

Test		<u>AT</u> <u>Group</u>	<u>RT</u> <u>Group</u>	<u>Control</u> <u>Group</u>	<u>SOV</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
<u>Pre test</u>	<u>Mean</u>	<u>1.63</u>	<u>1.64</u>	<u>1.65</u>	<u>B</u>	<u>0.001</u>	<u>2</u>	<u>0.001</u>	<u>3.14</u>
	<u>SD</u>	<u>0.010</u>	<u>0.014</u>	<u>0.013</u>	<u>W</u>	<u>0.004</u>	<u>27</u>	<u>0.000</u>	
<u>Post test</u>	<u>Mean</u>	<u>1.69</u>	<u>1.72</u>	<u>1.64</u>	<u>B</u>	<u>0.032</u>	<u>2</u>	<u>0.016</u>	<u>67.56*</u>
	<u>SD</u>	<u>0.015</u>	<u>0.019</u>	<u>0.008</u>	<u>W</u>	<u>0.006</u>	<u>27</u>	<u>0.000</u>	
<u>Adjusted</u> <u>Post test</u>	<u>Mean</u>	<u>1.69</u>	<u>1.72</u>	<u>1.64</u>	<u>B</u>	<u>0.031</u>	<u>2</u>	<u>0.015</u>	<u>70.16*</u>
					<u>W</u>	<u>0.006</u>	<u>26</u>	<u>0.000</u>	

(The table value required for significance at 0.05 level of confidence with df 2 and 27, and 2 and 26 are 3.35 and 3.37 respectively)

Table I indicates that pre and post test mean and standard deviation of experimental and control group on stride length. The obtained 'F' value for pre test mean on stride length was 3.14, which was lesser than the table value of 3.35 for the degree of freedom 2 and 27 at 0.05 level of confidence; hence there was no significant difference in pre test data on stride length. The analysis of the post and adjusted post test 'F' value were 67.56 and 70.16 respectively, which were higher than the table 'F' of 3.35 and 3.37. Hence there exists a significant difference in stride length among the experimental groups and the control group. Scheffe's test was used to find out the paired mean difference and it was displayed in Table II.

Table- II

Scheffe's Post Hoc Test for the Difference Between Paired Mean on Stride length

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.
Anaerobic	Resistance	-.0250*	.00685	.004
	Control	.0530*	.00685	.000
Resistance	Anaerobic	.0250*	.00685	.004
	Control	.0780*	.00685	.000
Control	Anaerobic	-.0530*	.00685	.000
	Resistance	-.0780*	.00685	.000

Based on observed means.

The error term is Mean Square(Error) = .000.

\*The mean difference is significant at the 0.05 level.

Table II showed the values of post hoc test. The adjusted post test mean difference in stride length between anaerobic training group and resistance training group, anaerobic training group and the control group, resistance training group and the control groups were, 0.025, 0.053, 0.078 respectively. All the three values of the mean differences are greater than the significant values of respect columns. Hence the result of the study can conclude that both training groups have significant improvement in stride length as compared with the control group. From the scheffe's adjusted post hoc test result, it was clear that the resistance training protocol was better to improve the stride length than the anaerobic training program. The pre, post and adjust post test mean values of experimental groups and the control group on stride length was graphically represented in the figure 1.

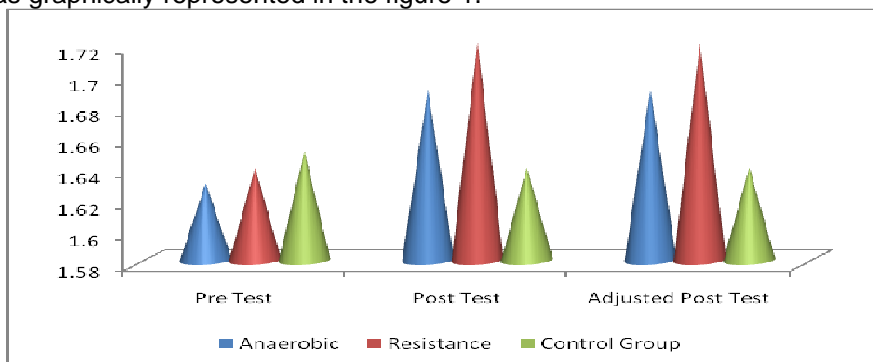


Figure 1: The pre, post and adjusted post test mean values of experimental groups and control group on stride length

## Discussion

This study has a great impact in the field of physical education and the competitive sports. Hence the result of the study concludes that both training groups have significant improvement in stride length as compared with a control group. From the scheffe's adjusted post hoc test result, it was clear that the resistance training protocol was better to improve the stride length than the anaerobic training program. Jung (2003) conducted his study on resistance training in Germany and concluded the result of positive improvement in stride length of school boys. The study of the Baughman. *et al.* (1984) in sprint training also pointing the same result in their study.

## Conclusion

The results of the study showed that there was a significant improvement in stride length between the anaerobic training group and the resistance training group as compared with the control group. From the post hoc table it is clear that the resistance training is producing better results of stride length than the anaerobic training group.

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## **Comparative Study On Physical Fitness Among Volleyball And Beach Volleyball Players In Andhra Pradesh**

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### **Introduction:**

Physical fitness refers to the organic capacity of the individual to perform the normal task of daily living without undue tiredness or fatigue having reserves of strength and energy available to meet satisfactorily any emergency demands suddenly placed upon him". Physical fitness involves the performance of the heart and lungs, and the muscles of the body. And, since what we do with our bodies also affects what we can do with our minds, fitness influences to some degree qualities such as mental alertness and emotional stability. The purpose of the study is to find out strength, speed, endurance among men volleyball and men beach volleyball players in Andhra Pradesh.

### **Objectives of the study:**

To find out the significant difference between men volleyball players and men beach volleyball players in relation to their strength. Was there any significant difference among men volleyball and men beach volleyball players in speed. Was there any significant difference among men volleyball players and men beach volleyball players in endurance.

### **Methodology**

The samples were collected from the men 25 volleyball players and 25 beach volleyball players in Hyderabad who have taken part in coaching camp at Musheerabad MCH playground during the year 2012-13 were considered. Physical fitness test administered on state players, i.e., the strength (weight training), speed (50mtrs run) and endurance (cooper test 12 mts run and walk).

### **Results and Discussions:**

Table I Showing the Mean values, SD and 't' value and p-value between Men volleyball and beach volleyball players in relation to their strength (Weight training)

S. No.	Subjects	N	Mean	S.D	t-value	P value
1	Volleyball players	25	25.00	0.33	1.301	0.01
2	Beach volleyball players	25	14.11	0.22		

Table II Showing the Mean values SD, of, 't' value and p-value between Men volleyball and Men beach volleyball players in relation to their Speed 50Metres

S. No.	Subjects	N	Mean	S.D	t-ratio	P value
1	Volleyball players	25	5.00	0.23	1.401	0.01
2	Beach volleyball players	25	4.11	0.12		

### **Conclusion:**

In the present study the results showed that there was a significant difference between men volleyball and beach volleyball players in Strength, Speed and endurance, scientifically proved that volleyball players have better strength and speed than beach volleyball players. Beach volleyball players have endurance than volleyball players.

## Effect Of Sand Running On Cardio-Respiratory Endurance And Resting Pulse Rate

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### **Abstract**

The purpose of the present study was to find the effect of sand running on cardio-respiratory endurance and resting pulse rate. For this purpose, thirty male students studying Bachelor Degree in the Department Physical Education and Sports Sciences, Annamalai University in the age group of 18 – 22 years were selected. They were divided into two equal groups, each group consisted of fifteen subjects, in which Group – I underwent sand running and group – II acted as control group who did not participate in any special training. The training period for this study was three days in a week for twelve weeks. Prior to and after the training period the subjects were tested for cardio-respiratory endurance and resting pulse rate. Cardio-respiratory endurance was assessed by conducting Cooper's 12 minutes run/walk test, and resting pulse rate was assessed by counting the pulse rate at arterial pressure for one minute at resting condition. Analysis of Covariance was applied as statistical tool. The result of the study has shown that the sand running group has improved the cardio-respiratory endurance and also reduced the resting pulse rate after the sand running period when compared with the control group..

**Key words:** *sand running, cardio-respiratory endurance and resting pulse rate.*

### **Introduction**

Training involves constructing an exercise programme to develop an athlete for a particular athletic event. Thus, increasing skill and energy capacities take equal consideration.

Physical training refers to the processes used in order to develop the components of physical fitness as for example, how to improve aerobic endurance, to stretch and relax muscles, to increase arm and shoulder strength to related exercise and programmes to specific requirements or individual sports. Sand running, if we are using foot prints picture as a feedback, could be a good indicator of our running technique. Just look at your foot print, how deep is it and where the main pressure is located and you'll be able to clearly define some errors of your running technique, such as a push off, an overstriding, etc. Particularly, it could be seen very well on wet sand, where your foot prints are very visible. Check these prints at the beginning of your running on sand and then repeat this check during your training to compare the change and correct, if it's necessary. Running on sand could be used on a weekly basis or on a daily basis during specific time of your training (camping, for example) devoted to development of your strength, running skill and aerobic system. Better to combine this kind of training with running drills and normal running in order to transfer your new development into new running skill. In order to have full benefits of use of sand I would highly recommend to do barefoot sprint running and jumps on sand. All of these together will give you an incredible possibility to increase your potential in training and racing in running. Cardio-respiratory endurance is the ability work close to one's maximum aerobic capacity for a prolonged period of time. To increase one's endurance is depend upon increasing the ability to work at high, relative work load for extended periods of time. Cardio-respiratory efficiency may be defined as the ability of the heart and circulatory system to adjust to the stress of activity. The rate at which the heart beats; usually measured to obtain a quick evaluation of a person's health is called as pulse rate.

### **Materials And Methods**

This study under investigation involves the experimentation of sand running on cardio-respiratory endurance and resting pulse rate. Thirty male students those who were studying Bachelor Degree in Department of Physical Education and Sports Sciences, Annamalai University and aged between 18 and 22 years were selected. The selected thirty subjects were randomly divided into two groups of fifteen each, out of which group - I (n = 15) underwent sand running and group - II (n = 15) remained as control, which did not participate any special activities. The training programme was carried out for three days per week during morning session only (6 am to 8 am) for twelve weeks. The load dynamics for sand running group was given in appendix. Cardio-respiratory endurance was assessed by conducting



Cooper's 12 minutes run/walk test and resting pulse rate was assessed by counting the pulse at radial artery pressure for one minute at resting condition.

#### Analysis Of Data

The data collected prior to and after the experimental periods on cardio-respiratory endurance and resting pulse rate on sand running group and control group were analysed and presented in the following table -I.

**Table – I**

#### Analysis of Covariance and 'F' ratio of Cardio-respiratory Endurance and Resting Pulse Rate for Sand Running Group and Control Groups

Variable Name	Group Name	Sand Running Group	Control Group	'F' Ratio
Cardio-respiratory Endurance (in Meters)	Pre-test Mean ± S.D	1832.28 ± 12.23	1846.51 ± 13.23	1.162
	Post-test Mean ± S.D.	2012.26 ± 10.86	1843.22 ± 14.21	29.54*
	Adj. Post-test Mean	2110.59	1844.63	49.23*
Resting Pulse Rate (in Numbers)	Pre-test Mean ± S.D	62.23± 1.99	63.16 ± 1.83	0.892
	Post-test Mean ± S.D.	61.02 ± 1.313	63.06± 1.451	3.21
	Adj. Post-test Mean.	60.93	63.10	7.341*

\* Significant at .05 level of confidence.

(The table value required for significance at .05 level of confidence with df 1 and 28 and 1 and 27 were 4.20 and 4.21 respectively).

#### Results

The training intensity for sand running group was shown in appendices. Before applying the experiment all the subjects of the sand running group and control groups were attended the pre-test, which was conducted a day prior to the commencement of the training and the data were collected on cardio-respirator endurance and resting pulse rate. After twelve weeks of training the post-test was conducted one day after the training period to find out any changes in the criterion variables.

The analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the experimental groups and control group on selected criterion variables separately. In all the cases, .05 level of confidence was fixed to test the significance, which was considered as an appropriate. After applying the analysis of covariance, the result of this study showed that there was a significant difference among sand running group and control group on cardio-respiratory endurance and resting pulse rate. The criterion variables such as, cardio-respiratory endurance was improved for sand running group and resting pulse rate was significantly decreased after the sand running period.

#### Conclusions

Cardio-respiratory endurance was improved for sand running group, when compared with the control group. The resting pulse rate was decreased in sand running group when compared with the control group.

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## Effect Of Step Aerobic Training Programme On Leg Strength And Agility

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### **Abstract**

The purpose of the study was to find out the effect of step aerobic programme on leg strength and agility among women students. To achieve this purpose, 20 women students were randomly selected as subjects from the Department of Physical Education and Sports Sciences, Annamalai University studying in various classes. The age of the subjects were ranged from 18 to 23 years. The subjects were further classified at random into two equal groups of 10 subjects each in which group - I underwent step aerobic programme for three days per week for eight weeks and group - II acted as control who were not undergo any special training programme. The selected criterion variables such as leg strength and agility were assessed before and after the training period. The collected data were statistically analysed by using Analysis of Covariance (ANCOVA). From the results of the study it was found that there was a significant improvement on leg strength and agility for step aerobic group when compared with the control group.

Key Word: *step aerobics, leg strength and agility*

### **Introduction**

In sports the word "Training" is generally understood to be a synonym of doing physical exercises. In a narrow sense, training is doing physical exercises for the improvement of performance.

Sports training is a scientifically based and pedagogically organized process which through planned and systematic effect on performance ability and performance readiness aims at sports perfection and performance improvement as well as at the contest in sports competition.

Step aerobics is distinguished from other forms of aerobic exercise by its use of an elevated platform (the step). The height can be tailored to individual needs by inserting risers under the step. Step aerobics classes are offered at many gyms and fitness centers which have a group exercise program.

Strength is a vital factor on which the sports performance depends. Depending upon the magnitude and type of resistance to be tackled in various sports, the sportsman of different sports and different level and type of strength to achieve good performance.

Agility is generally defined as the ability to change the direction quickly and effectively while moving as nearly as possible at full speed. It is depended primarily on strength, reaction time, speed of movement and specific muscle co-ordination.

### **Methodology**

The purpose of this study was to find out the effect of step aerobic on leg strength and agility. To achieve the purpose of this study 20 college women students who were studying in the Department of Physical Education and Sports Sciences, Annamalai University during the academic year 2009-2010 were randomly selected as subjects. The age of the subjects were ranged from 18 to 23 years. The selected subjects were divided into two groups of ten subjects each. Group I considered as experimental group who underwent step aerobic training and Group II considered as control that did not undergo any special training programme.

The experimental group underwent step aerobic programme for 3 days per week for 8 weeks. The control group did not participate in any special training programme on strenuous physical activities apart from their day to day activities. The experimental group underwent their step aerobic under the instruction and supervision of the investigators.

The data were collected on selected criterion variables such as leg strength and agility were measured by using leg lift with the dynamometer and shuttle run at before and after the eight weeks of step aerobic as pre and post test. Analysis of covariance (ANACOVA) was applied to find out significant difference if any between the experimental and control group.

Table – I

Analysis Of Covariance For Leg Strength And Agility For Step Aerobic Training Group And Control Group

Variable Name	Group Name	Step Aerobic Group	Control Group	'F' Ratio
Leg Strength (in Kilograms)	Pre-test Mean ± S.D	55.67 ± 1.35	55.93 ± 1.45	0.265
	Post-test Mean ± S.D.	58.13 ± 1.41	55.87 ± 1.51	18.14*
	Adj. Post-test Mean	58.23	55.77	38.12*
Agility (in Seconds)	Pre-test Mean ± S.D	11.67 ± 0.035	11.90 ± 0.013	0.54
	Post-test Mean ± S.D.	11.07 ± 0.022	11.93 ± 0.091	4.66*
	Adj. Post-test Mean	11.01	11.901	5.01*

\* Significant at 0.05 level of confidence.

(The table values required for significance at 0.05 level of confidence for 1 and 18 & 1 and 17 are 4.41 and 4.45 respectively).

results

Table - I showed that the results of the study there was a significant difference between step aerobic training group and control group on leg strength and agility. Further the results of the study showed that there was a significant improvement in leg strength and agility after eight weeks of step aerobic training programme. However the improvement was in favour of experimental group.

#### Conclusions:

1. There was a significant improvement in the performances of leg strength and agility. However this improvement was in favour of experimental group due to eight weeks of step aerobic programme.
2. There was a significant difference between experimental and control groups on leg strength and agility.

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## Combined Effect Of Strength And Plyometric Training Programme On Upper And Lower Body Strength Of Male Kabaddi Players

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### Abstract

The purpose of the present study is to assess the combined effect of strength and plyometric training on upper and lower body strength of male kabaddi players. Forty eight (48) male inter collegiate kabaddi players were selected from affiliated colleges of Acharya Nargarjuna University. These players were classified into two groups namely strength and plyometric training group (SPTG: 24) and control group (CG: 24). In the present study upper body strength and lower body strength were selected as dependent variables. Bench press test and leg press test was used to measure both upper and lower body strength. The combined training of strength and plyometric training was administered for ten weeks three days per week. The combined training program consists of a combination of both strength and plyometric training programs in which two sessions a week of plyometric and one strength training sessions in even weeks and one plyometric and two strength training sessions in odd weeks had accomplished. The pre and post data were collected from both SPTG and CG. The collected data was evaluated using Analysis of Covariance (ANCOVA). Paired t test was calculated to assess the changes within a group before and after ten weeks of training intervention. The result of the study clear show that there is significant difference between groups on upper body strength ( $F = 29.961, p = 0.000$ ) and lower body strength ( $F = 53.743, p = 0.000$ ). It is inferred that ten weeks of combined strength and plyometric training is effective in improving upper and lower body strength of male intercollegiate kabaddi players.

Keywords: combined strength and plyometric training, kabaddi, upper body strength, lower body strength, bench press test, leg press test.

### Introduction:

Kabaddi is a body contact and traditional sport which originated from India. The Kabaddi players require greater strength in both upper and lower body to catch, push and pull the player. Similarly, they require speed and agility in executing the movement in faster manner while riding and catching. This clearly shows that players require greater physical fitness and body composition to perform optimally during game. Physical fitness is viewed as a key component for optimum performance in almost every sport. To improve and maintain physical fitness of the players coaches prescribe various types of training. Earlier studies clearly shows that regular participation in a resistance training program or a plyometric training program can improve measures of strength and power in adults (Chu, 1998; Fleck and Kraemer, 2004). Studies also suggest that changes in motor performance skills resulting from the performance of combined resistance training and plyometric training are greater than with either type of training alone (Adams *et al.* 1992; Fatouros *et al.* 2000; Polhemus *et al.* 1981). The combined training involves the completion of a strength training prior to plyometric training. This type of training stimulates the neuromuscular system. That is, it activates both the muscular fibers and the nervous system, so that slow-twitch fibers behave like fast-twitch fibers (Chu 1998). In addition, resistance training increases motor neuron excitability and reflex potentiation, which may lead to better training conditions for subsequent plyometric exercises. Therefore, the purpose of the present study is to assess the combined effect of strength and plyometric training on upper and lower body strength of male kabaddi players.

## Methods

**Subjects:**Forty eight (48) male inter collegiate kabaddi players were selected from affiliated colleges of Acharya Nargarjuna University. These players were classified into two groups namely strength and plyometric training group (SPTG: 24) and control group (CG: 24). These players age  $24.26 \pm 4.58$  years, weight  $73 \pm 6.50$  kg and height  $173.25 \pm 6.85$  cm. These players represented their college in inter collegiate kabaddi and have more than six years of playing experience.

**Variables** In the present study upper body strength and lower body strength were selected as dependent variables. Bench press test and leg press test was used to measure both upper and lower body strength.

### Collection of data

The testing session consists of warm-up and test interspersed with rest. All tests were explained and demonstrated. Before testing, subjects were given practice trials to become familiar with the testing procedures. All tests were counterbalanced during pre and post testing to ensure that testing effects were minimized. Subjects performed each test according to test procedure and the scores of best trials were taken for this study. .

## Results

The result of the study clear show that there is significant difference between groups on upper body strength ( $F = 29.961$ ,  $p = 0.000$ ) and lower body strength ( $F = 53.743$ ,  $p = 0.000$ ). It is inferred that ten weeks of combined strength and plyometric training showed significant improvement in upper body strength and lower body strength. It is noted that 16.84% and 13.08% of improvement is elicited in SPTG. The changes obtained in SPTG from pre to post in upper body strength ( $t = 5.21$ ,  $p = 0.000$ ) and lower body strength ( $t = 9.02$ ,  $p = 0.000$ ). In contrast, control group showed no significant changes from pre to post in upper and lower body strength (Table 2). It is inferred that combined strength and plyometric training significantly improved upper and lower body strength of male kabaddi players.

**Table 2:Changes obtained in upper and lower body strength**

Variables	Groups	Pre-test	Post-test	% of changes	t	F
Upper body strength	SPTG	36.16 $\pm$ 11.09	42.25 $\pm$ 9.02	16.84	5.21 (0.000)	29.96 (0.000)
	CG	38.04 $\pm$ 10.67	37.12 $\pm$ 10.48	2.68	1.42 (0.167)	
Lower body strength	SPTG	92.70 $\pm$ 13.16	104.83 $\pm$ 13.40	13.08	9.02 (0.000)	53.74 (0.000)
	CG	94.20 $\pm$ 12.18	94.33 $\pm$ 12.96	0.13	0.13 (0.891)	

## Discussion

The present study clearly show that upper and lower body strength are improved by ten weeks of combined strength and plyometric training on male kabaddi players. In the present study SPTG elicited improvement of 16.84% in upper body strength and 9.02% in lower body strength. Results from several investigations involving adults suggest that combining plyometric training with resistance training may be useful for enhancing muscular performance (Adams *et al.* 1992; Fatouros *et al.* 2000). The plyometric training which consist of a rapid eccentric muscle action followed by a powerful concentric muscle action are important for enhancing the rate of force development whereas strength training is needed to enhance muscular strength (Fleck and Kraemer, 2004). Thus the effects of plyometric training and resistance training may actually be synergistic, with their combined effects being greater than each program performed alone.

## Conclusion

It is concluded that ten weeks of combined strength and plyometric training is effective in improving upper and lower body strength of intercollegiate kabaddi players in a short term.

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## An Exploratory Study on Selected Psychological Variables among Women Athletes at Various Levels of Competition

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### Introduction:

Prior to the Nineties, athletes failed to have the needed information or foundation based on which, they could put up a superior athletic performance. Athletes thus relied on smart luck to put up an optimal and superior performance. In 1897, Norman Triplett, an Indian psychologist, began to explore why athletes performed the way they did in specific situations. These initial studies resulted in the growth and development of the contemporary games psychology industry.

### Methodology

#### SAMPLE OF THE STUDY

A sample of 600 women athletes who participated in team games and individual games at national level, university level and inter collegiate level were considered from satisfied random sample techniques.

The sample considered was divided into equal groups called as team games and individual games, each level consist of 100 each.

LEVEL	TEAM GAME	INDIVIDUAL GAME	TOTAL
INTER COLLIGIATE LEVEL	100	100	200
UNIVERSITY LEVEL	100	100	200
NATIONAL LEVEL	100	100	200

### Tools Used

The following four types of tools were used to measure the impact of the selected psychological variables in assessing the individual and team games at various levels of competitions i.e., inter collegiate, University and National Level.

SCAT sports anxiety scale

Aggression, Motivation and Achievement Motivation scale Constructed & Standardized by the Researcher.

### Results & Discussions

#### 1. Results and Discussions showing the Inter Collegiate level Team Game

At Inter Collegiate level team Game, the variable aggression has lesser mean of 251.73 (S.D=78.43) Whereas achievement motivation has higher mean of 414.80 (S.D=31.23)

The p-values of all the variables of inter collegiate level team game presented in the table are found to be significant at 0.01 level but the t-value of inter collegiate level at motivation level is on higher side. Thus, it was concluded that the motivation level at inter collegiate individual Game was found significant.

2. Results and Discussions showing the University level Team Game:

At University level team Game, the variable Anxiety has lesser mean of 243.07 (S.D=77.72) Whereas motivation has higher mean of 434.93 (S.D=38.03)The p-values of all the segments of University level team game presented in the table are found significant at 0.01 levels but the t-value of University level at motivation level is on higher side. So, it was proved that motivation level is significant.

3. Results and Discussions showing the National level Team Game:

At National level team Game, the variable aggression has lesser mean of 230.27 (S.D=115.92) Whereas motivation has higher mean of 450.53 (S.D=48.95).The p-values of all the segments of National level team game presented in the table are found significant at 0.01 level but the t-value of National at motivation level is on higher side. Thus, it was concluded that the motivation level at National level team Game was found significant

4. Results and Discussions showing the Inter Collegiate level Individual Game:

At Inter Collegiate level Individual Game, the variable aggression has lesser mean of 249.87 (S.D=82.92) Whereas motivation has higher mean of 422.40 (S.D=27.29)The p-values of all the segments of Inter Collegiate level individual game presented in the table are found significant at 0.01 level but the t-value of inter college level at motivation level is on higher side. Thus, it was concluded that the motivation level at Inter Collegiate individual Game was found significant.

5. Results and Discussions showing the University level Individual Game:

At University level Individual Game, the variable aggression has lesser mean of 232.93 (S.D=95.56) Whereas achievement motivation has higher mean of 443.73 (S.D=44.42)The p-values of all the segments of University level individual game presented in the table are found Significant at 0.01 level but the t-value of University level at motivation level is on higher side. Thus, it was Concluded that the motivation and achievement motivation levels at University individual Game was found Significant.

6. Results and Discussions showing the National Level Individual Game:

At National level Individual Game, the variable aggression has lesser mean of 231.07(S.D=111.45) Whereas motivation has higher mean of 451.87 (S.D=54.39)The p-values of all the segments of National level individual game presented in the table are found significant at 0.01 level but the t-value of National level at motivation level is on higher side. So,it was proved that motivation level is significant. Thus, it was concluded that the motivation level at National individual Game was found significant.

### **Recommendations**

Similar studies may be conducted on large scale,other psychological variables,different age Groups,background of different communities,men athletes and international players.

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## Efficacy Of Yogasanas And Pranayama Practices On Selected Physiological Parameters Among College Men Students

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### **Abstract**

The yogasanas and pranayama practices were designed to facilitate development and integration of the human body, mind, and breath to produce structural and physiological effects. The body is the temple of soul and to reach a harmony of the mind, body and spirit, the body must be physically fit. Aims of the study: The purpose of this study was to examine the efficacy of yogasanas and pranayama practices on Selected Physiological parameters among college men Students. Design: This study comprised of twelve weeks randomized controlled trial. Methods: A total of thirty college men students were participated in this study voluntarily. They were randomly divided into two groups' namely experimental group and control group each group consists of fifteen subjects (n=15) and their age ranged between 23 and 27 years. The experimental group underwent yogasanas and pranayama for one hour per day, three days per week for twelve weeks and a control group did not participated any experimental treatment. The Baseline and after completion of the yogasanas and pranayama for twelve weeks vital capacity and breath holding time were done by using standard techniques.. Statistical analysis: Data were analyzed by applying ANCOVA statistical technique. Significance level was set at  $P < 0.05$ . Results: After the twelve weeks of the yogasanas and pranayama practices brought significant improvement in the vital capacity and breath holding time in the experimental group ( $p < 0.05$ ). There were no significant differences in the control group. Conclusion: The yogasanas and pranayama proved to be a useful modality for increased vital capacity and breathe holding time in college men Students.

Keywords: yogasanas, Pranayama, Vital Capacity and Breath Holding Time.

### **Introduction**

*All the orthodox systems of Indian Philosophy have one goal in view, the liberation of the soul through perfection. The method is by Yoga (Swami Vivekananda (2007).*

Yoga is an ancient discipline designed to bring balance and health to the physical, mental, emotional, and spiritual dimensions of the individual. It is long popular practice in India that has become increasingly more common in Western society. "Yoga" means union of our individual consciousness with the Universal Divine Consciousness in a super-conscious state known as *Samadhi* (Swami Vivekananda (2007).

Yoga is defined as a practice consisting of three components, gentle stretching; exercises for breath control; and meditation as a mind-body intervention (Ernst, 2001). The version used mainly in the West is hatha yoga, which consists of an integration of asana (postures), pranayama (breathing exercise), and meditation (Riley, 2004).

Asanas are an integral part of yoga. Yoga uses the body to exercise and controls the mind so that at a later stage the body and the mind together may harmonize with the soul. The yogasanas affect and penetrate every single cell and tissues making them come to life.

Pranayama, the yogic art of breathing, comes from the root words prana and ayama. Prana means "life force" and ayama means "expansion, manifestation, or prolongation." The practice of pranayama therefore is the practice of expanding our own prana so that it harmonizes with the universal prana. This results in oneness or merging of a person's own consciousness with universal consciousness. It is in this union that we realize we are not simply a limited physical body, but are, in fact, an immortal spirit.



### Material And Methods

The aim of the study was to determine the efficacy of yogasanas and pranayama practices on Physiological parameter among college men Students. Thirty college men students were selected from Gundur, Andhra Pradesh and their ages ranged between 23 to 27 years. The subjects (N= 30) were randomly assigned to two equal groups of fifteen men in each. The groups were assigned as yogasanas and pranayama group and control group. Before the administration of the test, all the subjects were oriented for the purpose of the experimental treatments and the tests. They were made known about the importance of the treatment and tests. All the subjects wholeheartedly cooperated for this study. Pre tests were conducted for all the subjects on vital capacity and breathe holding time. The experimental groups participated in their respective experiments, namely, yogasanas and pranayama for a period of three days for twelve weeks. Yogasanas and pranayama program consisted of 60 minutes with 10 minutes warm up, 35 minutes on yogasanas and pranayama practices and 10 minutes cool down. The intensity of practices was then increased by 5% every 2 weeks. The duration was also increased 5 minutes per session every 2 week. After the experiment, post test scores were obtained and compared with using Analysis of covariance (ANCOVA) statistical technique was used to test the differences among the experimental groups. The significance level of this study was set at  $p < 0.05$ .

### Results On Vital Capacity

The following tables illustrate the statistical results on the efficacy of yogasanas and pranayama practices on vital capacity in college men students.

Table I: COMPUTATION OF ANALYSIS OF COVARIANCE ON VITAL CAPACITY  
(Scores in litter)

Test	Con.Group	Int.Group	SV	SS	df	MS	F
Pre Test	4.11	4.23	B	0.12	1	0.120	1.19
			W	2.82	28	0.10	
Post Test	4.18	4.69	B	1.98	1	1.98	12.48*
			W	4.43	28	0.16	
Adjusted	4.25	4.62	B	0.97	1	0.97	36.31*
			W	0.73	27	0.03	
Mean Gain	0.07	0.46					

\*Significant at 0.05 level

The statistical analysis from the table I show that the pre, post and adjusted post test means of Yogasanas and pranayama practices group and control. In the above table, the results clearly noticed that Yogasanas and pranayama practices group responded with more positive influences on vital capacity when compared with the control group.

### Results On Breath Holding Time

The results on the efficacy of yogasanas and pranayama practices on breathe holding time in college men students is Presented in table II.

Table II: COMPUTATION OF ANALYSIS OF COVARIANCE ON BREATH HOLDING TIME  
(Scores in Seconds)

Test	Con.Group	Int.Group	SV	SS	df	MS	F
Pre Test	44.67	45.93	B	12.03	1	12.033	1.41
			W	238.27	28	8.51	
Post Test	44.80	50.87	B	276.03	1	276.03	38.24*
			W	202.13	28	7.22	
Adjusted	45.34	50.32	B	176.89	1	176.89	183.80*
			W	25.98	27	0.96	
Mean Gain	0.13	4.93					

\*Significant at 0.05 level

The statistical analysis from the table II shows that the pre, post and adjusted post test means of Yogasanas and pranayama practices group and control group. From that it can be clearly noticed that Yogasanas and pranayama practices group responded to the training with more positive influences of breath holding time when compared with the control group.

### **Discussion On Findings**

Our culture is becoming more and more health conscious and realizing that taking care of the external form, helps with the health and healing of the internal systems. Yoga has become increasingly popular among people from all walks of life. Yoga means union, the union of masculine and feminine energy, the union of strength and flexibility. The word asana means pose in the ancient Indian language of Sanskrit. It is through combining special breathing techniques (pranayama) with asana that begin to tap into the power of the practice.

The analysis of covariance on vital capacity and breathe holding time indicated that the there was significant improvement due to combined yogasanas with pranayama (breathing techniques) practices in college men. Hence, it was proved that there were significant differences among the experimental and control groups in post experimental scores. The findings are in conformity with the observations of other researchers in their recent studies. Madanmohan, et al., (1992) reported that 12 weeks of yoga practice results in a significant increase in maximum expiratory pressure, maximum inspiratory pressure, breath holding time after expiration, breath holding time after inspiration. Joshi *et al.*, (1992) have also demonstrated that 6 weeks of pranayama breathing course resulted increases in the forced vital capacity and prolongation of breath holding time. In the present study, similar findings were also noted and reported that vital capacity and breathe holding time improved significantly due to yogasanas and pranayama practice when compared to baseline data of the subjects.

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## Sports Science For 21<sup>st</sup> Century Sports

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### **Introduction :**

Sports science is a branch of science that studies the scientific principles during a sport performance and uses these principles to improve the performance of an athlete in sport. Sports sciences play a vital role in the successful sporting performance. Building a foundation of sound sports training is possible only through utilization of relevant sports sciences. Sports science helps us understand the physical and psychological effects of a sport thereby preventing injury to an athlete involved in the performance of the sport. Disciplines in sport science explain the best techniques. For a sport and the safest way of performance. Sports science is discipline that studies the application of treatment and prevention of injuries related to sport medicine. The study of sport science traditionally incorporates areas of physiology, psychology and biomechanics but also includes other topics such as nutrition and diet. Leonardo da Vinci said, "Those who are enamored of practice without science are like a pilot who goes into a ship without rudder or compass and has never any certainty of where he is going." Sports scientists and performance consultants are growing in demand and employment numbers with the every-increasing focus within the sporting world on achieving the best results possible. Through the study of science and sport, researches have developed a greater understanding on how the human body reacts to exercise, training different environments and many other stimuli.

### **Sports Physiology :**

Physiology is the study of tissue and functions of living things. So sports physiology would be the study of how the body works and functions during athletic activities. Study of metabolic activities in plants and animals is called physiology. Human body is made of various organs and each organ has its own peculiar function, e.g. heart is the chief organ of circulation, the lungs are the organs of respiration, stomach is for digestion. The efficiency of our body depends upon the efficient working of these organs. All organs are interlinked and interdependent on each other. Muscles are acting as a machine for converting chemical energy into mechanical energy. Knowledge of the role of muscular contraction, oxygen debt and fatigue are necessary to improve sports performance.

### **Sports Kinesiology :**

Kinesiology is the study of human and animal movement, performance and function by applying the sciences of biomechanics, anatomy, physiology, psychology and neuroscience. Applications of kinesiology in human health include physical teacher, the rehabilitation professions, such as physical and occupational therapy as well as applications in the sport and exercise industries. There are many different types of exercise interventions that can be applied in kinesiology to athletic, normal and clinical populations. The action of various joints and muscles are highly useful for learning and perfecting the motor skill prevention of sports injuries and also helpful to develop the physical fitness. The scientific training to build body weight and the overall personality of the individuals help in optimizing the movements of our body.

### **Sports Bio-Mechanics :**

Sports biomechanics is a quantitative based study and analysis of professional athletes and sports activities in general. Biomechanics is the study of the structure and function of biological system by means of the methods of mechanics which is the branch of physics involving analysis of the actions of forces. Knowledge of Biomechanics is helpful to analyze movement and skill performance particularly with respect to laws of motion, anatomical capability and body mechanics. Sports performance is the complex mixture of biomechanical function, emotional factors, training and technique. Biomechanics is helpful to analyze and determine appropriate conditioning and treat injuries.

**Sports Nutrition :**

At sports nutrition, we know that fitness performance is more than just a goal it's away of life. Intake of balanced diet is very essential for optimum growth and development of our body. A balanced diet is defined as that which contains variety of food stuffs in such qualities and proportions that the body is able to get the nutrients and it need to maintain good health. Intake of such food is helpful to the better performance. Role of nutrition in exercise and sport has increased dramatically in the recent years. Today there is no doubt that nutrition plays a vital role in exercise and performance.

**Sports Anthropometry :**

Anthropometry is the study the relationship between the size and shape of human body and sports performance. We use internationally standardized techniques to measure athletes and use calculations of body composition, dimensions, proportion and ratio to help improve sport performance.

**Sports Psychology :**

Sports psychology is the study of how psychology influences sports athletic performance, exercise and physical activity. Some sports psychologists work with professional athletes and coaches to improve performance and increase motivations. Other professionals utilize exercise and sports to enhance people lives and well-being throughout the entire lifespan. Sports psychology is a relatively young discipline within psychology. In 1920, Carl Diem founded the world's first sports psychology laboratory at the Deutsche sporthochschule in Berlin, Germany.

Contemporary sports psychology is a diverse field while finding ways to help athletes is certainly an important part of sports psychology the application of exercise and physical activity for improving the lives of non athletes is also a major focus.

**Sports Medicine :**

Sports medicine is a branch of medicine that deals with physical fitness treatment and prevention of injuries related to sports and exercise. Although most sports teams have employed team physicians for many years, it is only since the late 20<sup>th</sup> Century that sport and exercise medicine has emerged as a distinct entity in healthcare sports medicine contributed several techniques for helping the sports person to prepare high level achievement in competition. It deals with the sports injuries, various therapies, rehabilitation, first aid and massage. Injury is a common phenomenon in the field of sports which can convert a Hero to Zero. Sports medicine explains the injury management return-to-play criteria and various exercises to relive from injuries like flexibility exercise, stretches of hamstring. The sports medicine knowledge and techniques are not only beneficial for competing athletes but also everyone involved in the sports activities.

**Sports Technology :**

Sports technology is the application of engineering to sports activities. Sports technology is growing continuously as an exciting subject. The computer is being used in data collection, scouting and statistical analysis of sporting talents. Electronic instrumentations are helpful to enable the athletes to perform to their maximum potential. Sports technologists are introducing new technologies, improving the existing products and methods into the design new and innovative equipment. The best use of innovative and creative technological products and using electronic device in the sports field is the need of day.

**Conclusion :**

Sports science is one of the most exciting dynamic subjects and it can be adopted to safely enhance the performance of the athlete. Sports sciences have grown beyond the exclusive application of science towards improving competition or performance to improve health and quality of life.

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## A study of change in lipid profile during de-stress programme through yogic life style

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### **Introduction:**

Every individual is mounting stress in daily life due to various reasons. Human being wants enjoyment and happiness. To full fill all desires one needs money that is why people are running after earning money. But unfortunately money is the root causes of all problems like, ill health, stress, sorrow etc. Good quality of life can also be maintained while earning money. For that, stress management through yoga is the better answer. If some basic concept of living styles are changed and little efforts are put for the management of body and mind by practicing Yoga, de-stress takes place.

The medical sciences describe stress as a specific response of the body to all non-specific demands. The response being secretion of stress hormones like Adrenocorticotrophic hormone (ACTH) and cortisol. Other two hormones secreted by stimulating of stress are adrenaline and non-adrenaline.

Stress is of two types. One stress due to external factors and the other type is stress due to internal factors. These two factors contribute to stress. When the ability to cope with stress is good, then there will be little or no stress. If the ability to cope with stress is not good, then it will mount to excessive stress. If awareness is created and practiced to cope up with stress, it will not effect. Body and mind are controlled by practicing Yoga and changing life style, with some changes in diet habits, stress can be minimized or eliminated.

### **Methodology**

Twenty male and female lectures aged between 35-58 years were selected. By conducting a simple multiple answer questions related to stress, levels of stress were estimated among lectures. Selected lecturers willing to undergo de-stress training were listed. Among selected 39 lecturers twenty male and female selected randomly. A pre-test was conducted before starting the training programme. Two months training was given to the 20 lectures along with a diet chart and counseling sessions. A meticulous record of weights, BMI, symptoms of stress, physiological status, lipids profile and exercise test were kept. The data obtained was analyzed using appropriate statistical methods.

Yoga life style training was given by a trained yoga teacher for one week, and worked out for rest of the training period.

Warm up of exercises – Flexible moments of all joints and all parts of body

Meditation – A complete relaxation of body and mind .

Pranayama – Nandi shodana, Anilom vilom, Kapal-bhathi etc

Asanas – Yogic postures for stretch, contraction and relaxation

Preksha meditation – Seeing deeply inside

Stress management – Stress releasing techniques and some practical tips

Healthy life styles - Some ethical and moral principles for well being of individuals and society.

Balanced diet – Vegetarian , low fat, higher fiber diet

Awareness programme on diet and good health practices

It is emphasized to practice meditation and yoga regularly. Duration of the practice time fixed to 2 hour either in the morning or in the evening according to their convenience. Fresh air and clean place for practicing yoga is advised, 6 to 8 hours of sound sleep is recommended for the lecturers. Yoga practice is done strictly as directed by yoga guru. Telephonic conversation made available with yoga teacher to clarify any doubts during the training programme.

Warmup exercise were carried out to make muscles and joints flexible perform yogic asanas. Asanas like Pochimothasana, Thadasan, Bhujangasan, Uttanpadasana, Matsyendrasan, Naucasana, Sarvangasana, Savasana etc, practiced daily along with at least one set of suryanamaskara. To increase breathing capacity, deep breathing exercises were practiced. Deep and correct breathing styles are practiced.

An ancient meditation method called prekshadhyana practiced to purify mental state, balance mind and to experience the state of well being. Deep perception and concentration is called prekshadhyana. Perception is to concentrate on present and not on the past or future. The conscious mind strengthen to accept the internal realities are refute unwanted, on the other hand stress management techniques are taught to control and avoid stress sources like social, family occupational, political, economical, physical physiological and more specifically personal. Awareness is created to control anger, receive the situations, analyzing and coping with situations, communication skills, developing moral and ethical values and development of will power and self confidence.

Diet chart is also given to the individuals. Low fat, low cholesterol and moderate carbohydrates are suggested in the daily diet. They are also encouraged to have a high soluble fiber diet which includes vegetables and fruits. 22 food items are suggested which will lower the LDL and increase the HDL. Diet with high antioxidants like carrot, fresh fruits, vitamin C and vitamin E, food supplements are recommended.

**Results and Discussion:**

The programme carried out for 60 days including 7 days training with yoga teacher. A pretest and post test were conducted to estimate stress levels and clinical profile for weight and lipids.

A 20 points stress level estimation test was conducted before and after training programme self stress analysis test have shown that the stress levels have come down drastically. That means the training programme have been helped in de-stress.

Table-1

Parameter	Pre test	Post test
Weight	68.31+32	65.6+32
BMI	26.87+1.2	25.1+1.4
LDC	130+28	111+27.8
HDC	38.8+4.2	44.6+5
TC	228.9+32.6	189.19+22

The data from Table 1 shows that there is a significant decreases in LDL (bad cholesterol) levels and triglycerides. But there is marginal increase in HDL (good cholesterol). The result of post test were compared using t-test. Losing weight may also contributed to lower the cholesterol levels

**Conclusion:**

It is concluded that yogic exercise along with change in life style will decrease stress levels and also lower lipid profile. Physical activity will develop and maintain good health and high level of physical fitness. Some of the social traits like friendliness, cooperation, respect for the rights of others, healthy competition will develop during the group activities. Brain body coordination will improves with yogic training. Emotional traits like self confidence, self control, self reliance, courage, determination will be natured and stress levels decreases.

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## Aqua Yoga

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### **Introduction:**

Francoise Barbira Freedman, A medical anthropologist, developed aqua yoga in 1986 by combining her training as a swimmer and swim instructor with yoga. Aqua Yoga is a series of yoga exercises done in water that combines the therapeutic and afloat nature of water with the stimulating and balancing of body work, performing yoga poses in thermal water. It is also known as anti-gravity yoga. As it is having Buoyancy media, practicing of asana in water is therapeutic experience. Purpose of aqua yoga enhances flexibility, static balance, strength, relaxation, improves postures, diaphragmatic breathing and long exhalation enhances sense of body awareness.

### **Aquayoga and Traditional yoga.**

Traditional yoga done on land might incorporate foam blocks, blankets, mats, straps and the wall for practicing poses. Aqua yoga classes might instead use foam "noodles" that float and can help with meditation, stretching, and in particular, the savasana "rest" pose for relaxation and rejuvenation at the end of class.

### **Typical Aqua Yoga class**

An aqua yoga class might begin with warm-up in standing pose, like mountain pose, tree pose, natarajasana pose, followed by leg circles. The class might then move to the shallow end of the pool to practice lunging pose and balancing poses including tree pose, eagle pose and cobra pose. These could be followed by core exercises, including spinal twists and cobra plank poses, which you perform while floating and holding the edge of the pool.

### **Benefits of Aqua Yoga:-**

Aqua yoga is good for people with back pain or arthritis because it is safe for joints and muscles that are susceptible to strain and injury. People with arthritis or fibromyalgia, as well as elderly, the overweight, those with high blood pressure and those recovering from injury or surgery might also find aqua yoga preferable to traditional yoga or other exercise. Certain poses that might be difficult or impossible for some people on land are easier to practice in the water. Yoga practice in water also smoothes movements and adds grace to poses while providing a medium for meditative yogic relief. Aqua yoga also has the added benefit of easing of easting birth for pregnant women by keeping muscles fit and strong during pregnancy.

Pain relief from conditions such as Fibromyalgia and arthritis.

Reduce soreness and fatigue.

Improves sleep patterns.

Improves digestion.

Enhance immune system response.

Improves body energy.

Improves muscle tone and strength.

Decrease muscle spasm.

Decrease spasticity. ( muscular hypertonicity).

Decrease heart rate, systolic blood pressure

Increase sodium and potassium excretion.

Increase cardiovascular function.

Improves endurance.

Encourage body detoxification.

Increase muscle relaxation.

From the mind –body perspective, water is very comforting and nurturing, which enhances relaxation and can provide a deeper meditative experience.

Improve healing from injury of surgery.

Overall improvement in quality of life.

Pool Environment create : create a nurturing atmosphere:-

Temperature ( best to be warmer ;88-96 degrees) to facilitate relaxation. In case where the temperature is less (83-87F), it may be prudent to add more warming , energizing moves.Becoming chilled is not conducive to relaxation , and is not advised for many students with arthritis, fibromyalgia and other conditions for which the suggested water temperature is higher.

Salt water vs chlorine: Chemically sensitive clients seem to do well in salt-water pool, ask that clients avoid use of oils, lotions, scents while utilizing the pool space.

Indoor or outdoors: this helps to control the temperature and ther sun exposure.

Depth of water: ability to stand in chest –high water ( 3.5-4.5feet)

Time frame: 45 min- hour is probably enough for both teacher and student.

Class overview cues:-

The practice involves working with movement of the legs, hips and lower abdomen, opening the area of the chest, and gentle sweeping arm movements.

Hip and groin openers provide freedom of movement in the pelvis and should not be forced.

When practicing ,allow fluid movement like water , being sensitive to sensations in the body: relaxation and openness, wisdom and acceptance, and adaptability and receptivity which allows us to flow smoothly with the rhythm of life.

Breath practice continued:-

During Aqua yoga , breathing is done in and out through the nose.

Complete (3-part breath):Think of using a deep diaphragmatic breath, first filling the bottom part of the lungs, followed by the mid-area and finishing by inhaling into the top part of the lung. When exhaling , we breathe out from the top , then the middle , then the bottom portion of the lung... like filling and then emptying a picture of water. ( Energizes, purifies and balances)

Relaxation:-

Savasana-lying or seated

Can be assisted with noodles. Head rests

Some may not be comfortable floating so consider option of resting in gentle squat against the wall, or sitting on a step with arms supported , or sitting and supported by noodles .

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## The Nature Of Sports Marketing

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### **Introduction:**

One definition most recently published comes from Kaser and Oelkers - who say that sports marketing is using sports to market products.'

The peculiarities of sports marketing

Mullin (1985) notes that 'almost every element of marketing requires significantly different approaches when the product being marketed is sport.' Indeed, sports marketing differs from other forms of marketing in three main aspects: the sports industry, the sports product and last but definitely not least the consumer.

### **The sports industry**

Sport is quite often described as part of the entertainment industry. Indeed, certain similarities cannot be denied. People watch sports in order to be entertained. However, sports might be entertainment, but it also differs in some aspects from other entertainment sectors or ordinary businesses.

### **The sports product**

Shank (1999) defines a sports product as 'a good, a service, or any combination of the two that is designed to provide benefits to a sports spectator, participant, or sponsor.' Sports products as provided by sporting organisations can be divided in the core product and product extensions. The core product is the initial game, the sporting event or competition, whereas the product extensions are all goods or services which relate to the core product such as merchandising, catering, hospitality, or information services. The core product combines all characteristics of a service (intangibility, inseparability of production and consumption, heterogeneity, perishability), whereas the product extensions can be goods or services. The core product can be differentiated between participant sports and spectator sports. Attendance at sporting events could be classified as a people-based service directed at people's minds following Lovelock's (1991) classification of the nature of the service act. spectator sports is the bigger part of the sports industry with billions of people watching sports events either live or on television. However, the core sports product shows some unique characteristics with which sports marketers have to deal with.

### **Implications for companies involved in sports marketing**

Companies who market their products through sports (especially sponsoring companies) need to understand the unique characteristics of sports, the peculiarities of the sports business and the nature of sports consumers. A major problem in sports marketing is the fact that a lot of companies assign marketing experts with no or too little knowledge of the sporting context. They need to realise that success on the pitch cannot be guaranteed and that too much influence on the sporting organisation might have contra-productive effects. Companies invest in sponsorship in order to reach their target group or transform spectators and fans into new customers. Sports fans are said to be loyal and passionate, but there is a limit and companies should be aware of the fine line between doing good and exploiting, a fact recognised by a marketing director of an English Premier League club

### **Conclusions**

Sporting organisations, however, are marketing their sports products, which can be divided into participant sports (with existing or potential participants as the target group) and spectator sports (with existing or potential spectators as the target group).

## Analysis Of 100 M World Records Of 100 Years From 1912 To 2012

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### Abstract

The purpose of this study was to analyze the past 100 year's world records of 100m from 1912 to 2012. The first world record in 100m were recorded in 1912 with the name of "Donald Lippincott" and the latest best result shines with a golden digit of 9.58 Sec. with the name of "Lighting Bolt". During these 100 years of gap the average running speed was improved as 9.43m/ Sec. to 10.43m/ Sec. from Lippincott to Bolt. It was shows that there was a difference of 1 Sec. improvement in timing for last 100 years. From the study it was clear that, if that 1 Sec. is getting to the latest record holder of Usain Bolt means he will be cover another 10.43m in his running race. 19 times the world record was re-written by different athletes in last 100 years of gap, among these 19 world records 4 times the new records were formed 0.05 Sec. or more difference than the existing one. And the remaining 15 records have a difference of below 0.05 Sec. than the existing time. It was an amazing and ever best result in 2009 world record from Usain Bolt. Because, in these 100 years of gap this is the first time a new world record was created with a golden digits of 0.11 Sec. lower than the existing world record time.

KEY WORDS: World records, 100 metres, Usain Bolt, golden digit.

### Introduction

Who is the fastest man in the world? Currently the answer is Jamaican sprinter Usain Bolt, because of his historical performance in the world record time of 9.58 seconds<sup>1</sup>. Take a look at the other fastest athletes ever, what countries are they from? The present study will give an idea about the world records of last 100 years and the development of the sprint timings in these 100 years of gap.

The most valuable and important running race on the track is 100m. Those who are winning in this race can proudly say that "He/ She is the fastest athlete in that Championship". Winning the medal is one of the biggest tasks, but the breaking of existing record is far away from the medal winning. Now a day the breaking of existing records, becomes an easy challenge work for an elite athlete. It is due to the development of biomechanical implementation and the availability of the facilities in the present competitive age.

### Methods

In this study, we are evaluating the world record timing of 100m from the year of 1912 to 2012. In these 100 years of gap the world record was re-written in 19 times by Donald Lippincott (USA) to Usain Bolt (Jamaica). The first world record was noted in 6<sup>th</sup> July 1912 with a performance of 10.6 Sec. after a gap of 100 years, it was reached to 9.58 Sec. and these golden digits are still going on. In these 100 years of time gap the running clock reached down with a difference of 1.02 Sec. lower than its initial state. If we are considering the race of 1912 to 2012, the first record holder of Donald Lippincott (USA) was 0.9 m/ s slower than the latest record holder of Usain Bolt<sup>4</sup>. That means, both record holders of 1912 Donald Lippincott (USA) and 2012 Usain Bolt (Jamaica) are running in a same track means Usain Bolt will finish the race with a lead distance of 10.64 m away from the Donald Lippincott<sup>5</sup>. This is not a dream, but it was proved by Usain Bolt in Berlin 2009<sup>2,3</sup>. For the smooth evaluation of 100 years world record, we divided the years into four different groups of 25 years, ie.1912 to 1937, 1937 to 1962, 1962 to 1987 and 1987 to 2012.

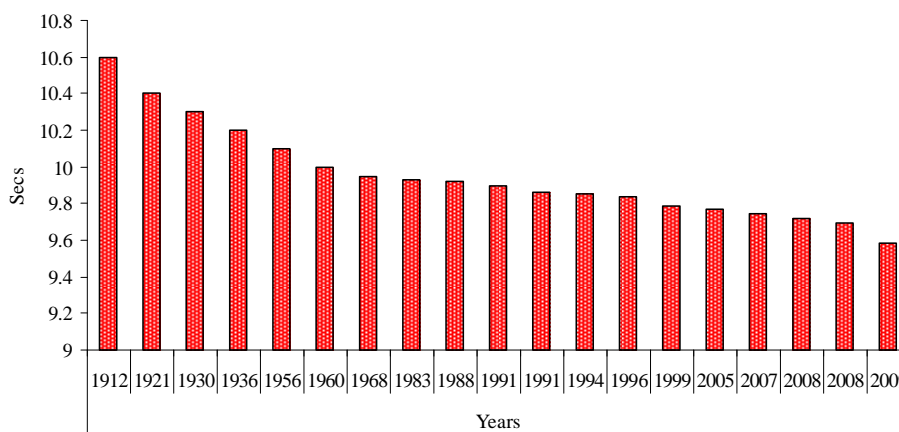
## Results And Discussion

Table I

Groups				
	First Half		Second Half	
Years	1912/ 1937	1937/ 1962	1962/ 1987	1987/ 2012
Performance In Seconds	10.6 to 10.2	10.2 to 10.00	10.00 to 9.93	9.93 to 9.58
Time Differences In Seconds	0.40	0.20	0.07	0.35

From the table it is clear that 1912 to 1962, the timing came down as a difference of 0.60 Sec. than the initial state in the first half. And in the second half (1962 to 2012) it was reached as 0.42 Sec. lower than its own beginning state. In these 100 years the world record was re-written in 19 times from different athletes. In the first half 1912 to 1962, the world record was re-written in 6 times, and in the second half it was 13 times, that means the double than of its first half. In the first half period the manual timing system was followed and it was extended up to 1968, the manual timing system fully depends on the accuracy of the timekeeper and the anticipation of the torso finish. It is clear that the entry of the photo finishing system and the new technologies are making a big role in new world records. In the first half, 1912 the record holder covered the distance with an average speed of 9.43m /Sec. and in the end of the first half, 1962 it was progressing as to 10m/ Sec. In the same sense the beginning of second half 1962, the average race speed was 10m/ Sec. and it improved as 10.43m/ Sec. in 2012. During these 100 years of gap the average running speed was improved as 9.43m/ Sec. to 10.43m/ Sec. that means an improvement timing of 1sec. was progressed in 100 years of gap. If that 1 Sec. is getting to the latest record holder of Usain Bolt means he will cover another 10.43m in his running race<sup>6</sup>. 19 times the world record was re-written in 100 years of gap, among these 19 world records 4 times the new records formed 0.05 Sec. or more difference than the existing one. And the remaining 15 records have a difference of below 0.05 Sec. difference than the existing one. It is an amazing and ever best result in 2009 world record from Usain Bolt<sup>7,10</sup>. Because, in these 100 years of gap this is the first time a new world record was created with a golden digits of 0.11 Sec. differ than from the existing one. There is no doubt Usain Bolt is the King of Sprinters, and he is the living legend of the sprint sports.

Graphical representation of records



**Table II: World record in 100 mts. for 100 years from 1912 to 2012**

Name of Athlete	Country	Date	World Record Time in Sec.
Donald Lippincott	USA	6 <sup>th</sup> July 1912	10.6
Charles Paddock	USA	23 <sup>rd</sup> April 1921	10.4
Perry Williams	Canada	9 <sup>th</sup> August 1930	10.3
Jesse Owens	USA	20 <sup>th</sup> June 1936	10.2
Willie Williams	USA	3 <sup>rd</sup> August 1956	10.1
Armin Hary	West Germany	21 <sup>st</sup> June 1960	10.0
Jim Hines	USA	4 <sup>th</sup> October 1968	9.95
Calvin Smith	USA	3 <sup>rd</sup> July 1983	9.93
Carl Lewis	USA	24 <sup>th</sup> Sept. 1988	9.92
Leroy Burrell	USA	14 <sup>th</sup> June 1991	9.9
Carl Lewis	USA	25 <sup>th</sup> August 1991	9.86
Leroy Burrell	USA	6 <sup>th</sup> July 1994	9.85
Donovan Bailey	Canada	27 <sup>th</sup> July 1996	9.84
Maurice Greene	USA	6 <sup>th</sup> June 1999	9.79
Asafa Powell	Jamaica	14 <sup>th</sup> June 2005	9.77
Asafa Powell	Jamaica	9 <sup>th</sup> Sept. 2007	9.74
Usain Bolt	Jamaica	31 <sup>st</sup> May 2008	9.72
Usain Bolt	Jamaica	16 <sup>th</sup> August 2008	9.69
Usain Bolt	Jamaica	16 <sup>th</sup> August 2009	9.58

**Conclusion:** We know that the technology is improving faster than the olden days. So the performance improvement also the part of this development. The application of biomechanics and the availability of the facilities are far advanced than the olden time. The manual time keeper is replaced with Photo-finishing system, the muddy track is replaced with synthetic track and the research of different sports arena also progressing day by day. The training methods and the knowledge of the coaches are well in the advanced stage than the olden periods<sup>9</sup>. All these reasons are the positive pathway for the better result of 10.6 Sec. to 9.58 Sec. improvement in 100m race of last 100 years from 1912 to 2012.

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## The impact of physical fitness & BMI on academic performance.

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### **Introduction :-**

Physically active youth may be less likely than physically inactive youth to experience chronic disease risk factors and to become obese, and they may be more likely to remain active throughout adolescence and possibly into adulthood. Physical activity also has beneficial influences on behavior and cognitive functioning that may result in improving students' academic achievement. At this stage students are trying to set success with maximum efforts. For the efficient academic practice, concentration, attitude, social behavior, personal behavior, adaptations are individual influencing factors. The reported study concludes that these factors are directly positively influenced by physical fitness. Thus physical fitness plays an important role in day today life and social as well as personal behavior. Physical fitness of an individual strongly affects concentration and stamina of work. Hence one of the most important factors affecting the academic result of the students is his or her health. Physical fitness has an important role for the stamina and concentration of academic study. Body Mass Index (BMI) is also a reliable indicator of health and nutritional status of human beings. Body Mass Index also known as the "Quetlet's Index" expresses the relationship between the two most widely used parameters to monitor linear and ponderal growth, viz, height and weight. BMI, does not measure fat directly, but research has shown that BMI correlates to direct measures of body fat, such as by underwater weighing and dual energy, X-ray absorptionmetry. So it was decided to find out the relationship between physical fitness & BMI with academic performance.

### **Method:-**

120 students from XI<sup>th</sup> Science were randomly selected for this study. The students were grouped on the basis of their academic performance i.e. Marks in annual examination. Different physical fitness factor tests were conducted to measure the level of physical fitness. No norms were required for analysis of the said test as score itself comprises the following factors.

Cardiovascular Endurance, Muscular Endurance, Muscular Strength, Flexibility

The above components were measured by the following test-items

AAHPERD sit-ups (flexed-leg) test were used to measure strength and endurance of the abdominal muscles.

PACER push-up test were used to measure upper body muscular strength. AAHPERD standing broad Jump test were used to measure explosive power of the legs. AAHPERD Shuttle Run test were used to measure speed and agility. AAHPERD 50 yard Dash test was used to measure speed cardiovascular Endurance. ACSM Sit and Reach test were used to measure flexibility of the lower back and hamstring muscles. Coopers 9 min run and walk test were used to measure maximal function and endurance of the cardio-respiratory system. The BMI was measured on the basis of their height & weight. After collection of the data, mean of BMI was calculated for each group of students.

### **Analysis and Interpretation:-**

Descriptive statistics were calculated for all physical fitness and BMI index with academic variables across the sample. Inter correlations were computed to examine the relationship among the physical fitness components and BMI index with academic performance scores. Data was analyzed to verify results. As total 120 Boys calculated to total of 120 (N= 120) students were tested for the study. For statistical significance, an alpha level of P 0.195 at 5 % & P 0.254 at 1% was used.

**Table 01: Inter correlation Analysis of Physical fitness variables with academic performance variables.**

Inter Co relational Analysis of Academic Performance with Physical Fitness							
	Sit Ups	Push Ups	Standing B.Jump	Shuttle Run	50 Yard Dash	Sit & Reach	9 min Run &W.
<b>S.L.</b>	0.117	0.150	0.193	0.116	0.130	0.119	0.089
<b>English</b>	0.151	0.146	0.169	0.148	0.142	0.070	0.098
<b>Physics</b>	0.116	0.091	0.159	0.115	0.106	0.024	0.096
<b>Chemistry</b>	0.096	0.115	0.106	0.107	0.103	0.070	0.050
<b>Mathematics</b>	0.104	0.126	0.116	0.117	0.108	0.009	0.064

**Mean of BMI and academic performance of students.**

Academic Performance	Number of Students	Mean of BMI
Poor	12	22.80
Average	28	23.20
Good	43	23.57
Very Good	29	22.67
Excellent	08	23.06

**Results:**The correlation of Sit Ups test score with subject English score is higher in the group but not at significant level. Other subject score have very low level correlation with Sit Ups test score. The correlation of Push Ups test score with subject English & SL score is max in group but not at significant level, rest of the subject score showing low level correlation with Sit Ups test score. The score of SL have very close to the significant level correlation with score of Standing Broad Jump test. The BMI level of the students from poor group is close to the students from the group of very good category. BMI level of students of having average and good academic record is close to the students of excellent group. Here we don't found any increasing or decreasing level of BMI with the score of Academic Performance. Thus we conclude that, there is no effect of BMI level of the students on Academic Performance. Thus we conclude that there is no effect of physical fitness level with academic performance.

**Conclusion:-** The findings of the study have supported to previous research which indicated a negative effect on Academic Performance of Physical Fitness and BMI. Some studies that show no significant relationship or a very weak relationship between student academic performance with increased physical activity levels (Taras, 2005), although that same evidence suggests that although increasing time spent on physical activity does not adversely affect academic performance (Trost & van der Mars, 2010). The weak correlation often observed between physical activity and academic performance measures may be also due to the short-term nature of many studies (Murray, Low, Hollis, Cross, & Davis, 2007). Increases in physical activity over longer periods of time may be more likely to enhance academic achievement (Taras, 2005). Taras also proposes that it is possible that the positive effects of increased physical activity exist primarily in certain sub-populations of students such as those students who are low-achieving or who have lower levels of physical fitness. There are some positive resulted studies done in the past. Physical activity has a positive effect on health outcomes, both physical and psychological (American Heart Association, 2010; Siegel, 2006), and evidence suggests that it may have a positive effect on academic performance (Trudeau & Shephard, 2008). However, there are barriers to increasing physical activity in schools. First, gaining administrative and government support for school health programs can be difficult considering the pressure that local leaders face to improve academic performance on standardized tests. (Symons, 1997) physical education programs are not often seen as a primary concern to these administrators, since many believe that student health is not of concern to schools but should be an issue that parents address (Symons, 1997). Second, budget constraints are frequently cited as reasons for cut backs on health and physical education, especially in low-income areas (Symons, 1997).

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## Knowledge Assesment Test In University Level Men Football Players In Tamilnadu And Puducherry state

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### Introduction

Football is the world's most popular form of sport, being played in every nation without exception. The most widespread code is association football or soccer. There is a wealth of evidence to show that football in one or another was played in various cultures many centuries ago. There seems to be an atavistic urge in the apparently trivial pursuit of kicking a football around a field. The emergence of organized football can be traced to the latter half of nineteenth century. Since then the various football codes have become highly professional in their outlook and in their promotion of the game has gone high. The sport has a rich history though it was popularized, as we know it today, by the establishment of the football Association in 1863. The games soon spread to European countries and the later to South America and the other continents. The Federation Internationale de Football Association (FIFA) was set up in 1904 and the first Olympic soccer competition was held 4 years later. The United Kingdom (UK) won the final 2-0, defeating Denmark, another nation playing a leading role in the popularization of the game. Uruguay played host to the first World Cup tournament in 1930. This competition is held every 4 years and arguably the tournament with the most fanatical hold on its spectators and television audiences. So far, only seven nations have won the tournament - Uruguay, Argentina, Brazil, Germany, England, Italy and France. Whilst they may represent the top teams at elite level, the popularity of the game is reflected in the millions who participate in soccer at lower levels of play.

### Methodology

The purpose of the study was to assess the knowledge of the Men football players in Tamilnadu regarding the rules, skills, terminology, tactics and strategies of the Football. The investigator was selected a total 150 (N=150) Men football players from different Universities in Tamilnadu state namely Pondicherry university, Annamalai University, Bharathidasan university, Bharadhiyar University, and Periyar University. The age of the subject were ranged from 18 to 28 years. The test had the emphasis in all aspects of the football includes, football history, rules, terminologies, technique and strategies. The questionnaire has two responses for each item Scores 0 or 2. There were 100 multiple choice question and they can tick their responses. The maximum mark was 200. The researcher analyzed the collected data using the statistical technique through descriptive statics such as mean and standard deviation Anova was used to test the significant difference among the football players.

### Result

**Table I: Mean Standard Deviation Of Knowledge Test Football Players In Pondicherry, Anamalia, Bharathidasan, Bharadhiyar And Periyar Universities**

Groups	N	Mean	Std. Deviation	Std. Error
PONDICHERRY UNIVERSITY	30	123.07	23.79	4.34
ANAMALAI UNIVERSITY	30	115.47	19.70	3.60
BHARATHIDASAN UNIVERSITY	30	110.67	23.20	4.24

BHARADHIYAR UNIVERSITY	30	107.07	16.56	3.02
PERIYAR UNIVERSITY	30	110.67	15.57	2.84

\*significant at 0.05 level

It is observed that from table I that the mean value of Knowledge test Pondicherry university it is 123.07 , for Annamalai university it is 115.47 , Bharathidasan university it is 110.67 , Bharadhiyar university it is 107.07 and for Periyar university it is 110.67. Standard deviation it is 23.79, 19.70, 23.20, 16.56, 15.57 respectively for Pondicherry, Annamalai, Bharathidasan, Bharadhiyar and Periyar universities

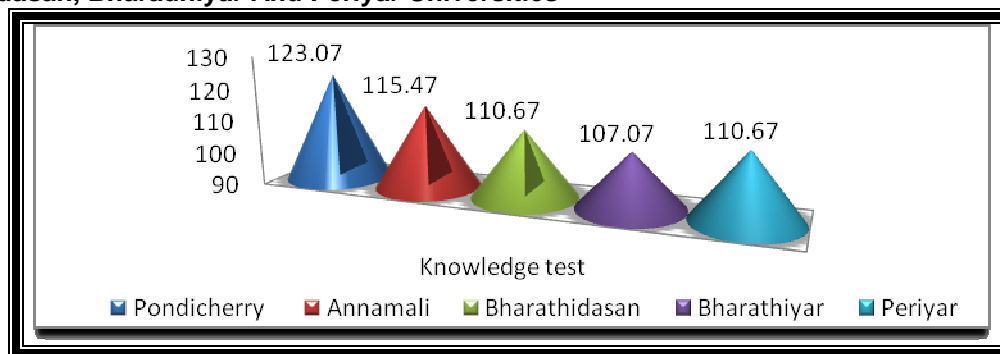
**Table I (A): Analysis Of Variance Of Knowledge Test of Football Players In Pondicherry, Anamalia, Bharathidasan, Bharadhiyar And Periyar Universities**

Source	Sum of Squares	Df	Mean Scores	F-ratio	Sig
Between	4583.040	4	1145.760	2.853	0.026
Within	58240.533	145	401.659		
Total	62823.573	149			

\*significant at 0.05 level

Table I (A) show that there is an significant relationship of Knowledge test among Football players of Pondicherry, Annamalai, Bharathidasan , Bharadhiyar and Periyar universities since the obtained 'F' value is 2.853. Because the significant value of 0.026 is lesser than the 0.05 value.

**Figure 1: Diagram Showing The Knowledge Test of Football Players In Pondicherry, Anamalia, Bharathidasan, Bharadhiyar And Periyar Universities**



### Discussion of findings

There is significant difference on scores of knowledge among Men football players of different Universities. Thus hypothesis stated as there will be significant difference in knowledge among the different universities under the study is here by rejected. Hence hypothesis has been accepted.

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## Evaluation Of Coordination Requirements In Soccer Performances Through Computer Software

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### Abstract

Soccer, as a non-standard activity, requires a high technical level (Lyakh et al. 2011, Tessitore 2011). A technique is "the set of gestures to play the ball in soccer. Technical gesture follows a project and it is adapted to the context of the game situation" (Mombaerts 1999). In competition context, players are faced with changing circumstances over time, space and the opposition of the opponent. Their expertise is closely linked with maturing degrees of its coordinating capacities (Bernstein 1967, Diedrichsen et al. 2009). The assessment of those capacities through a computer-assisted observation (CAO), allows developing useful and meaningful information to treat a faithful manner and provide accurate recommendation to coaches for training and developing tactical choices. Thus the aim of this investigation was to develop computer software that helps coaches in the assessment of technical performances according to the level of coordinating difficulties of the players and identify the discrepancies between training content and the competition demands.

The present work contains a global design and a detailed functional design in accordance with the method of "Unified Modeling Language UML", by using the helping tools of design "Rational Rose 2003". It also encloses a technical realization carried out with the programming language "Microsoft Visual Basic 2008" under the operating system "Windows XP".

The CAO has allowed carrying out a rapid assessment of all players by area and coordinating difficulties, to make statistics relating to their own performances, their efficiency coefficients and potential of coordination.

**Keywords:** computer-assisted observation, assessment, motor coordination, soccer

### Introduction

Soccer Is A Sport Activity in which technique is of great importance. It requires a high level of coordination abilities (Lyakh et al. 2011, Tessitore 2011). In competition context, players are faced with changing circumstances over the time, the space and the opposition of opponents. Their expertise is closely linked with maturing degrees of its coordinating abilities (Mombaerts 1999, Diedrichsen et al. 2009) The term "coordination" has been defined as the ability to perform complex motor exercises. It is defined as "a problem of mastering the multiple and redundant degrees of freedom involved in a particular movement" (Bernstein, 1967). Coordination represents the qualitative part of psychomotor activity and is a complex and multidimensional phenomenon, in which several systems participate to assure optimal movement control and reaction to environmental variations (Vandorpe et al. 2012). Despite the variety of tests available for the evaluation and coordination of movements (Starosta, Hirtz, Sahan & Erman 2009, Kochanowicz et al. 2009, di Cagno et al. 2013), they are still isolated and do not reflect the competitive reality. Thus, the assessment of those abilities through a computer-assisted observation (CAO), allows developing useful and meaningful information to treat a faithful manner and provide accurate recommendation to coaches for training and developing tactical choices. As far as we know the CAO applications available are oriented on the quantification of the load and performance during a soccer match: distance covered number of sprints, number of duels (Perl & Memmert 2011, Grunz et al. 2009). The interest in assessment of motor coordination on soccer through the difficulty level that the

competition demands remains important. Thus the aim of this investigation was to develop computer software that helps coaches in the assessment of technical performances according to the level of coordinating difficulties of the players and identify the discrepancies between training content and the competition demands.

### Method

The analysis of the literature on football has allowed us to identify the different possible combinations of the difficulty level of the technical-tactical actions performed by the player during a competition. We based our classification of the difficulty level of coordination required in the different actions in soccer on the recommendations of Godic (1989), Stoula (1996), Mombaerts (1999), who determined four factors responsible of those degrees:

Opposition opponent: Symbol a: actions performed in the presence of an opponent.

Time deficit. Symbol t: element executed moving average and / or maximum speed; handling an unexpected ball coming at a speed; actions requiring a backlash and decision making.

Deficit space. Symbol e: activities requiring accuracy in a reduced space.

Technical elements requiring coordination of the whole body. Symbol k: non-traditional and non-stable positions; technical execution with acrobatic elements, in jumping, falling, pivoting..

Furthermore we used the following tools for the development of the present application:

Method of design and development of software: UML (Unified Modeling Language);

Tool for the design of software: Rational Rose (2003 version);

Management system database: Microsoft SQL SERVER;

Development tool: Microsoft Visual Basic 2008;

Operating System: Windows XP Professional;

### Result

Our observation is related mainly to technical actions in which the player participates.

The distribution of technical actions in accordance with their coordinating level of difficulty is shown in table 1.

**Table 1:** Distribution of the coordinating difficulty in soccer

N°	Technical elements	Coordinating difficulty (relative unit)			
		1	2	3	4
1	Receiving the ball	R	Ra; Rt; Re; Rk	Rat; Rae; Rak; Rtk	Raek
2	<i>Passing the ball</i>	P	Pa; Pt; Pe; Pk	Pat; Pae; Pak; Ptk; Pte	Pate
3	Conducting the ball	C	Ca; Ct	Cat; Cte	Cate
4	Dribbling	-	D	Dt ; De	Dte ;Dek
5	Regaining the ball	-	S	St ; Se ; Sk	Ste; Stk; Sek
6	Goal Shooting	Y	Ya; Yt; Ye; Yk	Yae;Yat;Yak;Ytk;Yek	Yate;Yatk;Yaek
7	Head game	H	Ha; Ht; He; Hk	Hae;Hat;Hak;Htk;Hek	Hate;Hatk;Haek

Our approach is based on the following principle to evaluate the level of difficulty: for the free execution of a technical element without an effect of the four factors already mentioned, the coordinating difficulty is estimated to one point (except the dribbling and regaining the ball, where the presence of the opponent is required). When technical actions are executed in combination with one of the four factors, the level of difficulty is estimated to two points. Respectively, for the two factors, three points; three factors, four points. (Table 1)

## Process Analysis

The main menu of the present application called “*Evaltechfoot V3.0.1*” includes a “Player” and “Team” sections, where we can add or remove a player or a team from the database (fig 1). Each player added to the list is given a code, a license number and date of assignment and the end of the contract. The “Team” heading includes the code of the team, the players list and consultation of played matches.

In the “Match” section we find the choice of teams. Likewise, the date and time of the match are conducted. The validation of these data allows to a new interface related to the assignment starting players from each team.

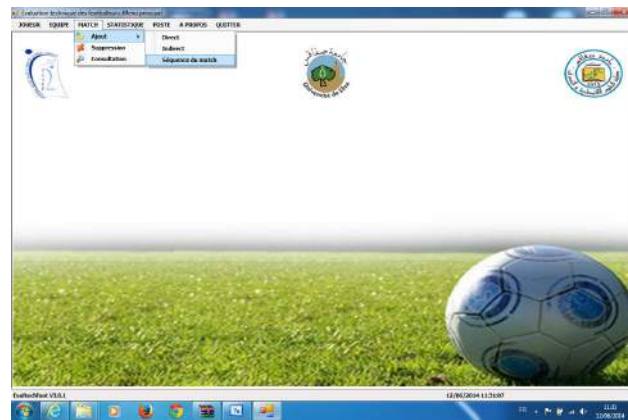


Figure 1: The main menu of “*Evaltechfoot V3.0.1*”

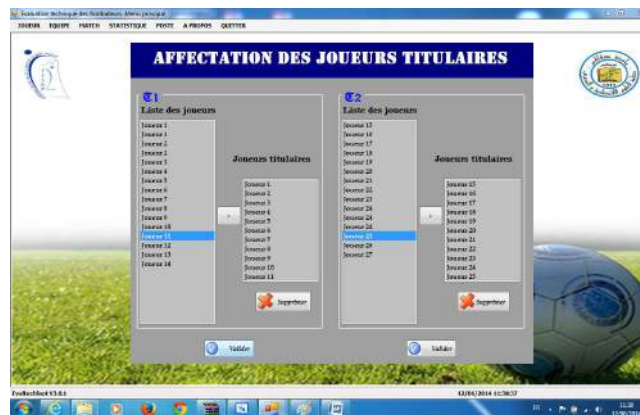


Figure 2: The assignment of the selected players

Tracking and validating these lists, a new interface appears to assign positions to the players. Once completed, the main application interface appears, in which there are formations of both teams as well as all the technical elements that will carry the CAO, by areas: defense, medium and attack (fig. 3).

By pressing the start button the timer starts. The operation of the CAO must go with the choice of a player, then the action in relation to the area. Selecting one action, it appears all the different combinations that could be performed (table1). The green list corresponds to successful action whereas the red one indicates the failure of the selected action. By pressing one of the choices, the action will be awarded to the player and recorded in real time. The process is repeated action by action until the end of the match. All controls related to the settlement of the game have been taken into account and verified (awarding yellow and red cards, substitution of players ...). At the end of the CAO some statistics are given to describe the performances of all the players by zones and by their difficulty level. Two essential parameters are calculated: the efficiency coefficients (EC) and the potential of coordination (PC).

The EC corresponds to the ratio between the numbers of successes actions relative to the total number of shares in which the player participated. However, the PC is the relative value assigned to each player obtained from the ratio of the sum of difficulties coordinating of actions that he took part in the competition relative to the total number of shares which he participated

## Conclusion And Outlook

The computer-assisted observation evaluates the activity of players according to the difficulty of coordinating technical and tactical actions. This can give a better idea of the competition demands of soccer; identify the failures of each player and / or team, and modeling the training process. The present application "Evaltechfoot V3.0.1" is an easy to use, a rapid and a reliable tool to provide quantitative and qualitative information on the requirements of the competition in soccer. Likewise, we are looking for the possibility of generalization of the application on other collective sports activities.



Figure 3: the main application interface

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## Analysis Of Selected Psychological Variables Among Athletes (Girls)

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### **Introduction:**

**Athletics** is an exclusive collection of sporting events that involve competitive running, jumping, throwing, and walking. The most common types of athletics competitions are track and field, road running, cross country running, and race walking. The simplicity of the competitions, and the lack of a need for expensive equipment, makes athletics one of the most commonly competed sports in the world. Athletics is mostly an individual sport, with the exception of relay races and competitions which combine athletes' performances for a team score, such as cross country. Coming to psychology, psychology is derived from Latin word 'psyche' and 'logos' which means 'soul study'. Today psychology is considered as the science of behavior.

### **Methodology:**

The purpose of the study was to examine the anxiety, aggression and achievement motivation among high school girls in Athletics. To achieve this purpose, Athletes from various CBSE school girls who participated in the 16<sup>th</sup> CBSE National Athletic Championship 2011-12 from 04<sup>th</sup> to 07<sup>th</sup> January 2012 at Delhi Public School Meerut (U.P) were selected as subject. 1800 participated in the National meet. Scat anxiety questionnaires, SMITH Aggression questionnaire and Dr.M.L.Kamlesh achievement motivation questionnaires were administered to the players representing the following five schools only. D.P.S Hyderabad, Adithya Birla Public School Bangalore, Sun Beem International School Varanasi, HPS Hyderabad, Sree Vidyanikethan International School Tirupati . For this study from each team five players were selected total number of subjects twenty five.

**The Experimental Variables:** Anxiety plays an important role in the requisition of motor skills as well as athlete performance. Anxiety can either enhance or inhibit performance. Whether its effect is positive or negative depends on how an individual perceives the situation. Hence the investigator was interested in choosing achievement motivation as a variable in the study. Taking into consideration of above facts, anxiety, aggression and achievement motivation were chosen as a variable.

### **Tools Used:**

To find out the level of anxiety scat sports competition anxiety test questionnaire formulated by Rainer Martin was used. To find out the level of aggression smith's questionnaire was used. The subjects were explained and made to understand the purpose of the study by the researcher. First the investigator explained all the questions and given the instructions to the subjects. Emphasis was made to get their won response. The subjects were constantly motivated throughout the period of this investigation to ensure their willing co-operation. The investigator administered the questionnaire to the subjects of the study by meeting them in person, the purpose of the investigation was clearly explained and necessary instruction regarding the method of answering the statements in the questionnaire was given. The filled questionnaires were collected from the students and using the scoring key the total scores obtained by each subject was tabulated. Anxiety with SCAT questionnaire developed by Rain Martens was measured. The SCAT questionnaire was given to all the subject's fifteen items were noted from SCAT questionnaire for this investigation. Aggression questionnaire containing four statements was administered to find the specific types of aggressive behavior in competitive games and sports. There was no right or wrong answer the subjects circled either strongly disagree 1 point disagree 2 points undecided 3 points agree 4 points strongly agree 5 points. The total value was obtained for the four statements and recorded as the individual score. The standard psychological test designed by Kamlesh was used in achievement motivation. This test consists of partly completed sentences each partly completed sentences have two answers which are equally good to make the incomplete sentences meaningful and complete. Among the two answers the most appropriate one is the correct response. The respondents made a check mark on any one of the answer that fits to them best. The inventory was reevaluated by the investigator by administering in its original form was made use of in this investigation.

**Statistical Design:**

To compare the selected psychological variables namely anxiety aggression and achievement motivation among Athlete Girls. ANOVA was employed separately for all variables as suggested by Clarke.

**Presentation And Interpretation Of Data:**

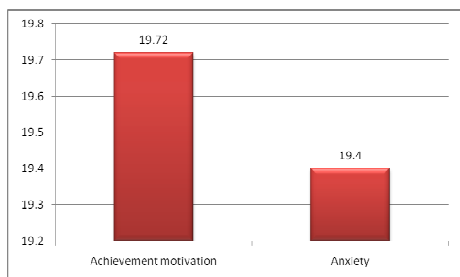
The purpose of the study to find out the different in anxiety, aggression and achievement motivation among Athletes, the anxiety aggression and achievement motivation among runners and throwers were assessed. These three variables were assessed by administering separate questionnaire. The data collected have been put in to statistical analysis. To compare the selected psychological variables, analysis of variance was used the significance was set at 0.05 level of confidence which was considered adequate for the purpose of this study.

PosT Hoc test for anxiety, aggression and achievement motivation among Athletes.

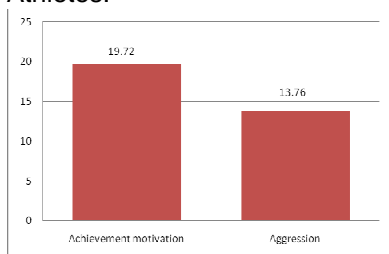
Achievement Motivation	Anxiety	Aggression	M.D	C.I
19.72	19.4		0.32	1.57
19.72		13.76	5.96	1.57
	19.4	13.76	5.64	1.57

The table shows the difference in the means were 0.32, 5.96 for Athletes. Since the mean difference between anxiety, aggression and achievement motivation were greater than the C I value of 1.57. There was significant different between anxiety aggression and achievement motivation among Athletes.

Bar diagram showing the mean of scores in difference between achievement motivation and anxiety among Athletes.



Bar diagram showing the means of scores in different between anxiety, motivation and aggression among Athletes.



**Conclusion:**

It concluded that there were would not be any significant difference between Achievement motivation and anxiety in Athletes (Girls). Achievement motivation is greater than the aggression in Athletes (Girls). Anxiety is higher than the aggression among Athletes (Girls).

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## Field Hockey Better Psychological Effect through the Motivation and Stress

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### **Introduction**

Autogenic Training :Emerson (1999) conducted a study to compare the efficacy in the runners of two relaxation techniques with regarded to exercise reactivity and recovery after exercise. Thirty one adult male runner were studied prospectively for 6 months in three groups practicing either meditation (n =11) or autogenic training (n =11) or serving as controls (n =10). Before and after 6 months relaxation and innervations, indicators of reactivity to exercise and metabolism after exercise (blood lactate concentration, heart rate and oxygen consumption were tested immediately after and 10minute exercise. There were no significant differences among the groups with regard to HR, vo2, or levels of anxiety. Meditation training may reduce the lactate response to a standardized exercise bout.

Coker (1999) investigation was conducted to determine whether or not relaxation training would significantly effects the mood states of collegiate basketball players during a session of competition as measured by the profile of mood states (POMS )and the Spielberger state anxiety inventory (STAI) voluntaries forty nine male and female collegiate basketball players. Experimental group listened to antigenic relaxation tapes, while the control group met for five sessions to answers questionnaire related to stress.

Yoga:- Kamel et.al., (2000) examined the changes in brain waves and blood levels of serum cortisol during yoga exercise in 7 yoga instructors and found that alpha waves increased and serum cortisol decreased. These two measures were negatively correlated ( $r = - 0.83$ ). Comparison with a control group of non practitioners is desirable.

Raju et.al.,(1997) examined the short-term effects of 4 weeks of intensive yoga practice on physiological responses in six healthy adult female volunteers were measured using the maximal exercise treadmill test. Yoga practice involved daily morning and evening sessions of 90 minutes each. Pre and post-yoga exercise performance was compared. Maximal work output (w max) for the group increased by 21% with a signification reduced level of oxygen consumption per unit work but without a concomitant significant change in heart rate. After intensive yoga tanning, at 154 w min.(-1) (corresponding to w max of the pre-yoga maximal exercise test) participants could exercise more comfortable, with significantly lower heart rate ( $P < 0.05$ ), reduced minute ventilation ( $P < 0.05$ ), reduced oxygen consumption per unite work ( $P < 0.05$ ), and the significantly lower respiratory quotient ( $P < 0.05$ ) the implications for the effects of intensive yoga on cardio respiratory efficiency are discussed, with the suggestion that yoga has has some transparently difference quantifiable physiological effects to other exercises.

**Achievement motivation:-** Motivation means move to achieve. In psychology the term motivation or motive refers to activation from within in the organism. The motivation is termed as the urge to push towards a specific goal. Motivation is a concept invented to describe the psychological state or the organism as it is affected by various influences. A person is motivated when he desires some goal, a goal that will meet his need or satisfy his interest. Many psychologists believe that all behaviors are motivated, although it is extremely difficult to isolate specific motivational variables. According to Brayant J. Crathy, (1989) motivation as a personality characteristic related to the general state of arousal and subsequent level of attention paid to a problem or task facing of an individual. Motivation depends not only on environmental manipulations and the individual's personality, but on the nature of the task also. For simple skills high or low motivation create the same effect. The level of motivation will affect the performance of the complex skill.According to Silva John M. and Weinberg Roberts (1984) need to achieve and fear of failure are motives aroused situational. Level of achievement motives is positively

related to success. Achievement related motives may be more successful in predicting behavior in sports selling.

**Stress:**The term stress is used to connote a variety of meanings both by common men and psychologists. Some psychologists have defined stress as a “stimulus” and others as a “reaction”. One of the most commonly accepted definition of stress is by Hans Selye. As a stimulus, Selye has defined stress as any external event or internal drive, which threatens to upset the equilibrium of an organism. On the other hand, as a response, Selye has defined stress “as a non specific responses of the body to the demand”. Stress is developed internally rather externally. (William 1983). Psychological stress has robbed more athletics psychic energy, victory and enjoyment in sports than any other factor. Stress can destroy self-confidence by leading athletes to believe that they are incompetent. It can deny athletes the joy of demonstrating skills that they have mastered through countless hours of hard work. And it can deprive athletes of experiencing the ecstasy of low. Stress because interpersonal conflict, induces physical injury and drives athletes to early retirement. Psychological stress is an insidious disease and when sustained manifests itself in the form of burnout- affliction not only for athletes but also for coaches as well. (Debi 1965)

### Performance And Result Analysis

Effect Of Psycho Regulative Programmes – Achivement Motivation And Stress On Psychological Variables The data on the effect of achievement motivation and stress on psychological variable, anxiety was collected through pre and post test scores and subjected to statistical treatment using ANCOVA. Tables are shows the results obtained.

#### ACHIEVEMENT MOTIVATION

Means	Yogic Group	Autogenic Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained F
Pre Test	24.27	22.73	22.53	Between	53.96	2	26.98	1.01
Within		2329.20		87			26.77	
Post Test	27.87	25.07	22.87	Between	376.80	2	188.40	7.72*
Within		2122.80		87			24.40	
Adjusted	26.85	25.48	23.47	Between	170.04	2	85.02	96.91*
Within		75.45		86			0.88	
Mean Diff		3.60		2.33			0.33	

#### STRESS

Means	Yogic Group	Autogenic Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained F
Pre Test	23.10	21.40	21.50	Between	51.4	2	25.72	3.07
Within		477.5		57			8.38	
Post Test	24.20	23.95	23.10	Between	89.0	2	44.52	10.44*
Within		243.2		57			4.27	
Adjusted	23.93	24.25	21.47	Between	87.8	2	43.91	10.14*
Within		242.5		56			4.33	
Mean Diff		1.10		2.55			1.60	



## To Study The Effect Of Drill Practice On Selected Physical Fitness Components Of Badminton Players Of Age Group 13-16 Years

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**Introduction:**

Badminton Is A Well-Known Sport Around The World. In Order To Beat Your Opponent In Badminton You Would Have To Be Better At The Fitness Components Compared To Your Opponent. The Important Fitness Components For Badminton Are Speed, Agility, Strength And Muscular Endurance. Among The Indoor Games, Badminton Occupies A Place Of Pride Both As An Individual As Well As Team Sport In Spite Of Frequent Changes That Have Occurred In Various Aspects Of Competition Pertained To The Game Including, Fitness Level.

**Methodology:**

This Study Is To Find Out The Effect Of Drill Practice On Selected Physical Fitness Components State Level Badminton Players (Age 13-16 Years). For This Purpose, Experimental Method Has Been Applied. Thus, Researcher Has Applied Pre-Test Post-Test Equivalent Group Research Designs For This Study. In The Present Study, Physical Fitness Is Characteristics Or Interests Of The Researcher For That Purpose, Population Of The Study Was The Latur District Badminton Players (Boys), Those Are Participating In District And State Level Tournament Regularly Aged 13 To 16 Years.As The Study Was Limited To Sub-Junior Boys Of Badminton Players Of Latur District A Sample Of 40 Players Is Selected Randomly. These Players Are Taken As The Subject For The Study In 2 Groups Of 20 Students Each By Lottery Method And Then Classified In The Categories Of Control Group And Experimental Group. The Statistical Technique Has Been Used.

The data has primarily analyzed using the descriptive statistical techniques mean S.D. Skewness, Kurtosis, and Standard error, Means were calculated.

As this is Experimental study, researcher has analyzed data applying paired sample “t-test” was taken into consideration for finding the effect of drill practice on physical fitness of district/state level Badminton players of Latur District. A statistical software SPSS (17) was used for the data analysis.

**Table No. 1 Paired Sample Test Of Physical Fitness Experimental Group (Pre And Post Test)**

TEST ITEMS	PAIRED DIFFERENCE			T	DF
	MEAN	STD DEVIATION	STD. ERROR MEAN		
12 M. RUN & WALK-PRE AND POST TEST	317.00	83.15	18.59	17.07*	19
PUSHUP-PRE AND POST TEST	9.30	1.65	0.37	25.09*	19
SIT-UPS-PRE AND POST TEST	10.15	1.56	0.35	29.00*	19
SIT AND REACH-PRE AND POST TEST	3.15	0.67	0.15	27.00*	19
SHUTTLE RUN-PRE AND POST TEST	1.35	0.50	0.11	11.98*	19
BROAD JUMP-PRE AND POST TEST	7.20	2.21	0.49	14.53*	19
50 YARD DASH-PRE AND POST TEST	1.15	0.44	0.09	14.53*	19

N=20 \* Significant at p<0.05

**Table No. 2 Paired Sample Test Of Physical Fitness – Control Group (Pre And Post Test)**

TEST ITEMS	PAIRED DIFFERENCE				
	MEAN	STD DEVIATION	STD. ERROR MEAN	T	DF
12 M. RUN & WALK-PRE AND POST TEST	76.00	44.06	9.85	7.71	19
PUSHUP-PRE AND POST TEST	2.00	0.64	0.14	13.78	19
SIT-UPS-PRE AND POST TEST	2.25	1.58	0.35	6.34	19
SIT AND REACH-PRE AND POST TEST	0.80	0.52	0.11	6.83	19
SHUTTLE RUN-PRE AND POST TEST	0.39	1.07	0.24	1.64	19
BROAD JUMP-PRE AND POST TEST	3.20	1.00	0.22	14.23	19
50 YARD DASH-PRE AND POST TEST	0.55	0.40	0.10	5.33	19

N=20 \* Significant at  $p < 0.05$

**Major Findings:**

A) Descriptive Statistics of physical fitness: The physical fitness (Pre-test, Post-test) was carried on raw data with 20 subjects of Experimental group, in all to know Mean, S.D., Skewness, and kurtosis of measured variables. Results Of Paired Sample Test Of Physical Fitness: The Findings Of Paired Sample Test, Pre And Post-Test Of Experimental Group: The T-Value Was 17.07. It Means That The Obtained T-Value Is Significant ( $T = 17.07 > P < 0.05$ ). The T-Value Was 25.09. It Means That The Obtained T-Value Is More Significant ( $T = 25.09 > P < 0.05$ ). The T-Value Was 29.00. It Means That The Obtained T-Value Is Significant ( $T = 29.00 > P < 0.05$ ). The T-Value Was 27.00, It Means That The Obtained T-Value Is Statistically Significant ( $T = 27.00 > P < 0.05$ ). The T-Value Was 11.98, It Means That The Obtained T-Value Is Significant ( $T = 11.98 > P < 0.05$ ). The T-Value Was 14.53, It Means That The Obtained T-Value Is Significant ( $T = 14.53 > P < 0.05$ ). The T-Value Was 14.50, It Means That The Obtained T-Value Is Significant ( $T = 14.50 > P < 0.05$ ). The Findings Of Paired Sample Test, Pre And Post-Test Of Control Group: The T-Value Was 7.71, It Means That The Obtained T-Value Is Significant ( $T = 7.71 > P < 0.05$ ). The T-Value Was 13.78, It Means That The Obtained T-Value Is Significant ( $T = 13.78 > P < 0.05$ ). The T-Value Was 6.34, It Means That The Obtained T-Value Is Significant ( $T = 6.34 > P < 0.05$ ). The T-Value Was 6.83, It Means That The Obtained T-Value Is Significant ( $T = 6.83 > P < 0.05$ ). The T-Value Was 1.64, It Means That The Obtained T-Value Is Nonsignificant ( $T = 1.64 > P < 0.05$ ). The T-Value Was 14.23, It Means That The Obtained T-Value Is Significant ( $T = 14.23 > P < 0.05$ ). It Reveals That The Mean Difference Of Physical Fitness Of Experimental Group Was Higher Than The Control Group. Hence The Results Show That The Five Months Drill Practice Training Schedule Is Beneficial For Improving The Physical Fitness Of Badminton Players (Age 13 To 16 Years Boys).

**Conclusion:** Due To The Five Month Drill Practice Training Schedule, The Physical Fitness Of The Badminton Players' Age 13 to 16 Years (Boys) The Improvement Has Been Found Noteworthy. The Drill Practice Training Schedule For The Badminton Players Developed And Applied By The Researcher Has The Ability And Applicability To Predict The Improvement On The Physical Fitness And Skill Performance Of The Badminton Players.

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## **Effects Of Yogasanas Stretching Exercise And Concurrent Practices On Cortisol And Thyroid Stimulating Hormone Among Information Technology Sector Men.**

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### **Abstract**

The present study is an outcome of the effects of yogasanas, stretching Exercise and concurrent practices on cortisol and thyroid stimulating hormone among information technology sector men. To achieve the purpose of the study sixty Information Technology Sector Men were selected from the Ramco systems Ltd and Hcl Technology Ltd in Chennai and their age group were between 25-40 years. Selected subjects were divided into four equal groups, namely experimental group I, experimental group II, and Experimental group III and control group IV. Each group consisted of fifteen subjects. Random group design was used for the selection of the subjects. Training period of this study was twelve weeks. Experimental group I undergone the yogasanas, experimental group II undergone the Stretching Exercise, Experimental group III undergone concurrent practices and control group IV undergone no training. Pre and post test were taken before and after the twelve weeks of training programme. To analyses the data ANCOVA and Scheffe's post hoc test was used. The result of the study shows that there was a significant improvement on cortisol and thyroid stimulating hormone among information technology sector men due to the influence of yogasanas, stretching exercise and concurrent practices .The conclusion is that the yogasanas, stretching exercise and concurrent practices helped to positive reduction and control of the level of cortisol and thyroid stimulating hormone among information technology men.

**KEY WORDS:**Yogasanas, Stretching exercise, Concurrent practices, Control group cortisol and thyroid stimulating hormone

### **Introduction**

Yoga has been used as an effective intervention in stress as well as depressive illness. Yoga is also associated with lowering of cortisol. In this study, yoga in relation to antidepressant effects and serum cortisol. Thyroid diseases are common worldwide. In India too, there is a significant burden of thyroid diseases. According to a projection from various studies on thyroid disease, it has been estimated that about 42 million people in India suffer from thyroid diseases. Yoga is a science of right living and it works when integrated in our daily life and also gives all round development to man stretching exercise give stretches to muscle, joints and endocrine glands improving blood circulation to the entire body and promotes healthy life. Concurrent practices provide combined effects of yogasanas and stretching exercise. It was proven throughout the world that yoga helps to reduce cortisol level and control TSH level regulate enhance the elasticity of the arteries. It improves physical and mental health and helps to live a healthy life.

**PURPOSE OF THE STUDY:**The present study was designed to find out effects of yogasanas, stretching exercise and concurrent practices on cortisol and thyroid stimulating hormone among information technology sector men

**HYPOTHESIS:** It was hypothesized that there would be significant improvement in Experimental groups (group I, group II&III) than control group IV) on cortisol and thyroid stimulating hormone among information technology sector men.

**Methodology:**To achieve the purpose of these study sixty subjects were randomly selected from Ramco Systems Ltd and Hcl Technology Ltd in Chennai district, the subject's age groups was ranged between 25-40 years only. They were divided into four equal groups. Yogasanas, stretching exercise and concurrent practices and were considered as experimental groups and another group was control group.

Selection Of The Variables: Independent variables - I.Yogasanas II. Stretching exercises, III.Concurrent practices, Dependent variables – Cortisol and Thyroid Stimulating Hormone

**Results On Cortisol**

The statistical analyses comparing the initial and final means of cortisol through blood test by Biochemist and due to yogasanas, stretching exercises and concurrent practices on information technology sector men presented in table -I

Table – I:Analysis Of Co-Variance Of The Means Of Three Experimental Groups And The Control Group In Cortisol

	Group-I	Group-II	Group-III	Group-IV	Source of variance	Sum of squares	Df	Mean squares	Obtained F-ratio
Pre test mean	8.46	9.54	10.00	9.17	Between	18.96	3	6.32	0.96
					Within	366.20	56	6.54	
Post test mean	6.62	7.75	7.32	9.28	Between	56.65	3	18.88	4.67*
					Within	226.00	56	4.04	
Adjusted post test mean	7.20	7.58	6.83	9.36	Between	56.67	3	18.89	20.50*
					Within	50.68	55	0.92	
Mean difference	1.83	1.79	2.68	0.10		18.96	3	6.32	

Table F ratio at 0.05 level of confidence for 3 and 56 (df) =2.7, 3 and 55 (df) = 2.72

\* Significant.

From the table I obtained F value for pretest 0.96 was lesser than the table F value 2.7, this indicates that the random assignment of the subjects were successful. The analysis of posttest proved that the obtained F value 4.67 was greater than the required value of 2.7, to be significant at 0.05 levels. Taking into consideration of adjusted posttest, the obtained F value 20.50 was greater than the required value of 2.72 and hence it was accepted that yogasanas and stretching exercises and concurrent practices group significantly improved on cortisol level and significance differences were recorded, the results were subjected to post hoc analysis using Scheffe's confidence interval test. The result were presented in table I(a)

Table – I (A):Scheffe's Post-Hoc Test For Cortisol

	MEANS			Mean difference	Required C.I
GROUP-I	GROUP-II	GROUP-III	GROUP-IV		
7.20	7.58		-	0.38	1.43
7.20	-		9.36	2.16*	1.43
	7.58		9.36	1.78*	1.43
		6.83	9.36	2.54*	1.43
	7.58	6.83		0.75	1.43
7.20		6.83		0.37	1.43

\* Significant

The table I(a), it was proved that there was significant differences between yogasanas and control group, Stretching exercise and control group, concurrent practices and control group

**Discussion On The Findings Of Cortisol**

Table-I(a) proved that there was a significant improvements in cortisol level due to yogasanas, stretching exercises and concurrent practices compared to control group

The findings of this study are in agreement with the findings of Rosa et. al. (2011) , Kim et. al.(2013), Field (2011), who have found that yogasanas, stretching exercise and concurrent practices improved significantly on biochemical variable cortisol.

**Results Of Thyroid Stimulating Hormone**

Thyroid stimulating hormone was measured through blood test by biochemist due to yogasanas, stretching exercise and concurrent practices on information technology sector men presented in table -II

**Table – li: Analysis Of Co-Variance Of The Means Of Three Experimental Groups And The Control Group In Thyroid Stimulating Hormone**

	Group-I	Group-II	Group-III	Group-IV	Source of variance	Sum of squares	Df	Mean squares	Obtained F-ratio
Pre test mean	3.27	2.77	2.59	2.94	Between	3.87	3	1.29	0.78
					Within	92.45	56	1.65	
Post test mean	2.26	1.93	1.58	3.00	Between	16.54	3	5.51	4.05*
					Within	76.27	56	1.36	
Adjusted post test mean	1.94	2.03	1.83	2.96	Between	11.986	3	4.00	21.59*
					Within	10.179	55	0.19	
Mean difference	1.01	0.84	1.01	0.05		3.87	3	1.29	

Table F ratio at 0.05 level of confidence for 3 and 56 (df) =2.7, 3 and 55 (df) = 2.72

\* Significant.

From the table I obtained F value for pretest 0.78 was lesser than the table F value 2.7, this indicates that the random assignment of the subjects were successful. The analysis of posttest proved that the obtained F value 4.05 was greater than the required value of 2.7 to be significant at 0.05 levels. Taking into consideration of adjusted posttest, the obtained F value 21.59 was greater than the required value of 2.72 and hence it was accepted that yogasanas, stretching exercises and concurrent practices significantly improved on Thyroid Stimulating Hormone and significance differences were recorded, the results were subjected to post hoc analysis using Scheffe's confidence interval test. The result were presented in table II(a).

**Table – li (A) Scheffe's Post-Hoc Test For Thyroid Stimulating Hormone**

GROUP-I	MEANS			Mean difference	Required C.I
	GROUP-II	GROUP-III	GROUP-IV		
1.94	2.03		-	0.09	0.64
1.94	-		2.96	1.01*	0.64
	2.03		2.96	0.92*	0.64
		1.83	2.96	1.12*	0.64
	2.03	1.83		0.20	0.64
1.94		1.83		0.11	0.64

\* Significant

Table II (a) it was proved that there was significant differences between yogasanas and control group, Stretching exercise and control group, concurrent practices and control group.

### **Discussion On The Findings Of Thyroid Stimulating Hormone**

The result presented in table-II(a) proved that there was a significant improvements in thyroid stimulating hormone due to yogasanas stretching exercises and concurrent practices compared to control group. The findings of this study are in agreement with the findings of Rani M, et. al (2013), Mainenti et. Al. (2009), Schumann et .al. (2013), who have found that yogasanas, stretching exercise and concurrent practices improved significantly on biochemical variable, Thyroid Stimulating Hormone.

### **Conclusion**

Based on the results obtained, the following conclusion was drawn: It was concluded that cortisol and thyroid Stimulating Hormone were significantly improved due to the influences of twelve week training of Yogasanas Group-I and stretching exercises Group-II, concurrent practices group-III than the control group on Information Technology Sector Men

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## To Study The Effect Of Drill Practice On Selected Physical Fitness Components Of Badminton Players Of Age Group 13-16 Years

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### **Abstract:**

The Purpose Of The Study Was Effect Of Drill Practice On Physical Fitness And Skill Performance Of Male Badminton Players. Thus, Researcher Has Applied Pre-Test Post-Test Equivalent Group Research Designs For This Study. In The Present Study, Physical Fitness Is Characteristics Or Interests Of The Researcher For That Purpose, Population Of The Study Was The Latur District Badminton Players (Boys), Those Are Participating In District And State Level Tournament Regularly Aged 13 To 16 Years. The Physical Fitness (Pre-Test, Post-Test) Was Carried On Raw Data With 20 Subjects Of Experimental Group, In All To Know Mean, S.D., Skewness, And Kurtosis Of Measured Variables. The Drill Practice Schedule For The Experimental Group Which Has Been Applied During The Training Session, The Result Of Physical Fitness Of Post Test Is Found Significant. There Is Found Statistically Significant ( $P < 0.05$ ) Value In The Paired Sample Test (T-Value) Of The Experimental Group Of Badminton Players Of 13to 16 Years' Boys. Due To The Five Month Drill Practice Training Schedule, The Physical Fitness Of The Badminton Players' Age 13to16 Years (Boys) The Improvement Has Been Found Noteworthy.

### **Introduction:**

Badminton Is A Well-Known Sport Around The World. In Order To Beat Your Opponent In Badminton You Would Have To Be Better At The Fitness Components Compared To Your Opponent. The Important Fitness Components For Badminton Are Speed, Agility, Strength And Muscular Endurance. Among The Indoor Games, Badminton Occupies A Place Of Pride Both As An Individual As Well As Team Sport In Spite Of Frequent Changes That Have Occurred In Various Aspects Of Competition Pertained To The Game Including, Fitness Level. As Badminton Is Considered The Fastest Racquet Sport In The World Speed And Agility, Strength, Are Automatically Required. For Improving The Performance Of Badminton Players It Is Important To Identify The Specific Traits And Parameters, Which Contribute To The Playing Ability. Several Studies Have Been Conducted To Find Out The Parameters Required For Badminton Fitness Performance. Badminton Being A Highly Explosive Sport, Involves A Unique Movement Technique And Strength Over A Relatively Small Court Area.

### **Methodology:**

This Study Is To Find Out The Effect Of Drill Practice On Selected Physical Fitness Components State Level Badminton Players (Age 13-16 Years). For This Purpose, Experimental Method Has Been Applied.

Thus, Researcher Has Applied Pre-Test Post-Test Equivalent Group Research Designs For This Study. In The Present Study, Physical Fitness Is Characteristics Or Interests Of The Researcher For That Purpose, Population Of The Study Was The Latur District Badminton Players (Boys), Those Are Participating In District And State Level Tournament Regularly Aged 13 To 16 Years. As the study was limited to Sub-Junior Boys of Badminton players of Latur District a sample of 40 players is selected randomly. These players are taken as the subject for the study in 2 groups of 20 students each by lottery method and then classified in the categories of Control Group and Experimental Group.

### **The Statistical technique has been used:**

The data has primarily analyzed using the descriptive statistical techniques mean S.D. Skewness, Kurtosis, and Standard error, Means were calculated. (Guilford and Fruchter, 1978; Bhattacharyya *et al.*, 1977) As this is Experimental study, researcher has analyzed data applying paired sample "t-test" was taken into consideration for finding the effect of drill practice on physical fitness and skill performance of district/state level Badminton players of Latur District. A statistical software SPSS (17) was used for the data analysis.

Table No. 1 Paired Sample Test Of Physical Fitness Experimental Group  
(Pre And Post Test)

Test Items	Paired Difference			T	Df
	Mean	Std Deviation	Std. Error Mean		
12 M. Run & Walk-Pre And Post Test	317.00	83.15	18.59	17.07*	19
Pushup-Pre And Post Test	9.30	1.65	0.37	25.09*	19
Sit-Ups-Pre And Post Test	10.15	1.56	0.35	29.00*	19
Sit And Reach-Pre And Post Test	3.15	0.67	0.15	27.00*	19
Shuttle Run-Pre And Post Test	1.35	0.50	0.11	11.98*	19
Broad Jump-Pre And Post Test	7.20	2.21	0.49	14.53*	19
50 Yard Dash-Pre And Post Test	1.15	0.44	0.09	14.53*	19

N=20 \* Significant At P<0.05

Table No. 2 Paired Sample Test Of Physical Fitness – Control Group  
(Pre And Post Test)

Test Items	Paired Difference			T	Df
	Mean	Std Deviation	Std. Error Mean		
12 M. Run & Walk-Pre And Post Test	76.00	44.06	9.85	7.71	19
Pushup-Pre And Post Test	2.00	0.64	0.14	13.78	19
Sit-Ups-Pre And Post Test	2.25	1.58	0.35	6.34	19
Sit And Reach-Pre And Post Test	0.80	0.52	0.11	6.83	19
Shuttle Run-Pre And Post Test	0.39	1.07	0.24	1.64	19
Broad Jump-Pre And Post Test	3.20	1.00	0.22	14.23	19
50 Yard Dash-Pre And Post Test	0.55	0.40	0.10	5.33	19

N=20 \* Significant At P<0.05

**Major Findings:**

A) Descriptive Statistics Of Physical Fitness: The Physical Fitness (Pre-Test, Post-Test) Was Carried On Raw Data With 20 Subjects Of Experimental Group, In All To Know Mean, S.D., Skewness, And Kurtosis Of Measured Variables.

**Results Of Paired Sample Test Of Physical Fitness:**

The Findings Of Paired Sample Test, Pre And Post-Test Of Experimental Group:

The T-Value Was 17.07. It Means That The Obtained T-Value Is Significant (T= 17.07 > P < 0.05). The T-Value Was 25.09. It Means That The Obtained T-Value Is More Significant (T= 25.09 > P < 0.05). The T-Value Was 29.00. It Means That The Obtained T-Value Is Significant (T= 29.00 > P < 0.05). The T-Value Was 27.00, It Means That The Obtained T-Value Is Statistically Significant (T= 27.00 > P < 0.05). The T-Value Was 11.98, It Means That The Obtained T-Value Is Significant (T= 11.98 > P < 0.05). The T-Value Was 14.53, It Means That The Obtained T-Value Is Significant (T= 14.53 > P < 0.05). The T-Value Was 14.50, It Means That The Obtained T-Value Is Significant (T= 14.50 > P < 0.05).

The Findings Of Paired Sample Test, Pre And Post-Test Of Control Group:

The T-Value Was 7.71, It Means That The Obtained T-Value Is Significant ( $T= 7.71 > P < 0.05$ ). The T-Value Was 13.78, It Means That The Obtained T-Value Is Significant ( $T= 13.78 > P < 0.05$ ). The T-Value Was 6.34, It Means That The Obtained T-Value Is Significant ( $T= 6.34 > P < 0.05$ ). The T-Value Was 6.83, It Means That The Obtained T-Value Is Significant ( $T= 6.83 > P < 0.05$ ). The T-Value Was 1.64, It Means That The Obtained T-Value Is Nonsignificant ( $T= 1.64 > P < 0.05$ ). The T-Value Was 14.23, It Means That The Obtained T-Value Is Significant ( $T= 14.23 > P < 0.05$ ). It Reveals That The Mean Difference Of Physical Fitness Of Experimental Group Was Higher Than The Control Group. Hence The Results Show That The Five Months Drill Practice Training Schedule Is Beneficial For Improving The Physical Fitness Of Badminton Players (Age 13 To 16 Years Boys).

#### **Conclusion:**

1) Due To The Five Month Drill Practice Training Schedule, The Physical Fitness Of The Badminton Players' Age 13to16 Years (Boys) The Improvement Has BEEN FOUND NOTEWORTHY.

The Drill practice training schedule for the Badminton players developed and applied by the researcher has the ability and applicability to predict the improvement on the physical fitness and skill performance of the Badminton players.

3) While comparing the statistical results of both groups, it is found that due to Drill practice training schedule, there is a drastic improvement in the physical fitness of the Badminton players, in the post-test of Experimental Group.

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## Analysis Of The Motor Fitness Variables Among Attappady And Wayanad Tribal Students

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### Abstract

The current investigation was aimed to compare the motor fitness variables among the Attappady and Wayanad tribal students. To analyze the critical study, selected twenty each school going students at random in two different tribal areas in Kerala. The groups were named Attapapady tribes and the Wayanad tribes ( $n = 40$ ). The age of the selected students were ranged between 14 to 18 years ( $16 \pm 2$ ). The criterion variables were selected for the study was agility and leg explosive strength. The sargent jump test was used for leg explosive strength and shuttle run for agility for this study. The independent 't' test was used as a statistical technique for the current investigation. The result of the study points that the leg explosive strength of the Attappady tribe students were better than ( $p \leq 0.05$ ) the Wayanad tribe students. However, there is no significant ( $p \geq 0.05$ ) difference in agility between the two groups.

**Key Words:** Leg explosive strength, sergeant jump, agility, Attapady tribes, Wayanad tribes.

### Introduction

Motor fitness is a term that describes an athlete's ability to perform effectively during sports or other physical activity. An athlete's motor fitness is a combination of five different components, each of which is essential for high levels of performance. It is essential for competing at high levels, which is why the concept is seen as an essential part of any athlete's training regime. Alex Paul (2014) Generally, agility can be defined by the ability to explosively start, decelerate, change direction, and accelerate again quickly while maintaining body control and minimizing a reduction in speed John and Graham (2013).

Leg strength is very essential for sports persons, especially athletes. Leg strength is the capacity of the lower limbs to exert muscular force (Hilfiker *et al.*, 2007)). The length and height of the jump will depend to a greater degree upon the force or push the jumpers can generate and his ability to utilize the force as explosive power. The jumpers need greater leg strength and power while jumping (Clarke & Clarke, 1987). In turn, the explosive power mainly depends upon one's leg strength Therefore, there is a need to study the motor development patterns of two different tribal areas in Kerala to compare the influence of their traditional activities and the role of their daily activities in the motor qualities to each other.

### Materials And Methods

The purpose of this study was to compare the motor fitness variables among Attappady and Wayanad tribal students. To analyze the critical study selected twenty each school going students at random in two different tribal areas in Kerala. The groups were named Attapapady tribes and the Wayanad tribes ( $n = 40$ ). The age of the selected students were ranged between 14 to 18 years. The criterion variables were selected for the study were agility and leg explosive strength. The standard test items were used for the study was shuttle run for agility and the sargent jump test for leg explosive strength. Three chances were given to each subject and noted the best result as a final score. The independent 't' test was used as a statistical technique for the this investigation.

## Results And Discussion

**Table I: Mean, Standard Deviation And 'T' Ratio On Leg Explosive Strength Among Attappady And Wayanad Tribal Students**

Group	Mean	SD	't'
Attappady Tribal Students	32.69	2.13	4.38
Wayanad Tribal Students	29.97	1.78	

Table-I showed that the mean values of leg explosive strength among the Attappady tribe students and the Wayanad tribe students 32.69 and 29.97 respectively. The obtained 't' ratio of 4.38 is greater than the table value 2.02 for df 1 and 38 required for significance at 0.05 levels. It was concluded that there was a significant difference occurred in leg explosive strength among the Attappady tribe students and the Wayanad tribe students.

**Table-II: Mean, Standard Deviation And 'T' Ratio On Speed Among Attappady And Wayanad Tribal Students**

Group	Mean	SD	't'
Attappady Tribal Students	10.27	0.81	1.49
Wayanad Tribal Students	10.63	0.65	

Table-II showed that the mean values of agility among the Attappady tribe students and the Wayanad tribe students 10.27 and 10.63 respectively. The obtained 't' ratio of 1.49 is lesser than the table value 2.02 for df 1 and 98 required for significance at 0.05 levels. It was concluded that there was insignificant difference occurred in agility among the Attappady tribe students and the Wayanad tribe students.

The results of the present scenario point out the positive quality of Attappady tribes as compare with the Wayanad tribes. The leg explosive strength of Attappady tribes is better than the Wayanad tribes. But there is not that much of difference in agility in between these two groups. Espenschade (1968) observed that the general motor ability of girls did not improve after the age of 14, whereas, body shows steady improvement up to 18 years of age. Berry (1974) concluded in his study that the power performance in tribe girls improves far faster than the same aged rural girls. It was due to basic inborn and acquired qualities of the tribe girl. They were involved in different kinds of movements in their day to day life as compared with others. Anyanwu (1977) and Bennett et al. (1983), also pointing the positive qualities of the tribal peoples in their studies.

### Conclusion

The motor fitness qualities have a major role in living environment supportive surroundings. Based on the analysis of the study it was concluded that the Attappady tribal students have better explosive strength than the Wayanad Tribal students and in the case of the agility there was no significant difference among the two tribal groups.

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## Effect Of Isometric And Istonic Training On Strength Endurance Among College Men Football Players

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### Abstract

The purpose of this study was to find out the Effect of isometric and isotonic training on strength endurance among college men football players. Forty-five men football players ( $n = 45$ ) were randomly selected as subjects and their age ranged between 18 to 22 years. The selected subjects were randomly assigned into three equal groups such as isometric training group, isotonic training group and the control group with fifteen subjects each ( $n = 15$ ). The two different training groups underwent their respective experimental treatment for three days in a week for eight weeks and a session on each day. The control group was not participating in any specific training apart from their daily activities. Strength endurance was taken as a variable for this investigation and used the standard test to measure the strength endurance of the abdomen is sit-up test. Analysis of covariance (ANCOVA) was used to analyze the collected data and Scheffe's test was applied as a post hoc test to determine the paired mean difference of the group. The results of the study showed that there was a significant improvement in strength endurance between isometric training group and control group, isotonic training group and the control group, isotonic training group and isometric training group. It is clear from the result of the study that the isotonic training is better ( $p \leq 0.05$ ) for improving strength endurance rather than isometric training at 0.05 level.

**Key Words:** Strength endurance, isotonic training, isometric training, football players

### Introduction

It has already been demonstrated that resistance training is an important tool in the prevention and maintenance of health-related life quality. Moreover, the recommendations suggest that it should be part of an exercise program for young adults and older individuals (Oliveira *et al.*, 2012). Isometric muscle training is the contraction of a muscle against an immovable force. For instance, muscles will flex and hold a stationary position when an individual is pushed against a wall. This weight training technique involves no weight and very little equipment. Isometric muscle training allows for the contraction of the muscles but not the shortening or movement of the targeted muscle. Isometric exercise is primarily used in physiotherapy and rehabilitation following an injury. For optimal results isometric training is usually performed in conjunction with isotonic training. Isotonic muscle training involves contractions where tension is equal throughout the range of motion. Isotonic exercise strengthens the muscles in the entire range of motion, while improving joint mobility. It involves the contraction and shortening of a muscle to allow movement. Isotonic muscle training is usually done with dumbbells, barbells or elastic resistance bands. (If such equipment is not available, pushups may be substituted.) This muscle training technique employs eccentric and concentric movements. When the weight is lifted, the movement is referred to as concentric and when the weight is returned back to the starting position, the movement is called an eccentric movement. Muscular endurance is usually defined as the ability of a muscle group to perform repeated contractions (either isotonic, isokinetic, or eccentric) against a load or to sustain a contraction (isometric) for an extended period of time. Muscular strength is the force that a muscle or muscle group can exert against a resistance in one maximal effort (Daryl, 2014). However the strength endurance may also be defined as the opposite of muscular fatigue.

## Materials And Methods

The purpose of this study was to find out the Effect of isometric and isotonic training on strength endurance among college men football players. To achieve this purpose forty-five men football players from Calicut University, Kerala was selected as subjects, thirty of them had undergone the training programme as isometric training and isotonic training, and the remaining acted as a control group. The selected subjects were in the age group between eighteen and twenty two years. The training programme was scheduled for three sessions during the week (Monday, Wednesday & Friday) for a period of 8 weeks. All the subjects involved in the training programme were questioned about their status throughout the training period. None of them reported any injuries. However, muscle soreness was reported in the early weeks, and it subsided later. Attendance was taken before the commencement of each training session. All the subjects were present for more than 94% of the total training sessions. The data on strength endurance was collected one day prior to the training and immediately after the training programme for criterion variable. The experimental design used in the present study was random group design. The data collected from two groups prior and after experimentation on strength endurance was statistically examined for significant differences, if any by applying the analysis of covariance (ANCOVA) with the help of SPSS package. In determining the significance of 'F' ratio the confidence interval was fixed at 0.05 levels, which is considered as appropriate enough for the study. Scheffe's test was applied as a post hoc test to determine the paired mean difference of the groups.

## Results

**Table - I**

**Analysis of Covariance on Strength Endurance among Experimental and the Control Group**

Test		Isometric Group	Isotonic Group	Control Group	SOV	SS	df	MS	F
Pre test	Mean	27.26	28.26	27.66	B	7.6	2	3.8	1.27
	SD	1.75	1.62	1.79	W	125.2	42	2.98	
Post test	Mean	32.13	35.13	28.07	B	377.4	2	188.7	39.16*
	SD	2.26	2.39	1.91	W	202.4	42	4.82	
Adjusted Post test	Mean	32.56	34.65	28.13	B	329.12	2	164.6	68.77*
					W	98.11	41	2.39	

(The table value required for significance at 0.05 level of confidence with df 2 and 42, and 2 and 41 are 3.22 and 3.23 respectively)

Table I indicates that pre and post test mean and standard deviation of experimental and control groups on abdominal strength endurance. The obtained 'F' value for pre test mean on strength endurance was 1.27, which was lesser than table value of 3.22 for the degree of freedom 2 and 42 at 0.05 level of confidence; hence there was no significant difference in pre test data of experimental and control groups. The analysis of the post and adjusted post test mean data reveals that obtained 'F' value of 39.16 and 68.77 respectively, which were higher than table 'F' of 3.23, hence there exists a significant difference in strength endurance among the experimental groups and control group. Scheffe's test was used to find out the paired mean difference and it was presented in Table II.

**Table- II**  
**Scheffe's Post Hoc Test for The difference between Paired Mean on Strength Endurance**

Adjusted Post Test Mean			MD	CI
IM	IT	CG		
32.56	34.65	-	2.09*	
32.56	-	28.13	4.43*	1.43
-	34.65	28.13	6.52*	

Significant, (p  $\leq$  0.05)

Table II showed that the adjusted post test mean difference in strength endurance between isometric training group and isotonic training group, isometric training group and the control group, isotonic training group and control group, are 2.09, 4.43, 6.52 respectively. Among these values the isometric training group and control group, isotonic training group and control group, isometric training group and the isotonic training groups have significant difference to each other. These mean different values of these training groups are higher than the required confidence interval value of 1.43. From the table it is clear that the isotonic training groups shows significant improvement against the isometric training group. As per the study, the training of isotonic is better than the isometric for the development of strength endurance in college football players.

#### Discussion

Strength endurance is an essential part of the competitive sports result. Isotonic and the isometric training protocol are the best training methods for the strength endurance. The result of the present study shows that the isotonic training is better than the isotonic training for the improve the quality of strength endurance. The previous studies of, Dennison. *et al.* (2013), Pjilip. *et al.* (1957) and Walters, *et al.* (1960) also pointing the positive result for the current result.

#### Conclusion

The results of the study showed that there was a significant improvement in strength endurance between isometric training group and control group, isotonic training group and the control group, isotonic training group and isometric training group. It is clear from the result that the isotonic training is better for strength endurance than the isometric training.

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## **Effect Of Functional And Resistance Training On Good And Bad Cholesterols Among Desk Bound People**

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### **Abstract**

The aim of the study was find out the effect of functional and resistance training on good and bad cholesterols among desk bound people. For the purpose 45 desk bound people were randomly selected from Chennai and their age ranged between 30 to 40 years. They were divided in to three equal groups, namely experimental group I, experimental group II and control group. Experimental group I underwent functional training and experimental group II underwent resistance training for the period of 8 weeks. Control group did not participate any training for the period of 8 weeks. The good cholesterol (High density lipoprotein) and bad cholesterol (Low density lipoprotein) were selected as the dependent variables. The blood samples were collected from the subjects before and after the experimental treatment. The data were analyzed using analysis of co-variance to find out the difference between pre and post tests, if the obtained F test is significant, Scheffe's Post Hoc test was used to find out the paired mean difference. The results showed that good cholesterol (High density lipoproteins) increased significantly ( $p < 0.05$ ) after the functional and resistance training and the results showed that bad cholesterol (Low density lipoproteins) decreased significantly ( $p < 0.05$ ) after the functional and resistance training. It was concluded that variables of the good and bad cholesterols such as high density lipoprotein and low density lipoprotein responded to functional training and resistance training activity for the period of 8 weeks.

**Key words:** Functional training, Resistance training, HDL and LDL.

### **INTRODUCTION**

Inactivity is described as a "silent killer". Evidence is emerging that sedentary behaviour, such as sitting work and lying down for long periods, is bad for the health on desk bound people. Spending hours sitting down watching TV, sitting work and playing computer games is thought to increase the risk of many chronic diseases, such as heart disease, stroke and diabetes, as well as weight gain and obesity. Functionality could be described as personal competency to perform daily life activities in a safe and independent way and without fatigue (**Bassey, et al., 1992**). During this period, the elderly face many health problems, among the most common of these are chronic and degenerative diseases such as hypertension, osteoporosis, chronic obstructive pulmonary disease and diabetes mellitus (**Fortin, et al., 2006**).

### **FUNCTIONAL TRAINING**

Functional training is becoming increasingly popular within the fitness industry and has been considered to be a better alternative than traditional resistance training for improving various measures of muscular fitness including strength, endurance, coordination and balance.

### **RESISTANCE TRAINING**

Resistance training, also known as strength training or weight training, is now a standard part of a comprehensive personal training program (**www.acsm.org**). Strength-training programs may include the use of free weights, weight machines, elastic tubing, or an athlete's own body weight.

### **PURPOSE OF THE STUDY**

The purpose of the study was find out the effect of functional and resistance training on good and bad cholesterols among desk bound people.

## Methods And Materials

A total of forty five desk bound people were selected at random from Chennai and their age ranged between 30 to 40 years and they were divided in to three groups and each group consisting of fifteen subjects namely experimental group I, experimental group II and control group. Experimental group I underwent functional training for a three days per week, experimental group II underwent resistance training for three days per week and control group did not participate any special training for the period of 8 weeks. The good cholesterol (High density lipoprotein) and bad cholesterol (Low density lipoprotein) were selected as the dependent variables. The study was formulated true random group design, consisting of a pre-test and post-test. The blood samples were collected from the subjects before and after the experimental period of 8 weeks and tested in the biochemical laboratory. The pre-test and post-test scores were collected and the obtained data were subjected to statistical treatment using analysis of co variance (ANCOVA). If the adjusted post – test result was significant, the Scheffe’s post hoc test was used to determine the significance of the paired mean differences (Thirumalaisamy, 1995). In all cases, the level of significance at 0.05 level of confidence was fixed as appropriate.

## Results And Discussion

**Table – I Computation of Analysis of Covariance on Good Cholesterol (HDL-C)**

(Scores in mg/dl)

Means	Exp group-I	Exp group-II	Con group	SV	SS	df	MS	Obtained F
Pre test	35.60	36.60	36.93	B	14.44	2	7.22	0.55
				W	548.13	42	13.05	
Post test	41.67	39.47	36.87	B	173.20	2	86.60	8.21*
				W	442.80	42	10.54	
Adjusted post test	42.16	39.32	36.51	B	233.99	2	116.99	21.96*
				W	218.46	41	5.33	

\*Significant at 0.05 level of confidence for the degree of freedom 2 and 42 = 3.23 and 2 and 41 = 3.23

**Table – II Computation of Scheffe’s Post Hoc Test of Good Cholesterol (HDL-C)**

(Scores in mg/dl)

Exp Group-I	Exp Group-II	Con Group	Mean Difference	Confidence Interval
42.16	39.32	-	2.84*	2.14
42.16	-	36.51	5.65*	2.14
-	39.32	36.51	2.81*	2.14

\*Significant at 0.05 level of confidence

## Discussion On Good Cholesterol (High Density Lipoprotein)

The table I showed pre, post and adjusted post test mean obtained F value 0.55, 8.21 and 21.96 respectively. This results clearly indicated that the effect of functional and resistance training significantly increased the good cholesterol (high density lipoprotein) among desk bound people in post and adjusted post test. Scheffe’s Post Hoc test was given in the table II indicated that the ordered adjusted final mean difference between groups.

**Table – III Computation of Analysis of Covariance on Bad Cholesterol (LDL-C)**

(Scores in mg/dl)

Means	Exp group-I	Exp group-II	Con group	SV	SS	df	MS	Obtained F
Pre test	82.73	77.47	80.67	B	211.24	2	105.62	1.81
				W	2454	42	58.43	
Post test	74.87	72.87	80.87	B	520	2	260	5.54*
				W	1971.20	42	46.93	
Adjusted post test	72.94	75.09	80.57	B	463.152	2	231.58	20.93*
				W	453.730	41	11.07	

\*Significant at 0.05 level of confidence for the degree of freedom 2 and 42 = 3.23 and 2 and 41 = 3.23

**Table – IV Computation of Scheffe’s Post Hoc Test of Bad Cholesterol (Low Density Lipoprotein)**  
(Scores in mg/dl)

Con Group	Exp Group-II	Exp Group-I	Mean Difference	Confidence Interval
80.57	75.09	-	5.48*	3.09
80.57	-	72.94	7.63*	3.09
-	75.09	72.94	2.15	3.09

**Discussion On Bad Cholesterol (Low Density Lipoprotein)**

The table III showed pre, post and adjusted post test mean obtained F value 0.55, 8.21 and 21.96 respectively. This results clearly indicated that the effect of functional and resistance training significantly decreased the bad cholesterol (low density lipoprotein) among desk bound people in post and adjusted post test. Scheffe’s Post Hoc test was given in the table IV indicated that the ordered adjusted final mean difference between groups.

**Conclusion**

On the basis of findings, it was concluded that functional training and resistance training could produce favourable changes in good cholesterol (high density lipoprotein) and bad cholesterol (low density lipoprotein). The findings of this study agree with **Taralov Z, Bayodjiev N, Georgieva (2000), Kushali N.F. et al., (2005) and Tsopanakis, et al., (1986)**. All of their studies were in blood lipids and serum profile among various groups with purpose of estimating cardiac risk factor, establishing relationship of blood lipids level with training. The finding of this study is in agreement with the research of **Zaros PR, et al., (2009)** who investigated the effects of 6 months of dynamic exercise training and found that Low density lipoprotein was significantly reduced. This study suggests that functional training and resistance training exercises potentially more creative method for improving fitness in desk bound people and it also recommended further research to confirm this result.

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## Analysis of Preparation and Performance among College Level Cricket Players

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### Abstract

Sports performance can be influenced by many factors and all such factors form a part of training to enhance performance. External factors like environment, officials, other players, administrators and coaches are beyond ones control; change in climate and the loss of natural space may make performance in a given sport more difficult. Thus, When teams prepare for a competition how much influence does their preparation have, on their performance and how the local environmental factors affects it are the thoughts that crossed the investigators which prompted them to take up this study. The subjects for the study were 64 male college cricket players from Pondicherry University (PU), Saradha Gangadharan College (SGC), Pondicherry Engineering College (PEC) and Community College (CC) between the age group of 20- 25 years. Personal aspects and Environmental factors were assessed by a Preparation Analysis questionnaire. The collected data was analyzed by using descriptive statistics, Levene test and ANOVA. The level of significance was fixed at 0.01 levels. The analysis of results revealed that the Personal aspects of PU, SGC, PEC and CC did not show much significant difference, but in the case of environmental conditions significance difference were shown. The mean score of PU and SGC were higher than that of PEC and CC due to the technical support, infrastructure and regular practice which they had through their institution. Hence, it was concluded that external factors had significant impact on performance of PU and SGC players due to which they were able to reach the finals and win more tournaments than other college players.

**“Key words”:** Personal aspects, Environmental conditions, Physical factors

### Introduction

Sports performance is demanding, highly technical and requires a combination of talent, skill, training, preparation and dedication. New techniques, approaches and strategies are most beneficial to athletes. Strategies such as goal setting, imagery, thought management and emotional control can be learned through practical exercises. But Sports performance not only depends on practices or techniques it also depends on external factors like environment, other team players, coaches and administrators especially team games.

### Purpose of the study

Purpose of the study was to analyze Preparation and Performance among College Level Cricket Players

### Hypothesis

It was hypothesized that teams which were influenced by favorable external factors during the preparatory phase would perform better.

### Method

The subjects for the study were 64 male college cricket players from Pondicherry University (PU), Saradha Gangadharan College (SGC), Pondicherry Engineering College (PEC) and Community College (CC) between the age group of 20- 25 years. Personal aspects and Environmental factors were assessed by a Preparation Analysis questionnaire. The Personal aspects included 7 items and Environmental conditions included 8 items. Possible scores ranged from 1-4 for each item. The collected data was analyzed by using descriptive statistics, Levene test and ANOVA. The level of significance was fixed at 0.01 level of confidence.

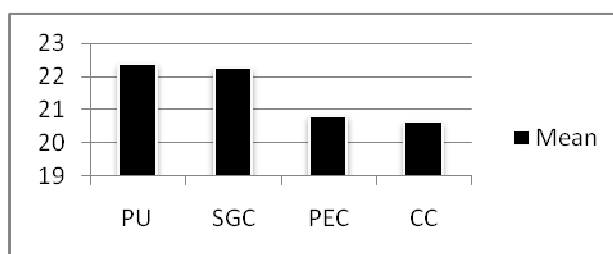
## Results of the Study

**Table 1**  
**Descriptive Statistics Personal Aspects of Players in Different Groups**

Group	N	Mean	SD	SE	LCL	UCL	Minimum	Maximum
PU	16	22.38	3.18	0.80	20.68	24.07	16	28
SGC	16	22.25	2.44	0.61	20.95	23.55	18	26
PEC	16	20.81	2.61	0.65	19.42	22.21	17	26
CC	16	20.63	3.52	0.88	18.75	22.50	15	28

From Table 1, it was seen that the average personal aspects scores of players in Pondicherry University were higher than that of other players (mean 22.38 with SD 3.18 and SE 0.80 and scores varies from 16 to 28). The bar diagram of Descriptive Statistics in Personal Aspects of Players in Different Groups is shown in Figure 1

**Figure 1**  
**Descriptive Statistics Personal Aspects of Players in Different Groups**



The observed mean difference in personal aspects scores of players in different groups were tested for statistical significance using ANOVA. The assumption of homoscedasticity was assessed using Levene Test. The details are given in Table 2

**Table 2**  
**ANOVA table and Levene Test for the comparison of Personal aspects**

SV	SS	df	MS	F	P	Levene Statistic	P
BG	41.05	3	13.68	1.552	0.210ns	0.722	0.543ns
WG	528.94	60	8.82				
Total	569.98	63					

Not significant ( $P > 0.05$ )

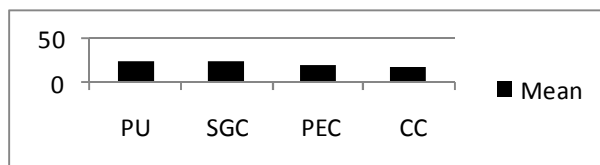
The Levene Test showed that all groups have the same variance (Levene Statistic=0.722,  $P > 0.05$ ) and hence ANOVA can be carried out. ANOVA revealed that there do not exist statistically significant difference between the average personal aspects scores in various groups ( $F=1.552$ ,  $P > 0.05$ ). Hence it can be inferred that all the groups have the same personal aspects scores.

**Table 3**  
**Descriptive Statistics Environmental factor of Players in Different Groups**

Group	N	Mean	SD	SE	LCL	UCL	Minimum	Maximum
PU	16	24.00	3.18	0.80	22.30	25.70	17	29
SGC	16	25.81	3.06	0.77	24.18	27.44	20	30
PEC	16	20.56	3.03	0.76	18.95	22.18	15	26
CC	16	17.19	4.58	1.14	14.75	19.63	10	28

From Table 3, it is seen that the average Environmental factor scores of players in SGC is higher than that of other colleges. (Mean 25.81 with SD 3.06 and SE 0.77 scores varies from 20 to 30). The bar diagram of Descriptive Statistics Environmental factor of Players in Different Groups is shown in Figure 3

**Figure 3 :Descriptive Statistics Environmental factor of Players in Different Groups**



The observed mean differences in Environmental factor scores of players in different groups were tested for statistical significance using ANOVA. The assumption of homoscedasticity was assessed using Levene Test. The details are given in Table 4

**Table 4 :ANOVA table and Levene Test for the comparison of Environmental factor**

SV	SS	df	MS	F	P	Levene Statistic	P
BG	699.42	3	233.14	18.781	0.000**	0.345	0.793ns
WG	744.81	60	12.41				
Total	1444.23	63					

Not significant ( $P > 0.05$ ), \*\*: significant at 1% level ( $P < 0.01$ )

The Levene Test showed that all groups had the same variance (Levene Statistic=0.345,  $P > 0.05$ ) and hence ANOVA can be carried out. ANOVA revealed that there existed statistically significant difference between the average Environmental factor scores in various groups ( $F = 18.781$ ,  $P < 0.01$ ). Hence it can be inferred that all the groups had different Environmental factor scores. Since ANOVA showed significance differences, Scheffe's test was carried out for pair-wise comparisons; the details are given in Table 5

**Table 5 :Results of Scheffe's test on Environmental factor scores**

Group-1	Group-2	MD	P
PU	SGC	-1.81	0.552
PU	PEC	3.44	0.065
PU	CC	6.81	0.000**
SGC	PEC	5.25	0.001**
SGC	CC	8.63	0.000**
PEC	CC	3.38	0.072

From Table 5, it was seen that the average environmental factor scores of (PU, CC), (SGC, PEC) and (SGC, CC) differ significantly ( $P < 0.01$ ).

### Discussion on the Hypothesis

It was hypothesized that teams which were influenced by favorable external factors during the preparatory phase would perform better. Based on the results of this study it was established that the mean scores of PU and SGC were higher than that of PEC and CC which was probably due to the technical support, infrastructure and regular practice which they went through. Hence the research hypothesis was accepted.

### Conclusion

There are a lot of things that happen in sports that a sportsperson may not be able to control, such as officials, crowd, coaching decisions, winning or losing, other people's expectations and so on. Due to the influence of these external factors an athlete's performance may be affected which may make him or her nervous resulting in lose of confidence and poor performance. An ideal coach would recognize these problems and can give the athlete his best chance to perform with apt technical support; infrastructure and regular practice so that he or she could overcome these problems and lead them to success.

It was concluded that in the case of PU and SGC external factors are positive impact on performance due to which they were able to reach the finals and win more matches than other college players.

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## Analysis Of Sports Injuries Among Athletes

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**Introduction:** It would be logical to call any injury occurring during the sporting event as "sports injuries". Since participation and love of sports is an integral part of human behavior and injuries are bound to happen, so, the sports and injuries have become naturally interrelated in terms of fitness and therapy. As the days passed, due to mass participation, the natural skill alone was not sufficient to secure a success in sports. It needs vigorous practice involvement and aggressive nature in competition that lead to more injury risk factor in sports. The injury is one, which makes the person to be away from the activity. The research on sports injuries may decrease the injury rate by developing safety equipment and facilities. Many of them at times send their children with enthusiasm but it diminishes later, they develop hatreds and highly talented children and youths could become drop outs due to severe injuries. Different sports surfaces can cause a variety of sports injuries depending on the degree of friction and hardness of the surface. The frictional force will hinder proper motion in performance. The rubber sole of the sports shoe specially made out of polyurethane and polyvinyl chloride soles material can alter the level of friction to prevent sports injuries.

Rehabilitation program will also help you stay fit as you recover. Rehabilitation is the process that gets you back in shape and ready for action again. It may be part of your treatment program and can include exercise, manual therapy from a physical therapist and technology such as ultrasound. Ultrasound equipment is used to heat the injuries area. This heat relieves pain, promotes healing and increases your range of motion. Injuries are best prevented if the athlete train the muscle prepared for work, not only by appropriate training but also with the correct nutrition and fluid intake.

**Statement of the problem :** The purpose of the study is to assess the analysis of sports injuries among athletes.

**Hypothesis:** It is hypothesized that for reducing sports injuries among athletes specific steps have to be taken.

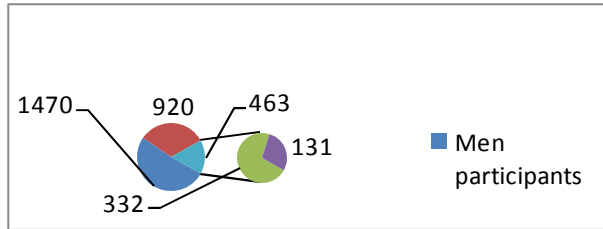
**Significance of the study:** The result of the will help the coaches, physical education teachers and physical education faculties to avoid some extent the sports injuries among athletes.

**Delimitation:** The study is limited to athletes of Andhra Pradesh. The study was conducted among the state tournaments for the year 2013-14. It was conducted among 1470 male and 720 female players of different age group.

**Area of the study:** The purpose of the study was to gather the existing pattern of sports injuries among athletes of different age groups in men and women on inter district basis and the entries sent by different district associations to state athletic association organized by the IOA will only be entertained. Competitions are conducted for different age groups like under 18, under 20 and seniors.

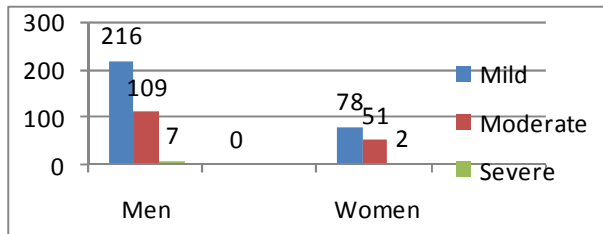
**Data source of Athletics tournament:** Medical records maintained by the associations and the injuries list available and personal interaction with the injured. To collect information related to cause of injury, a separate injury report was supplied to injured. The recorded medical entries by the doctors were collected at their arrival and during games to analyze health related problems of the participants.

**Results:** The total male participants were 1470 and female were 920. The total number recorded injuries collected from medical centers were 463. This represents 19.37% of injury rate for both male and female.



The injuries are mainly classified into mild, moderate and severe. The number of males injured was 332 of which the mild injuries recorded were 216, the moderate injuries recorded were 109 and severe injuries were reported were 7. The percentage of mild injuries calculated for 14.69%, moderate for 7.41% and severe injuries for 0.47%.

The number of females injured was 131 of which the mild injuries recorded were 78, the moderate injuries recorded were 51 and severe injuries were reported were 2. The percentage of mild injuries calculated for 8.47%, moderate for 5.54% and severe injuries for 0.22%



The cause of male injuries and female injuries shows that over use injuries are at highest rate during the games.

Causes for male injuries		Causes for female injuries	
Surface related	20	Surface related	11
Collision moving	10	Collision moving	8
Fall from height	20	Fall from height	12
Fall from moving	25	Fall from moving	9
Over exertion	60	Over exertion	20
Over use	82	Over use	39
Slip/ trip	49	Slip/ trip	16
Struck by object	13	Struck by object	1
Struck by opponent	17	Struck by opponent	5
Struck by teammate	12	Struck by teammate	2
Rules of officiating	9	Rules of officiating	0
Equipment related	10	Equipment related	3
Unspecified	5	Unspecified	5
<b>Total</b>	<b>332</b>	<b>Total</b>	<b>131</b>

**Conclusions:** An existing investigation of the literature indicated that women due to their physiology, increased stress prone to get more sports injuries. But this study provide that women had a fewer injuries in comparison with men. They have much awareness, intelligent, good in avoiding injuries and in maintaining good hygiene during the games.Over use was the most important cause that occurs very high in most of the games.

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## **Attitudes Of Physical Education Students Towards Information And Computer Technology At Osmania University, Hyderabad**

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**ABSTRACT:** Physical Education as a subject, dealing with human movement and physical activity, seems to disregard a direct association with digital media at all. The aim of this study was to investigate attitude of physical education postgraduate and undergraduate student's computer, Internet experience and Internet self-efficacy. Information and communication technology have not only become part of everyday life, leisure, and work by now, but have also become an integral part of the discussion culture of teaching practice in schools and colleges. A Survey is adopted for sample collection, 100 B.P.Ed and M.P.Ed students participated in the survey from Osmania University. An opinionnaire constructed with 30 statements on computer attitude regarding the usage, usefulness, awareness of computer and internet etc., was administrated to students. Likert three-point rating scale Never-1, Sometimes-2, Always-3 used for each question and data collected has been calculated in the form of percentage. Results indicated that students had moderate familiarity with computer and Internet use, and that they felt self-efficacious towards computers and their attitudes were moderately positive. From the results discussed students opinion were computers and ICT 'always' saves the time and 'always' internet will be universal library and 'sometimes' students use internet for self-learning. Students expressed computers and ICT 'never' improve the quality of players. It is concluded that, students who were more experienced in computer and Internet use had greater computer and Internet self-efficacy, more positive computer attitudes.

**KEYWORDS:** Attitudes, Information and communication technology, Internet.

**Introduction:**Physical Education as a subject, dealing with human movement and physical activity, seems to disregard a direct association with digital media at all. Information and communication technology have not only become part of everyday life, leisure, and work by now, but have also become an integral part of the discussion culture of teaching practice in schools and colleges. Research indicates that computers are widespread and becoming an increasingly important part of PE and sports. As physical educators incorporate computers into the PE curriculum and emphasizing the importance of appropriate use of technology in the field and classroom.

Attitude is one of the determining factors in predicting people's behaviour. Attitude has been defined as "a learned predisposition to respond positively or negatively to a specific object, situation, institution, or person". The range and quality of experience gained in college certainly influence attitude towards computers and positive attitude towards computer technology will be an asset to every student. On the other hand, having negative attitudes toward computers may lead students to resist learning about computers and affect acceptance of technology use.Computer attitude has been defined as a person's general evaluation or feeling of favour or antipathy toward computer technologies and specific computer related activities.Likert three point rating scale is used to know the attitudes of PE students towards computer and ICT. Therefore it is essential to make the users aware of their attitudes toward computer for successful education and teaching. So as to obtain effective results from the computer education that is or will be implemented in physical educational institutes, the computer attitudes of students assume great importance.

**PURPOSE OF THE STUDY:** The purpose of the study is to know the attitudes of B.P.Ed and M.P.Ed students towards information and computer technology,Internet experience and Internet self-efficacy.

**Methodology:**

POPULATION OF THE STUDY: 100 B.P.Ed and M.P.Ed students is considered to collect the relevant data for the population of the study from Government College of Physical Education, Domalguda, Hyderabad and University College of Physical Education, Osmania University, Hyderabad.

SAMPLE OF THE STUDY: The sample consists of 100 B.P.Ed and M.P.Ed students was drawn from two colleges for the study by using random sampling technique.

Table 1.0: Showing the sample

S.no	Variable	No.	Total	100
1.	Male	M.P.Ed.	35	63
		B.P.Ed.	28	
2.	Female	M.P.Ed.	10	37
		B.P.Ed.	27	

TOOLS AND TECHNIQUES USED FOR DATA COLLECTION: A Survey is adopted for sample collection, 100 B.P.Ed and M.P.Ed students participated in the survey from Osmania University. An opinionnaire constructed with 30 statements on computer attitude regarding the usage, usefulness, awareness of computer and internet etc., was administered to students. Likert three-point rating scale - Never-1, Sometimes-2, Always-3 used for each question and data collected has been calculated in the form of percentage.

Table 2.0 Statement showing the opinion of respondents with level of rating

Respondents opinion	Level of rating
Never	1
Sometimes	2
Always	3

The respondents had to select any one of the number based on rating as to how true the statements in the inventory to respondent attitude and opinions of respondents. The total weightage for all the items are summed for every step and for the whole scale and tested with the independent variables.

**Results:** The analysis done with the help of statistical tools and techniques like percentages.

Table No.3.0 Showing the Results

S.no	STATEMENT	Never	Sometimes	Always
1	Computers will improve physical education knowledge	07%	48%	45%
2	If there was a computer in my class room it would help me for my course.	13%	48%	39%
3	Computers can be a useful instructional aid to PE students	05%	55%	40%
4	PE students should be included instructional applications of computers	16%	47%	37%
5	PE student should use Internet regularly	17%	54%	29%
6	I like working on computer	18%	48%	34%
7	PE students should be trained computer courses	22%	51%	27%
8	Computers would motivate physical education students	15%	51%	34%
9	Computers improve the quality of players	43%	33%	24%
10	Computers help me in organizing my work	12%	49%	39%
11	Computers would save my time	13%	41%	46%
12	Computers would improve the overall quality of life of PE students	17%	55%	28%
13	Computers make things faster for PE students	16%	55%	29%
14	Most of the PE students misuse computers	42%	42%	16%
15	Computers help preparing presentations & seminars well for PE students	10%	33%	57%
16	Computers help PE students in self-learning	17%	48%	35%

17	Technology training has been a positive experience for PE students	10%	57%	33%
18	I would consider technology when redesigning my curriculum	13%	61%	26%
19	I make an effort to apply a variety of technology to my profession	19%	47%	34%
20	I feel confident with my current ability to use technology for learning	12%	49%	39%
21	Using technology to each is enjoyable for me	17%	49%	34%
22	After learning something about ICT I attempt to implement it in PE	17%	59%	24%
23	Computer technology takes time away from work importance concerns	22%	50%	28%
24	Technology does not accommodate PE students in their learning styles	22%	58%	20%
25	It is difficult to use computer technology for physical education students	36%	41%	23%
26	Internet is a universal library for PE students	13%	38%	49%
27	Internet is a fastest way to reach knowledge	07%	35%	58%
28	Internet has potential to be an effective physical educational training tool	08%	53%	39%
29	Internet creates addiction	26%	50%	24%
30	ICT is useful in physical education research	05%	30%	65%

#### Discussion:

Results discussed from statements 1 to 30 the study can be briefly explained in the following paras. The following are the opinion of students pursuing B.P.Ed and M.P.Ed stated that computers and ICT knowledge 'Always' - i) Saves the student time. ii) Help in preparing presentation & seminar well. iii) Internet will be a universal library. iv) Internet will be a fastest way to reach knowledge. v) Internet and computer technology is useful in physical education research. The students are also having the opinion that computers and ICT knowledge helpful for 'Sometimes' - in following points: i) ICT Improves physical education knowledge. ii) Students use internet. iii) It helps in organizing students work. iv) Help students in self-learning. Further, the students expressed that computers and ICT knowledge 'Never' improve the quality of players. An equal percentage of students articulated that physical education students do not misuse computer. With the above discussions it can be stated that most of hypothesis is accepted.

#### Conclusion:

It is concluded that ICT will always save the student's time and helps students in preparing presentation and seminars. It is also concluded that always Internet and computer technology is a universal library and it is the fastest way to reach knowledge in PE research. It is concluded that only sometimes students use internet to improve PE knowledge and also sometimes ICT helps in organizing students work as well as in self-learning. It is also concluded that ICT never improve the quality of players. It is also articulated that physical education students do not misuse computer. It is concluded that, students who were more experienced in computer and Internet use had greater computer and Internet self-efficacy, more positive computer attitudes.

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## Influence Of Circuit Training On Total Cholesterol Of Education Female Students

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### Abstract

This study examined the acute effects of a single session of circuit training on total cholesterol (TC) among female students from the education department. The subjects in this study were 20 healthy female students ( $n = 20$ ), ranged the ages of 18-25 years randomly selected from an Education Institute and they were divided into two groups of ten subjects each ( $n = 10$ ), one experimental group and one control group. Subjects repeated a multiple-station circuit training three times in a session for a week for eight weeks. Subjects were required to fast overnight (at least 12 hours) before check up the cholesterol level. Blood samples were drawn from the antecubital vein at pre-post training protocol. The collected blood samples were treated with the help of medical experts. The data were analysed with ANCOVA and the level of confidence was fixed at 0.05 and 0.01 levels in all aspects. The results of the study revealed that the systematic circuit training has a major role to reduce ( $p \leq 0.05$ ) ( $p \leq 0.01$ ) total cholesterol among the selected education female students.

Key words: Total cholesterol, circuit training, female students

### Introduction

Many studies suggest that the regular exercise is known to have a positive effect on cholesterol, and also it prevents the cardiovascular disease risk factors Smith, *et al.* (2006). Whether its benefits lie in the fact that it helps to control weight, improve the body's ability to use insulin, condition the heart muscle, increase levels of protective HDL cholesterol, moderate stress, lower blood pressure, or a combination of these effects, is not clear.

One form of combined training is circuit training which incorporates both multi joint resistance training and calisthenic exercises that keeps the heart rate elevated for the duration of the training session Pacelli, *et al.* (2013). During circuit training an individual moves from exercise to exercise as quickly as possible with very little rest, which results in a short duration exercise session. The rest intervals taken during circuit training are important because HR, BP, and rate pressure product are increased and remain high as the rest intervals between sets and exercises are decreased Castinheiras-Neto, *et al.* (2010). A reduced or lack thereof rests period between circuit training exercises would significantly increase the physiological stress at which an individual exercises while decreasing the overall exercise time. Considering the above factors the circuit-based training consisting of endurance and resistance exercises might be preferred, rather than one focused only on a single mode of exercise.

Individuals who performed a 12-week high-intensity circuit training (HICT) program had the greatest reductions in body weight, percentage of fat mass, waist circumference, and blood lactate during a submaximal task and greater improvement in strength when compared to individuals who performed endurance training or low-intensity circuit training Bargossi, (2010). Middle-aged obese individuals who performed a 12-week (3, 50 min sessions) HICT program also had greater reductions in fat mass, blood pressure, total cholesterol, low-density lipoprotein cholesterol, high-density lipoprotein cholesterol, triglycerides, and increases in high-density lipoprotein cholesterol when compared to individuals who performed endurance training or low-intensity circuit training.

## Methods And Materials

Healthy, untrained twenty female education students from an Education Institute from Kattappana in Kerala State were recruited for the investigation at random and their age ranged between 18 and 25 ( $21 \pm 3.3$ ). Selected subjects were divided into two groups of ten subjects each, one experimental group and the control group. Subjects with no contraindications to experimental procedure were invited for a clinical examination. The participants in the study were screened for the presence of diseases or conditions that would place them at high risk for adverse responses to exercise. All subjects gave their informed consent and the study was approved by the Ethical Committee. Total cholesterol was the criterion variable of this study. The experimental group involved in circuit training for 3 times a week and 40 min per session for 12 weeks under the supervision of experts and the control group was not exposed any special training programme apart from their regular activities. The blood samples were collected before and after the training protocol for analyzing the result of the study. The total cholesterol was analysed in this study by using the statistical tool of ANCOVA and the level of confidence was fixed at 0.05 and 0.01 levels in all aspects.

## Result And Discussion

Table - I

TABLE I. ANALYSIS OF COVARIANCE FOR TOTAL CHOLESTROL OF EXPERIMENTAL AND CONTROL GROUP

Test		Experimental Group	Control Group	SOV	SS	df	MS	F
Pre test	Mean	151.30	152.60	B	8.45	1	8.45	0.62
	SD	3.65	3.71	W	244.5	18	13.58	
Post test	Mean	145.20	152.80	B	288.8	1	288.8	16.92 <sup>*</sup>
	SD	4.54	3.67	W	307.2	18	17.07	
Adjusted Post test	Mean	145.88	152.11	B	187.28	1	187.28	94.51 <sup>*</sup>
				W	33.68	17	1.98	

\*Significant  $F = (df 1, 18) (0.05) = 4.41$  &  $(0.01) = 8.28$ ,  $(df 1, 17) (0.05) = 4.45$  &  $(0.01) = 8.40$ ;  $(p \leq 0.05)$  &  $(p \leq 0.01)$

Table I shows that the pre test mean of the circuit training, group and control groups are 151.30, 152.60 respectively. The obtained  $F$  ratio of 0.62 for the pre test mean is lower than the table value 4.41 for  $df 1$  and 18 required for significance at 0.05 levels and 8.28 at 0.01 levels. The post tests mean of the circuit training, group and the control groups are 145.20 and 152.80 respectively. The obtained  $F$  ratio of 16.92 for post test mean is higher than the table value 4.41 for  $df 1$  and 18 required for significance at 0.05 levels and 8.28 at 0.01 levels. The adjusted post test mean of circuit training group and the control groups are 145.88 and 152.11 respectively. The obtained  $F$  ratio of 94.51 for adjusted post test mean is higher than the required table value 4.45 for  $df 1$  and 17 required for significant at 0.05 level and 8.40 at 0.01 levels.

The result of the study indicated that there was a significant difference between the adjusted post test mean of the circuit training, group and the control group on total cholesterol at 0.05 and 0.01 levels. The pre, post and adjusted post test mean values of circuit training and the control groups on total cholesterol is graphically represented in the figure 1.

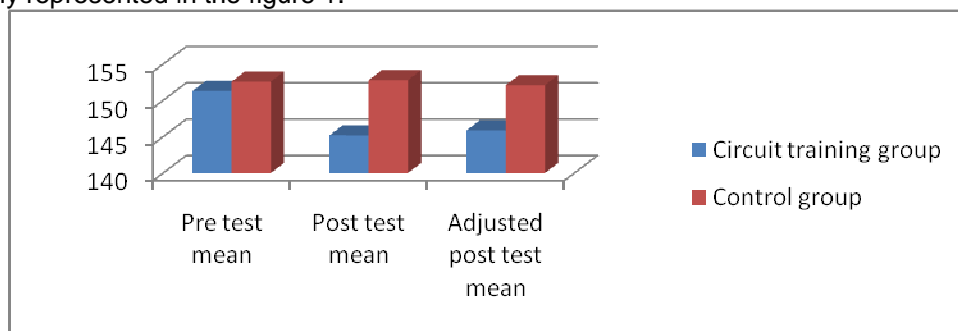


Figure 1: The mean values of total cholesterol among circuit training group and the control group. The level of total cholesterol is a changing factor according to the result of the physical training. The findings of the study are on par with some of the literatures Collier, *et al.* (2008), Tambalis, *et al.* (2009) & Jane, *et al.* (2012). Are also pointed out the same results in their studies in different age groups. The current result of the study also pointing that the systematic circuit training is a best medicine to control the level of total cholesterol in healthy life.

### Conclusions

The result of this study demonstrated that, the systematic circuit training protocol has a positive feedback in total cholesterol level of education female students. And also it is concluded that the circuit training is one of the best training for balance the level of total cholesterol in healthy life.

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## Exercise to Prevent from Senior Osteoporosis

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### **Abstract**

Osteoporosis is a major public health problem because it leads fractures with resultant morbidity, loss of independence, chronic suffering, and increased mortality. Also osteoporosis is a condition of reduced bone density and increased susceptibility to fractures, with out other recognizable causes of bone loss. Osteoporosis affects an estimated 35% of Korean women from age 50. Perhaps 90% of all hip and spine fractures among elderly women are attributed to osteoporosis. Bone strength and health are related to many factors including genetics, nutrition, hormones, environmental influences and physical activity. Physical activity may be specially important. The bones appear to change either as a result of direct impact from the weight bearing activity or of the action of the muscles attached to bone. High levels of physical activity and loading can increase bone mass, while low levels may be lead to less bone, but very high repetitive strains can lead to damage and fractures. Although the mechanism are unclear, it appears that mechanical loads stimulates bone cells (osteoblasts and osteocytes) in the loaded bones to change calcium fluxes to increase production of prostacyclin, prostaglandine E2, nitric oxide and glucose -6-phosphate dehydrogenase (G6PD) and to increase RNA synthesis, with subsequent release of growth factors.

**Key words** : osteoporosis, weight bearing exercise, bone strength and health

### **Introduction**

Osteoporosis is a condition of reduced bone density and increased susceptibility to fractures, with out other recognizable causes of bone loss. Osteoporosis affects an estimated 35% of Korea women from age 50. Perhaps 90% of all hip and spine fractures among elderly women are attributed to osteoporosis (Melton LJ, 1990, Bauer RL, 1991). Bone strength and health are related to many factors including genetics, nutrition, hormones, environmental influences, and physical activity.

Physical activity may be specially important. The bones appear to change either as a result of direct impact from the weight bearing activity or of the action of the muscles attached to bone. High levels of physical activity and loading can increase bone mass, while low levels may be lead to less bone, but very high repetitive strains can lead to damage and fractures. Measures taken at several critical periods in the life cycle, long before fractures occur, have the potential to prevent osteoporosis and its consequences (Melton LJ, 1988). Therefore exercise physiologists are in a key position for preventing osteoporosis.

### **The Osteoporosis of Pathophysiology**

Normal bone metabolism involves a continual process of bone reabsorption by osteoclasts, which stimulates deposition of new bone matrix by osteoblasts, followed by mineralization. Bone metabolism is influenced by a variety of hormones. The skeleton acts as a reservoir for calcium, with bone reabsorption occurring when calcium is needed. High levels of physical activity and loading can increase bone mass, while low levels may be lead to less bone, but very high repetitive strains can lead to damage and fractures (Licata AA, 1991).

Although the mechanisms are unclear, it appears that mechanical loads stimulate bone cells (osteoblasts and osteocytes) in the loaded bones to change calcium fluxes to increase production of prostacyclin, prostaglandin E<sub>2</sub>, nitric oxide and glucose-6-phosphate dehydrogenase (G6PD) and to increase RNA synthesis, with subsequent release of growth factors (Avioli Lv. 1983). The strength of a bone is largely determined by its size and mineral density as well as its crystal structure and trabecular architecture. A particularly important determinant of susceptibility to fracture in osteoporosis is the loss of horizontal bridges between weight-bearing trabeculae. Usually, once trabeculae are lost they are not replaced (Cummings SR, 1990). Some writers refer to a "fracture threshold"-a bone mineral density (BMD) above which fracture is unlikely and below which the risk progressively increases (Stevenson JC, 1989). This threshold is approximately two standard deviations below the mean BMD for young adult women. Body mass index (height and weight) should be assessed. In male patients the size and consistency of testicles should be examined. The size of bones (wrist width), and muscle strength are highly correlated with bone mass, but their clinical usefulness has not been determined (Ostleve SJ, 1991). A decrement in height and dorsal kyphosis may indicate previous vertebral compression fractures (Patel U, 1991). Osteoporosis of the spine is characterized radiographically by radiolucency of the vertebrae, accentuation of the vertical trabeculation, biconcavity of the vertebral bodies, wedging, and finally compression of the vertebrae.

### **Prevention from senior osteoporosis**

Because osteoporosis is usually asymptomatic until fractures appear, and treatment is of limited effectiveness once osteoporosis is established, prevention is the most important strategy available to exercise physiologists attempting to minimize morbidity and mortality due to osteoporosis. Options for prevention involve efforts to maximize the peak bone mass (present during early adulthood) and interventions to minimize the bone loss that occurs in all people after middle age, particularly the rapid postmenopausal bone loss in women (Grisso JA, 1989).

#### **1. Calcium and Vitamin D intake**

Calcium does not prevent loss of "estrogen-dependent" bone soon after menopause but may help to conserve bone in the elderly and has a permissive effect with estrogen during the climacteric. Inadequate dietary calcium intake is widespread (Rifat SF, 1992). Those with lactose intolerance or otherwise low intake of dairy products are at risk of calcium deficiency and may require supplementation (Tilyard MW, 1992). Patients can be instructed to monitor and augment their dietary calcium intake, taking prepared supplements when their dietary intake is below their age and sex recommended level. For maximum effectiveness, calcium supplements should be taken with an evening meal. Vitamin D is required for optimal intestinal calcium absorption; the requirement is greater in the elderly. Vitamin D is synthesized in the skin after exposure to sunlight, so those with little sun exposure, especially during winter, require supplementation. In the United States, milk is fortified with vitamin D. Pregnant, lactating, and possibly elderly people who do not eat dairy products should receive supplemental vitamin D 400 IU (10 µg) daily. Consumption of more than 800 IU (20 µg, twice the recommended daily allowance) per day is not recommended, as large doses of vitamin D have not proved beneficial in preventing or treating osteoporosis and can cause toxicity (Heidrich F, 1987).

#### **2. Lifestyle and Exercise**

Sustained, weight-bearing exercise increases the size and density of bone, whereas immobilization results in osteoporosis of the immobilized part. Although intense exercise to the point of amenorrhea can precipitate rapid bone loss, there is some evidence that moderate exercise can conserve bone mass. No studies of the effect of intervention for smoking or alcoholism on osteoporosis have been reported. Moderate weight-bearing exercise, moderation in use of alcohol, and avoidance of tobacco should be recommended for preventing a number of medical conditions, and these measures are likely to decrease the risk of osteoporosis as well (Dequeker J, 1990).

Although the mechanisms are unclear, it appears that mechanical loads stimulate bone cells in the loaded bones to change calcium fluxes to increase production of prostacyclin, prostaglandin E<sub>2</sub>, nitric oxide, and

glucose-6-phosphate dehydrogenase(G6PD) and to increase RNA synthesis, with subsequent release of growth factors (American College of Sports Medicine 1995). The most dramatic example of the effect of physical activity on bone is the rapid, dramatic, and extensive loss of bone seen with any type of immobilization and disuse (Giangregorio and Blimkie 2002). Krolner and Toft (1983) reported that BMC of the spine decreased 0.9% per week in 34 patients aged 18 to 60 years who were hospitalized with low back pain due to protrusion of a lumbar intervertebral disk. Reambulation resulted in a gain in BMC, with restoration to nearly normal levels after four months. Goemaere et al. (1994) studied 53 patients with complete traumatic paraplegia of at least one year's duration. Compared to controls, the BMD of paraplegic patients was preserved in the lumbar spine but was markedly decreased in the proximal femur (-33%) and femoral shaft (-25%). In those performing passive weight-bearing standing with the aid of a standing device, BMD of the femur was significantly higher than in those not performing these activities. Del Puente and colleagues (1996) found significant bone loss in the femoral neck in the paralyzed limbs of 48 hemiplegic subjects; the degree of bone loss directly correlated with the length of immobilization. Of interest, in a study of 24 patients with a unilateral stroke, there was loss of BMD in the paretic extremities, but an increase in the nonaffected ultra-distal radius, perhaps due to increased compensatory activity in the arm (Ramnemark et al. 1999). Early studies with astronauts during space flight showed a significant increase in urinary calcium excretion and a decrease in BMC at the os calcis found a decrease in BMD at the weight-bearing tibial site, with the loss evident as early as month (Vico L. 2000). Bone mineral density was preserved in the radius. The mechanism of bone loss and immobilization is not understood. Immobilization can lead to rapid increase in osteoclastic bone reabsorption, urinary calcium excretion, and bone loss. The alterations in bone metabolism occur rapidly, and bone reabsorption becomes elevated within the first few weeks of unloading.

### **Conclusion**

The exercise program can be established for nearly anyone, and that such programs may be helpful in building and maintaining bone mass, strengthening muscle, improving balance, and preventing falls and fractures. It is not yet clear precisely how to individually tailor exercise programs according to specific individuals' needs, or how long such programs should last. Yet it is important to individualize exercise programs that should begin (when appropriate) only after medical clearance and under the supervision of a physician and an exercise physiologist.

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## Comparative Review on Body Physique and Physical Fitness

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### Abstract

The present study would be the first study that investigates the similarity and differences of (PF) between Korea and Egypt University students. Therefore, the aims of this study were A) to assess the (PF) of both nation students, and establish reference values for use in health and B) compare of Korean and Egyptian students, and C) identify the difference in (PF) between both students, and D) find the most (PF) variables appears in each group. Subjects are male college freshman (PE) students (no=117 Korean students from Suwon Univ) and (no=117 Egyptian students from Alexandria Univ.). For body physique measuring: body weight and height, body mass index (BMI), body surface area  $m_2$ , and resting heart rate, and physical fitness measuring: push-up, sit up, vertical jump and long jump, 20 m run speed and 40 m run speed. All analysis was performed by SPSS, mean +SD, t. test between the two groups. The results showed that Egyptian students scored significantly higher in body weight and height, BMI,  $BSAm_2$ ,  $p < 0.005$ . There were significant difference among groups for (PF) related Korean students as compared with Egyptian students ( $p < 0.005$ ); in all (PF) parameters and resting heart rate. Results may reflect differences in nutritional status, eating habits, Military engages for Korean students during their college studies, and climate condition, life style. Military engage and the other factors play an important part to improve the (PF) for Korean Students. (PE) classes give students the skills they need to engage in a lifelong programmes of fitness. Therefore, to confirm the results obtained in this study, more researches are needed in various backgrounds of university students should be done.

Key words: physical fitness, comparative study, Korea, Egyptian students.

### Introduction

University student needs to participate regularly in physical activities that enhance and maintain their cardiovascular and musculoskeletal health. Regular physical activity during youth stage is associated with numerous physiological and psychosocial benefits and has the potential to improve the quality of life for all ages (AbouzedMagdy 1983). The need to improve the physical fitness of youth has prompted the development of new and creative approaches that provide an opportunity for all boys and girls to participate in regular, healthful physical activity (AbouzedMagdy ICSSPE. Bulletin No 549 2008).

Educational institutions play an important role in improving the health and well-being of their students, especially through their physical education programmes. Physical education (PE) is the academic discipline and profession which focuses on the art and science of human movement with an emphasis given to sports, fitness.

Study of PE and sport of different nations provides a turnstone for understanding how people live, work, think, and at the same time provides related data to other facts of economic life, culture factors and political. There are many reasons why various researches are applicable in the study of comparative PE. Universities need to reintroduce daily, quality PA as a key component of a comprehensive education.

### Importance of physical fitness (PF):

PF is a general state of good Physical health. Obtaining and maintaining PF is a result of PA, proper diet and nutrition and of course proper rest for recovery and is not only one of the most important keys to a healthy body; it is the basis of dynamic and creative activity.

Physical Education (PE) programs within the universities setting can set the stage for how students view PF activity levels, and future health. PE programs also include general health and safety information in addition to providing opportunities for students to learn how to cooperate with one another in a team setting.

PF is a general state of good physical health. Obtaining and maintaining physical fitness is a result of physical activity, proper diet and nutrition and proper environment and culture factors (AbouzeidMagdy 2008). PF Keeps the heart and lungs working more efficiently and helps burn off excess calories.

Fitness activities in the colleges setting have important individual, societal, and economic implications. There is (Little doubt that youth can acquire beneficial lifestyle behaviors through quality PE programs. Thus, regular physical activity as a result of involvement in sound physical education programs can make an important contribution to physical fitness (AbouzeidMagdy 2009).

For many years, physical educators focused their attention on "Physical fitness" More recently; their attention has changed to encouraging "physical activity". Differentiating between physical activity (the "process") and physical fitness (the "outcome") is important. The relatively low relationship between fitness and physical activity is one good reason for physical education to focus on physical activity rather than on physical fitness. Simons et al, (1994) provide evidence that quality programs can results in increased PA in PE classes. AbouzeidMagdy (2007) showed that a high level of some components of (PF) associating with a high level of course performance. Shen Band xuc (2008) showed that the cardio respiratory fitness level and self efficacy in exercise significantly contributed to both psychological and interpersonal motives.

### **Subjects and Methods:**

After receiving approval from the institutional ethics committee, we retrospectively reviewed physical fitness (PF) parameters of the subjects. The subjects in this study were the PE students from Egypt (Alexandria) university, faculty of sport education for men), and Korea (Suwon university, college of physical education). Male freshmen (117 Egyptian, and 117 Korean) were the subjects. The data were collected in late may 2008 (end the semester) at the sport science labs in each country. For body physique measuring, the items recorded were body weight (kg), body height (cm), body surface area (BSAm<sup>2</sup>) was determined from height and weight according to Du bois formula (6). Body mass index (BM1) is the categorized number that tells a persom if they are overweight or obese based on his height and weight. It is calculated by dividing body weight (kg) by height in meter squared (m<sup>2</sup>) (AbouzeidMagdy 2008).

Physical fitness measuring: vertical jump (cm), and long jump tests (cm) measure lower-body muscular power. Sit-ups and push-ups measures muscular endurance. Measure speed elements 20m run speed, and 40m run speed. Physiological function measuring resting pulse rate. The functional physical fitness of the studied students examined using the senior fitness test (7).

### **Discussion:**

Egyptian students scored significantly higher in body weight, body height and BSA m<sup>2</sup>, BMI kg/m<sup>2</sup> that results related due to heredity and nutritional status eating habits. The BMI for Korean students was under weight versus normal for the Egyptian. The BMI value is more accurate to assess body composition and good choice for the anthrop metric assessment of adult weight status and The index of choice for epidemiological purpose (9). This finding indicates the need for further research on the effect of diet on body composition since it is associated with the student's physical fitness. In addition, it would be interesting to compare the nutritional status and physical activity during the season of PE classes to get and enable some adjustments to be made on current dietary intakes and activity level of the colleges of PE students. Korean students scored significantly higher in physical fitness and physiological (resting pulse rate) better than Egyptian students, this differences might be related to the following:

The Korean rules for military engages for the students during their university studied, this rules improve the PF for the students, versus the Egyptian rules that the Military engages after the students finished their university studies. The nutritional status and eating habits for the Egyptian student which effect in increased body weight and will be decreased PF. The climate condition, life style play an important part to facilitate and encourage the adults to participate regular physical activates for Korean students versus the hot climate in Egypt. Proper environment and culture factors, economic and political conditions as results of involvement in sound PE programs can make an important contribution to physical fitness and healthy lifestyle.



**Conclusions:**

Both Egypt and Korea represent advanced economies, but in spite of this, there remain a number of socio-political differences between the two countries for example, the different funding arrangements and different emphases on PE in the university system, and the most important value are the semi-mandatory military service for male in Korea.

Korean Students have demonstrated high physical fitness over Egyptian students; this could be due to the view of sport as an ascetic experience, a demonstration of self-discipline in South Korean culture. Thus, Korean peoples tend to participate in sports for fun rather than for the purpose of training.

Based on the findings of this study, some recommendations are made with the hope that a similar study can be carried out on other groups of students at various nations of higher education.

Support establishment of a network between Korea and Egypt for information exchange and technical support to member state through training, seminars meetings.

Promote researches in the field of PE and PF.

Physical education (PE) and physical fitness (PF) can be investment in the future.

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## A Comparative Study Of Self Concept & Mental Toughness On Selected Volleyball Players Of Gujarat.

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**Abstract:** Self concept questionnaire constructed and standardized by Rajkumar Saraswat whereas Mental toughness questionnaire constructed and standardized by Tiwari, Sharma and Jyoti were administered on 100 volleyball Players (50 male & 50 female) of Gujarat . The age of subjects ranged between 19 to 26 years. The objectives of the study were to assess and compare the Self concept & Mental Toughness among male and female Volleyball players of Gujarat. Statistical analysis has been done by t-test and the significance of the result was seen on 0.05 levels. The t-test showed that there were significant difference found in the sub-variables of self confidence, attention control and attitude control between male & Female Volleyball Players. There were no significant difference were found in the self concept & sub-variable of motivation control, goal setting and visual and imagery and total mental toughness score.

**Keywords:** Self Concept, Mental Toughness, Motivation, Attention, Goal Setting, Male & Female volleyball players.

**Introduction:** Certain Self Concept & Mental Toughness are the most important to achieve success in sports. Self concept is learned by an individual inference from his unique experiences. The individual perception of other towards him strongly influences his self image. Self concept is highly complex component of behavior, composed of both cognitive and effective dimensions. Self concept has at least four orientations: The real self, the perceived self, the ideal self and the self as perceived by others. Mental toughness is the ability to consistently sustain one's ideal performance state during competition. The ultimate measure of mental toughness is consistency. The use of thinking skills, imagery, confidence building and other skills described later can be powerful techniques in reaching a high level of mental toughness. Most number of sports psychologists recognizes the fact that attention is multi-dimensional construct. By being mentally though, you can bring your talent and skill to light consistently.

### **Statement Of The Problem:**

A comparative study of self Concept & Mental Toughness on selected volleyball players of Gujarat.

**Sample:** A total number of one hundred (n=100) subjects belonging to age ranging 19-26 years were selected. 50 male volleyball players and 50 female volleyball players of Gujarat were selected as a subject for the said study.

**Methodology:** The data was collected from 50 male volleyball players and 50 female volleyball players of Gujarat. The self concept questionnaire constructed and developed by Rajkumar Saraswat as well Tiwari, Sharma and Jyoti's mental toughness questionnaire was used as a tool to collect the data on mental toughness were employed to collect the data from the subjects. All the necessary instructions were given to the subjects before the subjects was requested to respond the statement in the questionnaire. The calculation of the questionnaire was based on five alternatives to give their responses ranging most acceptable to least acceptable description of the self concept. Whereas, the questionnaire was based on five alternatives to give responses ranging from strongly disagree to strongly agree description of the mental toughness. With the help of the scoring keys the researcher collects the raw scores, according to the instructions given in the manual.

**Data Analysis And Discussion:** The collected data were analyzed statistically computing Mean, S.D. and t-ratio to find out significant difference if any between two experienced groups on the psychological parameter considered for the study. The results have been depicted in the following table.

**Table – 1 :Significance Differences Of Mean Score At Self Concept Among Male & Female Volleyball Players Of Gujarat.**

Variable	Group Compared	Mean	Standard Deviation	Significant "t" (0.05)	"t" Ratio
Self Concept	Male	16.6	2.75	2.04	0.22
	Female	18.2	4.14		

\*Significant at 0.05 level.

The t-test showed that there were no significant difference in the "t" value exists between male and female volleyball players on self concept. As the calculated "t" (0.22) value is much lower than the tabulated "t" value (2.04) at 0.05 levels

**Table-2:Significance Differences Of Mean Scores At Various Tools Of Mental Toughness Among Male & Female Volleyball Players Of Gujarat.**

Variables	Group Compared	Mean	Standard Deviation	Significant "t" (0.05)	"t" Ratio
Attention Control	MALE	37.420	4.233	2.118*	0.037
	FEMALE	35.380	5.333		
Motivation Control	MALE	34.260	5.286	0.186	0.853
	FEMALE	34.460	5.489		
Attitude Control	MALE	23.180	2.327	2.114*	0.037
	FEMALE	21.840	3.829		
Self Confidence	MALE	28.940	2.895	2.375*	0.019
	FEMALE	27.360	3.707		
Goal Setting	MALE	31.820	3.915	1.565	0.121
	FEMALE	30.560	4.131		
Visual and Imagery	MALE	23.760	3.047	0.906	0.367
	FEMALE	27.620	3.245		
Total Mental Toughness	MALE	176.540	21.208	0.769	0.444
	FEMALE	173.500	18.225		

\* Significant at 0.05 level

The t-test showed that there were significant difference in the "t" value between the elite sportsmen and the beginners on sub variables of Attention control, Attitude control and self confidence. Whereas no-significant difference were found in Motivation control, Goal setting, Visual and Imagery and Total Mental toughness score among male and female volleyball players of Gujarat

#### **Discussion Of Findings And Conclusions:**

Within the limitation of the study the following conclusions may be drawn.

- (1) In relation to self concept, the t-test showed that there were no significant difference in the "t" value exists between male and female volleyball players of Gujarat.
- (2) Whereas, significant difference found in the sub variable of mental toughness of Attention control, Attitude control and self-confidence scores among the Male & Female Volleyball players.
- (3) But no significant difference found in Motivation control, Goal setting, Visual and imagery and Total Mental toughness score among the Male & Female Volleyball players.
- (4) The total mental toughness is conceded the mean scores of mental toughness of Male Volleyball players of Gujarat were found to be more than the Female Volleyball players.

The Male Volleyball players have reflected better scores in self confidence, attention control and attitude control may be attributed to the fact that Male Volleyball players participate in various levels of competitions as well as more number of competition participation at various situations whereas, such situations are limited in the Female Volleyball players of Gujarat.

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## Yoga, Traditional Sports and Games

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**Abstract:** Yoga is mind and body discipline developed in India. In fact, yoga is going to be popular throughout the world for the overall development of human society. Many athletes are taking to yoga to improve their on-field performance. Yoga has become a proven match-winner in improving athletic performance. Whatever sport you may be practicing, you can be assured that yoga will help you become better at it. **yoga for sports.** The most important benefit of yoga is physical and mental therapy. The aging process, which is largely an artificial condition, caused mainly by auto-intoxication or self-poisoning, can be slowed down by practicing yoga. By keeping the body clean, flexible and well lubricated, we can significantly reduce the catabolic process of cell deterioration. To get the maximum benefits of yoga one has to combine the practices of yogasanas, pranayama and meditation.

**Keywords :** Benefits Yoga for Sports, Psychological Benefits & Mental skills training

**Introduction:** Yoga is mind and body discipline developed in India some 2000 years ago. Almost two decades ago, the fitness industry rediscovered this ancient form of physical activity and a new category called mind-body exercise was created. In a more recent article, Larkey, Jahnke, Etnier, and Gonzalez proposed the term "meditative movement" to classify exercise activities which focus on physical movements, conscious breathing, a calm state of mind, and deep states of relaxation. Contrary to popular belief, yoga is not only for increased flexibility and relaxation, but also increases muscular endurance, decreases perceived stress, and improves overall health perception.

Ultimately, the goal of yoga is purely psychological. As defined in the Yoga Sutras of Patanjali, one of the authoritative texts in yoga, yoga is the control of the mental fluctuations and energies. In Ashtanga, the purpose of working the body out is to burn the six poisons of the heart – desire, anger, delusion, greed, envy, and sloth. Simply put, the goal is to live a peaceful life free from hatred and negativities.

### **Yoga as physical activity intervention**

In India, the practice of yoga can be as sedentary as sitting for hours in deep meditation or as active as the jumping transitions in Ashtanga. When we talk about yoga as physical activity, we are actually focusing on the practice of hatha yoga. The practice of hatha yoga consists of several practical techniques aimed to make the body clean, healthy, and strong. These modalities include cleansing techniques, physical exercises, breath work, attention focus, and attitude training. All of which, I believe, are important to physical and psychological health and well-being.

A recent review article comparing the health benefits of yoga versus conventional exercise suggests that yoga appears to be as effective as or even superior than exercise in reducing perceived fatigue and stress in addition to improving health-related outcomes like blood glucose, blood lipids, and salivary cortisol. This review implies that yoga, in general, can be an effective alternative physical activity intervention program which not only addresses the health/fitness triad of aerobic exercise, muscular fitness, and flexibility, but also provides a number of psychological benefits such as reduced stress and anxiety.

### **Yoga for mental skills training**

Yoga also teaches positive thinking. Generally, attitude training in yoga involves the practice of ethical rules and observances called yamas and niyamas, but in the context of sport psychology, attitude training in yoga means thinking positively or applying positive self-talk.

Yoga for Sports

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Many athletes are taking to yoga to improve their on-field performance. Yoga has become a proven match-winner in improving athletic performance. Whatever sport you may be practicing, you can be assured that yoga will help you become better at it. Read on to learn more about the efficacy of **yoga for sports**.

### **Benefits of Yoga for Sports**

Yoga poses improve body balance and increase the flexibility of the joints and spine.

Yoga can prevent injuries by strengthening the muscles and increasing flexibility.

Yoga can improve your endurance, strength, footwork and concentration.

Pranayama and yoga meditation can improve your concentration and keep you focused.

Yoga relieves physical and mental stress, enabling you to perform at your peak.

Yoga is a great for cross-training, which is essential for sports persons who perform the same exercise routine every day.

### **More Benefits of practicing Yoga for Improving Sports**

#### **Flexibility, Balance, Strength, Mental Focus, Stress, Warrior Pose for Soccer.**

**Yoga for Sports & Games:**The most important benefit of yoga is physical and mental therapy. The aging process, which is largely an artificial condition, caused mainly by autointoxication or self-poisoning, can be slowed down by practicing yoga. By keeping the body clean, flexible and well lubricated, we can significantly reduce the catabolic process of cell deterioration. To get the maximum benefits of yoga one has to combine the practices of yogasanas, pranayama and meditation. Regular practice of asanas, pranayama and meditation can help such diverse ailments such as diabetes, blood pressure, digestive disorders, arthritis, arteriosclerosis, chronic fatigue, asthma, varicose veins and heart conditions. Laboratory tests have proved the yogi's increased abilities of consciously controlling autonomic or involuntary functions, such as temperature, heartbeat and blood pressure. Research into the effects of yogic practices on HIV is currently underway with promising results. According to medical scientists, yoga therapy is successful because of the balance created in the nervous and endocrine systems which directly influences all the other systems and organs of the body. Yoga acts both as a curative and preventive therapy. The very essence of yoga lies in attaining mental peace, improved concentration powers, a relaxed state of living and harmony in relationships. Through the practice of yoga, we become aware of the interconnectedness between our emotional, mental and physical levels. Gradually this awareness leads to an understanding of the more subtle areas of existence. The ultimate goal of yoga is to make it possible for you to be able to fuse together the gross material (annamaya), physical (pranamaya), mental (manomaya), intellectual (vijnanamaya) and spiritual (anandamaya) levels within your being.

### **Physiological Benefits**

Physicians and scientists are discovering brand new health benefits of yoga everyday. Studies show it can relieve the symptoms of several common and potentially life-threatening illnesses such as arthritis, arteriosclerosis, chronic fatigue, diabetes, asthma and obesity.

### **Asthma, Respiration Problems, High Blood Pressure, Pain Management, Back Pain, Arthritis, Weight Reduction**

### **Psychological Benefits**

Regular yoga practice creates mental clarity and calmness, increases body awareness, relieves chronic stress patterns, relaxes the mind, centers attention and sharpens concentration. Self-Awareness, Mental Performance, Mood Change And Vitality, Spiritual Benefits , Pride, Knowledge.

### **Conclusion**

**Yoga for sports** is thus a boon for athletes as it can help them to cross-train, reduce injuries, alleviate boredom and add variety to their daily training routine Yoga Benefits for Sports & Games.

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## **Effects Of Yoga, Circuit Training And Combined Training On Selected Lipid Profile Status Among Mild Intellectually Challenged Persons**

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### **Abstract**

The purpose of the study was to facilitate the effects of yoga, Circuit Training and Combined Training on selected lipid profile status among mild intellectually challenged persons. For this study sixty (N=60) male mild intellectually challenged persons were randomly selected in AGAPE and DEEBAM Special Schools in Chennai and their age ranged between 18-30 years. They were randomly divided into four equal groups of fifteen subjects each. Experimental Group I underwent yogic practices, Experimental Group II underwent Circuit Training, Experimental Group III Combined Training and group IV was Control Group which was not given any training for the period of twelve weeks. Triglycerides and Very Low Density Lipoprotein were selected as dependent variables and independent variables are Yoga, Circuit Training and Combined Training. The data was collected before and after the experimental treatment periods. Analysis of Covariance (ANCOVA) and Scheffe's post hoc test was used in this study. It was concluded that Triglycerides and Very Low Density Lipoprotein level significantly decreases due to the influence of twelve weeks practices of Yoga, Circuit Training and Combined Training to comparing the Control Group. Keywords: Mild intellectually challenged Persons, lipid profile, Yoga, Circuit and Combined Training.

### **Introduction**

Yoga is a systematic practice for the realization of higher perceptions. It is the science of life and an ideal way of living, providing rhythm to the body, melody to the mind, harmony to soul and thereby symphony of life. In short, Yoga is a way to achieve total health, peace, bliss and wisdom. Physical, mental and spiritual aspects of yoga help to make one's life purposeful, useful and noble.

**INTELLECTUALLY CHALLENGED PERSONS:** Intellectually challenged is a common disorder among the children, characterized by significantly impaired cognitive functioning and deficits in two or more adaptive behaviors. It has been historically defined as an intelligence quotient score under 70. Mild Intellectually Challenged people's intellectual development will be slow. But they are having potential to learn within the regular classroom given appropriate modification or accommodations. Some mild intellectually challenged students will require greater support from other persons.

**CIRCUIT TRAINING:** Circuit training involves a number of carefully selected exercise station that are arranged in a specific pattern around a gymnasium or field, enabling one to perform them from one station to another. **COMBINED TRAINING:** Combined training is the combination of two different training both yoga and circuit training.

**Methodology:** For this study sixty (N=60) male mild intellectually challenged persons were randomly selected in AGAPE and DEEBAM special school in Chennai. Their age ranged between 18 and 30. They were divided in to four equal groups and each group consists of fifteen subjects. Experimental group I underwent yogic practices, Experimental group II underwent circuit training, Experimental group III combined training and group IV was control for the period of twelve weeks. Triglycerides and Very Low Density Lipoprotein cholesterol were selected as dependent variables and independent variables are Yoga, Circuit training and combined training. The training programme was scheduled between 7 and 10 a.m in Morning, weekly five days from Monday to Friday. Analysis of Covariance (ANCOVA) and scheffe's post hoc test was used in this research.

### Results Of Triglyceride (Tc)

Table- I -Computation Of Analysis Of Covariance Of Triglyceride

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	156.54	155.87	155.2	159.87	B	193.34	3	64.45	0.05
					W	70471.6	56	1258.43	
Post Test Mean	114.27	110.73	94.27	159.34	B	34913.52	3	11637.84	15.95*
					W	40870.14	56	729.83	
Adjusted Post Test	114.49	111.40	95.37	157.34	B	31489.26	3	10496.42	58.55*
					W	9860.47	55	179.29	

Table F – ratio at 0.05 level of confidence for 3 and 56 (df) = 2.7, 3 and 55(df) = 2.72.\*significant

Table- I (A)-Computation Of Scheffe's Post Hoc Test Ordered Adjusted Final Mean Difference Of Triglyceride

CG	Exp Grp -I	Exp Grp -II	Exp Grp -III	M.D	C.I
157.34	114.49	-	-	42.86	13.97
157.34	-	111.40	-	45.95	13.97
157.34	-	-	95.37	61.97	13.97
-	114.49	111.40	-	3.09	13.97
-	114.49	-	95.37	19.12	13.97
-	-	111.40	95.37	16.02	13.97

The analysis of co-variance of Triglyceride indicated that experimental group I (yoga), experimental group II (circuit training), experimental group III (Combination of yoga and circuit training), were significantly decreased than the control group on Triglyceride. It is due to the effects of yoga, circuit training and combined training.

The finding of the study showed that the experimental group III (combination of yoga and circuit training) had decreased Triglyceride more than the experimental group I and II. Yoga, circuit training and combined training have its own value toward a healthy life style. We can use yoga, circuit training and combined training not only as part of a programme to decrease Triglyceride, but also as a way to assist in attending other goals Lawlor, et. al, (1977) and Lawlor, O'Hara and Birtwistle (1974).

### Results Of Very Low Density Lipoprotein (Vldl)

Table- II- Computation Of Analysis Of Covariance Of Verylow Density Lipoprotein

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	0.03
Pre Test Mean	30.47	31.4	30.27	30.07	B	15.65	3	5.23	11.67
					W	8655.2	56	154.56	
Post Test Mean	20.27	18.4	14.67	30.74	B	2132.19	3	710.73	19.81
					W	3410.8	56	60.91	
Adjusted Post Test	20.31	18.06	14.78	30.92	B	2194.51	3	731.51	
					W	2030.57	55	36.91	

Table F – ratio at 0.05 level of confidence for 3 and 56 (df) = 2.7, 3 and 55(df) = 2.72.\*significant



Table- li (A)- Computation Of Scheffe's Post Hoc Test Ordered Adjusted Final Mean Difference Of Very Low Density Lipoprotein

CG	Exp Grp -I	Exp Grp -II	Exp Grp -III	M.D	C.I
30.93	20.30	-	-	10.63	6.34
30.93	-	18.06	-	12.87	6.34
30.93	-	-	14.78	16.15	6.34
-	20.30	18.06	-	2.24	6.34
-	20.30	-	14.78	5.52	6.34
-	-	18.06	14.78	3.38	6.34

The analysis of co-variance of Very Low Density Lipoprotein indicated that experimental group I (yoga), experimental group II (circuit training), experimental group III (Combination of yoga and circuit training), were significantly decreased than the control group on Very Low Density Lipoprotein. It is due to the effects of yoga, circuit training and combined training.

The finding of the study showed that the experimental group III (combination of yoga and circuit training) had decreased Very Low Density Lipoprotein more than the experimental group I and II. Yoga, circuit training and combined training have its own value toward a healthy life style. We can use yoga, circuit training and combined training not only as part of a programme to decrease Very Low Density Lipoprotein, but also as a way to assist in attending other goals Batajoo and Hazara. (2013) and Pinheiro, et. al, (2009).

### Conclusions

Within the limitation of this study, the following conclusions were drawn. It was concluded that Mild Intellectually Challenged Person's. Total Cholesterol, Triglycerides, and Very Low Density Lipoprotein cholesterol level was significantly decreases and High Density Lipoprotein level was significantly increased due to the influence of twelve weeks practices of Yoga, Circuit Training and Combined Training to comparing the Control Group.

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## A novel anonymization technique for preventing aggregate knowledge attack

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### **Abstract**

Databases became the part of sports for storage, management, retrieval, analysis and reporting of score in all disciplines of sports. If these databases are hacked then information will not be correct. This paper focuses on protecting the privacy of individual's records in a database. In publication scenarios the attacker is expected to have only abstract or aggregate knowledge about each record. Data privacy research usually focuses on defining stricter privacy guarantees for sophisticated attack scenarios, it is also important to have anonymization methods and guarantees that will address any attack scenario. Consider for example the publication of performance records of athletes, where attackers might only know the timing of event, and not its constituent parts. Traditional anonymization methods would protect user privacy by creating equivalence classes of identical records. Alternatively, in this work we propose an anonymization technique that generalizes attributes, will create equivalence classes of at size  $k$ . With this method the privacy of data is protected from hacking even if the hacker has some knowledge about the records.

Keywords: Data privacy, Anonymization and Aggregate knowledge

### **Introduction**

Before the advent of data mining, sports organizations mostly depended on human experience which comes from coaches, scouts, managers, players. It was believed that those experts will convert the history record into useful knowledge. But when the scope of the data they collected more and more consummate, sports organization looked for more methods to harness those data they already had. Sports data mining techniques can contribute for a better performance by leveraging historical game record but these records can be hacked by the hackers or attackers.

Consider a case where data published by an organization or company are too detailed to expect attackers to have accurate partial knowledge. Still, an attacker might have some aggregate or abstract knowledge of a record.. Each record in this data collection has hundreds of fields that trace timing of the individual's. When publishing or sharing such data, we expect that the major threats come from attackers who will be able to identify records using aggregate knowledge e.g. the hacker can change the timing of the event so that the record he/she established will change.

The same case can appear in several other application areas; when publishing movement data an attacker might know how long a trip took, but not detailed information on the duration of each stop. Also when publishing medical data, an attacker might know a previous diagnosis for a patient that corresponds to a certain value range on a combination of indicators, but it is unlikely that he can have exact partial knowledge about exam results. Anonymizing such data under a traditional anonymization framework would guarantee privacy, but it would cause unnecessary distortion on the data, since we need only to create groups of similar records with respect to the abstract knowledge of the attacker.

#### **Purpose of the study**

The performance records, need of athletes need to be stored in a database should update on weekly basis. This is useful in monitoring these performance variants and results of training methods, environment conditions, wind condition, nutritious intake, rest time etc. Also this same will be compared with the athletes records from all over the world. This database needs to be secured as any tampering of the

records; will lead to loss loose at the competition. In view of this it is proposed to develop a A novel anonymization technique for preventing aggregate knowledge attack.

### Methodology

Definition1 (Quasi identifiers): The set of attributes that can be appeared in external data as well as internal data

Definition2: (k-anonymity): let T be an table with n attributes and QT be the quasi identifiers associated with it. k-anonymity is said to be satisfy if and only if each sequence of values in T[QT] appears with at least k occurrence in T[QT].

The example which is given below shows the original table (Table1) of the pentathlon points in athletics for each event. For example the hacker might know the total points of the student so we can know the full record by retrieving it so, the database is changed as the anonymous table as shown in table3. When the hacker tries to retrieve the record he can identify more than one record so, the hacker can't find which record belongs to which person. For the original table we generate a random sequence here the generated sequence is (3, 4, 1, 2) then we interchange each column according to the sequence and this will be stored in a file which is hidden to the hacker. Then finally we create the groups to each column so that at more than 2 tuples have same records .

Table 1: Original Data

Name	Long Jump	High Jump	100MH	800MH	Shot put	Total points
Y.Harini	85	65	55	50	45	300
S.S.Anusha	75	75	60	60	50	320
G.Mounika	70	80	65	65	45	325
G.Manjusha	80	70	55	55	50	310

Table 2: Anonymous Table1

Name	Long Jump	High Jump	100MH	800MH	Shot put	Total points
Y.Harini	70	80	60	65	45	325
S.S.Anusha	80	70	55	55	50	310
G.Mounika	85	65	60	50	45	300
G.Manjusha	75	75	55	60	50	320

Table 2: Anonymous Tables2

Id	Long Jump	High Jump	100MH	800MH	Shot put	Total points
1	[80-85]	[65-70]	[50-55]	[50-55]	[45-50]	[300-310]
2	[70-75]	[75-75]	[60-65]	[60-65]	[45-45]	[320-330]
3	[70-75]	[75-75]	[60-65]	[60-65]	[45-45]	[320-330]
4	[80-85]	[65-70]	[50-55]	[50-55]	[45-50]	[300-310]

### Algorithm

Input: original table T, weights of the attributes, parameter k

Output: new table T\*

- 1: generate a random sequence (R) to each column
- 2: file open and save random sequence
- 3: for (i=0;i<n;i++)
- 4: {
- 5: p=R[i]
- 6: interchange p<->a[i]
- 7: }
- 8: Then create each tuple as a group
- 9: IF |T| ≤ k THEN RETURN;
- 10: ELSE {
- 11: partition T into two exclusive subsets T1 and T2 such that T1 and T2 are more local than T, and either T1 or T2 have at least k tuples;
- 12: IF |T1| > k THEN recursively partition T1;
- 13: IF |T2| > k THEN recursively partition T2;

```

14: }
15: Q = {Q11, Q12, ..., Q1n} //Q contains all attributes
16: j = n - 1
17: while Q not empty do
18: Let Cj be the combination with most similar k
    for all tuples
19: generalize the remaining attribute Qlj = Q\Cj
    to a common range [vmin, vmax]
20: remove Qlj from Q
21: j = j - 1
22: adjust the groups so that each group has at least k tuples;
23: break
24: return T

```

The inputs taken to the algorithm are the original table which needs security, the weights of each attribute in the original table, and the functional parameter which should be greater than 2. In the above algorithm initially we generate a random sequence to each column. From the lines [2-7] we generate a file and store the random generated sequence in a file so that the hacker could not find the sequence. Then interchanging the values will be done according to the random number and original values.

From the lines [8-14] we group the values so that each attribute values should lie in any of the group. Then from line [15-24] we assign the minimum and maximum values to each group so that more than k records should have the same value. Then finally the algorithm generates the T\*

### Result

The output of the paper shows a secure database

### Conclusion

This paper has evolved a novel method to emerge security to the database. The database is now difficult to be hacked and ensures that the records are not erased.

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## Sporting Performance of Athletes through a Good Diet

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### **Abstract:**

When you exercise hard for 90 minutes or more, especially if you're doing something at high intensity that takes a lot of endurance, you need a diet that can help you perform at your peak and recover quickly afterward. Good diet and nutrition can enhance sporting performance. Carbohydrates should form the basis of the sportsperson's diet. For most athletes, a varied healthy diet will provide vitamins and minerals, as well as protein, to promote growth and repair of muscle tissues. Adequate fluid intake is essential to help performance and prevent dehydration. Becoming an elite athlete requires good genes, good training and conditioning and a sensible diet. Optimal nutrition is essential for peak performance. Nutritional misinformation can do as much harm to the ambitious athlete as good nutrition can help. Athletes achieve peak performance by training and eating a variety of foods. Athletes gain most from the amount of carbohydrates stored in the body. Fat also provides body fuel; use of fat as fuel depends on the duration of the exercise and the condition of the athlete. Exercise may increase the athlete's need for protein. Water is a critical nutrient for athletes. Dehydration can cause muscle cramping and fatigue.

### **Introduction:**

In nutrition, diet is the sum of food consumed by a person or other organism. Dietary habits are the habitual decisions an individual or culture makes when choosing what foods to eat. The word diet often implies the use of specific intake of nutrition for health or weight-management reasons (with the two often being related). Although humans are omnivores, each culture and each person holds some food preferences or some food taboos. This may be due to personal tastes or ethical reasons. Individual dietary choices may be more or less healthy. Proper nutrition requires ingestion and absorption of vitamins, minerals, and food energy in the form of carbohydrates, proteins, and fats. Dietary habits and choices play a significant role in the quality of life, health and longevity.

Diet Elements for Good Athletes are:

### **Carbohydrates:**

Athletes benefit the most from the amount of carbohydrates stored in the body. In the early stages of moderate exercise, carbohydrates provide 40 to 50 percent of the energy requirement. Carbohydrates yield more energy per unit of oxygen consumed than fats. Because oxygen often is the limiting factor in long duration events, it is beneficial for the athlete to use the energy source requiring the least amount of oxygen per kilocalorie produced. As work intensity increases, carbohydrate utilization increases. Complex carbohydrates come from foods such as spaghetti, potatoes, lasagna, cereals and other grain products. Simple carbohydrates are found in fruits, milk, honey and sugar. During digestion, the body breaks down carbohydrates to glucose and stores it in the muscles as glycogen. During exercise, the glycogen is converted back to glucose and is used for energy. The ability to sustain prolonged vigorous exercise is directly related to initial levels of muscle glycogen. The body stores a limited amount of carbohydrate in the muscles and liver. If the event lasts for less than 90 minutes, the glycogen stored in the muscle is enough to supply the needed energy. Extra carbohydrates will not help, any more than adding gas to a half-full tank will make the car go faster. According to the Olympic Training Center in Colorado Springs, endurance athletes on a high-carbohydrate diet can exercise longer than athletes eating a low-carbohydrate, high-fat diet. Eating a high-carbohydrate diet constantly is not advised. This conditions the body to use only carbohydrates for fuel and not the fatty acids derived from fats. For continuous activities of three to four hours, make sure that glycogen stores in the muscles and liver are at a maximum. Consider taking carbohydrates during the event in the form of carbohydrate solutions. The current recommendation is a 6 to 8 percent glucose solution.

You can make an excellent home-brewed 7.6 percent sports drink with reasonable sodium amounts. Add 6 tablespoons sugar and 1/3 teaspoon salt to each quart of water. Dissolve sugar and cool. The salt translates into a sodium concentration of 650 mg/liter. This small amount is good for marathon runners. Electrolyte beverages can be used if the athlete tolerates them, but other electrolytes are not essential until after the event. Experiment during training to find the best beverage for you. Eating sugar or honey just before an event does not provide any extra energy for the event. It takes about 30 minutes for the sugar to enter the blood stream. This practice may also lead to dehydration. Water is needed to absorb the sugar into the cells. Furthermore, sugar eaten before an event may hinder performance because it triggers a surge of insulin. The insulin causes a sharp drop in blood sugar level in about 30 minutes. A diet where 70 percent of calories come from carbohydrates for three days prior to the event is sometimes helpful for endurance athletes. Water retention often is associated with carbohydrate loading. This may cause stiffness in the muscles and sluggishness early in the event. A three-day regimen minimizes this effect. The previously suggested seven days of deprivation/repletion is not recommended due to increased risks of coronary heart disease. In addition, electrocardiograph abnormalities may occur and training during the deprivation phase may be difficult.

**Water:**

Water is an important nutrient for the athlete. Athletes should start any event hydrated and replace as much lost fluid as possible by drinking chilled liquids at frequent intervals during the event. Chilled fluids are absorbed faster and help lower body temperature.

**Fats:**

Fat also provides body fuel. For moderate exercise, about half of the total energy expenditure is derived from free fatty acid metabolism. If the event lasts more than an hour, the body may use mostly fats for energy. Using fat as fuel depends on the event's duration and the athlete's condition. Trained athletes use fat for energy more quickly than untrained athletes. Consumption of fat should not fall below 15 percent of total energy intake because it may limit performance. Athletes who are under pressures to achieve or maintain a low body weight are susceptible to using fat restriction and should be told that this will hinder their performance. Fat may contribute as much as 75 percent of the energy demand during prolonged aerobic work in the endurance-trained athlete. There is evidence that the rate of fat metabolism may be accelerated by ingesting caffeine prior to and during endurance performance. However, insomnia, restlessness and ringing of the ears can occur with caffeine consumption. Furthermore, caffeine acts as a diuretic and athletes want to avoid the need to urinate during competition.

**Protein:**

After carbohydrates and fats, protein provides energy for the body. Exercise may increase an athlete's need for protein, depending on the type and frequency of exercise. Extra protein consumed is stored as fat. In the fully grown athlete, it is training that builds muscle, not protein per se. The ADA reports that a protein intake of 10 to 12 percent of total calories is sufficient. Most authorities recommend that endurance athletes eat between 1.2-1.4 grams protein per kg of body weight per day; resistance and strength-trained athletes may need as much as 1.6-1.7 grams protein per kg of body weight. (A kilogram equals 2.2 pounds.) Japanese researchers demonstrated that "sports anemia" may appear in the early stages of training with intakes of less than 1 gram/kg of body weight per day of high quality protein. To calculate your protein needs, divide your ideal weight by 2.2 pounds to obtain your weight in kilograms. Then multiply kilograms by the grams of protein recommended. A varied diet will provide more than enough protein as caloric intake increases. Furthermore, Americans tend to eat more than the recommended amounts of protein. Excess protein can deprive the athlete of more efficient fuel and can lead to dehydration. High-protein diets increase the water requirement necessary to eliminate the nitrogen through the urine.

**Vitamins and Minerals:**

Increased caloric intake through a varied diet ensures a sufficient amount of vitamins and minerals for the athlete. There is no evidence that taking more vitamins than is obtained by eating a variety of foods will improve performance. Thiamin, riboflavin and niacin (B vitamins) are needed to produce energy from the fuel sources in the diet. However, plenty of these vitamins will be obtained from eating a variety of foods. Carbohydrate and protein foods are excellent sources of these vitamins. Furthermore, the B vitamins are water soluble and are not stored in the body, so toxicity is not an issue. Some female athletes may lack riboflavin, so ensuring adequate consumption of riboflavin-rich food is important, like milk. Milk products not only increase the riboflavin level but also provide protein and calcium. The body stores excess fat-soluble vitamins A, D, E and K. Excessive amounts of fat-soluble vitamins may have toxic effects.

Minerals play an important role in performance. Heavy exercise affects the body's supply of sodium, potassium, iron and calcium. Sweating during exercise increases the concentration of salt in the body. Consuming salt tablets after competition and workouts is not advised as this will remove water from your cells, causing weak muscles. Good sodium guidelines are to: 1) avoid excessive amounts of sodium in the diet and 2) beverages containing sodium after endurance events may be helpful. Eating potassium-rich foods such as oranges, bananas and potatoes throughout training and after competition supplies necessary potassium. Iron carries oxygen via blood to all cells in the body and is another important mineral for athletes. Female athletes and athletes between 13 and 19 years old may have inadequate supplies of iron due to menstruation and strenuous exercise. Female athletes who train heavily have a high incidence of amenorrhea, the absence of regular, monthly periods, and thus conserve iron stores. Iron supplements may be prescribed by a physician if laboratory tests indicate an iron deficiency. Excess iron can cause constipation. To avoid this problem, eat fruits, vegetables, whole grain breads and cereals. Calcium is an important nutrient for everyone as it is important in bone health and muscle function. Female athletes should have an adequate supply of calcium to avoid calcium loss from bones. Calcium loss may lead to osteoporosis later in life. Choosing low-fat dairy products provide the best source of calcium.

#### **The Pre-Game Meal:**

A pre-game meal three to four hours before the event allows for optimal digestion and energy supply. Most authorities recommend small pre-game meals that provide 500 to 1,000 calories. The meal should be high in starch, which breaks down more easily than protein and fats. The starch should be in the form of complex carbohydrates (breads, cold cereal, pasta, fruits and vegetables). They are digested at a rate that provides consistent energy to the body and are emptied from the stomach in two to three hours. High-sugar foods lead to a rapid rise in blood sugar, followed by a decline in blood sugar and less energy. In addition, concentrated sweets can draw fluid into the gastrointestinal tract and contribute to dehydration, cramping, nausea and diarrhea. Don't consume any carbohydrates one and a half to two hours before an event.

#### **The Post-Game Meal:**

Regardless of age, gender or sport, the post-game. Competition meal recommendations are the same. Following a training session or competition, a small meal eaten within thirty minutes is very beneficial. The meal should be mixed, meaning it contains carbohydrate, protein, and fat. Protein synthesis is greatest during the window of time immediately following a workout and carbohydrates will help replete diminished glycogen stores. Many athletes turn to protein/amino-acid supplementation in the form of powders or pills post-workout. These are unnecessary and have been linked to dehydration, hypercalciuria, weight gain, and stress on the kidney and liver. Furthermore, any athletes consuming supplements in replacement of meals should consult with their doctor or a registered dietitian before continuing. Maintain nutritional conditioning not only for athletic events, but all the time (See fact sheet 9.353, Dietary Guidelines for Americans). A pre-game meal or special diet for several days prior to competition cannot make up for an inadequate daily food intake in previous months or years.

#### **Conclusion:**

Good nutrition plays a pivotal role for athletes who participate in rigorous activities. A well-balanced diet with the correct proportions of carbohydrates, fats, and proteins provides much-needed energy and stamina to athletes. Endurance athletes need adequate intake of a variety of foods in their diet for better utilization of glycogen stores and enhanced performance.

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## Research On The Present Development Of Physical Education In Rural Schools Of Wuyiqiaoxiang And Its Counter-Measures

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**Abstract:** The paper investigates the present situations of P. E. at rural schools of WuyiQiaoxiang, to find out problems exist in this area, analyzing the reasons. Feasible countermeasures are put forth based on the investigation and research so as to provide beneficial reference to P. E. development of Guangdong WuyiQiaoxiang rural schools.

Key words: WuyiQiaoxiang; P.E. at rural schools; Present development; Countermeasures

Subjects investigated: 47 rural secondary and elementary schools of WuyiQiaoxiang of Guangdong

Methods : Questionnaire survey, cultural heritage data, interview, logic analysis, mathematical statistics.

### Results and Analysis

Managerial condition of rural schools' physical education of Guangdong WuyiQiaoxiang

The schools did not form the management system of P.E., which did not fully represent in the whole educational plan. The organization were so formal that schools did not have clear aims in demanding P.E. teachers, extracurricular activities, equipment buildings, P.E. teaching methods and so forth. Those schools that used the "Sleep Herbing" managerial way lacked the sense of macro aim and micro management. There were still many problems existing in schools' P.E. in the countries about how to be systemation, serration and scientization.

The survey discovered that part of schools and parents held the obsolete ideas, which they considered that the P.E. performance did not occupy a proportion of entering into a higher rank of school, as well as the footstone provided for the kids from rural areas to go to the metropolis. It was the idea of "achievements in culture and education are the most important" that people had deviation in understanding the development of P.E. education. Therefore, there was a phenomenon that "intellect outweighs P.E.". According to this, some schools executives hand pressure from the society, the place where people emphasize the proportion of entering a higher rank of school. The people there only cared about the achievements in culture and education, regardless of P.E. teaching. Faced with P.E., it was the most important to say it but less important to do it. It was less vital to do it but least crucial to do without it.

Equipment situation at rural schools of Guangdong WuyiQiaoxiang

According to the formulation of the Department of Education's policy, qualified schools' construction must be developed in the light of the nation's standardized venues and equipment to regulate the directory. Each kind of school ought to have a standardized track field, a basketball playground and some necessary physical equipment. However, owing to the left-behind economy and difficulties in financial at rural schools of Guangdong WuyiQiaoxiang, launching PE campaign mainly depends on receiving students' PE funds to maintain. Some schools are hard to guarantee to provide adequate wages to teachers. What's more, physical equipments and some facilities are out of money to repair, not to mention adding new ones. Funds used to construct equipments and venues by schools are less and less. It is a truth that most rural schools are in a lack of venues and equipments. Under this circumstance, teachers can only apply "the letting-go-off sheep teaching"-----with one whistle and two balls, thus, both students and teachers are free. Teachers use this single teaching method again and again, resulting in students' less desire for PE. The lack of physical equipments is the main factor to influence the development of the schools in the west on Guangdong Province. Some schools don't even have a pair of horizontal bar, parallel bars, nor any proper balls. Furthermore, the lower the level of economic development is, the smaller the school scales are, which shortage of equipment becomes severe.



Table 1: The Survey of Equipment Situation at Rural Schools of Guangdong WuyiQiaoxiang

The situation of Grounds and equipments	Quantities of schools	The proportion
Track field above 150 meters	33	70.2%
Cement basketball playground	38	80.1%
Standardized equipment	14	29.8%
Inadequate equipment relatively	19	40.4%
Inadequate equipment severely	14	29.8%

Compared with the equipments relatively, there is enough space for sports at most rural schools of Guangdong WuyiQiaoxiang. Within the 47 schools investigated, 70.2% of the schools have fields over 150 meters, most of which are made of cement. And most schools have space for playing basketball. 80.1% of the courts in rural schools are made of cement. Nevertheless, they are short for equipments. What's worse, most of the equipments are timeworn but also dilapidated, which is caused by being kept in improper way or not being fixed in time. On one hand, they are lack of equipments, on the other hand, that people waste without limit makes me upset. Meanwhile, it causes some hidden danger to physical teaching. Otherwise, the development of equipment is unequal. Equipments in 29.8% of the schools reach the goal basically, which refers that it adapts to the required course. But 40.4% of the schools are relatively lack of equipments, or even 29.8% of the schools have few equipments. According to the investigation, we also find that some schools add equipments at will. In the aspect of funds, there are many difficulties if we want to reach the goal within 2 to 3 years.

### 2.3 The Current Situation of Physical Education (P.E.) Teachers of Guangdong WuyiQiaoxiang

#### 2.3.1 The Current Situation on P.E. Teachers' Quantity, Qualifications, Professional Titles and Age Structure

According to the investigative results, there are 136 P.E teachers in the schools investigated. As to the statistics, full-time teachers total 75, which accounts for 55.1%, while 61 are part-time teachers, amounting to 44.9%. The majority of P.E teachers' education is qualified to meet the state specified standards. Middle school P.E teachers who have college or above degree account for 88.97%; However, few possess senior or above titles and there is no special teacher in the area. The rejuvenation of the P.E teaching staff has caused the present situation. Most of the P.E teachers are youths, who just participated in the work force. Moreover, physical education is not taken seriously as other subjects do. Therefore, it is difficult to keep pace with other subject in the title performance evaluation. There are 57.35% of P.E teachers aged under 30-year-old; 48.53% are at the age between 31 and 50; while only 8.82% are above 50 years old. The above figures illustrate that youth teachers accounts for the majority, while experienced mid-aged and senior teachers are not enough. On the whole, the structures of P.E teachers' qualifications, ages and professional titles are within the state regulations.

#### 2.3.2 The treatment and work of PE teachers

Due to the shortage of teaching fund in rural areas and people's lack of cognition of PE, over half of elementary and secondary schools can't obey the national regulation to allocate sport wear to PE teachers. It is relatively difficult to solve the problem of clothing completely in rural schools where the condition of economy is limited and the cognition of PE remains low. This is because PE teaching in rural area is a hard issue itself. Moreover, the survey shows that most PE teachers bear too much work, not only the teaching work in the whole school, but also PE activities, like morning exercise, setting-up exercises between classes, extracurricular training.

#### 2.3.3 PE teachers' scientific research

Owing to the fact that most PE teachers in rural areas are regular teachers from non-government funded school and they get their diplomas by passing self-taught examinations or correspondence examinations, they are weak in scientific research. Though the revolution of education nowadays goes in depth, with largely developed theory and practice, there still exists the problems that with a narrow scope of knowledge and unreliable basic of liberal arts and science, most of the teachers can't well grasp and apply interdisciplinary science, which seriously affects self-improvement. In general, the scientific researches of teachers are unsatisfactory. About 83.09% of them have never released essays, not only because of the seldom requirement from rural schools, but mainly because of themselves. The level of

PE teaching in rural school need developing, together with the narrow scope of knowledge, low level of theory and weakness in scientific research.

To sum up, physical education teachers at rural schools of WuyiQiaoxiang have always been working on the condition that is simple and cruel over a long period of time. In order to develop physical fitness of students, those who initiated different kinds of physical exercises contributed their intellectual efforts. However, under the influence of tradition consuetude, it was not enough for the school leaders to value physical education, and the evaluations for P.E. teachers in society were also impartial. Effort made by P.E. teachers could not be accepted. The appraisal of academic titles and further education of P.E. teachers could not be considered as equal as teacher of other disciplines, which bruised the drive of P.E. teachers. What's worse, some of them might lose confidence of their jobs and their minds might become unstable.

#### 2.4 Physical Education at Rural schools of Guangdong WuyiQiaoxiang and Current Situation of Training

Seen from the results of research perspective, the rate of starting classes is 95.74% at rural schools of Guangdong WuyiQiaoxiang, including the rate of 100% in secondary schools. According to *The Regulation of Administration of Physical Education and Sports at Schools*, Schools should organize and implement physical education as education department had stipulated. In addition, P.E. classes should be established in common elementary and secondary schools combined with the demand that rural secondary schools and centre schools can meet the requirements in Wuyi. AS a result, most of rural secondary schools and centre schools began to strengthen the importance of physical education, which made P.E. classes at rural schools develop regularly, with introducing abundant qualified teachers, and ensuing twice classes a week. However, some rural elementary schools could not regularly offer courses, mainly because there were not enough teachers, attention from leaders, adequate physical equipments, and sports grounds.

Seen from the particular case in *The Outlines* of the implement of rural schools of WuyiQiaoxiang, there were only 44.68% of schools that could completely carry out *the outlines*. Some elementary schools did not even have any idea about this document. It was obvious that the influence was profound with the fact that still many schools could not teach as stipulated after the 50-years development of *the outlines* which had been playing a role as the principal educational document at schools for physical education in our country.

Table 2: The survey of morning exercises and class-break exercises at rural schools of Wuyi emigration homeland in Guangdong.

Current situation	Quantities of schools	The proportion
Do morning exercise regularly	10	21.28%
Never do morning exercises	27	57.45%
Do class-break exercises regularly	37	78.72%
Extracurricular physical activities	39	82.98%
With physical exercises team	27	57.45%
Without physical exercise team	20	42.55%

The survey of WuyiQiaoxiang School Morning and Class Break Exercises shows that, 57.45% of schools never do exercises; only 21.28% of schools do morning exercises every day. The majority of them do broadcast exercises, and 78.72% of schools surveyed do class break exercise. As to the class break activities, broadcast exercises are the main content, while running is usually arranged in winter time.

From the schools surveyed, 82.98% carry out extracurricular activities, and 31.91% have this for more than one hour every day. As to the contents of the extracurricular activity, secondary schools practice compliance content, while central schools and village elementary schools principal to students' freedom of activity.

As the survey shows, 57.45% of WuyiQiaoxiang schools have their sports teams, while 42.55% do not, and village of little is more prominent. As to the sports training forms, temporary training before the game accounts for the majority, while sticking to long training is very small. The content of after-school sports training mainly is track and field, following by basketball. The contents of the campaign contest is relatively concentrate, with 89.36% of schools focusing on spring (autumn) track and field sports and broadcast exercises.

The sports development countermeasures of Guangdong WuyiQiaoxiang rural schools.

3.1 Improve the awareness of sports education in rural schools, change the idea of sports education and strengthen the awareness of sports education In order to improve the sports education of rural schools in all aspects, we should change the traditional idea and value the importance of sports education work. The reason to carry out sports education is to improve the physical quality of students in rural schools and to bring up able-bodied workers. Therefore, in the process of changing the examination-oriented education into the quality education, schools, as an important implementer of quality education, should change the wrong concept of sports is not important, only marks can reflect the good or bad of a student. Only in this way can lead the students grow healthily not only mentally but also physically. PE lessons twice a week and one hour sports activity per day for every student are necessary. Schools should improve students' physical and mental fitness, through a variety of mini-games and fun of physical education. Meanwhile, develop physical education curricula in line with the levels of rural school, teaching materials and assessment system.

3.2 Increase the input of the sports education funding to improve the sports education environments in rural schools.

Development of physical education in schools must be in certain guaranteed by sports funding and facilities; without this protection, school physical education could not develop greatly. Thus, the rural school leaders should put sports education into the work schedule according to the actual situation of the schools, taking effective measures to adjust the existing physical resources in accordance with national and local specification of field equipment.

3.3 Strengthen rural sports faculty

Only with high qualified group of teachers, can we cultivate qualified persons. PE teachers are the main force of school physical education development, and their quality is directly related to the school's operating results. One of the most important ways to promote school physical education is to enlarge the group of PE teachers in the countryside and improve their professional dedication and teaching ability. Establishing a sufficient quantity and high quality PE teacher group is of great significance to sports development in rural schools, and is the key in deepening rural school physical education reform, and is further more the basic guarantee of the guiding ideology of "health is the first".

The teachers' cultural quality should be enhanced and the teaching methods ought to be renewed. Along with the rapid development of science and technology, and the advent of Internet era, students can gain knowledge from multiple channels and teachers' authority is being challenged. If teachers want to succeed in this challenge, they must acquire more humanistic knowledge and be strong in the market economy, understanding survival of the fittest is the inevitable trend of development. If teachers want to satisfy students' different needs of learning PE in situation of quality education, they must do as followings. First, establish the concept of "large sports", understand the knowledge of "large sports" and improve their humanistic knowledge. Second, temper and enrich themselves, and advance the reasonability of teaching practice. What's more, they should try their best to be scholastic style teachers. Besides, PE teachers must carefully tap into the education materials, improve the teaching method, and prepare the teaching design according to different teaching materials. They should make the dull class interesting and vivid, and find out more teaching forms. Finally, they should influence their students with their fascination and improve the skill of school PE so that they can accommodate to the development of the school PE in the country.

#### **4. Conclusion and suggestions**

4.1 The sports management system of rural schools of Guangdong WuyiQiaoxiang is sound but lack of normative rules. Though most rural schools recognize physical education one of the important parts of schooling, some schools and parents still hold the obsolete sports conception.

4.2 Poor sports material conditions and shortage of sports funds of rural schools in Guangdong WuyiQiaoxiang is a severe problem, with 50 percent sports fields in rural schools could not match up with the state standard, impeding the development of rural school sports.

4.3 The number of PE teachers of rural schools in Guangdong WuyiQiaoxiang satisfies the basic need of teaching; however, there is a lack of professional sports teachers, with a majority of PE teachers graduate from junior colleges. What's more, with less senior teachers and more young teachers, the age structure appears like the pyramid. Most teachers' school age is relatively short and the ability of scientific research is poor.

4.4 Physical education of rural schools in Guangdong WuyiQiaoxiang carries out successfully with 95.74 percent school having sports classes and 93.62 percent doing wholly or partly as the Physical education syllabus requires. However, the development of extracurricular sports activities and sports training are below expectation. Most sports teams are temporary set-ups and dismiss right after the match.

4.5 Authorities at all levels and leaders of rural schools should truly implement the physical education, from setting up sound regulations to intensify the inspection so as to manage sports well. On the construction of PE teachers, there is a need to introduce a competition mechanism. PE teachers can be employed publicly and the PE teachers in office should take a periodic benchmark evaluation. In this way, the overall teaching level and the qualities of teachers can be improved. Physical education of rural schools in Guangdong WuyiQiaoxiang should continue to grasp firmly and well. The sports management department of local county (city) should organize PE well. For example, they can establish local PE teaching material and method development and research association. Besides, they can hold seminars or model lessons periodically. On the simple equipment making and simple site design, they can also organize similar activities in order to improve the teachers' abilities of self-compiled teaching material, self-making equipment and organizing teaching. On the extracurricular sports training, various places should organize various sports according to the local climate and geographic features, such as track and field, basketball, football, folk sports. Raising sports funds on every hand is the material base of sports development in local rural schools.

## Analysis on Teaching Reform of the College Martial Arts Elective Course

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**Abstract:** Through the analysis of the current situation about the teaching of college Martial arts elective course, it is concluded that the students in our school "prefer Martial arts to Martial art lessons". Thus, in the reform of Martial arts teaching, some ways such as the dynamic practice of Martial arts basic skills, small group learning method and the explanation of the meaning of offensive and defensive actions are integratedly used to change the organizational form of a class in order to encourage students to interact and participate in Martial arts classes with willingness. And at the same time, different evaluation grading systems are set and martial etiquette are reaffirmed to make students get psychological identity, thereby improving the quality of Martial arts teaching.

**Keywords:** college, Martial arts elective course, teaching reform

Martial arts teaching not only reflects the effectiveness of college physical education curriculum reform, but also has influence on the development of Martial arts itself, as well as the national cultural inheritance and National Spirit promotion. Studies show that most students have strong interests in martial arts, but only 24.8% of them are interested in this class. Therefore, how to increase students' interest in this course and make students engaged in the martial arts teaching willingly, which enable them to get healthy development, become the urgent problems in college Martial arts teaching. Through analyzing the current situation of Martial arts teaching in our school, the researcher expects to come up with some new idea which can be applied in Martial arts teaching.

### 1. The analysis of the current situation about the teaching of college Martial arts elective course

Our school now opens a elective Martial arts course for sophomore. From students' options about this course in recent years, more girls choose it than boys. Moreover, those who truly like Martial arts or have the basic skills of Martial arts may not choose this course, while those who know nothing about Martial arts or have no basic skills choose. The main reason for those students who choose it is that they don't need to be exposed to sunlight but also get credits. So, the current situation of wushu teaching in our school is that students "prefer martial arts to martial arts class". The presence of the following major problems are primarily through analysis: First, there is no specific textbook. Common institutions, professional sports school, college and university are using the same set of materials. Second, only a single teaching method is used. The procedure of learning, reviewing, and then learning is taken throughout the teaching, forming a boring learning cycle which repeats again and again. Since being forced to learn with this single and boring method, students' revulsion were aroused which resulted in the developing of reverse psychology of students. Lack of vivid analysis of offensive and defensive actions in Martial arts as well as its practice exercises, and repeating the boring and single practice of a single action, students are unable to be mobilized with their enthusiasm. Third, short hours going along with large quantities of content, teaching is indoctrinated by mass. Because of tight teaching and reviewing time, students, in the absence of digesting what they have learned, had to begin to learn the new teaching content, which resulted in the loss of students' learning initiative and putting a brake on the student's personality development. Fourth, the requirements of Martial arts are of full abstraction and strictness. It requires students to be alike not only in action but also in spirit. The requirements are too abstract to describe, which can only be understood by a large quantity of practice. For example, as to an action, all limbs have certain different movements, even to the head and eyes. In a word, without large quantities of training, it is very difficult to grasp the Martial arts' quintessence and be an excellent likeness.

## 2. Teaching reform of college Martial arts elective course

### 2.1 changing the organizational form of the class to enable students to interact and participate in the Martial arts teaching

On the one hand, as martial arts is just a part of the selective courses or physical courses in our school, there is no need or no possible for students to gain high-level Martial arts skills. On the other hand, coming from the countryside and having experienced the pressure of life, most of our students took no training course outside school in their childhood or adolescent time. Therefore, there is no doubt that they possess no basic skills. Furthermore, due to considering the employment, especially the continuous enrollment expansion of colleges and universities in recent years and the narrowing scope of employment by their low diploma (the college is specialized in agriculture with only a little reputation and popularity in the country), our students have deep worry about their future career. Due to no favored superiority, they are seen unlively and perform inactively. However, as students, they still possess the characteristics of this age and have very strong demand for fitness and entertainment. In this circumstances, the class organization form should be changed to attract students.

#### 2.1.1 starting from the preparatory activities --- basic Martial arts skills

Preparatory activities in traditional Wushu teaching are mostly jogging laps, stretching, kicks and the like. Students separate with focus on their own hard work. Though there are dynamic elements in class, yet it's far less to satisfy those active students. What's more, the specifications of the movements are often in accordance with the requirements of professional standard, which make most of the students feel frustrated and lost interest in it. In preparatory activities, students should be allowed to do physical activities within a certain distance on the ground, which are carried out in the form of games, such as swivel and rise high into the air. More importantly, students can perform freely, show their ability and satisfy their expectations. And all of these basic skills are finished in a dynamic way.

#### 2.1.2 Small group learning method provide a platform for the interaction and participation by students in martial arts teaching

On one hand, martial arts teaching has its own uniques. In the process of martial arts routines teaching, each routine includes too many elements, because there're lots of routines and changes of direction and path in martial arts. Outside is the footwork needs hands, eyes and body. and inside the coordination of spirit and energy. So, martial arts requires high body coordination, and its routines are not purely the harmonization between limbs and found. In martial arts teaching, there are Attack and Defense teaching and Fighting Skills teaching. Traditional Teaching Model mainly are teacher-centeredness to focus on explanations, demonstration and acting. As a result, the teacher must demonstrate a lot of actions and a lot of times, as well as a high labor strength. Especially big EFL, it has a higher requirements in demonstration scale and level. Under these influences, martial arts teaching finally achieves a truly low-quality finish.

On the other hand, according to the limited course design and teaching time in universities, us physical education teachers have to complete regimented teaching content(usually are winning ways, Tai JiQuan, Elementary Swordplay etc.) .If we use traditional method, according to the demands of layout, principles and methods of Winning ways, Tai JiQuan and Elementary Swordplay, to teach students, it will be a foul liquid way. As a result our students will not accept, let alone digestion.

In educational reform on the basis of students' personal features and under teacher's instruction, we're able to let students initiatively take part in the cooperation and inquiry learning in small groups. Therefore, previous passive recipients, who merely listen to command, change into initiative learners, becoming the principal part in physical education class teaching. In the process of autonomous learning, cooperative learning and inquiry learning, students can embody self-worth and excavate creating potentiality

Small-group learning approach to teaching is: free combination in the class into small groups, choose training methods, free practice time learning mingle freely, and the small-group learning objectives clearly. Through learning, exercise, summary, and evaluation, it will help to reflect students themselves value, and fully exploit the creative potential of the students. Small group learning method is used to change the passive physical education teaching model that singly teacher spoke, students listened, and teachers teach, students do in the past.

And since the "traditional teaching" emphasized that students self-employed in the study of the performance, it ignores the student groups of exchange and cooperation. And the small group teaching mode that members of the group share learning, each student is able to make full use of their own initiative, and it is precisely because students with the active participation of the mind, and every one has a strong sense of initiative and exploration and innovation, it stimulates their learning motivation and keen interest in learning, and activates classroom teaching atmosphere, which in turn increases the efficiency and quality of teaching. In particular, when the students' idea to solving the problem adopted by small groups, there will be an unparalleled sense of achievement and pleasure for them, also they will feel themselves have made a contribution to the group ,which will greatly inspire those students who learns in a more passive with little self-confidence.

Small group learning is a form of democracy, coordination , the students as a main body, and through among the students helping and learning mutual ,it will enhance the students' body, dynamic and groups, and at the same time, the learning time and space are for students, and the teaching focus is transferred from the teachers to the students, and the activities that they guidance, and diagnostic, and fill up each other in which the students are really part of the learning of the body, effectively addresses the contradictions between the classroom instruction and student learning of requirements , and greatly improves the education reform, the need to pursue the actual effectiveness of teaching, and more conducive to agriculture students improving their self-confidence and interpersonal skills.

2.2 Emphasis on offensive and defensive means teaching martial arts to provide media for students to interact and participate in teaching martial arts

Martial arts is a king of offensive and defensive weapons and unarmed combat skills people grasped naturally when they in order to survive in the long life. Therefore, in teaching martial arts action on the offensive and defensive awareness to explain , not only to eliminate ideologically students lack knowledge of martial arts , and to make students change wrong understanding of Martial arts being equivalent to the " style and no substance " , but also students can more deeply understand the essence of martial arts which helps improve the quality of teaching.

It emphasized offensive meaning of teaching in teaching reform , firstly let students understand defending and attacking principles and use the principles to enable students to defending and attacking of an overview and basic requirements of an understanding , then combined with the movement of the action offensive and practical technology features to demonstrate, considering the learning content requires students should follow teachers to imitate the action group practice , while it allows students in pair switching roles from time to time , be both offensive , but also defense. In practice, understanding and grasping the true meaning of offensive and defensive actions .

2.3 Setting different levels of hierarchy evaluation

For college students, with the complexity and profound of martial arts ,practitioners need to spend a lot of time and effort on it, but practitioners expect to see their progress in a short time and to be recognized by others. Therefore, we set a clear and easy to reach upgrade evaluation system to meet the psychological needs of students for success. Increasing martial arts promotion and publicity, in the project settings and assessment are simplified for beginners , for instance, that some columns to simplify Martial arts are added to teaching materials makes more students can easily keep a good knowledge of three punches feet and do three to five martial arts action. Learners easily learn it to some extent and quickly obtain a sense of accomplishment .

2.4 Reiterate martial-arts' etiquette

Martial-arts is rich and sophisticated, so many people will confound China Kung Fu and China martial art, But Kung Fu is a lopsided attack and defense skill. While martial art does much better in reflecting the intention of China martial art, which include cultivation of martial art, military morality and indwelling art charm. In the teaching reform ,teaching content of martial art theory courses education has been added, for example, explaining characteristics of martial art, funny stories about history of martial art, value of martial art, learning routines along with looking pictures about martial art, self-creating routines of martial art, knowledge of martial art judgment and how to admire martial art performance, etc.; Practicing teaching emphasizes both players should power after each other at the starting or ending time in martial art performance, as well as the professionalism of the playing field and dress in match and so on. All of these will bring a feeling of Standard and Civilization In addition, attach more importance to the professionalism, culture and the systematic of martial art.

### 3. Conclusion

To sum up the points which we have just indicated, what higher agricultural colleges should do is to begin with the understanding of students' characteristics, to change organizational forms of class, and to add dynamic factors to essential technique practicing in martial arts teaching. In teaching, it is suggested to adopt small group teaching method; in constructing, we can use actions that include attack and defense meaning as a medium to encourage students to interact and participate. Therefore, interactions between students and interactions between students and teacher will be valid. Meanwhile, it will be true that our students completely enter the whole teaching activity. The purpose to improve students' learning initiative, enhance the memory of routine and increase teaching quality can be realized. At the same time, it also has the effect of promoting team cooperation spirit and developing social skills. To inspire students' self-confidence, teachers have to set up hierarchy for the goal of exercise, realizing the relationship between ultimate goals and immediate objective. Emphasize etiquette education in martial arts teaching.

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## Analytical Study On Physical Fitness Among Volley Ball And Badminton Players Of Warangal District

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### Introduction

Physical fitness is a general state of health and well-being or specifically the ability to perform aspects of sports or occupations. Physical fitness is generally achieved through correct nutrition, exercise, hygiene and rest. It is a set of attributes or characteristics that people have or achieve that relates to the ability to perform physical activity. Before the industrial revolution, fitness was the capacity to carry out the day's activities without undue fatigue. However with automation and changes in lifestyles physical fitness is now considered a measure of the body's ability to function efficiently and effectively in work and leisure activities, to be healthy, to resist hypokinetic diseases, and to meet emergency situations. A comprehensive fitness program tailored to an individual typically focuses on one or more specific skills, and on age- or health-related needs such as bone health. Many sources [citation needed] also cite mental, social and emotional health as an important part of overall fitness. This is often presented in textbooks as a triangle made up of three points, which represent physical, emotional, and mental fitness. Physical fitness can also prevent or treat many chronic health conditions brought on by unhealthy lifestyle or aging. Working out can also help people sleep better. To stay healthy it is important to engage in physical activity.

### Objective of the study

The study is to determine the significant difference of physical fitness between volley ball players and badminton players of Warangal district.

### Significance of the study

This study aims to know the physical efficiency of the players of the two games i.e., Volleyball and Badminton. The results of this study might help to give an idea to physical education teachers, coaches and players.

### Hypotheses

There may not be any significant difference between volley ball and badminton players in relation to their Physical fitness speed. There may not be any significant difference between volley ball and badminton players in relation to their Physical fitness Agility. There may not be any significant difference between volley ball and badminton players in relation to their Physical fitness endurance

### Sample Of The Study:

The study was formulated based on the simple random sampling. The samples were collected from the 50 Volley ball players and Badminton Players in the age group of 20 – 25 years from Warangal District was considered.

### Showing the Sample of the Study

Sl. No.	Category of the subjects	Number of subjects
1.	Volley ball Players	50
2.	Badminton Players	50

### Tools Used:

The present study under investigation selected the following physical fitness.

#### Physical Fitness

Speed (50 yard dash), Endurance (Cooper Test 12 Minute Run / Walk) and Agility (4x 10Mts Shuttle Run).

### Data Collection Procedure

The subjects of the study were in the age group between 20 to 25 years, 50 volley ball players and badminton players of Warangal district were considered. The study is delimited for the Warangal district. The researcher has collected the data separately for volley ball players and badminton players. The subjects were tested in three categories of Physical Fitness i.e. Speed (50yard dash), Endurance (Cooper Test 12 Minute Run / Walk) and Agility (4x 10Mts Shuttle Run).

### Results And Discussions:

Table: 1 showing that the significant difference between volley ball players and Badminton Players in relation to their speed are presented.

Sl. No.	Subjects	N	Mean	SD	df	t-value	p-value
1	Volley ball players	50	8.07	0.962	98	4.035	1.980
2	Badminton players	50	10.96	1.190			

Table: 2 showing that the significant difference between volley ball players and Badminton Players in relation to their Agility are presented

Sl. No.	Subjects	N	Mean	SD	df	t-value	p-value
1	Volley ball players	50	9.44	1.113	98	4.72	1.980
2	Badminton players	50	10.21	1.190			

Table: 3 showing that the significant difference between volley ball players and Badminton Players in relation to their Endurance are presented

Sl. No.	Subjects	N	Mean	SD	df	t-value	p-value
1	Volley ball players	50	2.94	0.490	98	1.47	1.980
2	Badminton players	50	3.17	0.394			

### Conclusion:

Physical fitness is the ability to perform vigorous physical activity. It is not measured in terms of achieving specific motor skills, but rather it is assessed in terms of muscle strength, endurance, and flexibility. The circulatory and respiratory systems are also involved because of their role in supplying muscles with blood and oxygen. In considering muscles, strength is the maximum force that can be exerted by a muscle, and endurance is the ability to perform a muscular activity at less than maximum force, for example, in doing a series of chin-ups. Flexibility is the ability of a joint to move through a normal range of motion. The components of physical fitness (strength, endurance, flexibility, and capacity of circulatory and respiratory systems) can only be maintained through regular exercise. Although the percentage of body fat is not a main factor in physical fitness, it must be considered because of its effect on a person's ability to exercise. There is debate in the fitness community about whether an individual can be considered fit if he or she is overweight. The body will adapt to a regular exercise program by improving the function of the cardiac and respiratory systems. The blood will have a greater capacity to carry oxygen, which in turn will improve the body's ability to work. The heart and respiratory systems will be more efficient during rest and exercise, and the resting heart rate is usually reduced. These changes take place when a person participates in a rhythmic endurance activity such as walking, running, and cycling, or continuous sports activities.

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## Comparison Of Self-Concept Of School Children Belonging To High & Low Fitness Groups

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### **Abstract :**

The purpose of the study was to find out the to compare the Self-Concepts of school children belonging to high and low fitness groups. The Objectives of this study was to find out whether there is significant difference in the school children belonging to high and low fitness groups. For this present study were 100 boys, were selected as a sample randomly for this study. (Simple random sampling method) The required data were collected from four different high school of Amravati, Maharashtra State, Age of the subjects were ranged from 13 to 15 years studying 9th and 10th classes to all the subjects and all of them voluntarily agreed to the test. The data on selected criterion based on the test . Data were collected from different high schools of Amravati districts of classes of the said schools. The research Scholar 1) AAHPER Youth Fitness test to identify the High and Low Fitness Groups, 2) Questionnaire of "Self-Concept Scale for school children. The criterions measures chosen the test were AAPHERD TEST (For Physical Fitness)The AAPHERD youth Fitness Test was taken to identify the High & low fitness groups. It contains 6 items. The method of administrating the test. The Standardized Questionnaire Developed by Dr. Mukta Rani Rastogi Department of Psychology Lakhnau University Lakhnau., To assess the Self-Concept measure and compare the Students To find out the significant difference between High and Low Fitness Groups of school children. To test the various dimensions of self concept was used. The Self concept inventory provides ten separate dimensions of self concept viz Health and Sex, Abilities, Self-Confidence, Self-Acceptance, worthiness, Present, Past and Future, Belie and Convictions, Feeling of shame and Guilt, Sociability, Emotional Maturity, It also gave a total concept score. Because subject were chosen from schools so available hindi version of questionnaire was taken. 't' test was employed to determine the significant mean difference between high & low fitness score of both groups. The level of significance was set at 0.05 level of confidence. Various dimensions of self concept of high & low fitness group are also computed by 't' test Under the circumstances of this study it seems reasonably fair to conclude that there was no differences in the self concept of high & low fitness groups.

**Key Word : Self-concept, High & Low Fitness Groups**

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### **Introduction:**

Self concept may be defined as the sum total of the view which an individual has of himself or herself. It is a unique set of perceptions, ideas and attitude one has of one self. The important dimensions of the self concept are body self, social self, cognitive self and self esteem. If the self concept is viewed as self theory, the self can be both subjective and objective, emotions and cognition become important as growth is considered. However, whether self concept is viewed as a basic component of personality or as self theory. Its importance is unquestioned as it affects the emotional, physical , social and cognitive life of the individual. High & Low Fitness Group were considered as in terms of AAPHERD physical fitness norms. Score below the norms were considered as low fitness and score according to the norms were considered as high fitness and groups formed as accordingly.Mary L Young (1981) administered the AAHPER youth fitness test Tennessee self concept, scale and questionnaire concerning academic achievement, estimation and perception to grade seventh and ninth boys and girls in his study on relationship amongst achievement physical fitness and self concept correlation were reported between various subscale. Floyd Conic Sturkie (1973) in this study determined if there was relationship between self-concept and physical performance among selected college females.

**The purpose of the study:** The purpose of the study was to find out the to compare the Self-Concepts of school children belonging to high and low fitness groups.

**Methodology:** The required Data were collected from different high schools of Amravati Maharashtra State, of classes of the said schools. The subjects for the present study were 100 Only boys, selected randomly(Simple random sampling method) from four different high school of Amravati, Maharashtra State of High and Low Fitness Groups, Age of the subjects were ranged from 13 to 15 years studying 9<sup>th</sup> and 10<sup>th</sup> classes For the purpose of this study. The criterions measures chosen the test were Scholar selected to collect data pertaining to the study of. 1) AAHPER Youth Fitness test to identify the High and Low Fitness Groups, 2) The standardized Questionnaire of “Self-Concept Scale for Students”:  
**1)AAPHERD TEST** The AAPHERD youth Fitness Test was taken to identify the low & High fitness groups. It contains 6 items. The method of administrating the test. a)50 Yard Dash b) Pull ups c) Bent knee sit-up d) Standing Broad jump e) Shuttle Run f) 600 Yard Run/Walk **2)Self Concept Test:** The Standardized Questionnaire Developed by Dr. Mukta Rani Rastogi, Department of Psychology Lakhnau University Lakhnau. to test the various dimensions of self concept was used. The Self concept inventory provides ten separate dimensions, Health and Sex, Abilities, Self-Confidence, Self-Acceptance, worthiness, Present, Past and Future, Belie and Convictions, Feeling of shame and Guilt, Sociability, Emotional Maturity, It also gave a total concept score. Because subject were chosen from schools so available Hindi version of questionnaire was taken. The scoring was done with the help of a scoring key provided for this purpose and the raw scores of all the six items were counted and recorded. The total score of six dimensions were also summed up and recorded. To assess the Self-Concept measure and compare the Students To find out the significant difference between Amravati School Children (Boys Only).By administrating the AAHPER Youth Fitness test and self concept questionnaire on the selected subjects to collect the data.

**Statistical Procedure:** To find out the difference of self concept between high and low fitness groups‘t’ test employed at 0.05 level o confidence. The responses of the subject were converted into in to numerical with the help of the scoring key ‘t’ test was use because of its goodness and easiness. The statistical data revealed that there is no significant difference Moreover, from the mean values Self-Concept of School students Belonging to High and Low Fitness Group.

**Statistical Analysis: High & Low Fitness Groups** –High and low fitness group were considered as in terms of AAHPER physical fitness norms. Score below the norms were considered as low fitness and score according to the norms were considered as high fitness, and groups formed as accordingly.

**Self Concept** –Self Concept may be defined as the sum total of the view which an individual has of himself or herself. It is a unique set of perceptions, ideas and attitude one has of one self. The important dimensions of the self concept are body self, social self, cognitive self and self esteem. If the self concept is viewed as self theory, the self can be both subjective and objective, emotions and cognition become important as growth was considered. The level of significance was set up at 0.05 for testing the significance of difference between means. Means and standard deviation of various self concept dimensions of High and low fitness group are given in table 1.

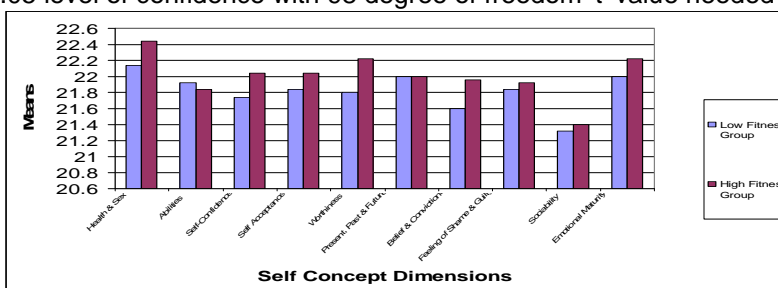
**Table 1 : Means and Standard Deviation of Various Self Concepts Dimensions of High and Low Fitness Groups**

Dimensions	Low Fitness Group	High Fitness Group
Health & Sex	22.14 ± 2.19	22.44 ± 2.29
Abilities	21.92 ± 2.84	21.84 ± 2.70
Self-Confidence	21.74 ± 2.284	22.04 ± 2.364
Self Acceptance	21.84 ± 2.34	22.04 ± 2.46
Worthiness	21.8 ± 2.356	22.22 ± 2.43
Present, Past & Future	22.00 ± 2.482	22.00 ± 2.52
Belief & Convictions	21.60 ± 2.75	21.96 ± 3.03
Feeling of Shame & Guilty	21.84 ± 2.72	21.92 ± 2.71
Sociability	21.32 ± 2.93	21.40 ± 2.77
Emotional Maturity	22.00 ± 2.80	22.22 ± 3.125
Total Self Concept	218.05 ± 12.78	220.08 ± 12.73

**Table 2 : 't' test for Self Concepts Dimensions of High and Low Fitness Groups**

Dimensions	Low Fitness Group	High Fitness Group	Mean Difference	Standard Error	't' ratio
Health & Sex	22.14	22.44	0.3	0.448	0.669
Abilities	21.92	21.84	0.08	0.554	0.144
Self-Confidence	21.74	22.04	0.3	0.464	0.645
Self Acceptance	21.84	22.04	0.20	0.480	0.416
Worthiness	21.8	22.22	0.42	0.478	0.877
Present, Past & Future	22.00	22.00	0	0.500	0
Belief & Convictions	21.60	21.96	0.36	0.578	0.622
Feeling of Shame & Guilty	21.84	21.92	0.08	0.543	0.147
Sociability	21.32	21.40	0.08	0.570	0.140
Emotional Maturity	22.00	22.22	0.22	0.593	0.370
Total Self Concept	218.05	220.08	2.03	2.551	0.795

Not Significant at 0.05 level of confidence with 98 degree of freedom 't' value needed 1.98.



**Figure 1 : Shows that the Means of Self Concept Dimensions**

**Findings :** There were no significance difference of total self concepts of High and low fitness groups. Also it was found that insignificance differences found in each dimension of self concept between High and Low fitness groups at 0.05 level of confidence at 98 degree of freedom.

**Discussion of Findings :** A comparison of the self concept of high and low fitness groups showed no significant difference i.e. the self concept of high and low fitness groups are the same. Both the groups showed the same concept, in all the dimensions, that are Health and sex, Abilities, Self Acceptance, Worthiness, Present, Past and Future, Belief and Convictions, Feeling of Shame and Guilt, Sociability, Emotional maturity. Subject chosen for this study were the students of different High Schools of Amravati, Maharashtra State, of the class 9<sup>th</sup> and 10<sup>th</sup> they are from the different family background as well as their socio-economic background are also different but they are students from same is schools so naturally they interact with each other in different types of activities like academics, games and sports, cultural activities and other extracurricular programme organized by school that's why because of this reason they showed similar dimension of self concept. **Conclusions:** Under the circumstances of this study it seems reasonably fair to conclude that there was no differences in the self concept of high & low fitness groups. But when the various dimensions of self concept were compared separately it has been concluded that.1)High & low fitness groups showed almost similar self concepts.2)There was no difference in the Health and sex, Abilities, Self-confidence , Self-Acceptance worthiness, Present, Past and Future, Belie and Convictions, Feeling of shame and Guilt, Sociability, Emotional Maturity.3)High & Low fitness groups had same concepts regarding their total self-concepts

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## Differences in individual proficiency of team-handball athletes from five performance groups

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### Abstract

**Objective:** To determine the significance of technical and tactical attributes (established on the basis of the subjective expertise assessment) to discriminate team-handball (HB) performance groups, in relation to HB playing positions. **Methodology:** A total of 235 male HB players (mean age, 23.5±5.3 years) participated in this study. They were divided into five performance groups (top elite, moderate elite, sub-elite, moderate trained and under 21) and individual playing position was recorded (goalkeeper, wing, left/right backward, centre backward and pivot). All participants were evaluated using a set of ten HB skills criteria suggested by Blanco (2004), which comprises seven motor/technical skills dimensions and four cognitive and game intelligence dimensions. Dataset was analysed using: (1) Kruskal-Wallis test (and Mann-Whitney *U*-test) to study the relation between performance and playing position groups; and (2) Stepwise discriminator function analysis was used to determine which combination of measures best discriminated the playing status groups. **Results:** (1) the field of offensive and defensive battle distinguished wing HB players; (2) the ability to retrieve the ball distinguished left/right backward HB players; and (3) the ability to escape the opponent distinguished centre backward HB players. **Conclusion:** The expertise evaluation of HB player proficiency provides a level of predictability of the selection process, and decreases the possibilities for mistakes.

**KEYWORDS:** Team-Handball-specific skills, Playing Position, performance level

### Introduction

To determine and analyse the factors of performance or situational efficiency in team-handball (HB), the assessment of the individual performance is, usually, based on evaluation sheets completed during matches (Jadach, 2005; Gruić et al., 2006; Ohnjec et al., 2008) or by viewing a video footage of the match (Vuleta et al., 2005). Recently, Massuça (2011) observed that two dimensions successfully discriminated between five HB performance groups, i.e.: (1) type of shots; and (2) cognitive and game intelligence (tactical skills). Nevertheless, the undeniable existence of differences between HB players who play at a particular position must be taken into consideration (Brčić et al., 1997). These differences could be recognized as apparent differences in technical and tactical profile, thereof different roles, assignments and tasks directed to an individual player that are eventually manifested as players' behaviours in a match that can contribute variably to a team success (Trininić and Dizdar, 2000). In accordance, this study aim to determine the significance of technical and tactical attributes to discriminate HB performance groups, by HB playing position.

### Methodology

#### *Study procedure and subjects*

A total of 235 male HB players (age, 23.46±5.25 years) participated in this study. Players were divided into five performance groups for comparison: (1) Top elite (TE; n=35; age, 25.91±5.01 years; Professional Handball Championship); (2) Moderate elite (ME; n=72; age, 26.28±4.90 years; 1<sup>st</sup> Portuguese Handball Division); (3) Sub elite (SE; n=53; age, 24.39±4.34 years; 2<sup>nd</sup> or 3<sup>th</sup> Portuguese Handball Division); (4) Moderate trained (MT; n=40; age, 24.24±4.95 years; Regional championships); (5) Next21 (n=35; age, 18.8±0.89 years; Junior 1<sup>st</sup> Division).

Playing position was recorded for each participant as goalkeeper (GK, n=35), Wing (W, n=72), backward left or right (BLR, n=53), backward centre (BC, n=40) and Pivot (Pi, n=35). All participants were HB skills tested during the 2008-2009 Portuguese HB season (2009, February and March).

#### HB skills

For the evaluation of the HB player, expert coaches evaluated all the participants in ten dimensions (items) according to Blanco (2004), i.e.: (1) different types of covering opponents; (2) the capacity of recovering balls; (3) the ability to escape to opponents; (4) pass and reception; (5) shooting types; (6) solve on one to one situation; (7) the capacity of creating and occupy spaces; (8) the tactical repertoire (offensive and defensive); (9) defensive collaboration; and (10) the capacity of diversifying their actions.

#### Statistical analyses

All calculations were performed using Microsoft Excel (Microsoft, Seattle, Washington, USA) and the SPSS statistical package (SPSS Science Inc., Chicago, Illinois, USA). Descriptive and comparative data of significant dependent variables are presented. Three different sets of analyse were undertaken. Dataset was analysed using: (1) Kruskal-Wallis test (and Mann-Whitney *U*-test) to study the relation between HB performance and HB playing position groups; and (2) Stepwise discriminator function analysis was used to determine which combination of measures best discriminated the HB performance groups. For all analyses, 5% was adopted as the significance level.

#### Results

In the wing group, significant differences were observed in the ability to escape the opponent ( $H(4)=11.638$ ), pass and reception ( $H(4)=10.979$ ), shooting types ( $H(4)=11.417$ ), ability to create and occupy spaces ( $H(4)=11.720$ ), ability to vary their actions ( $H(4)=10.271$ ) and field of offensive and defensive battle ( $H(4)=14.440$ ). The Next21 players scored significantly better than MT, in the ability to create and occupy spaces ( $U=74.500$ ), tactical repertoire ( $U=67.500$ ) and ability to vary their actions ( $U=66.500$ ). Nevertheless, TE players scored significantly better than: (1) Next21, in pass and reception ( $U=44.000$ ); (2) MT, in ability to escape the opponent ( $U=18.000$ ), pass and reception ( $U=17.000$ ), shooting types ( $U=27.000$ ), ability to create and occupy spaces ( $U=22.500$ ), field of offensive and defensive battle ( $U=21.500$ ) and ability to vary their actions ( $U=21.500$ ); and (3) SE, in ability to create and occupy spaces ( $U=33.000$ ) and field of offensive and defensive battle ( $U=32.000$ ). In backward (left and right) group, significant differences were found in the ability to retrieve the ball ( $H(4)=9.878$ ), and pair-wise comparisons showed that SE players scored significantly worse than next21 ( $U=10.500$ ), ME ( $U=17.500$ ), and TE ( $U=21.500$ ). In backward centre and pivot groups, no significant differences were found between performance groups. Results are presented in Table-1.

**Table 1.** Descriptives of significant HB skills by performance group and playing position.

PP	HB Skills	Kruskal Wallis Test										M-W U-test		
		Next21 (1)		MT (2)		SE (3)		ME (4)		TE (5)		Sig.	Sig.	
		N	Rank	N	Rank	N	Rank	N	Rank	N	Rank			
W	Ability to escape the opponent	72	20	40.68	13	28.35	15	36.77	15	28.20	9	<b>52.39</b>	.020	2-5
	Pass and reception	72	20	37.05	13	26.15	15	35.93	15	35.00	9	<b>53.67</b>	.027	1-5; 2-5
	Shooting (types)	72	20	39.93	13	32.08	15	35.77	15	27.37	9	<b>51.72</b>	.022	2-5
	Ability to create and occupy spaces	72	20	42.53	13	26.81	15	33.43	15	31.03	9	<b>51.33</b>	.020	1-2; 2-5; 3-5
	Field of offensive and defensive battle	72	20	43.30	13	25.96	15	33.13	15	30.13	9	<b>52.83</b>	.006	1-2; 2-5; 3-5
	Ability to vary their actions	72	20	41.50	13	24.85	15	31.90	15	36.97	9	<b>49.11</b>	.018	2-5
BLR	Ability to retrieve the ball	52	13	<b>33.38</b>	6	27.08	7	12.36	12	26.04	14	27.32	.043	1-3; 3-4; 3-5

a. Not corrected for ties; b. Grouping Variable: Performance groups; c. Exact Sig. [2\*(1-tailed Sig.)].

Playing position groups (PP): W, wing; BLR, backward left and right.

Performance groups: Next21; MT, moderate trained; SE, sub elite; ME, moderate elite; TE, top elite.

The stepwise discriminant function analysis showed that: (1) the tactical repertoire distinguished wing performance groups (Wilks' Lambda=0.782;  $\chi^2(4)=16.756$ ;  $p<.01$ ), (2) the capacity of recovering balls distinguished BLR performance groups (Wilks' Lambda=0.811;  $\chi^2(4)=10.049$ ;  $p<.05$ ); and (3) the ability to escape to opponents distinguished BC performance groups (Wilks' Lambda=0.743;  $\chi^2(4)=10.985$ ;  $p<.05$ ). Results are presented in Table-2.

**Table 2.** Standardized canonical discriminant function coefficients, eigenvalues and variance, by playing position groups, do discriminate performance groups.

Variables / Function	GK	W	BLR	BC	Pi
	-----	1	1		-----
The tactical repertoire	a	1.000			b
The capacity of recovering balls	a		1.000		b
The ability to escape to opponents	a			1.000	b
Eigenvalue	-----	0.279	0.233	0.346	-----
% of Variance	-----	100.0	100.0	100.0	-----

<sup>a</sup> The total covariance matrix cannot be computed because there is insufficient data;

<sup>b</sup> No variables are qualified for the analysis;

Playing position: GK, goalkeeper; W, wing; BLR, backward left and right; BC, backward centre; Pi, pivot.

## Discussion

The assessment of individual performance in HB (or situation-related efficiency) is one of the most fundamental aspects of coaching, and a system of criteria for evaluation of HB technical and tactical proficiency was employed to establish individual performance in HB skills. Has expected, the results of this study have showed significant differences between HB performance groups. In fact, the tactical repertoire (in wing players), the capacity of recovering balls (in backward left and right players) and the ability to escape to opponents (in backward centre players) have relative importance (or weight) to discriminate individual success in HB (i.e., performance groups).

This information's (data) can be a valid reference for the decision-making, when selecting HB players (Hasan et al., 1999) for the particular playing position, during the process of creating a team.

## Conclusion

The recognition and understanding of the HB skills relative importance, for a particular HB playing position, provide a higher level of reliability and predictability of the selection process. Moreover, the evaluation results can be usefull to decreases the possibilities for mistakes.

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## **Anthropometric Profile and Food consumption Pattern of Selected Collegiate Sportswomen in Hyderabad and Secunderabad**

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### **Abstract**

The general objective of this investigation was to assess the nutritional profile and health status of collegiate sports women from the city of Hyderabad and Secunderabad as this is a vulnerable population. In this context a detailed assessment of the anthropometric profile and food consumption pattern was carried out. Accordingly a total of 348 sports women of the age group 17-24 years as available from all the Women's Colleges, affiliated to Osmania University, Hyderabad and having district, university, state, national or international level representation were selected. Nutritional status of all the 348 collegiate sports women were assessed which included anthropometric measurements (height, weight and BMI) and food and nutrient consumption pattern. Findings revealed that the nutritional status of majority of the sports women were far from satisfactory and Chronic Energy Deficiency (CED) was seen among 54.2 % of the sports women studied which shows they are underweight and malnourished. The intake of all the nutrients also were far below the recommended daily allowance (RDA) which is reflective of the inadequate dietary pattern and poor nutritional status existing among college students especially adolescent girls. The prevalence of poor health status among these sportswomen signifies it as a public health problem, calling for sustainable strategies to overcome the same by providing better nutrition, which can lead to improved sports performance. Hence the role of sports dietician becomes imperative.

Key words: Anthropometric profile, Chronic Energy Deficiency (CED), Body Mass Index etc.

### **Introduction**

Inadequate dietary intake is the primary nutritional concern of today's female athlete. As these athletes fail to consume enough energy to support the physical demands of training they become at risk for disordered eating, amenorrhea and osteoporosis, conditions collectively identified as the female athlete triad (Gabel, 2006 and Nattiv et al., 2007). Nutritional needs of women are definitely different from their male counterparts bringing out the need to review the nutritional implication of exercise in women (Hinton, 2004). The purpose of this study was to elicit detailed information on the nutritional and health status of collegiate sports women from Hyderabad and Secunderabad by obtaining their anthropometric profile and food consumption pattern.

### **Methodology**

All the women's Degree and PG colleges in the city of Hyderabad under Osmania University were selected for the study. A total of 348 sports women of the age group 17 to 24 years as available from the above institutions and having district, university, state, national or international level representation were selected. A detailed 25 point questionnaire was formulated, and the data was collected from all the selected sports women. Nutritional status of all 348 sports women was assessed by obtaining their anthropometric data (height, weight and BMI). A 24 hour dietary recall method (Kinard et al., 1991) was employed and the food and nutrient intake was computed.

### **Results and Discussions**

Table 1 gives event wise distribution of heights and weights of selected sportswomen

Table I  
Event wise Distribution of Heights and Weights of Selected Sports Women In Comparison With Standards (N=348)

Event	No.	Height (cm)	Weight (kg)
Hand ball	48	159.63 ± 5.78	51.25 ± 7.42
Kabbadi	86	159.44 ± 5.79	52.43 ± 9.68
Volley ball	37	160.89 ± 6.34	53.35 ± 11.76
Basket ball	46	162.13 ± 8.42	52.59 ± 8.37
Kho kho	39	156.92 ± 5.78	45.13 ± 4.30
Individual and other events	92	159.12 ± 6.76	54.14 ± 11.23
ICMR All India Standard (2000)	154.29		46.54
WHO Standard (1986 )	163.7		56.6

It was observed that compared to the All India Standard (ICMR, 2000), irrespective of the events performed all the sports women were taller and heavier, but when compared with the WHO Standards (1986) all were below the standard. Kho-Kho players were the shortest and lightest among all the other event groups.

Table II gives the percentage distribution of BMI values (Body Mass Index) of selected sports women  
Table II  
Percentage Distribution of BMI Values Of Selected Sports Women (N=348)

BMI	BMI Classification*	No.	%
< 16	CED Grade III	16	4.6
16 – 17	CED Grade II	26	7.5
17 – 18.5	CED Grade I	67	19.3
18.5 – 20.0	Low weight - normal	79	22.7
20.0 – 25.0	Normal	118	33.9
25.0 – 30.0	Overweight – I degree obesity	33	9.4
> 30.0	Obese – II degree	9	2.6

\*NNMB (2002)

Only 33.9 percent of the subjects studied belonged to the normal category of BMI 20–25. Chronic Energy Deficiency (CED) was seen among 54.2 % of the sports women studied which shows they were underweight and malnourished which is a clear reflection of their poor nutritional status.

Mean food intake of selected sportswomen are presented in Table III

TABLE III  
Mean Food Intake of Selected Sports Women

Food groups (g)	RDA* (g)	Mean intake (g)	% RDA
Cereals	330	240	73
Pulses	70	56	80
Milk and Milk products	300	225	75
Other vegetables	150	85	57
Green leafy vegetables	100	32	32
Roots and Tubers	150	80	53
Fruits	100	45	45
Nuts and oil seeds	30	25	83
Sugar	30	38	126
Fats	25	32	128

\* ICMR (2004)

Mean food intake of all the sports women were very inadequate. Except for sugar and fats all the food intake was far below the suggested intake of ICMR (2004) which will invariably affect the stamina, energy production and muscle development of the sports persons.

### Conclusion

Nutritional profile of the selected sports women studied was far from satisfactory. Lack of proper nutrition information and dietary counselling could be the major reason for such inadequate intake. From the above observations it is evident that population of sports women studied irrespective of their age, and sports events requires appropriate nutrition intervention strategies and proper nutrition education.

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## A Review of the Impact of Exercise on Cholesterol Levels

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### Introduction

The link between cholesterol and coronary heart disease (CHD) has been fairly well established through long-term studies of high levels of blood cholesterol and the incidence of CHD. High-density lipoprotein cholesterol (HDL-C) levels are inversely and independently associated with reduced risk of CHD (Neiman 1998). The risk of CHD increases by 2 to 3% for every 1.0 mg/dl decrease in HDL-C (Durstine & Haskell 1994). It is well established that a sedentary lifestyle contributes significantly to the development of CHD and that physical activity plays an important role in decreasing CHD mortality. Exercise training has been associated with increased concentrations of HDL-C, however, the amount of exercise necessary to significantly raise HDL-C levels has not been identified. Research in this area has provided inconsistent results, but has suggested that there may be an exercise threshold that must be met before significant changes in HDL-C are observed. Furthermore, a dose-response relationship between the amount of exercise performed and HDL-C has been suggested (Drygas et al. 2000).

### Cholesterol

Cholesterol is a waxy, fat like substance found in all animal products (i.e., meats, dairy products and eggs). The body can make cholesterol in the liver and it can absorb cholesterol from the diet. Cholesterol is essential to the body and is used to build cell membranes, produce sex hormones, and form bile acids, which are necessary for the digestion of fats.

### Lipoproteins

Cholesterol is a fat-soluble substance that is carried in the blood by special transporters called lipoproteins. Lipoproteins are an essential part of the complex transport system that exchanges lipids among the liver, the intestine, and peripheral tissues. The different types of lipoproteins are classified based on the thickness of the protein shell that surrounds the cholesterol. Four main classes of lipoproteins have been categorized: chylomicron, derived from the intestinal absorption of triglycerides; very low density lipoprotein (VLDL), made in the liver for the transport of triglycerides; low-density lipoprotein (LDL), a product of VLDL metabolism and the primary transporters of cholesterol; and high-density lipoprotein (HDL), involved in the reverse transport of cholesterol to the liver (Durstine & Haskell, 1994).

### Potential Mechanism Involved in Exercise-Altered HDL-C levels

Regular participation in physical activity as well as a single exercise session can positively alter cholesterol metabolism (Durstine & Haskell, 1994). Exercise is involved in increasing the production and action of several enzymes that function to enhance the reverse cholesterol transport system (Durstine & Haskell 1994). The precise mechanisms are unclear, but evidence indicates that other factors including diet, body fat, weight loss, and hormone and enzyme activity interact with exercise to alter the rates of synthesis, transport and clearance of cholesterol from the blood (Durstine & Haskell 1994).

### Exercise Intensity Threshold

#### Men

Data from exercise training studies and epidemiological studies support the existence of an exercise intensity threshold for increases in HDL-C levels. Although exercise studies specifically designed to define such a threshold have not been conducted, many studies give a general idea of the intensity threshold observed to favorably increase HDL-C levels. Several studies have suggested that the threshold for positive changes in HDL-C is an exercise intensity of 6 METs or more (21 ml/kg.min) (Leclerc 1985, Lakka & Salomen 1992). Leclerc and others (1985) also reported that there were no

further improvements in HDL-C levels when exercise intensity increased above 6 METs. Stein et al. (1990) reported significant increases in HDL-C levels in men that exercised at or above 75% heart rate maximum (HRmax), 3 times a week for 12 weeks. No changes in HDL-C were reported in the subjects that exercised at 65% HRmax. The authors concluded that an intensity of 75% HRmax or above is necessary to increase HDL-C levels in men. In addition, Kokkinos and colleagues (1995) studied 2906 men and reported that increases in HDL-C levels occurred in men jogging at an exercise intensity of 10 to 11 minutes per mile. Although a specific exercise intensity threshold has not been defined, it appears that moderate intensity exercise is sufficient to raise HDL-C levels in men.

### **Women**

Exercise training studies attempting to assess the role of exercise intensity on HDL-C in women are few and report conflicting results. Most of the research suggests that women (pre and postmenopausal) with low levels of HDL-C are more likely to respond positively to exercise training. Duncan et al. (1991) reported similar increases in HDL-C levels in women (29-40 years) following 24 weeks of walking (4.8 km/session), regardless of intensity. This finding suggests that moderate exercise will raise HDL-C levels as much as intense exercise. In addition, Spate-Douglas and Keyser (1999) reported that moderate-intensity training over a 12-week period was sufficient to improve the HDL-C profile, and high-intensity training appeared to be of no further advantage as long as training volume (total walking distance per week) was constant. Conversely, Santiago and others (1995) reported no changes in HDL-C levels in women following 40 weeks of endurance training similar to the program in Duncan's study. However, the women in Santiago's study had higher initial HDL-C levels than the women in Duncan's study (65 vs. 55 mg/dl). These findings also support that women with lower levels of HDL-C are more likely to see increases in HDL-C with exercise training.

### **Exercise Volume Threshold Men**

The volume or amount of exercise performed per week may also influence the magnitude of change in HDL-C levels. Most of the exercise training studies identify a weekly mileage threshold of 7 to 10 miles/week for significant increases in HDL-C. Wood and colleagues (1983) suggested that a threshold of running approximately 8 miles per week over a 1-year period is necessary to increase HDL-C levels. In addition, Williams et al. (1982) reported that plasma concentrations of HDL-C generally did not begin to change until a threshold exercise level of 10 miles per week was maintained for at least 9 months. Kikkinos and others (1995a) reported significantly higher HDL-C levels in runners that averaged 7 to 10 miles per week. An additional study by Williams (1998) suggested that exercise volume is more important than exercise intensity. He reported that weekly mileage was more strongly correlated to HDL-C levels than exercise intensity. Interestingly, a higher volume of exercise provided significant increases in HDL-C in a shorter period of time. This indicates that there may be a relationship between exercise volume and the length of the training program.

### **Women**

In a study by Kikkinos et al. (1995b) women who were categorized in a moderate and high fitness category, as assessed by an exercise tolerance test, exhibited higher HDL-C levels than those who were categorized in a low fitness category. Additionally, elevated HDL-C levels have been reported in women following a high-volume training program (Williams 1996, Williams 1998) but not for those in a low-volume training program (Brownell et al. 1982). Williams (1996) reported that HDL-C concentrations increased significantly in relation to the number of kilometers (km) run per week in premenopausal women and postmenopausal women, whether they were receiving HRT or not. He also noted substantial increases in HDL-C in women who ran more than 64 km/week (37 mile/wk) when compared to those who ran less than 48 km/wk (30 mile/wk). These findings also suggest a dose-response relationship between exercise and HDL-C levels.

### **Conclusions**

Most studies suggest that endurance exercise is positively associated with increases in HDL-C levels in men. However, in women the relationship between endurance exercise and HDL-C levels is less clear. The response of HDL-C levels will differ for each individual depending on the intensity, duration and frequency of exercise, the initial HDL-C level, and the length of the training period. There may be an exercise threshold for exercise intensity, weekly amount of exercise, and length of the training period, that must be met before changes in HDL-C are evident. This has yet to be acceptably elucidated.

## Exercise Prescription

The aerobic exercise prescription should be individualized based on the health and/or fitness level of the client. The exercise prescription should be progressively introduced to individuals that are relatively sedentary and/or overweight. A general goal to work up to is a weekly caloric energy expenditure of &Mac179; 1000 kcals (Drygas et al. 2000). Intensity & Duration of ExerciseThe exercise prescription should involve continuous aerobic activities using large muscle groups. The exercise intensity should begin at a low to moderate level, depending on the fitness level of the client. As the client gains aerobic endurance intensity can be progressively increased. ACSM (1998) recommends an exercise intensity of 55-90% of maximal heart rate or 40-85% of heart rate reserve. The duration of activity will depend on the initial fitness level of the client and the client's preferred exercise intensity. The exercise prescription should begin with approximately 20 minutes of continuous exercise and may progress up to 60 minutes (ACSM 1998).

## Low-Density Lipoprotein Cholesterol

When LDL levels are elevated, cholesterol begins to accumulate in vessel walls and restrict blood flow. The liver contains specialized receptor sites that bind to LDL and remove them from circulation (Bishop & Aldana 1999). When LDL levels are elevated, all of the receptor sites are occupied, allowing other LDL molecules to circulate in the blood, depositing cholesterol. Delivery of cholesterol to various body cells is mediated by LDL receptor sites located on the surfaces of almost all cells (Durstine & Haskell 1994). Once LDL attaches to the receptor site, cholesterol is released and used to meet the metabolic needs of that cell (Durstine & Haskell 1994). When LDL-C enters an arterial wall it may be taken up and oxidized (biological breakdown of a substance) by the endothelial cells lining the arteries. The oxidation of LDL-C increases cell adherence to the endothelium. When an artery is injured white blood cells accumulate in the injured area as part of the inflammatory response. Growth factors, such as platelet-derived growth factor, increase the number of LDL receptors at the injury site, thereby increasing the deposition of cholesterol into the arterial wall (ACSM 1998). The accumulation of cells and cholesterol at the injury site create foam cells that are characteristic of atherosclerotic lesions. Foam cells accumulate on the artery wall and can eventually reduce blood flow through the artery (ACSM 1998).

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## Role Of Sports Injuries In Relation To Male And Female In Different Sports And Games

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### **Introduction:**

Sport injury was defined as an incident occurring during a match or training session causing the sport person to miss at least one match or one training session (Ydde et. Al. 1990). It has been reported that sport related injuries represented 11% of all accidents (Tursz et. Al. 1986). In most of today's competitive game, there could be possible chances of getting injuries, it might be due to competition load, the challenging attitude of sports men and they seem to accept the risk of injury as an unavoidable part in their sports participation. Many studies on ball games and individual events reported, the injury incidents as well as seriousness of injuries higher in ball games than individual sport (Watson. 1984). But there are very few information about incidence of sports injuries as per as literature concerned in India. Though it is very common in all games and sports. The aim of this study was i) to identify the percent of injuries in two extremities lower and upper in various disciplines like Athletics. Weightlifting and Volleyball and ii) to compare the incident of injuries between male and female discipline wise.

### **Methods And Material:**

A total number of 103 sportspersons (senior National Campers) attended Camp at SAI. Bangalore to participate in this study. Specially, three disciplines like Athletics, Weightlifting and Volleyball included 72 male and 31 female were the subjects. The injuries mainly divided in two categories i.e. Lower and upper extremities. In lower extremities included knee, ankle and muscle injuries and upper part mainly shoulder, forearm, wrist, upper back and lower back injuries. The number of injuries and its percentage was calculated for each discipline separately and was compared among the event and also between male and female. Both upper and lower injuries were also displayed graphically. It could be further analysed the comparison between two particular discipline injuries and the causes could be explained with comparing the percentage of same.

### **Results And Discussion**

Injuries (lower and upper extremities) acquired by sports persons (male) during National Coaching Camp of Athletics. Weightlifting and Volleyball were comprises in Table.1. The percentage of knee injuries was found to be higher in Athletics 29% and Weightlifting 28% than the volleyball player. But the ankle injury was found to be higher in volleyball (67%) and lower in Wt. Lifting (10%). Muscle injury was found to be very less in volleyball (8%) and Wt. Lifting (17%) than the Athletics (18%). Injuries of upper extremities was found to be maximum in weightlifting and Volleyball. Only 10% of lower back injuries were observed in Athletics. No upper back injuries were recorded in three of the categories. In female Athletics, muscle Injuries of lower extremities were higher as male athletics (Table 2) and a very few upper extremities injuries were observed in female subjects except lower back injuries was little higher in volley ball players (31%).

Comparison of percent of injuries between male and female of different games were listed in Table 3. The maximum differences were observed (42%) higher in case of ankle injuries of male volleyball players in comparison to the female. Muscle injuries also found to be higher in male athletics. But it is interesting to note that in case of female volleyball players were higher shoulder injuries (11%) when compare. with their male counter parts. Figure 1 demonstrated the bar diagram of percent of injuries in male and female athletes of different type of injuries (knee, ankle, muscle and lower back). In every cases. male subjects showed higher values of their female counter parts.

Table – 1 : Injuries acquired by the Sports Persons (Male) of Different Game During National Coaching Camp.

SL. NO	SITE OF INJURIES	Athletics n=31		Wt. Lifting n=29		Volleyball n=12	
		Cases of Injuries	%	Cases of Injuries	%	Cases of Injuries	%
Injuries of Lower Extremities							
I.	Knee Injuries	9	29%	8	28%	2	17%
II.	Ankle Injuries	12	39%	3	10%	8	67%
III.	Muscle Injuries	21	18%	5	17%	1	8%
Injuries of Upper Extremities							
I.	Shoulder Injuries	-	-	-	21%	1	8%
II.	Fore Arm Injuries	-	-	-	19%	1	8%
III.	Wrist Injuries	-	-	3	17%	7	10%
IV.	Lower Back Injuries	3	10%	8	28%	-	33%

Upper Back Injuries were not found

Table – 2 : Injuries acquired by the Sports Persons (Female) of Different Game During National Coaching Camp.

SL. NO	SITE OF INJURIES	ATHLETIC S n=13		VOLLEYBALL n=18	
		Cases of Injuries	%	Cases of Injuries	%
Injuries of Lower Extremities					
I.	Knee Injuries	4	26%	-	13%
II.	Ankle Injuries	3	20%	4	23%
III.	Muscle Injuries	7	16%	-	-
Injuries of Upper Extremities					
I.	Shoulder Injuries	-	-	2	23%
II.	Lower Back Injuries	1	7%	3	41%

Fore Arm, Wrist and Upper Back Injuries were not found



Table – 3 : Comparison of Injuries between Male and Female of Athletics and Volleyball

	SITE OF INJURIES	ATHLETICS			VOLLEYBALL		
		Male	Female	% (Diff)	Male	Female	% (Diff)
Injuries of Lower Extremities	Knee Injuries	29%	26%	3	17%	12.5%	4.5
	Ankle Injuries	39%	20%	19	67%	23%	42
	Muscle Injuries	68%	46%	22	8%	-	-
Injuries of Upper Extremities	Shoulder Injuries	-	-	-	8%	19%	11
	Fore Arm Injuries	-	-	-	8%	-	-
	Wrist Injuries	-	-	-	25%	-	-
	Lower Back Injuries	10%	7%	5	33%	24%	23

Among the male subjects ankle injuries were more common in volleyball compare to other two games. The cause may be spot jumping, smashing the ball forcefully, specially in landing are the most significant injury situations. The muscle injuries were found more common in all events of Athletics like sprinting, jumping and throwing as it was shown slightly higher in male than the female. The knee injuries were found to be almost similar in three different games. Among the injuries of upper extremities. low back injuries were Leland maximum in volleyball players and moderate in Weightlifting as in Volleyball while jumping back arch in air and then move forward might be the cause of low back injuries. Similar circumstances were happened to Weightlifters also due to weak back and lifters Lifted more weight could result, of more low back injuries.

**Conclusions:**

From the above view. it may be concluded that the sport injuries are more common and could be reduced by implementing various means.

A more wide spread use of better technique and body control and. more advanced knowledge of sports may be reduce the number and severity of injuries in sport persons.

Mandatory use of protective equipments and protective playing surfaces may be suggested to minimise the sports injuries.

The effective method of physical treatment with series of physiotherapeutic procedures. Sauna bath for rehabilitation of injuries might be accelerate faster recovery and it is necessary as the line of treatment is concerned.

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## Pilates: where the mind and body amalgamate

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### **Abstract**

Pilates is a method of exercising that lengthens and stretches all the major muscle groups in the body in a balanced fashion. Yoga brings the body and mind together and is built on three main elements – exercise, breathing and meditation. Yoga and Pilates both improve muscular and postural strength. In Pilates, muscles are never worked to exhaustion, so there is no sweating or straining, just intense concentration. The Pilates method is taught to suit each person and exercises are regularly re-evaluated to ensure they are appropriate for that person. Due to the individual attention, this method can suit everybody from elite athletes to people with limited mobility, pregnant women and people with low fitness levels.

**Key Words:** Muscle groups, sweating or straining, skill performance.

### **Introduction:**

In the 1920s physical trainer Joseph Pilates introduced Pilates into America as a way to help injured athletes and dancers safely return to exercise and maintain their fitness. Since then, Pilates has been adapted to suit people in the general community. Pilates can be an aerobic and non-aerobic form of exercise. It requires concentration and focus, because you move your body through precise ranges of motion. Pilates lengthens and stretches all the major muscle groups in your body in a balanced fashion. It requires concentration in finding a centre point to control your body through movement. Each exercise has a prescribed placement, rhythm and breathing pattern.

The Pilates "method," as it is now known, is an exercise system focused on improving flexibility, strength, and body awareness, without necessarily building bulk. The method is a series of controlled movements performed on specially designed spring-resistant exercise apparatus (the Reformer, the Cadillac, the Spine Corrector, the Ladder Barrel, and the Wunda Chair) or on the floor (mat work), and the sessions are supervised by specially trained instructors. Pilates is resistance exercise, not aerobic (cardio), although the heart rate will certainly rise for a deconditioned individual. However, it's closer to weight lifting than it is to jogging, biking, or other aerobic activities, and so you should consider it resistance exercise. Two of the key elements of Pilates are core muscle strength and spinal alignment. The core musculature is loosely defined as the spine, abdomen, pelvis, hips, and the muscles that support these structures. Some of the main core muscles are the erector spinae (located in your back along your spine), the internal and external obliques (the sides of your abdomen), the transverse abdominis (located deep in your gut, this muscle pulls your belly button in toward your spine), the rectus abdominis (the "six-pack"), and hip flexors (in your pelvis and upper leg).

During a Pilates session, whether it's on the machines or the floor, your instructor will continuously prompt you to concentrate deeply on your core muscles, as well as on your breath, the contraction of your muscles, and the quality (not quantity) of your movements. These are also key elements of Pilates, and your instructor will emphasize them at every session. The objective is a coordination of mind, body, and spirit, something Joseph Pilates called "contrology." In his first book published in 1945, *Pilates' Return to Life Through Contrology*, the 34 original exercises that Pilates taught to his students are described along with the guiding principles of contrology.

## **Principles**

Philip Friedman and Gail Eisen, two students of Romana Kryzanowska, published the first modern book on Pilates, *The Pilates Method of Physical and Mental Conditioning*, in 1980 and in it they outlined six "principles of Pilates". These have been widely adopted—and adapted—by the wider community. The original six principles were concentration, control, center, flow, precision, and breathing.

**Centering:** Physically bringing the focus to the center of the body, the powerhouse area between the lower ribs and pubic bone. Energetically, Pilates exercises are sourced from center.

**Concentration:** If one brings full attention to the exercise and does it with full commitment, maximum value will be obtained from each movement.

**Control:** Every Pilates exercise is done with complete muscular control. No body part is left to its own devices.

**Precision:** In Pilates, awareness is sustained throughout each movement. There is an appropriate placement, alignment relative to other body parts, and trajectory for each part of the body.

**Breath:** Joseph Pilates emphasized using a very full breath in his exercises. He advocated thinking of the lungs as a bellows -- using them strongly to pump the air fully in and out of the body. Most Pilates exercises coordinate with the breath, and using the breath properly is an integral part of Pilates exercise.

**Flow:** Pilates exercise is done in a flowing manner. Fluidity, grace, and ease are goals applied to all exercises. The energy of an exercise connects all body parts and flows through the body in an even way. Pilates equipment, like the reformer, are very good mirrors of one's flow and concentration as they tend to bang around and suddenly become quite "machine-like" if one loses one's control and flow. The Pilates principles may sound a bit abstract, but the integration of these principles accounts for the balance, grace, and ease that one can experience as a result of practicing Pilates.

## **Forms of Pilates**

The two basic forms of Pilates are:

**Mat-based Pilates** – this is a series of exercises performed on the floor using gravity and your own body weight to provide resistance. The main aim is to condition the deeper, supporting muscles of your body to improve posture, balance and coordination

**Equipment-based Pilates** – this includes specific equipment that works against spring-loaded resistance, including the 'reformer', which is a moveable carriage that you push and pull along its tracks. Some forms of Pilates include weights (such as dumbbells) and other types of small equipment that offer resistance to the muscles.

## **Pilates and general precautions**

Safety is always involved in every aspect of the Pilates work-out, therefore there are precautions, modifications and protocols developed over decades within the knowledge of Pilates itself, that a fully qualified Pilates instructor should know and follow when working-out people with certain conditions. Although Pilates is a low-impact form of exercise, certain people should seek medical advice before embarking on a new program, including:

People who have recently had surgery

Pregnant women

People aged 40 years or more

People with a pre-existing medical condition such as heart disease

People with pre-existing musculoskeletal injuries or disorders

Anyone who has not exercised for a long time

People who are very overweight or obese.

## **Conclusion:**

Thus, Pilates improves mental and physical well-being, increases flexibility, and strengthens muscles through controlled movements done as mat exercises or with equipment to tone and strengthen the body. In addition, pilates increases circulation and helps to sculpt the body and strengthen the body's "core" or "powerhouse" (torso). People who do pilates regularly feel they have better posture, are less prone to injury, and experience better overall health.

## A Study Of Socio-Economic Status Of Tribal Sports In Karnataka

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### Abstract

The purpose of the study was to assess the socio-economic status of tribals of Karnataka, their sports participation. The present research is an exploratory research. The study was conducted on 600 respondents of tribal communities selected from various parts of Karnataka. The variables selected for the study were Socio Economic Status, Tribal Sports Participation and Occasions which they perform sports and physical activities. The Socio-Economic Status Scale constructed by the researcher was used for the tribals. By administering this scale, it was possible to know the educational, occupational, and financial status of the tribals, which was categorized with different weightages. The participation of Tribal sports were collected through survey method (Interview method). The statistical techniques used for analysis were: Descriptive Analysis and Chi-square. This implies that there was no significant relationship between socio-economic status of the tribes and participation in sports and physical activities of the respondents and there was a significant relationship between Socio-economic Status of tribes and occasions which they perform sports and physical activities of the respondents. It is suggested that essential commodities can be provided at an affordable cost to tribals, food supplements, sports modern equipments, grounds, training can be given to tribals for encourage tribal sports and creating awareness about importance of tribal sports.

Keywords : assessment, socio-economic status, tribal sports

### Introduction :

Today sports have become a part and parcel of our culture. Sport has been part of every civilized culture but has been taken seriously by scholars only in recent times. A fact that is surprising, given the amount of money and attention devoted to sport by people of all ages. Sport derives from play activity that is free, separate, uncertain, economically unproductive and governed by rules or make believe. Although sport does not have to be playful, participants enjoy it most when it is. Sports now-a-days has assumed a major influence in the world and in every day life, reflects society, particularly with regard to the character or human and institutional relations and the ideological foundation nationalizing of over increasing numbers of people throughout the world. Every society of the world has sports and games of their own tradition and culture. (Sundarrajan (1979).

Tribal sports are played only in tribal areas called as 'Hadi' or 'Hatti'. Anybody can participate in these games. There are separate games for children, youths, adult men and women. The tribal games are played in public places, streets and in front of houses. These games are played in front of the people. In tribal areas special infrastructure facilities are not available so they use some tools for playing and follow some rules and regulations for playing. In short rural sports give the village people healthy habits and they become more active and healthy. This sports develop both mental and physical and social skills besides the physical fitness. Lifting the stone, Breaking the pot (uttlu), Tug of war, Chinni kolu, Marble playing, Buguri Aata (Top), Kunte Bille, Kolata, Dance, Bull fight, Cock fight and Chowka Bara games and sports are being played in villages.

### Purpose of the Study

The purpose of the study was to assess the socio-economic status of tribals of Karnataka, their sports participation. Further the study was to bring out various types of sports activities played by different tribals at various occasions such as festival time, harvesting time and on special occasions and their culture and habitats.

### Significance of the Study

This study may bring out the status of socio-economic status of tribes and their sports participation in Karnataka in different types of tribes. The results of this study will help the coaches, athletes, and sports psychologists to identify those socio-psychological factors which contribute to sports performance and shall in turn help them to develop training programme on the same line and direction.

Objective of the study :

To know the status tribal sports due to the variations in their different types of socio-economics status

Hypotheses :

It would be hypothesized that there would not be significant difference in the tribal sports of tribes due to the variations in their different types of socio-economic status.

**Methodology :**

Method :

The present research is an exploratory research.

Selection of Sample: The study was conducted on 600 respondents of tribal communities selected from various parts of Karnataka.

Selection of Variables : The variables selected for the study were Socio Economic Status, Tribal Sports Participation and Occasions which they perform sports and physical activities.

Research Tool :

The Socio-Economic Status Scale constructed by the researcher was used for the tribals. By administering this scale, it was possible to know the educational, occupational, and financial status of the tribals, which was categorized with different weightages. The participation of Tribal sports were collected through survey method (Interview method)

Statistical Technique

The statistical techniques used for analysis were: Descriptive Analysis and Chi-square.

**Analysis Of Data**

Table-1: Relationship between socio-economic status of tribes and participation in sports and physical activities.

Participation in Sports and Physical Activities		Socio Economic Status Levels			Total	$\chi^2$ Value
		Low	Moderate	High		
Yes	No.	223	188	20	431	6.183
	%	37.20	31.30	3.30	71.80	
No	No.	84	72	13	169	
	%	14.0	12.0	2.20	28.20	
Total	No.	307	260	33	600	
	%	51.20	43.30	5.50	100.00	

From the table-1 revealed that relationship between socio-economic status of tribes of respondents and their participation in sports and physical activities. This implies that there is no significant relationship between socio-economic status of the of tribes and participation in sports and physical activities of the respondents. The calculated value of  $\chi^2$  (2.183) is less than the table value of  $\chi^2$  (5.99) at  $P \leq 0.05$  level,  $df=2$ . The null hypothesis ( $H_0$ ) Socio-economic status of tribes and participation in sports and physical activities are not independent, is accepted.

Table-4.2: Relationship between Socio-economic Status of tribes and occasions which they perform sports and physical activities

Occasions which they perform sports and physical activities		Socio Economic Status Levels			Total	$\chi^2$ Value
		Low	Moderate	High		
Harvesting	No.	62	64	9	135	31.89
	%	10.30	10.70	1.50	22.50	
Festival	No.	100	72	6	178	
	%	16.70	12.0	1.0	29.70	
Cultural	No.	126	88	7	221	
	%	21.00	14.70	1.20	36.80	
Traditional	No.	19	36	11	66	
	%	3.20	6.0	1.80	11.00	
Total	No.	307	260	33	600	
	%	51.20	43.30	5.50	100.00	

From the table-2 revealed that the relationship Socio-economic Status of tribes and occasions which they perform sports and physical activities.

This implies that there is a significant relationship between Socio-economic Status of tribes and occasions which they perform sports and physical activities of the respondents. The calculated value of  $\chi^2$  (31.89) is greater than the table value of  $\chi^2$  (12.59) at  $P \leq 0.05$  level,  $df=6$ . The null hypothesis ( $H_0$ ) Socio-economic Status of tribes and occasions which they perform sports and physical activities are not independent, is rejected while the alternative hypothesis ( $H_1$ ) "Socio-economic Status of tribes and occasions which they perform sports and physical activities are independent" was accepted. Since chi-square usually indicates statistical significance but does not express the magnitude of relationship, the coefficient of contingency was used in determining the strength of relationship.

The coefficient of calculated contingency was  $C=0.22$ . It was found that socio-economic status as a parameter has significant role on participation in sports and physical activities. This is evident from the illustration of above table-4.10 shows where the highest percentages (36.80%) of respondents have participated in sports and physical activities at cultural (29.70%) of respondents have participated at festival occasions. However, the strength of relationship is rather weak but socio-economic status of the tribes influenced to perform the sports and physical activities at various occasions.

#### **Discussion Of Results :**

Even today, a widely pervasive reality in respect of tribal communities in India is that most of them are socially ignorant, economically weak, geographically isolated, politically indifferent, culturally rich, behaviourally simple, trustworthy and leading their life in the lap of nature. They are facing problems, which force them to lead a life at bare subsistence level. They are in the situation featured with poverty, deprivation, disadvantages which are difficult to be tackled effectively on their own and making the government in particular and society in general to intervene in a planned manner to solve the miseries of tribes and facilitate their development process. A large number of tribal communities continue to be extremely backward and some of them are still in the primitive food gathering stage, whereas some others have shaped up a little in terms of economic and educational advancement.

They have good fitness and they facing low socio economic status and lack of sports facilities to the sports. They needed financial assistance and facilities. It is suggested that essential commodities can be provided at an affordable cost to tribals, food supplements, sports modern equipments, grounds, training can be given to tribals for encourage tribal sports and creating awareness about importance of tribal sports. All the governmental and nongovernmental organizations working for the tribal people could take the significant steps to improve the above-mentioned status of the concerned people and try to involve in the tribal sports.

#### **Conclusion :**

There was a significant relationship between socio-economic status of the of tribes and participation in sports and physical activities of the respondents  $\chi^2$  (6.183). There was a significant relationship between Socio-economic Status of tribes and occasions which they perform sports and physical activities of the respondents  $\chi^2$  (31.89). The highest percentages (36.80%) of respondents have participated in sports and physical activities at cultural (29.70%) of respondents have participated at festival occasions.

#### **Recommendations And Suggestions :**

In the tribal social, cultural and physical activities through organizing fairs and festivals to attract the larger youth population towards the tribal sports activity. The government can seriously think about safeguarding the social cultural and physical activities of the tribes as it is done in the European/Western Countries. To take special measures to protect the vanishing traditional sports of the tribe in India and abroad. To take measures to limit and increase the decreasing interest of the tribal sports among the tribes.

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## Comparison Of Sports And Non-Sports College Male Students Attitude Towards Humanity And The Attitude Towards Parents And Teachers

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### Abstract

In order to accomplish the goal compared the sports and non-sports college male students to each other through the independent variables of attitude towards the humanity and attitude towards the parents and teachers. The total strength of hundred ( $n = 100$ ) randomly selected students were divided into two groups according to the nature of their specialized area of study. Sports students ( $n = 50$ ) were taken from Department of Physical Education and the non-sports students ( $n = 50$ ) were from various other department colleges in Kerala. Sodhi's Attitude Scale (SAS) questionnaire were used as a test item and the independent 't' test was used as a statistical tool for analysing the data. The level of confidence was fixed at 0.05 in all aspects. The result of the study indicating that there was no significant difference ( $p \geq 0.05$ ) in between the sports and non-sports college male students' attitude towards humanity and the attitude towards parents and teachers.

### Introduction

Attitudes have a role in sports and society. Sports is an organized activity when is an individual or group should be involved in such an activity. Sports as assumed could be an activity, which could bring in cordial human relations in its true sense. Sports should be viewed as pleasurable, recreative and harmonious development activity for the growth of an individual or community. The society should accept sport as an organized activity for social harmony and peace sports that basically assured to develop qualities like leadership, adjustment, emotional balance, team spirit etc. The term "Society" mean "an institution working for the common good". In other words, "community of person", an association for some objectives", society is an essential social institution, for the sake of life as well as for the sake of happy life. Human life and society almost go together. Man cannot live as a man, without society, "man becomes man only among men". Solitary life is unbearable to him. Man is biologically and psychologically equipped to live in groups, in society. Society is more than our environment. It is within us as well as round us. He lives in social groups, in communities and in society. Humanity means the fulfilling quality in between the gaps of society and the human healthy life. The term parents' involvement generally refers to parents' participation in the entire educational process (Cooper, Lindsay & Nye, 2000; Stevenson & Baker, 1987). More specifically, it is used to describe parental expectations and beliefs regarding academic achievement, and parental behaviour at home and in school, in order to improve children's educational performance (Epstein, 2001). In the same sense the attitude of students towards the parents and teachers means the interlink relationship between the two social values.

### Materials And Methods

The purpose of the study was to compare the attitude difference between sports and non-sports college male students. The total strength of hundred ( $n = 100$ ) college students were randomly selected as subjects and divided them into two equal groups of sports and non-sports students. Sports students ( $n = 50$ ) were selected from Mahatma Gandhi University, Kerala and the non-sports students ( $n = 50$ ) were from Aquinas college, Edacochin, Kerala. The variables were selected for the present study was the attitude toward humanity and the attitude towards parents and teachers. The questionnaire was used for the study was 'Sodhi's Attitude Scale (SAS)'. The administrator distributed the questionnaire to each student, and explained the questions or statements very clearly. The answer sheet includes three choices 'YES', '?', 'No'. The students were gone through the questions and encircled any one option. They agree with the statement means to encircle the word 'YES' and for disagreeing 'NO'. If they are uncertain or do not want to comment upon it, then encircled '?'.

This was the procedure followed to answer the score sheet. 'Sodhi's Attitude Scale' has a score sheet for each correct response and the invigilator given marks according to it. '+1' was given for each correct answer and '-1' for each wrong answer and '0' for not answered cases. The data were analysed by using the statistical tool of independent 't' test and the level of confidence was fixed at 0.05 in all aspects.

## Results And Discussion

**Table I**

### MEAN, STANDARD DEVIATION AND 't' RATIO ON ATTITUDE TOWARDS HUMANITY AMONG SPORTS AND NON-SPORTS COLLEGE MALE STUDENTS

Group	Mean	SD	't'
Sports Students	5.78	1.02	1.77
Non-sports students	5.40	1.13	

Table –I showed that the mean values of attitude towards humanity among sports and non-sports college male students were 5.78 and 5.40 respectively. The obtained 't' ratio of 1.77 is lesser than the table value 1.98 for df 1 and 98 required for significance at 0.05 levels. It was clear that there was an insignificant difference occurred in attitude towards humanity among sports and non sports college male students.

**Table II**

### MEAN, STANDARD DEVIATION AND 't' RATIO ON ATTITUDE TOWARDS PARENTS AND TEACHERS AMONG SPORTS AND NON-SPORTS COLLEGE MALE STUDENTS

Group	Mean	SD	't'
Sports Students	5.74	1.10	1.29
Non-sports students	5.46	1.05	

Table –II showed that the mean values of attitude towards parents and teachers among sports and non-sports college male students were 5.74 and 5.46 respectively. The obtained 't' ratio of 1.29 is lesser than the table value 1.98 for df 1 and 98 required for significance at 0.05 levels. It was clear that there was an insignificant difference occurred in attitude towards parents and teachers among sports and non sports college male students. Sports performance and the systematic training protocol have no major role in social aspect values of attitude towards humanity and the attitude towards parents and teachers. The result of the present study highlights that the social attitude of sports and non-sports students were approximately equal and involvements in sports have not much influence for the fluctuation of the same. The studies of Ajzen (1992) pointing that the involvement of sports has no that much influence one's social attitude among the school going female students. And also Enns (2002) partially agreed the same result in her psychological study. The literature of the above mentioned studies was the support for the current result.

## Conclusion

Based on the results of the study, it was concluded that there was an insignificant difference between sports and non-sports college male students' attitude towards humanity and the attitude towards parents and teachers. It was also concluded that the sports participation has no much influence towards the attitude change towards the social aspect values.

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## Lead Role of Statistics Analyzing Sports Analysis

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### **Abstract**

Statistics plays an important role in our day to day life; Most of the people may not have an idea how to apply the statistics in sports. When we compare with other countries, India is one of the countries, which is mainly depends on the statistics in sports field of various sectors over a period of time. Recent years have been an upsurge (increase) of interest in statistical ideas and methods in improving the sports analysis. Many applications of statistics are used in sports field especially in hockey, cricket, football, Athletics. Most of the estimation techniques and analysis are used in sports data. Generally many situations of statistics can serve as a guide to make better decisions in sports. Estimation method is one such idea useful for analyzing problems where study of response in different areas mainly emphasized the estimation of absolute response. The performance of a player will be forecast the conversion of the ball into the goal in hockey, number of runs made by a cricketer, and various games are evaluated by using mean, variance, informative title for a bar diagrams, outcomes of a graphs. The article is to identify the interest in audience between field hockey and ice hockey in international level. To find out the difference how much the statistical analysis is useful? In these situations statistics can serve as a guide to analyze the results. The organizer who compile sports statistics as their weapon to analyze the sports results than people who don't use statistics in their sports analysis. Without statistical analysis like t-test, correlation, F-test etc research work including physical education will not be possible.

Keywords: Statistical applications, hockey analysis, parameters

### **Introduction:**

Statistics plays an important role in sports analysis. Statistical Analysis has come a long way, especially in sports e.g. A player performance, tournament structure and the frequency and occurrence of records. The primary role is collection of data, and the secondary role is to identify data of statistical interest at the level of exploratory data analysis. Through statistical data we can improve personal or team performance by looking at the weak areas of other teams. For example in hockey, stats give an accurate picture of a player's performance such as rating or ranking a player. Ex: how statistical analysis is used in hockey game. Field Hockey is one of the most important thing is it's a National Game of India. played in more than 132 countries. Its origins stretch back to ancient times and is said to be the forerunner to all ball & stick games. Its current form dates back in the 1800s and was introduced into the Olympics in 1908. Ice hockey is one of the most popular sport games in the world. Ice hockey is believed to have started in Canada in the 1850s. The first organized game of Ice hockey was played in at Montreal's Victoria Skating Rink. This game presented the use of a hockey puck to keep it within the rink; the goals were goal posts 6 feet apart, and the game was 60 minutes. In 1877, the first ice hockey club, named McGill University Hockey Club, was established followed by the Montreal Victoria organized in 1881.

Purpose of the paper: How procedure of statistical analysis in sports.

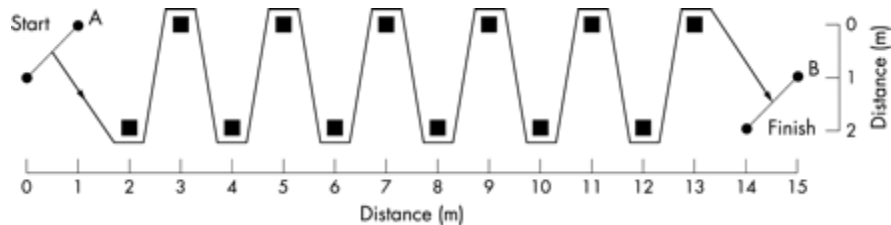
Example:1. Estimate the time of slalom sprint and dribble test performance of players in field hockey.

Example:2. Interest in audience between field hockey and ice hockey

Purpose: The aim of this test is to determine the reliability of two field hockey specific tests

Equipment required: Measuring start and finish lines of A & B marked by twelve cones of at least 30m

Procedure: The protocol consisted of a maximal slalom sprint of 30 m while carrying a hockey stick and a maximal slalom dribble of 30 m while dribbling a hockey ball. Twelve cones were placed in a zigzag pattern of following figure. Start and finish lines (A and B) were marked by two cones.



1. The shuttle sprint and dribble test (Shuttle SDT) and 2. The slalom sprint and dribble test (SlalomSDT). Course of the slalom sprint and dribble test (ShuttleSDT). Solid circles represent cones 8 cm high and solid squares represent cones 35 cm high. The subject began the test with both feet behind line A; then, upon an auditory signal after a 5 second countdown, the subject ran with a hockey stick around the 12 cones finishing over line B. After the run the subject was allowed 5 minutes for recovery, during which he/she walked slowly. The total distance of the course was 29.07 m. The recovery walk was timed so that the subject had returned to line A 10–20 seconds before the start of the next portion.

The protocol of the dribbling portion was identical to the sprinting portion, except that the subject was now dribbling a hockey ball. If the subject lost control of the ball—is, if the subject was more than approximately 2 m away from the cones, the test was repeated. Timing data were measured using a stopwatch. Slalom sprint time, slalom dribble time, and the difference between the slalom times of the dribble and sprint were noted and recorded accurately to within 0.01 seconds. To determine the relation between the times measured, a correlation matrix was calculated for the test scores A three way (time x sprint/dribble x test session) analysis of variance with repeated measures was used to determine differences in times of each sprint/dribble. The Slalom SDT data are expressed as mean (standard deviation, SD). To determine the relation between the times measured, a correlation matrix was calculated for the test scores.

**Example:2 Sample Design:** Descriptive statistics were used for describing and categorizing raw data and for measuring mean, frequency, SD and table drawing. The present study conducted on 50 people, and to identify the interest in audience between field hockey and ice hockey the age of the subject were ranging from 18 to 35 years. The data collected through the structure of questionnaire method for this study. The above scores were subjected to spss consisting of calculation of mean, SD and t-values of the scores as follows

	Mean	SD	T-value
Field hockey	12.6	1.21	9.19
Ice hockey	10.3	1.42	

T-table value 0.05% value at 49 d.f value is 2.009

**Result:** In first example Weak correlations existed between the time scores of the sprints and the dribble sprint ( $r=0.34$ ). In second example The set of audience are not equally interested to watch in field hockey and ice hockey

**Conclusion:** I conclude this article with above fact it proves that statistics place an important role in sports for data analysis with different methods of tests & data of player, ranking of player, by using mean, variance, informative title for a bar diagrams, outcomes of a graphs.

I suggest all physical education teachers & coaches must have adequate knowledge about the statistics to analyze their player's performance & rating.

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## **Obesity control through exercise**

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### **Abstract**

Over the years, we have become lazier as a society and technology is helping us with that. Things as simple as a garage door opener; rather than getting out of our car to open the garage gate, we push a button. The remote control, we no longer have to get up and turn the channel. Electric window in our cars rather than the old style crank we used to use. Elevators and escalators were placed for your convenience so you don't have to climb the stairs. They are health problem that are brought on by having a lack of activity in your life, or just not getting the needed amount of exercise during your day. Diseases such as high cholesterol, obesity, high blood pressure, diabetes, joint disorders, low back problems and blood vessel disease which can also cause a stroke. These are only a few of the problems that begin when we don't exercise on a regular basis. Obesity increases the likelihood of various diseases, mainly heart disease, type 2 diabetes, obstructive sleep apnea, certain types of cancer, and osteoarthritis. Obesity is most commonly caused by a combination of excessive food energy intake, lack of physical activity, and genetic susceptibility, although a few cases are caused primarily by genes, endocrine disorders, medications or psychiatric illness. Evidence to support the view that some obese people eat little yet gain weight due to a slow metabolism is limited; on average obese people have a greater energy expenditure than their thin counterparts due to the energy required to maintain an increased body mass.

### **Introduction**

This is where we start to observe Hypokinetic diseases viewing up in life. A Hypokinetic disease is due to immobility or low amounts of movement during the day. Hypo- meaning low, kinetic- meaning motion or movement, so Hypokinetic meaning low movement. They are health problem that are brought on by having a lack of activity in daily life, or just not getting the required amount of exercise during your day. Diseases such as high cholesterol, obesity, high blood pressure, diabetes, joint disorders, low back problems and blood vessel disease which can also cause a stroke. These are only a few of the problems that begin when we don't exercise on a normal basis.

Some easy technique that can increase your daily movement:-

Take the stairs instead of the elevator/lift.

Park far away from the store rather than trying to find the closest spot.

Take your family on a walk after dinner or morning session.

Walk to simple places that are close, like a friend's home or the market.

Work in the garden or flower bed during the weekend.

Look for ways to include your friends and family in your new activities.

The five stages of fitness:

Cardiovascular Endurance, Muscular Strength, Muscular Endurance, Flexibility, Body Composition

Overweight and obesity are defined as abnormal or excessive fat accumulation that presents a danger to health. A population measure of obesity is the body mass index (BMI), a person's weight (kilograms) divided by the square of his or her height (metres). A person with a BMI of 30 or more is generally considered obese. A person with a BMI equal to or more than 25 is considered overweight. Overweight and obesity are most important risk factors for a number of chronic diseases, including diabetes, cardiovascular diseases and cancer. Once considered a problem only in high income countries, overweight and obesity are now dramatically on the rise in low and middle-income countries, particularly in urban place. Obesity increases the likelihood of various diseases, particularly heart disease, certain types of cancer, type 2 diabetes, obstructive sleep apnoea, and osteoarthritis.

Obesity is most commonly caused by a combination of excessive food energy intake, lack of physical activity, and genetic susceptibility, although a few cases are caused primarily by genes, endocrine disorders or psychiatric illness. Evidence to support the view that some obese people eat little yet increase weight due to a slow metabolism is limited; on average obese people have a greater energy expenditure than their thin counterparts due to the energy required to maintain an increased body mass. Dieting and physical exercise are the support of treatment for obesity. Diet quality can be enhanced by reducing the consumption of energy-dense foods such as those high in sugars and fat, and by increasing the intake of dietary fiber. Anti-obesity drugs may be taken to reduce appetite or inhibit fat absorption together with a proper diet. If diet, exercise and medication are not effective, a gastric balloon may assist with weight loss, or surgery may be performed to decrease abdomen volume and/or bowel length, leading to earlier satiation and reduced ability to absorb nutrients from food.

#### BMI Classification

< 18.5 underweight

18.5–24.9 normal weight, 25.0–29.9 overweight, 30.0–34.9 class I obesity, 35.0–39.9 class II obesity, ≥ 40.0 class III obesity

In children, a healthy weight varies with age and sex. Obesity in children and adolescents is defined not as an absolute number but in relation to a historical normal group, such that obesity is a BMI greater than the 95th percentile.

#### OBESITY AND EXERCISE

Although genetics can play a role in the likelihood that a person will become obese, the condition occurs when the quantity of calories consumed exceeds the quantity of calories expended over a long period of time. Excess calories are stored in the body fat, and with long-term caloric excess, an individual eventually becomes obese. Exercising regularly and eating a healthy diet are ways in which to combat obesity.

#### Benefits Of Regular Exercise

Regular exercise (and proper nutrition) can help reduce body fat as well as protect against chronic diseases associated with obesity

Exercise Improves Your Mood

Exercise Helps Manage Weight

Exercise Promotes Better Sleep

#### Precautions-

1. It is important to gradually increase the intensity and duration of the exercises, while understanding that you will have to build up to longer and more strenuous workouts.
2. Jogging can cause stress on the knees and joints and is generally not recommended for the obese because of risk for injury. Instead, stick to lower impact aerobic activities until you are in better shape.
3. Obese people should be especially careful about heat exhaustion given that they are less able to adapt to temperature changes. Wearing light clothing will allow for better heat exchange while exercising.
4. Hydration is very important for the obese, since they are susceptible to dehydration. Be sure to drink fluids frequently before, during, and after exercise.
5. Slow down or stop if you experience chest pains, shortness of breath, nausea, pain in the neck or jaw, or major muscle or joint pain.

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## “Maharaja had prayed to god for sport”

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### **Abstract:**

There is a meaningful voice or utterance that, it is highly impossible to create the HISTORY without knowing any gist or knowledge regarding the History.” Today we are facing the problem of lacking in apt or suitable supports and the evidences. Because lack of literacy on one hand, and not developed the art and the habit to file the documentations, even though the Thousands of historical events they have undergone among us or in our surroundings. So in this manner the historical events in sports, yet it has pushed into the downward or silence. Chatrapati Shaahu Mahaaraj (1874-1922) belongs to the family of Shivaaji Mahaaraj. He was trusted or given more interest towards the sports, especially in Malla Yuddha (kusti). Actually the Mahaaraj himself was the best Malla. So in this manner he nourished and developed the Malla Yuddha (kusti). Many of the Mallas belongs to the other states were learning in his kingdom. There was a Malla named Devappa Belagali he was also learning in the kingdom of Shaahu Mahaaraj. He was very famous by defeating almost all the Mallas belongs to the south India. Even Mahaaraj was also influenced by him loyally from his skills and prayed to God as to save his life. The motive of this article is nothing but to respect the one that trusted and encouraged the sports and one who achieved the achievement in the sports and also to show such persons to the society in great honor in the light of their achievements, excellence and performance to event in the history for the future research and generation.

**Key words:** Maharaja, Malla Yuddha, Nourisheds, Generation

### **Introduction:**

History extracts the notions and feelings of the persons; also it stimulates and leads towards the achievement. So we must protect the history by studying and acquiring knowledge of it. The history of the sports is not quite different from this. In the desert of the history of the sports there were so many persons they have finished their life in search of oasis, how many people they got oasis in the desert and how many people they fulfilled their thirst by drinking the water from the oasis nobody known. Today it is the necessity to get inspiration by sighting or knowing the achievements of such persons (achievers). Achievements in the field of sports have great importance to show the greatness, ability and dominating competency of a great nation. Today we must respect the person's one who dedicated themselves to the sports, one who enjoyed the sports, one who understood the sports as their life, one who nourished and developed the sports and one who worshiped the sports.

### **Background of the study:**

Today's north Karnataka was called as Mumbai Karnataka. In this region the fight of the Malla's (Kusti) was famous sports (Game). Even though originally Kusti (wrestling) was folk game but now a days it has an international status by adopting strict, particular rules and regulations. In the north Karnataka we can see the Malla's in almost each houses.

Shahu maharaja (1874-1923) of Kolhapur was a worshiper of the wrestling game. He had arrangements to prepare the hundreds of Malla's by providing a valuable and qualitative training. Maharaja built so many training houses (Akhadas). And i think the field of the Kusti (wrestling) created by the king Shahu Maharaja was famous in the national and as well as international level. This is a great evidence to show the love of the Maharaja over the fight of wrestling.

How much care had given by the Shahu Maharaja to the education, employment and other backward communities, So much or equal to that care had been given to the Kusti. The Malla's from various parts of the nations were getting training under the supervision of the king Shahu Maharaja. Chatrapati Shahu maharaja's relations were very close with the emperor of Mudhol.

He belongs to the Mudhol emperor family and he was adopted by the Kolhapur emperors. So often the Maharaja was coming for the hunting towards (via) Raibag to Mudhol and Jamakhandi from Kolhapur. On one occasion Devappa Belagali was introduced. Devappa Belagali(1890-1920): Devappa Belagali belongs to the village Hidakal of the Raibag taluk of Belgaum district of Karnataka (previously Mubmai Karnataka). According to the eldest people of the village of Hidakalla, Devappa Belagali had enormously elongated arms. Even though his achievements had greater significance but due to the lack of historical supportive records of his achievements left behind like the "Nuts behind the leaf". According to the writer of Rayamane, while Shahu Maharaja was on hunting; he saw the Devappa Belagali and impressed by his beautiful and attractive body. Then he carried that bodily sounded person to the Kolhapur. Maharaja provided him a well training in wrestling and made him a talented and skilful Malla. Originally the forefathers of Devappa Belagali were well fighters of Malla. Devappa's grand pa Appajappa's magic or strengths or the skills in wrestling has been well familiarized among the memories of elder people of Hidakal. Even today also on account of Devappa's Birth and death we do not have specific or accurate evidences. We cannot conclude perfectly. But one thing we have to understand that, surely the Devappa Belagali belongs to the Period of Shahu Maharaja. There are no doubts on this opinion.

**Achievements of Devappa Belagali:**

It was not easy to see the wrestling of Devappa Belagali to the common people in 1900-1920 or approximately near to that period. If the people wanted to see the ability of Devappa, it was necessary to pay the money. So it was difficult to the common people to watch the wrestling by paying money. At north of the Karnataka there are some places namely Handigund, Chinchali and Mahalingapur. In these places he was famous by winning many times. The people of the surrounding villages were coming happily to see the Malla of Devappa. They were coming to watch his Kusti by bullock courts. In this manner our elders express their memories fluently

According to the information, He was greatest wrestler in the southern part of our nation. So by knowing this aspect many emperors of this region honored him by providing many gifts. For example turbans jugs etc. One of his present family members Kenchappa Belagali expresses his achievements about all these things with very proud and respect. Many of the well-known people with their own interest came to the village of Devappa Belagali and in that Hidakal they built the temple of Devappa and they noticed the grief with his family. It is clear through the examples and with the statements of oldest people of the village.

Devappa Belagali and Maharaja: Maharaja himself was a wrestler. By knowing Devappa's the wrestling skills, Maharaja had emotional relationship with him. In a critical situation he suffered by the plague at the age of 25<sup>th</sup> he under go with a careful treatment. But in the hand of fate we lose our efforts or lose our own existence. It was not possible to save the life of the Devappa in the form of bird the life of Devappa fled away. According to writers the Maharaja and his Queen tried to save him by the most possible ways. But it was not possible.

According to Bala Gayakwad, Devappa suffering from a communicable disease at the age of 20-25. He was hospitalized, Maharaja announced to provide gold equal to the weight of a person who cure the Devappa (02). Also queen of Kolhapur announced if Devappa cured she will sweep the temple by her stress of hair. It was nothing but the love and affection and caring notion towards the Devappa Belagali (02).

#### **Discussion:**

It is the most complicated to investigate this subject. Because it is almost 100 year back story and it is depended on the secondary sources (statements). So many researchers of this region are discussed about this topic and they are always trying to search for this story.

#### **Conclusion:**

Legends are the sources of historical events. Little bit of truth should be inside that legends. When the researcher researches in a valuable manner, Then only the legends should gain validity. Because of this, today it is necessary to pick out the tiny events of the history. It is our prime duty.

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Photograph of Devappa Belagali in akhadas  
Photograph of his Temple by author- 2014

Statement of Bala Gayak Wad (Kolhapur)-2008 and his family member Kenchappa Belagali (Hidakal).

## Mathematics - Sports Arena and Laying of Play Fields

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### Abstract

Mathematics is one of the oldest and most Fundamental Sciences. It is the gate and key of the Science. Primarily mathematics is a way of thinking, a way of organizing a logical proof. If and when Mathematics is removed, the back-bone of our material civilization would collapse. Mathematics in sports plays a vital role for example Individuals, teams, leagues and their interactions and in different aspects of Sports Judging, Tournament design, Technology, Rankings, Crowd Control ,Finance, Media Ratings, Nutrition, of all of which can be described Mathematically. The intention of this article is to demonstrate how we can use variables, equations and formulas to determine distances, analyzing statistics, investigating speeds etc. When we watch or participate in a sporting event, we often think that Mathematics has nothing to do with what's going on but this article enlightens that Math is alive in the world of Sports. Key words: mathematics, sports, track.

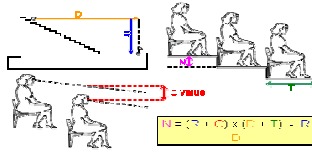
### Introduction:

The ability of early humans to run fast or to run long distances was necessary to survive. Sometimes they ran from wild animals. Sometimes they chased them on for food. Over the centuries humans developed axes and spears and became skilled at throwing. The most skillful athletes became leaders in hunting and war. About 3000 years ago, the cities of ancient Greece held competitions for their best runners, throwers and wrestlers. The greatest events were held near Mount Olympus. There, hundreds of athletes gathered to compete in a pentathlon (5 events, foot race, long jump, javelin throw, discus throw and wrestling). These became popular around the world. More events were developed in running (track), and in jumping and throwing (field). The best – known track and field competition is part of Summer Olympics, held every 4 years. The whole world thrills to see set records in speed, height and distance. Knowing math makes track and field competitions even more exciting because sporting success and failure are predominately measured using numbers, and also because many of the tactics essential to a competitor require logical, analytical thought that is, essentially, math. It may not be math in the form that we did it in school, but the nature of thinking is same. Mathematics is also used in ranking players and determining playoff scenarios, from something as simple as using a matrix to the formulas used to determine a player or team's statistics. Mathematics is very prevalent in sports

### Discussion:

Mathematics in construction of sports arena Architecture will use integration to determine the amount of materials necessary to construct a curved dome over a new sports arena as well as calculate the weight of that dome and determine the type of support structure required. Sightlines: (visual axis- unobstructed line of sight) Sightlines should be such that all spectators have a clear view of the game to the edge of the pitch, unobstructed by persons in front, by roof stanchions or by other obstructions. eg. the audience view from their seat to the play field. The quality of sightlines is defined in 'C' values. This is the vertical measurement from the eye level of the person in front to the sightline from the eye level of the person behind. Calculating 'C' values can be complex and must be undertaken by a competent person. (In this instance, a competent person must understand 'C' values and the wider issues of viewing quality). Care should be taken in considering the average eye level height of a person using a wheelchair, which is 1.155m. The average height of a person standing in front is 1.74m. (Source; New Metric Handbook, see Section 4 Appendix 2). Although sitting positions in wheelchairs vary considerably, NADS recommend that the average position could be measured in line above the centre point of the wheels.

The accepted formula for sightline calculation is as follows: 
$$C = \frac{D(N+R)-R}{D+T}$$



Where:

C = the 'C' value D = the horizontal distance from the eye to the point of focus N = the riser height

R = the vertical height to the point of focus T = the seating row depth

**Mathematics in Construction of tracks and laying of play fields:**

The Track and field events include competition areas for running, walking, jumping and throwing events. These are normally integrated into an arena, the design of which is dictated by the 400m oval track.

**Track:**

Standard running track should not be less than 400m in length and not less than 7.32m in width. The formula for measuring the track length is: **track length = (2\*I) + 2 π r**, where I is length of straight curves. Suppose given that the track length is 400m and the dimension of one of the two variables (length, radius) has been determined, the dimension of the other can be derived using the above formula. The track consists of at least 6 lanes in ordinary track and 8 lanes in standard track. All the lanes should have identical width, a minimum of 1.22 m and a maximum of 1.25 m .

**Radius of curved sections:** We have seen that the straight sections of the track are 84.389 m, long i.e 168.778m of the track is straight and the remaining 231.22m is comprised of the two semicircular sections. As there are two semicircular sections, each of equal radii, the sum of their inside edges (of the inside lanes) is equal to the circumference of a circle that would fit neatly into the inside curves of the track.



On the curved sections Lane 1 has a radius of 36.8m so the circumference is equal to  $2\pi r = 2 * \pi * 36.8$  m = 231.22m and when we add the two straight section of 84.39m we get 400m which is nothing but the length of the inner lane(1st lane). We know that the width of each lane is 1.22m , so the radius of curved section of 2<sup>nd</sup> lane is 36.8 + 1.22 = **38.02 m and** circumference =  $2 \times \pi \times 38.02$  m = 238.89 m, adding the two straight section of 84.39 m we get the 2<sup>nd</sup> lane length as 407.67m which is 7.67m longer than the 1<sup>st</sup> lane. So the athlete on 2<sup>nd</sup> lane should start **7.67 m after Lane 1**. This shifting of starting point is called staggered start. With the staggered start, each athlete runs exactly 400 m. When we speak about track, we often ask, how fast did he/she run? Or questions such as “what was her time?” to answer these kind of questions we use algebra. For example, a 19 yr old male sprinter runs a 100m dash in 13 sec, what is his speed in feet per second? We know distance = (speed)\*(time) therefore to find the speed, first we convert the distance given from meters into feet. 1 m = 3.28084 feet, 100m = 328.084 feet. Now

$$\text{speed} = \frac{\text{distance}}{\text{time}} = \frac{328.084}{13} \text{ feet/sec} = 25.24 \text{ feet/sec.}$$

**Field events:** When jumpers are going for a jump they will measure their runway and their strides.

In high jump we measure the height of the jump and in long jump we measure the distance covered. In javelin, the sector is 28.96°. This angle resulted from constructing the sector lines from the Foul Arc Centre Point through the ends of the runway sidelines.

**Conclusion:** From the study and discussion the following conclusion was drawn there is a significant influence of mathematics in laying sports arena, sports fields and track and field, sightlines of seating arrangements, ranking of players, calculating speed, height and distances.

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## **Analysis Of The Changes On Selected Physical Fitness And Physiological Profiles During Two Years Of Systematic Training Program In RDT Hockey Academy Anantapur**

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### **Abstract**

Field hockey places high demands on a player's aerobic and anaerobic energy systems (Boyle *et al.*, 1994), as the players cover a average distance of 8,000 – 10,000m during a match depending on the playing position (Konarski *et al.*, 2006). Increasing endurance capacity can led to several positive effects on field adaptations such as increased distance covered, intensity of play, number of sprints performed and number of ball involvements. Similarly, increasing parameters of strength and power can influence performance through increasing ability to sprint, jump, hitting, passing and pushing the ball during the game. These variables should be assessed at different time points across the season to evaluate training, monitor fitness and to provide details of any seasonal variation in fitness. The purpose of this study is to examine the changes on selected physical fitness and physiological profiles during two years of periodized training for RDT hockey academy players of different ages. To accomplish the purpose of the study, twenty (20) male hockey players were selected and segregated them into two groups based on their chronological age (10 to 12 years; N=9 and 14 to 16 years; N=11) as juniors and seniors. All the players in respective age categories from RDT Hockey Academy, Anantapur were selected as subjects. Testing took place at four points during the periodized training year for two years (2009-10 & 2010-11); at the beginnings of general preparation (T1), specific preparation (T2), pre competitive phase (T3) and at the beginning of competitive phases of training (T4). There is an existence of age-wise group difference irrespective of training years and different phases on abdominal muscular endurance, arm-shoulder muscular endurance, flexibility, maximum oxygen consumption and resting heart rate. The sprinting speed, explosive power and arm-shoulder muscular endurance of both juniors and seniors improved significantly from phase to phase during the training years 2009-10 and 2010-11 as a result of systematic training. The emphasis for development of speed during periodized hockey training is given in the fourth phase, for the explosive power in the third phase, and for arm-shoulder muscular endurance in the first phase. The improvement on sprinting speed, explosive power and arm-shoulder muscular endurance at each of the training phases of both junior and senior high schoolboys were distinctive between the periodized hockey training years.

### **Introduction:**

Periodisation training is designed to help an athlete reach peak at the right time. It calls for varying the training stimuli (*i.e. training volume, intensity factors, and exercise*) over periods of time to allow for a proper progression in the exercise stress and planned periods of rest (Kraemer *et al.*, 2007). The basic concept of periodisation is that variation in training is needed to optimise both performance and recovery. Field hockey places high demands on a player's aerobic and anaerobic energy systems (Boyle *et al.*, 1994), as the players cover a average distance of 8,000 – 10,000m during a match depending on the playing position (Konarski *et al.*, 2006). Increasing endurance capacity can led to several positive effects on field adaptations such as increased distance covered, intensity of play, number of sprints performed and number of ball involvements.

Similarly, increasing parameters of strength and power can influence performance through increasing ability to sprint, jump, hitting, passing and pushing the ball during the game. These variables should be assessed at different time points across the season to evaluate training, monitor fitness and to provide details of any seasonal variation in fitness. In RDT hockey academy, training for successful competition has become virtually a year-round endeavour. To assist in better preparation, a competitor's year may be divided into phases such as preparatory, competitive and transition respectively. A number of studies have described the effects of seasons or periods of competition, training, detraining and reduced training on aspects of physical fitness. In this study a pioneering attempt made to evaluate changes on selected physical fitness and physiological variables of RDT hockey academy players of different ages.

#### Statement of the Problem:

The purpose of this study is to examine the changes on selected physical fitness and physiological profiles during two years of periodized training for RDT hockey academy players of different ages.

#### Delimitations:

Twenty (20) male hockey players were selected and segregated into two groups as juniors (10 to 12 years; N=9) and seniors (14 to 16 years; N=11) based on their chronological age. These players were selected as subject from RDT Hockey Academy, Anantapur, Andhra Pradesh, India.

The physical fitness and physiological profiles selected as criterion variables for the study were speed, agility, power, abdominal muscular endurance, arm-shoulder muscular endurance, flexibility, aerobic capacity and resting heart rate.

This study is delimited to testing at four points during the periodized training year; at the beginnings of general preparation (T1), at the beginning of specific preparation (T2), at the beginning of pre competitive phase (T3) and at the beginning of competitive phases of training (T4).

#### Limitations:

The heterogeneous character of the subjects in hereditary and environmental factors was considered as limitation.

The disparity prevailed in internal and external factors during testing periods could not be controlled.

The selected subjects played practice matches during evening hours daily which could not be measured which may be a limiting factor. So quantification of training is done during morning conditioning hours during two periodized training years.

In this study, there is no control group that can assess morphological growth and maturation so as to nullify the influence of these factors on the development of fitness, and it is considered as a limitation of the study.

#### Hypotheses

It was hypothesized that significant difference on selected physical fitness and physiological profiles would exist between junior and senior academy players at different phases of training during two periodized years of systematic hockey training.

It was also hypothesized that there would be significant difference on the changes elicited for two periodized years of systematic hockey training on selected physical fitness and physiological profiles at each phase for both junior and senior academy hockey players.

Furthermore, it was hypothesized that there would be significant variation on selected physical fitness and physiological profiles from phase to phase during two periodized training years for both junior and senior academy hockey players.

#### Significance of the Study:

To study the effect of a training program. To motivate the players to train more. To give players objective feedback. To make players more aware of the aims of the training. To evaluate whether a player is ready to compete. To determine the performance level of a player during a rehabilitation period. To plan short- and long-term training programs. To identify the weakness of a player. To determine if the recovery is sufficient.

#### **Methodology - Selection of Subjects:**

The study was proposed to investigate the changes on selected physical fitness and physiological profile during two years of systematic training program in RDT Hockey Academy Anantapur. To accomplish the purpose of the study, twenty (20) male hockey players were selected and segregated them into two groups based on their chronological age (10 to 12 years; N=9 and 14 to 16 years; N=11) as juniors and seniors. All the players in respective age categories from RDT Hockey Academy, Anantapur were selected as subjects. The selected subjects provided written, informed consent to participate in this study. All subjects were familiar with all the testing that took place.

### Selection of Variables and Tests:

The criterion variables selected in this study were physical fitness and physiological variables and the tests. List of Criterion Variables and Tests Used

Variables	Methods/Tests/ Equipment
Physical fitness variables	
1. Speed	30 m sprint
2. Agility	5,10,15 Shuttle run
3. Power	Standing broad jump
4. Abdominal muscular endurance	Sit ups
5. Arm-shoulder muscular endurance	Push ups
6. Flexibility	Bend and Reach
Physiological variables	
1. Aerobic capacity	2.4 kilometer run
2. Resting heart rate	Radial pulse

### Experimentation:

Testing took place at four points during the periodized training year for two years (2009-10 & 2010-11); at the beginnings of general preparation (T1), specific preparation (T2), pre competitive phase (T3) and at the beginning of competitive phases of training (T4).

A schematic representation of the periodized training year of the RDT Hockey Academy

Months during study was carried out	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan
Phases of Training	General preparation			Specific preparation			Pre Competition	Competition
Testing period	T1			T2			T3	T4

The study commenced after the end of the previous competitive season and at the beginning of the general preparation phase of training. The training year was divided into four mesocycles (*general preparation - June to August; specific preparation - September to November; precompetitive phase - December and Competitive phase - January*). The players were trained daily and thus it is possible to quantify exact training loads. All subjects were familiarized with the procedures prior to testing. Sport-specific fitness testing had been used frequently as part of the training programme. The subjects had been instructed to refrain from strenuous exercise for forty-eight hours prior to testing and to avoid food and caffeine intake for two hours preceding the assessments. All subjects completed testing at the same time of day to avoid any circadian rhythm effects (Atkinson & Reilly, 1996).

The selected subjects from RDT hockey academy, Ananthapur, were trained on both sessions (*i.e., morning and evening*). These subjects underwent different types of training during morning and game specific skill and played match during evening. The quantification of training is done during morning hours corresponding to the time the subjects' undergone training.

### Statistical Techniques:

Descriptive statistics were calculated for all variables. Three-way Repeated Measures ANOVA with last two factor repeated design was utilized to determine significant changes on each variable with different phases of training. In which, the first factor denoted two age groups (*10 to 12 and 14 to 16 years*), the second factor referred to testing years (*2009-10 and 2010-11*), and the third factor indicated different phases of training [*T1, T2, T3 and T4 respectively*]. Whenever the 'F' ratio for interaction was significant, simple effect was used as a follow up test. Then, the Scheffé S test was applied as post hoc test to determine the significant paired mean differences. The level of confidence was fixed at 0.05 to test the significance. The data was analysed using SPSS version 11.5.

### Results of the Study:

There is an existence of age-wise group difference irrespective of training years and different phases on abdominal muscular endurance, arm-shoulder muscular endurance, flexibility, maximum oxygen consumption and resting heart rate. The data on speed, agility, power, abdominal muscular endurance, arm-shoulder muscular endurance, flexibility, maximum oxygen consumption and resting heart rate of hockey players differs significantly between two years of systematic hockey training irrespective of age

difference and different phases. The data on speed, agility, power, abdominal muscular endurance, arm-shoulder muscular endurance, flexibility, maximum oxygen consumption and resting heart rate of hockey players fluctuates appreciably among different phases irrespective of age difference and training years. The speed, explosive power and arm-shoulder muscular endurance of both age groups at different phases during two training years were found to be significant. The sprinting speed, explosive power and arm-shoulder muscular endurance of both juniors and seniors improved significantly from phase to phase during the training years 2009-10 and 2010-11 as a result of systematic training. The improvement on sprinting speed, explosive power and arm-shoulder muscular endurance at each of the training phases of both junior and senior high schoolboys were distinctive between the periodized hockey training years.

#### **Recommendations:**

Studies may be conducted with such periodized hockey training to assess the efficacy of linear and undulated training load, and compare its effectiveness. Studies may also be conducted to evaluate the effectiveness of training modalities at different training phases in seclusion for the peak performance at competitive phase. Additional dependent variables should also be investigated to elucidate potential benefits of periodized hockey training in tests specific to hockey. Since, competitive load and its stress upon players were difficult to quantify, further studies may be conducted with control groups in order to adjust the variances because of varying climatic conditions at different phases and competitive experiences in the development of fitness. Periodized hockey training studies like this would require a larger number of players to participate than were available for this thesis. A larger sample of players would ensure a sufficient number of players completed the training and were available for testing, in light of the high subject mortality that could likely occur due to chronic and acute injuries sustained during routine hockey training. To recruit a larger sample of players with a less demanding schedule would likely require study participants of a lower standard than those participated in this study. Since the majority of players train in year round programs and often compete in several leagues (*school, city, and representative programs*) at any given time, their opportunity for periodized programs is limited. It is important to recognise that there is little opportunity for players to improve fitness, even at the junior State level, so fundamental movement skills (*e.g. sprinting and jumping*) and fitness must be developed prior to this level in junior clubs and school physical education and sport programs. Once players reach senior and representative levels, coaches may place such a high emphasis on team and individual skills that little fitness develops in the limited amount of time allocated for physical conditioning in a periodized program. For the purpose of multi-faceted development of fitness for sports performance and health, it is essential to undergo a periodized training protocol that caters to the demands of the team players, athletes and common man. Based on the findings of the study and by reviewing the research literatures, the investigator is in the position to suggest that there is a need to evaluate the predominant characteristics of players of different levels of participation and achievement with hockey skill performance.

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## Strength, Power and Endurance of Muscles in Female and Male Athlete

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### Abstract

About 40 per cent of the body is the skeletal muscle. All the muscles of the body are continually being remodeled to match the functions that are required of them. The strength of a muscle is determined mainly by its size, a man who is well supplied with testosterone or who has enlarged his muscles through an exercise training program will have increased muscle strength. The power of muscle contraction is different from muscle strength, because power is a measure of the total amount of work that the muscle performs in a unit period of time. Muscle power is generally measured in kilogram meters (kg-m) per minute. The final measure of muscle performance is endurance this to a great extent depends on the nutritive support for the muscles. More than anything else on the amount of glycogen that has been stored in the muscle before the period of exercise. A person on a high-Carbohydrate diet stores far more glycogen in muscles than a person on either a mixed diet or a high-fat diet. The endurance level is greatly enhanced by a high-Carbohydrate diet. There are three metabolic systems in understanding the limit of physical activity. The phosphocreatine-creatine system the glycogen-lactic acid system and the aerobic system. Male and Female performances is related to the quantitative differences caused by differences in body size, body composition and the presence or absence of the hormone testosterone. Most of the differences in total muscles performance lie in the extra percentage of the male body that is muscle, caused by endocrine differences.

### Introduction

The performance capabilities of the male verses the female is almost identical. Basic Physiological principles apply, except for quantitative differences caused by differences in body size, body composition, and the presence or absence of the male sex hormone testosterone. Most of the differences in the total muscle performance lies in the extra percentage of the male body that is muscle caused by endocrine differences.

**Strength of a Muscle:** The strength of a muscle is determined mainly by its size. A person who is well supplied with testosterone or who has enlarged his muscles through an exercise training program will have correspondingly increased muscle strength. The final measure of muscle performance is endurance. This, to a great extent, depends on the nutritive support for the muscle. The holding strength of a muscle is about 40 percent greater than the contractile strength.

**Muscle power:** One way to measure leg-muscle power is to look at maximal vertical jumping ability that men jump better than women, men are much bigger in stature and therefore have larger leg muscles. When vertical jumping ability is expressed per unit of body weight, however, male and female jumping performances tend to be absolutely equivalent, even when heavy packs are placed on the backs of the performers. Muscle power is generally measured in kilogram meters (kg-m) per minute.

**Hormone-Testosterone:** Testosterone secreted by the male testes has a powerful *anabolic effect* in causing greatly increased deposition of protein everywhere in the body. Males frequently achieve better performance times than similarly trained females. The key male sex *hormone* - testosterone - promotes the production of *haemoglobin*, the oxygen-carrying protein found inside red blood cells, and testosterone also increases the concentration of red cells in the blood.

**Hormone- Estrogen:** The female sex hormone estrogen accounts for some of the differences between female and male performance. Estrogen increases the deposition of fat in the female. The key female sex hormone, estrogen, has no such effect. As a result, each liter of male blood contains about 150-160 grams of haemoglobin, compared to only 130-140 grams for females. The bottom line is that each litre of male blood can carry about 11 per cent more oxygen than a similar quantity of female blood.

### Muscle Composition

However, recent tests have determined that male and female runners have about the same percentages of 'fast-twitch' and 'slow-twitch' muscle fibres, and other research has documented that 'fuel burning' (actually, the rates of fat and carbohydrate oxidation) is very similar in males and females. Although it is true that non-endurance-trained women tend to burn more fat while running than non-trained men, well-trained male and female athletes break down fat at about the same relative rate during long-distances.

The muscle tissues of men and women are the same, but fibers among individuals can differ depending on genetics and their regular activities. There are three main types of muscle fibers namely Type I fibers, Type IIa fibers and Type IIb fibers. These are also called slow twitch fibers and fast twitch fibers according to an article published in FASEB Journal. Slow twitch fibers are important for endurance and conditioning while fast twitch fibers are important for power. Men usually have more fast twitch muscle fibers compared to women which is why men are stronger and women are more fatigue-resistant.

According to a 1999 study published in Journal of Applied Physiology, men have more skeletal muscle mass compared to women. This is also the reason why men tend to be stronger than women. More muscle mass means more power output. As one gets heavier, however, skeletal muscle composition starts to decline so it is vital to maintain a healthy weight and stay within your ideal to keep strength and muscle mass proportionate. Women can develop their skeletal muscles to increase strength too. One still needs to stay within ideal weight range to keep the strength proportionate with individual size.

A study shown in Experimental Physiology showed that men and women generally respond the same way to training. However, women are more fatigue-resistant because they have more slow twitch fibers and use up hormones like estrogen. Men, on the other hand, can provide higher power output but are less resistant because of the higher volume of fast twitch fibers in their body. Women tend to engage more in sports and cardiovascular training which is why they develop their slow twitch fibers more. Men tend to lift weights and do short but powerful cardiovascular exercises, thereby developing their fast twitch muscle fibers.

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### Muscle Metabolic Systems in Exercise

Special quantitative measures of the activities of three metabolic systems are exceedingly important in understanding the limits of physical activity. These systems are

- 1) The phosphocreatine-creatine system,
- 2) The glycogen-lactic acid system,
- 3) The aerobic system

Metabolic systems that supply energy for Muscle contraction

The phosphocreatine –creatine system	The glycogen-lactic acid system	The aerobic system
Energy transfer to ATP within seconds	1.3 to 1.6 minutes of maximum muscle activity	Oxidation of food stuffs in mitochondria
Muscle power for 8 to 10 sec	Rapid source of Energy	Prolonged athletic activity

The relative maximal rates of power generation in male and female

Metabolic systems	Moles of ATP/min
Phosphocreatine-creatine system	4
Glycogen-lactic acid system	2.5
Aerobic system	1

### Conclusion

Male and Female performances is related to the quantitative differences caused by differences in body size, body composition and the presence or absence of the hormone testosterone. Hence muscular movement is a characteristic of the higher mammals and muscular activity a key role in one's life.

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## **impact of the use of certain devices and tools to assist in the development of physical abilities special skill accuracy correction of high jumping for handball**

**Prof. Dr  
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### **1-1Introduction research and its importance**

Learning the basic skills handball be faster when compared to other sports that play ball, because of the player to use his hands since childhood in basic movements, such as hold, flinging, drag, pivot and others, and the innovation and the use of instruments and means of assisting working on reducing the time and effort to deliver the vocabulary skills to the learner and the trainee, one of the important thing sought by organizers of sporting events to serve the game and its development..

Research objectives

1- Identify the impact of the use of certain devices and tools to assist in the development of physical abilities among private players Specialist National Center for Giftedness sports handball ages (14-16 years) for the sports season 2014 members of the research sample.2- Identify the impact of the use of certain devices and tools to assist in the development of skill accuracy correction of high jump at the players of the National Center for Giftedness Specialist sports handball members of the research sample. 3-Identify the differences between the tests before and after the special physical variables and the skill of accuracy correction of jumping high among members of the experimental group and the control group members of the research sample.4-Identify the differences between the posterior tests before between the experimental group and the control group in the research variables under study.

1-4-Hypotheses-the researcher guess-

1-4-There is a positive effect of the use of certain devices and tools to assist in the development of physical abilities and skill for the correction of the high jump at the players of the National Center for Giftedness sports handball ages (14-16 years) for the sports season 2014 members of the research sample3-Research methodology and procedures, field

3-1-Research Methodology

And the use of the experimental method in a manner experimental and control groups equal to the suitability of the nature of the problem to get the information and the results of a sound and accurate "and experimentation, a deliberate change and tuned to the conditions specified for the accident and note what changes resulting in the same incident and interpretation

And that the design of experimental and control groups with pre and post tests to measure any two groups before and after the experiment.

3-2-Community and the research sample

Sample was selected search way intentional class youngsters aged ( 14-16 years) within the National Center Specialist for the Gifted handball for the sports season ( 2014 ) 's (50) player out of (60) players by up to 0.833 % were divided way randomized into two equal groups ( control group and experimental ) for each group (21) as a player and a rate of 0.42% were excluded (8) players for the purpose of conducting the experiment exploratory and we enter the variable demo which used special exercises on according to some of the tools and equipment to help the experimental group , while the left members of the control group to train with their handlers note that the main part of the curriculum will be agreed upon between the trainers and researchers with different means and exercises used by the researchers placed.

3-3-Methods, tools and equipment used in the search

Search Tools: It is "the means by which the researcher can collect data and problem-solving to achieve the objectives of the research, whatever those tools.

Tools and assistive devices that have been the preparation and implementation of exercise on your accordingly:-

1-Balls hands of legal type ((kempa)) of different sizes and weights, especially for the development of sample performance technical skill correction.

2- Device Development Movement wrist movements in several different directions marcy))

3-Rubber ropes of different lengths fists hand movement for the development of the technical performance of the Ba straighten arms to prove the stairs gymnastics on the wall or colleague.

4-Glove game gymnastics for men to talk to the development of new movements, jumping to the skill of the correction of the high jump.

5-Wooden chairs different heights for the development of the movement of the two men jump to correction of the high jump.

6-Balls medical different weights and oceans for the development of high-performance technical skill for the correction of high jumping.

7-Trampoline to jump to the development of the movement to jump high.

3-4-Determine the capacity and the tests used in the research

Name of test	changes	numbers
Test based front payment status for a period of (10) seconds	The ability of speed-strength of the arms	1
Test Partridge (20) seconds for maximum distance with the man on the switch limits Stadium Handball	The ability of speed-strength of two men	2
Measuring accuracy correction of high jump	The accuracy of the correction of high jump	3

Test:- "is a measure of an individual's ability to perform certain work according to the guidelines and scientific formulas minutes) and it was based on the researchers used the tests described below,

3-4-1-Tests for special physical capabilities with handball players.3-4-2-The scientific basis for the tests used in the research

3-5-Exploratory experiment

It is "an initial pilot study carried out by the researcher on a small sample before carrying out his research with the aim of testing research methods and tools"

3-5-1-The first exploratory experiment

It was an experiment exploratory first for the purpose of knowing the mechanism for implementing the tests adopted to search on 14/02/2014 Friday according to the time domain of research and on a sample of ((8 players from the research community of 50 player)) and the amount of increase of 0.16% were excluded this sample from the research community.

3-7-Tribal tests to search

The researchers set a date testing Tribal among members of the research sample experimental and control groups on Monday, which falls on 17/18/19/2/2014 at four in the afternoon on according to the special period in the field of research temporal, and then do the researchers have installed all the right conditions and the right to conduct these tests and recording the data and two experimental and control groups, and has over three days and a dedicated cadre assistant under the supervision of researchers in the inner hall at the National Center for the care of the talent in sports Handball / Baghdad / Zayouna.

3-8-The application of the special vocabulary exercises according to the means and the equipment and tools to helpThe implementation and application of field experience in of Friday 22/05/2014 on according to field temporal your experience key members of the experimental group and by four units per week and by ((32 units over 8 weeks)) and a time ranging from 20 to 40 minutes to the length of the application of



field experience which is the main part of the unit training along the specified period. In addition the method of determining and training methods adopted to achieve the objectives of the research hypotheses set a special table was set with all details of the times own experience in the field.

3-9-Posteriori tests used to search: After implementing the field experience and apply vocabulary exercises Applied to sample individuals and end on time for the field of temporal own was implemented posttests to search for members of the experimental group and the control group at day 16,17,18 Thursday, Friday and Saturday / 5/2014 and over the course of three days and taking into account implement the same before testing conditions. 3-10-Statistical methods used to search: Has been the use of means and methods and statistical laws that are on the program in the bag ready Statistical Social Sciences ((spss)) and will apply the laws to serve the search. 3-11-View and analyze and discuss the results of field: After making steps for the implementation of testing for research, the researchers managed to get the raw scores for the tests and that "access to the raw scores is not difficult, but the difficulty lies in balancing these grades total vocabulary test and that the different means of measurement of the test to another. The researchers have arranged the results of the research and treatment of this data statistically and then put this data in the form of tables, illustrations. 4-View and analyze and discuss the results of the post tests and a posteriori tests of the physical capabilities of the special skill and accuracy correction of the high jump between the experimental group and the control group. 4-3-View and analyze and discuss the results of the tests before and after the tests own physical abilities and skill accuracy correction of jumping high among members of the experimental group

When the level of significance 0,05	Value T Tabulated	Value T Calculated	posttest			pretest		Statistical treatments tests	ت
			X	-	SD	X+	-SD		
Moral	2.09	5.669	1.013	18.25		1.490	14.50	Test based front with 10 seconds	1
Moral	2.09	6.812	62.45	1.066		55.30	1.335	Partridge test two men with 20 seconds	2
Moral	2.09	3.563	1.032	9.50		6.25	1.48	The accuracy of the correction of high jump	3

When the degree of freedom (n - 1 equal to 21-1 = 20) and at the level of significance (0.05)  
 4-4-View and analyze and discuss the results of the tests before and after the tests to own physical abilities and skill accuracy correction of jumping high among members of the control group.

When the level of significance 0,05	Value T Tabulated	Value T Calculated	posttest		Pretest		Statistical treatments tests
			X+	-SD	X+	-SD	
moral	2.09	3.419	17.25	1.078	13.50	1.356	Test based front with 10 seconds
Non moral	2.09	1.987	56.60	1.234	54.70	1.277	Partridge test two men with 20 seconds
Non moral	2.09	1.870	1.410	6.25	5.50	1.422	The accuracy of the correction of high jump

When the degree of freedom (n - 1 equal to 21-1 = 20) and at the level of significance (0.05)

## 5-Conclusions and Recommendations

### Conclusions:-

After the results were treated in the laws of statistical processing extract them appropriate outcome of the objectives and hypotheses identified by researchers researchers concluded the following conclusions:-

1-of Applied exercises were carried out in accordance with the application to the hardware and tools by the sample positive influence in the development of physical abilities own which is reflected in the performance of the skill of accuracy correction of high jumping.2-That the process of organizing according to a method of exercise and careful programmer and entrepreneur with a vocabulary designed for coaches working helped the emergence of differences between pre and post tests and in favor of a posteriori to the experimental group and all the variables under consideration.3-To identify duplicates of the exercises according to the modules that have been implemented by the sample and have contributed to these differences between the experimental group and the control group accurate appearance.4-Exercise contributed for the development of the capabilities of the players of the arms and legs clearly the results of the tests posteriori.5-Programming the importance of exercise in accordance with the scientific method correctly determine the appropriate period within the preparation phase or stage of your numbers for the competition and during the competition is very necessary to develop the capacity.6- Emergence of obvious importance to determine which group exercise care with special physical capabilities handball players in the overall training curriculum at the level of these samples.

### 5-2-recommendations:-

After that was determined according to the most important conclusions on the results that came out of the researchers recommend their search this group 's recommendations public and private research , including:-

1- Attention by all trainers working in the field of competence of handball in the training and preparation of the players and that includes Mfirdataathm special exercises according to the devices and utilities because of their importance and that we got to this study.2-contain training curricula own team vocabulary both capabilities kinetic and physical , including exercises speed-strength movements , arms and legs because of their importance in the development and reflection developed on the movements of defense and attack , including the skills of the correction of jumping high and this is what Zhryva discussed this.3-determine an appropriate period for the development of capacity because these variables have a positive effect was clearly evident in this research.4-increased occurrences of Applied exercise correctly according to the hardware and utilities and calculate grades density between duplicates and identify Cdd appropriate.5-diversify the exercises and the use of different forms of exercise and a new search for the thrill and to get away from the boredom of application exercises and one in the overall curriculum.6-make a research and other studies take these variables that have been applied in this research and apply them to other samples to see the results you get these samples and conduct a comparative study.

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## **A Comparative Study of Agility and Speed among Middle Weight Boxers and Light Weight Boxers of Telangana in India**

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### **Abstract**

Boxing in the combat sport were the two boxers – box each other with their both hand knuckles that is firsts, the boxers were 10 ounce gloves in a ring square that is 24 feet, height 3-4 feet, inside rope to rope is 20 feet inside with 4 ropes. The Purpose of the study is to find the Speed and agility among Middle Weight Boxers and Light Weight Boxers of Telangana in India. The Sample for the Study consists of 15 Middle Weight Boxers and 15 Light Weight Boxers of Telangana between the age group of 18-20 Years. To assess the speed the 50 M Run Test and to assess the agility the shuttle runs Test is conducted by the Technical Officials. The results of the study shows that the light weight boxers are good in speed and agility compare to middle weight boxers. It is concluded that the light weight boxers are good in speed and agility compare to middle weight boxers because they are more agile and speed.This type of Study is useful to Coaches to prepare the conditioning program to build their motor abilities for the future performance along with the skills in boxing.

Key words: Boxers,conditioning program, skills etc

### **Introduction**

Boxing in the combat sport were the two boxers – box each other with their both hand knuckles that is firsts, the boxers were 10 ounce gloves in a ring square that is 24 feet, height 3-4 feet, inside rope to rope is 20 feet inside with 4 ropes. The both boxers-box when a referee is fully control, without any infringements. One bout 3 consist of rounds, 3 minutes one round and 1 minute interval between the three rounds. The boxers throws powerful, legitimate punches on target that is from face to wrest belt above the shash. A good bout between two well matched boxers is a violent is a vast, skillful, speed with good foot work, The three or five Judges score in electronic gadgets that is computers scoring. The best boxer should be very strong quick, highly skillful with a good foot work and with excellent physical condition with coverage in spite of pain and exhaustion.

**Attacking boxing skills** – each boxer develops an attacking style, for example some boxers rely on speed and others on strength. One the basic stance second the straight right punch third the uppercut. Four leftjab, and five is left hook.

**Defence boxing skills** – In defence boxing a boxer use number of techniques to avoid his opponents punches or make them ineffective, One clinching, two ducking, third slipping, four parrying and the five blocking



## Methodology:

The sample for the present study consists of 15 male middle weight Boxers and 15 light weight boxers between the age group of 18-20 Years of Hyderabad District in Telangana. To assess the speed and Agility the 50 M Run and Shuttle Run is conducted with the help of qualified Technical officials of Athletics

## Results and Discussion:

Table: I Comparison of **Agility** among Middle Weight Boxer's and Light Weight Boxer's in Shuttle Run

Agility	N	Mean	Std.Deviation	t	Sig.
Middle Weight Boxer's group	15	13.79	1.11	1.79	0.083
Light Weight Boxer's group	15	13.15	0.823		

In Table –I the Mean Values of Middle Weight Boxers in Shuttle Run is 13.79 and Light weight boxers is 13.15. Hence light weight boxers are having good agility compare to middle weight boxers.

Table II: Comparison of **Speed** among Middle Weight Boxer's and Light Weight Boxer's in 50 M Run

Speed	N	Mean	Std.Deviation	t	Sig.
Middle Weight Boxer's group	15	8.65	0.702	1.39	0.174
Light Weight Boxer's group	15	8.33	0.557		

In Table –II the Mean Values of Middle Weight Boxers is 8.65 and Light weight boxers is 8.33. Hence light weight boxers are having good speed compare to middle weight boxers.

## Conclusion:

1. It is concluded that light weight boxers are having better speed and agility than middle weight boxers
2. It is concluded that boxers require more speed to hit the opponents and light weight boxers are more agile and speed play compare to middle weight boxers.
3. Conditioning Program plays a major role for the development of motor qualities and skills among the boxers.
4. Combat Sports require good physical training to excel in performance.

## Recommendations:

1. Similar studies can be conducted on other Events and among females.
2. This study also helps the physical educators and coaches to improve their training regime to excel in Boxing and other combat sports.

## References:

Wikipedia – Boxing [www.topendsports.com](http://www.topendsports.com)

## **Analytical study on motor fitness of rural and urban high school students of Medak district of Telangana State**

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### **Abstract**

Fitness is which characterizes the degree to which a person is able to function efficiently. Fitness is an individual matter. It implies the ability of each person to live most efficiently with mental, physical, emotional, moral and spiritual components of fitness. Motor fitness is a term that describes an athlete's ability to perform effectively during sports or other physical activity. Motor Fitness refers to the capability of an athlete to perform effectively at their particular sport. The purpose of the study to compare the rural and urban high school boys of Medak district. A total of 120 boys were selected among these 60 from rural high schools, 60 from urban high schools were randomly selected as subjects for this study. The selected four motor fitness variables were i) speed, ii) shoulder strength iii) abdominal strength and iv) explosive power. To measure speed 50mtrs dash, shoulder strength flexed arm hang, abdominal strength bent knee sit - ups, explosive power standing broad jump were used. The statistical techniques like mean, S.D. and t - test were used to analyse the data. From the results it was concluded that rural boys are significantly differ from urban boys in shoulder girdle strength, abdominal strength, and explosive power. And in speed urban high school boys are significantly differ from rural high school boys. This is because of their life style they have adopted themselves might be the reason.

Key words: Fitness, Motor Fitness

### **Introduction:**

Fitness is which characterizes the degree to which a person is able to function efficiently. Fitness is an individual matter. It implies the ability of each person to live most efficiently with mental, physical, emotional, moral and spiritual components of fitness. Motor fitness is a term that describes an athlete's ability to perform effectively during sports or other physical activity. Motor Fitness refers to the capability of an athlete to perform effectively at their particular sport.

Purpose: The purpose of the study was to compare the motor fitness of rural and urban high school boys of medak district.

Objectives of the study:

1. To examine the speed between rural and urban high school boys of medak district.
2. To find out the endurance of rural and urban high school boys of medak district.
3. To analyse the explosive power of rural and urban boys of medak district.

Hypothesis of the study:

1. There might not be any significant difference in ' speed' between rural and urban high school boys of medak district.
2. There might not be any significant difference in endurance between rural and urban high school boys of medak district.
3. There might not be any significant difference in explosive strength between rural and urban high school boys of medak district.

Methodology: A total of 100 students 50 from rural high school and 50 from urban high school boys (Age group 14yrs to 17years) were randomly selected as subjects for this study. The selected motor fitness variables were speed, endurance and explosive power. To measure speed 50mts dash, endurance 600mtrs run and explosive power standing broad jump tests were used. The data collected were analyzed with statistical 't' technique.

Table -I showing the mean value, standard deviation, t score and p value between rural and urban high school boys in relation to 'speed'

Sl.No	Name of the subjects	Number of Subjects	Mean $\pm$ S.D	t value	P value
1	Rural high school boys	50	5.24 $\pm$ 1.011		0.000
2	Urban high school boys	50	4.32 $\pm$ 1.0121	1.3420	

\*Significant at 0.005 level

Table -II showing the mean value, standard deviation, t score and p value between rural and urban high school boys in relation to 'endurance'

Sl.No	Name of the subjects	Number of Subjects	Mean $\pm$ S.D	t value	P value
1	Rural high school boys	50	2.12 $\pm$ 0.3233		0.001
2	Urban high school boys	50	2.00 $\pm$ 0.3443	1.2034	

\*Significant at 0.005 level

Table -II I showing the mean value, standard deviation, t score and p value between rural and urban high school boys in relation to 'explosive strength'

Sl.No	Name of the subjects	Number of Subjects	Mean $\pm$ S.D	t value	P value
1	Rural high school boys	50	1.23 $\pm$ 0.2442		0.002
2	Urban high school boys	50	1.12 $\pm$ 0.1320	2.4399	

\*Significant at 0.005 level

#### Conclusions:

Finally concluded that motor fitness have yielded that rural boys are significantly differ from urban boys in speed, endurance and explosive power. Urban high school boys are significantly differ from rural high school boys because of their living life style. They have adopted themselves by the nature.

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## Attitude of B.Ed., students towards Games and Sports

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### Abstract:

*The purpose of the study is to find out the attitude of B.Ed., students towards Games and Sports. Games and Sports contribute towards social, mental, emotional and intellectual development. Vigorous activity is basically meant for increasing the efficiency of the body and human being need to be fit efficiently throughout their lives. To take part in games and sports activities one can develop his health definitely. A healthy society needs the healthy individual. The aim of the present investigation is to study the attitude of the B.Ed., students towards Games and Sports. The B.Ed., students were shown high and low attitude towards Games and Sports.. In other words the main goal of this research is to ascertain the role of the favourable attitude towards Games and Sports. The study found that the B.Ed., students are keenly interested in games and sports.*

*Keywords: Attitude, emotional, intellectual development, B.Ed., students, Games and Sports*

### Introduction:

Today modern life is facing different types of stress - mental, social, economic, emotional and intellectual. Dr. Robert Milliken a Nobel Prize winner in science, has rightly said: "The age of invention brought the age of discovery; the age of discovery brought the age of power; the age of power has brought the age of leisure with its many unsolved problems". In this context, physical Education and Games and Sports can be of great service to our society by developing healthful and balance living. Education through its Games and Sports programme has the best opportunity and the best environment to teach values along with the development of necessary self - image and self - concept. The world of games and sports is dramatic and provides an impressionable climate along with innumerable opportunities to initiate action, take risks, and accept responsibility and consequences. All these opportunities act as the building block for character development. Sports and Physical fitness are inter - related terms.

One of the important aims of every sports programme should be to develop physical fitness of the participants. In the narrow understanding, Games and Sports is a competitive activity. In other words, the activity which has been historically formed in the sphere of physical culture as competitions which aim to identify, compare and develop certain human abilities. Self understanding is a basic to an integrated personality, sports gives a clear estimate of more than one dimension of the individual. Attitude of students is an important area for research. It is an important segment of an individual's readiness. Status has an effect on the individual's reaction to a situation may be further stated that attitudes are learned or acquired they may be influenced by teaching. Attitude has environmental effects also. Individual's attitude is guided and guarded by his parents' views, well wishers' views and by some social factors. Home and School are two unique institutions to form right attitude towards and object. Games and Sports contribute towards social, mental, emotional and intellectual development. Vigorous activity is basically meant for increasing the efficiency of the body and human being need to be fit efficiently throughout their lives. To take part in games and sports activities one can develop his health definitely. A healthy society needs the healthy individual.

Objectives of the study:

To find out the attitude of students towards Games and Sports of B.Ed., students

To find out the High attitude and Low attitude towards Games and Sports of B.Ed., students

Hypothesis of the study:

1. There might be attitude of students towards Games and Sports of B.Ed., students

There might be High attitude and Low attitude towards Games and Sports of B.Ed., students

**Method:**

The idea behind this investigation is to study the opinion of the students towards games and sports. For this investigation an "Attitude Inventory" was prepared on the basis of "Likert Technique". This attitude inventory was prepared after consultation with this study and with other three experts in the field. As per opinion of the experts the investigator modified the inventory. While preparing attitude inventory as questionnaire, different factors that affect the attitude were consider. It was not possible to consider almost all factors that may affect attitude. Some important factors and factors related to students" attitude were considered for the investigation. The attitude inventory contains two parts as section "A" and Section "B". The first part was prepared for the preliminary information of the subjects. It contains 14 questions based on objective type questions. It was a short questionnaire form. The purpose of this part was to collect the information related to attitude. It was collected the followings:

The attitude inventory prepared for this study had 50 statements. A score of 200 points (50x4) was the highest possible in all statements were related in the strongly agree category. If all statements were rated with a scale value of zero means strongly disagree, the total score would be zero. The subject"s total score was sum of the values received on each statement. The 100 male students and 80 female students were selected from 4 B.Ed., colleges. 25% of the total number (N=45) were selected from the highest category and another 25% (N=45) from the lowest category. Calculation of the „t“ for evaluating the difference in the mean responses for an attitude by high and low group.

**Results:**

Table-1 "Showing Attitude Scores of total sample"

Class Interval	"Frequencies"		
	Male	Female	Total
190-194	2	0	2
185-189	3	1	4
180-184	1	1	2
175-179	5	1	6
170-174	6	1	7
165-169	9	2	11
160-164	8	9	17
155-159	21	14	35
150-154	22	24	46
145-149	5	10	15
140-144	7	9	16
135-139	6	5	11
130-134	4	3	7
125-129	1	0	1
N=	100	80	180

Table-2:"Showing Comparative values of Mean, Variance, S.D., Standard Error of High and Low Group of each statement"

Statements	High Group				Low Group			
	Variance	S.D	S.E	Mean	Variance	S.D	S.E	Mean
Statement-1	3.822	0.605	0.387	0.058	3.356	0.436	0.484	0.72
Statement-2	3.533	0.494	0.694	0.104	2.933	0.326	1.095	0.163
Statement-3	3.6	0.518	0.572	0.087	3.089	0.362	0.793	0.118
Statement-4	3.022	0.346	1.076	0.161	2.444	0.25	1.078	0.169
Statement-5	3.511	0.487	1.1	0.164	3.044	0.351	0.952	0.142
Statement-6	3.067	0.357	1.405	0.209	2.622	0.271	1.23	0.183
Statement-7	3.8	0.598	0.405	0.06	3.422	0.457	0.965	0.144
Statement-8	3.556	0.502	0.725	0.108	3.088	0.361	0.949	0.142
Statement-9	3.378	0.443	0.834	0.124	2.822	0.304	1.077	0.15
Statement-10	3.489	0.479	0.968	0.144	3.2	0.391	0.757	0.113
Statement-11	3.711	0.56	0.506	0.075	3.267	0.41	0.72	0.107



Statement-12	3.467	0.472	0.815	0.121	2.978	0.336	0.77	0.115
Statement-13	3.733	0.569	0.538	0.081	3.311	0.423	0.596	0.089
Statement-14	2.867	0.313	1.16	0.173	2.244	0.234	1.368	0.204
Statement-15	3.756	0.587	0.435	0.065	3.2	0.391	0.726	0.108
Statement-16	3.644	0.535	0.484	0.072	3.068	0.357	0.837	0.124
Statement-17	3.578	0.51	0.543	0.081	3.222	0.393	0.704	0.105
Statement-18	3.756	0.578	0.434	0.065	3.378	0.443	0.936	0.14
Statement-19	3.8	0.596	0.405	0.06	3.358	0.436	0.857	0.128
Statement-20	3.422	0.457	0.965	0.144	2.911	0.322	1.104	0.165
Statement-21	3.911	0.642	0.288	0.043	3.533	0.494	0.505	0.075
Statement-22	3.711	0.56	0.506	0.075	3.2	0.391	0.891	0.133
Statement-23	3.467	0.472	0.815	0.121	3.067	0.357	1.009	0.15
Statement-24	3.756	0.578	0.435	0.065	3.267	0.41	0.915	0.136
Statement-25	3.867	0.623	0.344	0.051	3.311	0.422	0.9	0.134
Statement-26	3.867	0.487	0.434	0.051	3.311	0.422	0.468	0.07
Statement-27	3.511	0.526	0.869	0.13	3.089	0.362	0.793	0.118
Statement-28	3.622	0.464	0.684	0.102	3.244	0.407	0.732	0.108
Statement-29	3.44	0.569	0.664	0.099	3.067	0.357	1.053	0.157
Statement-30	3.733	0.605	0.495	0.073	3.222	0.397	0.902	0.134
Statement-31	3.822	0.51	0.442	0.066	3.4	0.45	0.65	0.097
Statement-32	3.578	0.416	0.783	0.117	3.178	0.385	0.984	0.147
Statement-33	3.289	0.605	1.058	0.158	2.844	0.308	1.127	0.168
Statement-34	3.822	0.543	0.387	0.058	3.4	0.45	0.58	0.087
Statement-35	3.667	0.487	0.564	0.084	3.267	0.41	0.678	0.091
Statement-36	3.511	0.586	0.656	0.098	3.067	0.357	0.441	0.066
Statement-37	3.778	0.535	0.479	0.07	3.333	0.429	0.739	0.11
Statement-38	3.644	0.586	0.399	0.059	3.2	0.319	0.332	0.049
Statement-39	3.778	0.51	0.471	0.07	3.222	0.429	0.739	0.11
Statement-40	3.578	0.543	0.657	0.098	3.067	0.357	0.524	0.158
Statement-41	3.667	0.557	0.564	0.084	3.156	0.379	1.058	0.123
Statement-42	3.711	0.557	0.589	0.08	3.244	0.407	0.825	0.109
Statement-43	3.444	0.464	0.967	0.144	2.867	0.313	0.728	0.154
Statement-44	3.756	0.578	0.435	0.065	3.267	0.41	0.544	0.133
Statement-45	3.723	0.569	0.539	0.08	3.244	0.407	1.038	0.109
Statement-46	3.733	0.569	0.412	0.064	3.2	0.391	0.89	0.099
Statement-47	3.733	0.569	0.34	0.065	3.311	0.423	0.728	0.104
Statement-48	3.556	0.502	0.693	0.103	3.044	0.351	0.663	0.146
Statement-49	3.822	0.605	0.49	0.073	3.244	0.407	0.697	0.109
Statement-50	3.6	0.135	0.72	0.107	3.067	0.357	0.976	0.112

### Discussion:

After the analysis of data of whole sample, it is observed that the whole sample (N = 180 ) has shown highgroup and low group variances towards games and sports. It clearly indicates that the B.Ed., students have favourable attitude towards games and sports. The study indicates that the B.Ed., students had a favourable attitude towards games and sports. The male students had more favourable attitude towards game and sports than that of the female students.

Conclusion: The study also revealed that the athlete students had more favourable attitude towards games and sports than that of the non-athlete students. Majority of the B.Ed., Students were athletes. They played any games or sports events regularly. The Boys students of B.Ed., have more favourable attitude towards games and sports than that of the girls" students. Undoubtedly the girls B.Ed., students are also had favourable attitude towards games and sports.

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## Physical Education And Sports Programmes In Schools Is Total Health System For Healthy Life Style

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### **Introduction**

Physical Education is an indispensable of education as it contributes to the health, to the emotional and mental development of an individual. In the modern era we cannot undermine the importance of relationship between general education and physical education. These are complementary and supplementary to each other. Their aims and objectives lead towards common goal—the all round development of personality, enabling the man to lead enriched, abundant and harmonious life. Therefore, physical education is an integral part of general education and their relationship cannot be ignored. They are inter-related and inter-dependent, and constitute an indivisible whole. Physical Education as an integral part of all educational programmes, deserves to be appreciated. The outcomes of these programmes extend much beyond the horizons of keeping fit and healthy. They become positive inputs for the development of multiuse proficiencies, neuro-muscular skills, values and attitudes, which have great potential as foundations for success in life. Activities like rhythmic, expressive movements, dance, mass-drill, flag salutation and singing of the National Anthem do in the course of celebrations of national days and other events certainly go a long way in strengthening national integration. It helps students to realize and appreciate the contributions of these activities in physical, mental, moral, social and emotional development.

### **Significance of the Study:**

The study is to determine the physical education and sports programmes in schools is total health system for healthy life style.

The Main Objectives of Physical Education Programmes are:

To develop the concept of good health, physical fitness, grace and poise.

To develop healthy habits relating to sleep, food exercise and hygiene.

To develop neuro-muscular coordination(bodily skills)

To develop attitudes and values of cooperation, sports manliness, fair play and team spirit.

To develop traits of character such as discipline, courage, self- confidence and a sense of responsibility.

To develop the ability for making an enjoyable use of leisure.

To promote talent in sports and to achieve international standards.

**Free Movements:** Movements like walking, running, jumping, throwing are a part of movements education. For free movements and for exploration some improvised gadgets like hoops, old tyres, old boxes, old chairs, obstacles (prepared or existing) could be used. These activities facilitate free exploration, contributes to poise and body coordination and above all provide fun and enjoyment.

**Rhythmic:** Dance and action songs come under this category. Dance is an excellent medium of free healthful activity through which students can express their emotions. They are – various stimuli for dancing are necessary at this stage. These may be provided by audio-stimuli for dancing are necessary at this stage. These may be provided by audio-stimuli like mouth sounds, clapping, drums and also visual stimuli like demonstration, community songs and some other poems and songs selected from language readers. Examples group dance, action songs, flag drill etc., these activities help develop an agile body, balance and physical poise, graceful movements, a sense of rhythm and above all they yield joy and satisfaction.

**Imitation, Story, Plays and Mimetic:** Enacting a story with appropriate movements is not only highly interesting but also offers wholesome exercise. Examples of imitation exercises could represent elephant, frog, rabbit, lion, train, motor car, washer man, rickshaw puller, beggar, doctor, old man, ball-catch and

throw etc., imitating people the children know and watch, viz., grandmother, mother, teacher which is a very enjoyable exercise.

Examples of mimetic could be horse gallop, bell-ringing etc., Story plays like fox and grapes, thirsty crow, visit to a circle, trip to a forest etc., could be enacted. These activities help develop creative self – expression, formation of concepts regarding form, size etc., ability for expression through modes other than the word of mouth that yield joy and fun.

Small Area Games: These are simple games played within a small area involving running, chasing, dodging etc., students could play these individually, in pairs or in groups. The interest of children could be sustained for a very long time through them. Lion in the well, follow the leader, thief and the Policeman etc., such games provides exercise to various muscles, help develop physical strength and neuro-muscular coordination, foster a sense of cooperation and have fun and enjoyment.

Gymnastics: Physically activities of this type should be so selected that the children, of the age-group in question, are able to perform without any special equipment, rabbit jumping, displaying the postures of standing, sitting lifting bending and stretching, forward, backward roll, monkey walk, cart wheel, wheelbarrow, shoulder roll, balance walk etc.,

Gymnastic activities help in body control and neuro-muscular coordination skills. They also impart strength, suppleness and balance to the body.

Simple combative: Simple combative like pushing, pulling, toppling help children in sublimating their aggressive drives and desires. Examples: drake fight, cock fight, lame duck fight, hand wrestle, pushing off the bench or the stool, stepping on toes, knee slap etc. These activities help children to know about their strength in relation to others and help develop courage and self confidence.

Calisthenics: These are exercise without apparatus. They involve continuous movements of the head, arms, trunk, and legs without any rigid positions being held. These developmental exercises have to be done in a formal prescribed way for a sufficiently long time. These are normally 6 to 8 exercises of 2 to 4 counts for this age-group. Calisthenics help develop coordination of bodily movements leading to the growth and development of the body and better postures.

Athletics: Athletics play a important role in the programme of physical education. Activities in this area involve movements of running, jumping and throwing which are measurable and hence comparable. A healthy competition can be fostered through these activities because achievements can be measured and tested objectively where even an individual can compete with himself. Examples: Short Spirits (25 M), hopping (25-50 M), Endurance (200 M), throwing a cricket ball or football, jumping for distance and height. Athletic activities help develop fundamental motor skills, contribute to physical fitness and open up avenues for competition.

Games: Games though important in their own right, have to be suggested with the full awareness of the fact that, playground faculties and specialist coaches or instructors are not available in many schools. Children may be offered opportunities for playing “lead-up” games leading them finally to major games. Next, they may be encouraged to learn and practice a few fundamental skills and family, to play the games in the modified simple form. An exposure and opportunity is expected to finally enable students to select the games of their choice. Games help children to develop the ability to participate their choice. Games help children to develop the ability to participate in vigorous activities, to learn new skills, to cultivate an interest in games and to drive fun and enjoyment. Relays constitute a commonly practiced form of games. They could be simple relays, zig-zag relays, hop and run, potato race, three legged race, jumping over the stick etc., Lead up games are miniature forms of big games. In lead-up games of football or hockey, for example, there could be a small field with say 5 yr. 5 players. In a lead-up cricket children may play tennis ball cricket etc.,

Yogic Exercises: Yoga is an Indian contribution to the field of Health Education. Yogic asana be performed in a calm atmosphere, produce desirable effects on the body mind and are an excellent carry over activity. It will develop the ability to concentrate, has a carryover effect for it contributes to physical fitness and is now being increasingly used for therapeutic to cure a number of ailments. Asanas, in which students could be trained at this stage, are Swastikasana, Veerasana, Bhujangasana, Ardhsala-bhasana, Utkatasana, Tandasana, Vrikshasana Padahasthasana and Shavasana.

Drill and Marching: Drill and Marching are to be introduced at this state as a compulsory activity. They develop uniformity in orderly move sense of discipline and enable to formation of a habit for maintaining good posture leading to proper and effecting control of the body.

Swimming: Very few schools have swimming pools. However, whenever, natural facilities like a river, a sea, a pond is available nearby, swimming could be made a core programme Children ought to be encouraged and guided to get over the fear of water through confidence drill consisting (step-by-step) of:  
Walking in waist deep water.

Jumping on the spot, back and forth and opening the eyes in the water.

Practice of aquatic breathing with the face above the water level, breath in through the mouth and breathing – out through the nose.

Floating with the support of a partner-holding the partner's waist stretched in a horizontal position.

Once the floating skill is achieved, an attempt should be made to introduce the free style, breast stroke, and the butterfly stroke.

The basic skill to be acquired for all the strokes should be:

Body position (horizontal)

Leg action

Arm action

Breathing

Coordination

Swimming leads to the removal of the fear of water, helps develop Confidence, fun and pleasure.

### **Discussion Of The Study**

Scientists and doctors have known for years that substantial benefits can be gained from regular physical activity. The expanding and strengthening evidence on the relationship between physical activity and health necessitates the focus of the study brings to this important public health challenge. Although the science of physical activity is a complex and still-developing field, we have today strong evidence to indicate that regular physical education & sports will provide clear and substantial health gains.

We must get serious about improving the health of the nation by affirming our commitment to healthy physical activity on all levels: personal, family, community, organizational, and national. Because physical activity is so directly related to preventing disease and premature death and to maintaining a high quality of life, we must accord it the same level of attention that we give other important public health practices that affect the entire nation. Physical activity thus joins the front ranks of essential health objectives, such as sound nutrition, and the prevention of adverse health effects of tobacco. The effort to understand how to promote more active lifestyles is of great importance to the health of this nation. Although the study of physical activity & sports determinants and interventions is at an early stage, effective programs to increase physical activity have been carried out in a variety of settings, such as schools, physicians' offices, and worksites. Determining the most effective and cost-effective intervention approaches is a challenge for the future.

### **Conclusion:**

Opportunities ought to be provided to the children for learning and practicing the skills and playing the games with suitable modification in the school, as physical education is the integral part of the educational programme. The programme aim at promoting the development of the body and the mind and also develop the qualities in children that are essential for a happy and well adjusted for health and healthy life style in a free and democratic world. Therefore it can conclude that, there activities can develop the total personality of the child, to its fullness and perfection total health system for healthy life style.

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## **Spine Injuries And Back Problems – General Awareness And Wellness Programs**

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### **Abstract**

The spinal cord is an extension of the brain and runs from the neck to the lower back. The spinal cord consists of millions of nerve fibers that transmit information to and from the limbs, trunk and organs of the body. A spinal cord injury can happen to anyone regardless of age or gender. The spine is the major factor in all movements of the body. It provides balance to the skeletal frame, absorbs jolts and shocks, and allows moving, bending and twisting, spinal anatomy is truly unique in its form and function. It is designed to be incredibly strong, protecting the highly sensitive nerve roots, yet highly flexible, providing for mobility on many different planes. Spinal anatomy is important for everyone to know their own body and understand the causes of back pain and evaluate treatment options. Spine injuries look small but its unbelievable painful problem. The purpose for this article is to help the community to be healthy fit and to know the importance of wellness and Awareness programs about back problems. National campaign can high lights the spinal cord injury awareness programs in the community. Creating organizations educate people and Share the safety message to prevent spinal cord injuries, and stay safe. 50 adults were randomly interviewed; some of them are with spinal cord injury. Very few of them were attended wellness workshops, in that they cover physical activity, nutrition, lifestyle management, maintaining healthy back and prevention of secondary conditions. The Conclusion is to create awareness in community and help to make healthy society.

**Key Words:** - Spine injuries, back problems, awareness.

### **Introduction**

Spinal injury is a devastating situation that occurs suddenly and whose consequences range from minimal symptomatic (sign) Spine injuries look small but its unbelievable painful problem. The purpose for this article is to help the community to be healthy fit and to know the importance of wellness and Awareness programs about back problems and avail the opportunity of such programmes. National campaign can high lights the spinal cord injury awareness programs in the community, creating organizations and educate people and Share the safety message to prevent spinal cord injuries, and stay safe. 50 adults were randomly interviewed some of them are with spinal cord injury. Very few of them were attended wellness workshops in India, in that the topics they cover awareness about anatomy of their own body, importance of physical activity, nutrition, lifestyle management, maintaining healthy back, safety and prevention of secondary conditions etc. They were satisfied with awareness programs. Significant improvements were found in their health-related self-efficacy and health behavior. Purpose of the study: the purpose for this article is to help the community, and help them to have awareness on health problems and to know the importance of wellness and Awareness programs about back problems and spinal injuries. Find out the organizations which available to help self and others.

### **Discussion:**

What is awareness? In general, "awareness" may also refer to public or common knowledge or understanding about a social, scientific, or political issue, and hence many movements try to foster "awareness" of a given subject, that is, "raising awareness". Raising awareness is often the first activity any advocacy group engages in. Like AIDS awareness and Multi cultural awareness, Global warming, no smoking and drugs, save energy, save our sky, save power and save planet etc. Spinal Injuries Awareness Week 9-15 November 2014 in Australia. Spinal Cord Injuries Australia (SCIA) was formed in 1967 by a group of young men with spinal cord injuries who wanted to change the world. With a determination to become more independent they set about creating their own organization. Approximately 1000s of new spinal cord injuries occur each year. A majority of injuries occur from work-related accidents, sports

injuries, motor vehicle accidents, falls, and stab or gunshot wounds. Every Organizations motto is to Prevent safty, Accessibility Social Inclusion Rebuilding Lives.

Spinal Injuries Awareness Week or programmes aims at:-

1. Educate the community about spinal cord injury and the challenges faced
2. Safety measures and Reduce the incidence of spinal cord injury
3. Engage people who have a spinal cord injury
4. Enlighten how people can assist organizations that support those with a spinal cord injury

For example: Wearing seat belt could have saved rural development minister Gopinath Munde who died in a road accident Union health minister Harsh Vardhan said and announced a major campaign to spread awareness on observing safety measures while driving. "Wearing seat belt could have saved Mr.Munde. Misconception in most people is they think that the back-seat belts serve only a decorative purpose. In fact wearing them is as necessary as wearing front seat belts. The damage to the minister's car was not great, but the force of the throw-forward within the confined space of the car damaged the ATLANTO AXIAL JOINT in his neck, and severely injured the SPINAL CORD.

One such accident was that of Princess Diana of Britain in August 1997 when her speeding car crashed against a pillar of an underground pass in Paris. Bodyguard Trevor Rees Jones, owed his escape to the fact that he wore a seat belt whereas the others - Princess Diana, her finance Dodi Fayed and driver Henri Paul - had all neglected wearing belt. Stating that the ignorance level about the importance of safety belts is alarming, "Many car owners cover the back seats of their cars with attractive cloth or other material to give comfort. In the process the seat belts get concealed. ignoring seat belts, drivers and bikers speak on mobile phones and even text while on the wheel. India made seat belts compulsory only after the passing of the Motor Vehicles Act, 1989.

#### **Awareness programs in India and Rehab Centers:**

Three was Two days programme "World Health Organization workshop for managers of rehabilitation programmes including wheelchair services". The workshop was held at Mobility India, Bangalore from 31 May – 1 June 2013. Arrive Alive" – Theme on "Focus on bringing down road accidents" Road safety awareness week participated with Visakha Police in awareness program.

Rehabilitation centers: We have post-hospital rehabilitation centers to provide active rehabilitation to people with disabilities especially spinal cord injury patients along with sports and vocational rehabilitation in Visakhapatnam A P. The goal of the center is not just to help patients, but to turn them into helpers of patients themselves. The proposed center will be the first of its kind in the entire Andhra Pradesh. The upcoming center named as "ARC (Ability Rehab Center)" Conducted 2 day's rehabilitation work shop for spinal cord injury and distributed materials and DVDs on role of technology and active rehabilitation in social integration in Visakhapatnam Andhra Pradesh..The spinal cord is a column of nerves that connects your brain to the rest of your body, allowing you to control your movements.. Even though the lower portion of your spine holds most of the body's weight, each segment relies upon the strength of the others to function properly.

Types of spinal and back problems:-

Pain is the most common symptom of back problems and if you suffer from back problems the most important one is to distinguish between acute and prolonged pain, because they reflect different types of problems and different medical treatment needs.Inflammation, Osteoarthritis, WhiplashHerniated, Disc Compression, Fracture, ScoliosisStenosis, Work-Related Injuries -- Lower Back and Upper Back etc.

#### **Conclusion :**

However there are a limited number of spinal injury centers in India.The last two decades have seen a renewed interest in India to improve services for spinal injured. Things are bound to change in the interest of spinal injured. The Government need to have a big role to play with the help of voluntary organizations for community awareness & injury prevention programmes. A National Programme on spine injuries and back problems – general awareness and wellness programs must be developed in our Country.

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## Sports Science For 21<sup>st</sup> Century Sports

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### **Introduction :**

Sports science is a branch of science that studies the scientific principles during a sport performance and uses these principles to improve the performance of an athlete in sport. Sports sciences play a vital role in the successful sporting performance. Building a foundation of sound sports training is possible only through utilization of relevant sports sciences. Sports science helps us understand the physical and psychological effects of a sport thereby preventing injury to an athlete involved in the performance of the sport. Disciplines in sport science explain the best techniques. For a sport and the safest way of performance. Sports science is discipline that studies the application of treatment and prevention of injuries related to sport medicine. The study of sport science traditionally incorporates areas of physiology, psychology and biomechanics but also includes other topics such as nutrition and diet. Leonardo da Vinci said, "Those who are enamored of practice without science are like a pilot who goes into a ship without rudder or compass and has never any certainty of where he is going." Sports scientists and performance consultants are growing in demand and employment numbers with the every-increasing focus within the sporting world on achieving the best results possible. Through the study of science and sport, researches have developed a greater understanding on how the human body reacts to exercise, training different environments and many other stimuli.

### **Sports Physiology :**

Physiology is the study of tissue and functions of living things. So sports physiology would be the study of how the body works and functions during athletic activities. Study of metabolic activities in plants and animals is called physiology. Human body is made of various organs and each organ has its own peculiar function, e.g. heart is the chief organ of circulation, the lungs are the organs of respiration, stomach is for digestion. The efficiency of our body depends upon the efficient working of these organs. All organs are interlinked and interdependent on each other. Muscles are acting as a machine for converting chemical energy into mechanical energy. Knowledge of the role of muscular contraction, oxygen debt and fatigue are necessary to improve sports performance.

### **Sports Kinesiology :**

Kinesiology is the study of human and animal movement, performance and function by applying the sciences of biomechanics, anatomy, physiology, psychology and neuroscience. Applications of kinesiology in human health include physical teacher, the rehabilitation professions, such as physical and occupational therapy as well as applications in the sport and exercise industries. There are many different types of exercise interventions that can be applied in kinesiology to athletic, normal and clinical populations. The action of various joints and muscles are highly useful for learning and perfecting the motor skill prevention of sports injuries and also helpful to develop the physical fitness. The scientific training to build body weight and the overall personality of the individuals help in optimizing the movements of our body.

### **Sports Bio-Mechanics :**

Sports biomechanics is a quantitative based study and analysis of professional athletes and sports activities in general. Biomechanics is the study of the structure and function of biological system by means of the methods of mechanics which is the branch of physics involving analysis of the actions of forces. Knowledge of Biomechanics is helpful to analyze movement and skill performance particularly with respect to laws of motion, anatomical capability and body mechanics. Sports performance is the complex mixture of biomechanical function, emotional factors, training and technique. Biomechanics is helpful to analyze and determine appropriate conditioning and treat injuries.

**Sports Nutrition :**

At sports nutrition, we know that fitness performance is more than just a goal it's away of life. Intake of balanced diet is very essential for optimum growth and development of our body. A balanced diet is defined as that which contains variety of food stuffs in such qualities and proportions that the body is able to get the nutrients and it need to maintain good health. Intake of such food is helpful to the better performance. Role of nutrition in exercise and sport has increased dramatically in the recent years. Today there is no doubt that nutrition plays a vital role in exercise and performance.

**Sports Anthropometry :**

Anthropometry is the study the relationship between the size and shape of human body and sports performance. We use internationally standardized techniques to measure athletes and use calculations of body composition, dimensions, proportion and ratio to help improve sport performance.

**Sports Psychology :**

Sports psychology is the study of how psychology influences sports athletic performance, exercise and physical activity. Some sports psychologists work with professional athletes and coaches to improve performance and increase motivations. Other professionals utilize exercise and sports to enhance people lives and well-being throughout the entire lifespan. Sports psychology is a relatively young discipline within psychology. In 1920, Carl Diem founded the world's first sports psychology laboratory at the Deutsche sporthochschule in Berlin, Germany. Contemporary sports psychology is a diverse field while finding ways to help athletes is certainly an important part of sports psychology the application of exercise and physical activity for improving the lives of non athletes is also a major focus.

**Sports Medicine :**

Sports medicine is a branch of medicine that deals with physical fitness treatment and prevention of injuries related to sports and exercise. Although most sports teams have employed team physicians for many years, it is only since the late 20<sup>th</sup> Century that sport and exercise medicine has emerged as a distinct entity in healthcare sports medicine contributed several techniques for helping the sports person to prepare high level achievement in competition. It deals with the sports injuries, various therapies, rehabilitation, first aid and massage. Injury is a common phenomenon in the field of sports which can convert a Hero to Zero. Sports medicine explains the injury management return-to-play criteria and various exercises to relive from injuries like flexibility exercise, stretches of hamstring. The sports medicine knowledge and techniques are not only beneficial for competing athletes but also everyone involved in the sports activities.

**Sports Technology :**

Sports technology is the application of engineering to sports activities. Sports technology is growing continuously as an exciting subject. The computer is being used in data collection, scouting and statistical analysis of sporting talents. Electronic instrumentations are helpful to enable the athletes to perform to their maximum potential. Sports technologists are introducing new technologies, improving the existing products and methods into the design new and innovative equipment. The best use of innovative and creative technological products and using electronic device in the sports field is the need of day.

**Conclusion :**

Sports science is one of the most exciting dynamic subjects and it can be adopted to safely enhance the performance of the athlete. Sports sciences have grown beyond the exclusive application of science towards improving competition or performance to improve health and quality of life.

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## Effect Of Yogic Practices On Hemoglobin Among Women College Students

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### **Abstract**

The present study was designed to find out the effect of different packages of yogic practices hemoglobin among women college students. It was hypothesized that there would be significant difference among different packages of yogic practices hemoglobin among women college students. To achieve the purpose of the study 120 women students were randomly selected from Sri Padmavathi Womens Junior college, Tirupati. Their age was ranged between 16 and 20 years. The women students were equally divided in to three equal groups of 40 each as yoga package-I, yoga package-II and control group. The control group was not given any training. The experimental groups were undergone yogic practices for twelve weeks and six days in a week. The data were collected on hemoglobin before and after training period. The collected data were statistically analyzed by using Analysis of covariance (ANCOVA) and Scheffe's post hoc test. To test the significance 0.05 level of confidence was fixed. Based on the results of the study it was concluded that the second package of yogic practices were significantly improve the resting hemoglobin than that of first package and control group. First package of yogic practices were significantly improve the hemoglobin than that of control group.

Key words: yogic practices, hemoglobin, blood test.

### **Introduction:**

Yoga has been practised in India for thousands of years, and is traditionally used by spiritual seekers as a system of self-development for purification of the body and mind. Yoga is proposed to be a preventive as well as curative system of the body and spirit. Stilling the minds movements in Yoga'. "Yoga is a systematic physical practice to improve awareness to develop will power and to realise self to join traditional consciousness (jeevathma) to super consciousness (parmathma). Yoga is the inhabitation of the modification of the mind. This means that it prevents to contents of the mind from taking different forms. "Yoga is training in the techniques of harmony and also a preparation for the total integration of human personality".

### **Methodology:**

The present study was designed to find out the effect of different packages of yogic practices hemoglobin among women college students. It was hypothesized that there would be significant difference among different packages of yogic practices on hemoglobin among women college students. To achieve the purpose of the study 120 women students were randomly selected from Sri Padmavathi Womens Junior college, Tirupati. Their age was ranged between 16 and 20 years. The women students were equally divided in to three equal groups of 40 each as yoga package-I, yoga package-II and control group. The control group was not given any training. The experimental groups were undergone yogic practices for twelve weeks and six days in a week. The data were collected on selected dependent variables before and after training period. The collected data were statistically analyzed by using Analysis of covariance (ANCOVA) and Scheffe's post hoc test. To test the significance 0.05 level of confidence was fixed. Student acceptance form was received from the subjects to test hemoglobin percentage of the subjects.

**YOGA PACKAGE I:**The package – It is a beginner's level and can do easily. This package helps to bring the body in elastic mood. They not only improve the elasticity of the body but also flexibility. It consists Suryanamaskara, Padmasana, Vajrasana, Navasana, Uttanapadasana, Matyasana, Bujangasana, Sarvangasana, Ardha shalabasana, Arthamastyendrasana, Dhanurasana, Pawana mukthasana, Nadisodana, Sitali, Silent meditation, Savasana.

**YOGA PACKAGE II:**The next level is the combination of easy and advanced yoga and so it is called advance level. It consists Surya namaskara, Padahasthasana, Trikonasana, Virabhadrasana, Bandha, Padmasana, Halasana, Gomukasana, Pachimothasana, Salabhasana, Kurmasana, Supta vajrasana, Maha Mudrasana, Nadisuddi, Sithakari, Mantra meditation, Savasana.

**Hemoglobin:** Hemoglobin count of the subjects was analysed with hemocytometer.

**Results And Discussion:**

**Table – 1: Analysis Of Co-Variance Of Pre-Test, Post Test And Adjusted Post Test On Hemoglobin Count Of Three Different Groups**

Test	Yoga group I	Yoga group II	Control Group III	Variance	Sum of Squares	df	Mean Squares	F Value
Pretest Mean	11.77	11.78	11.76	Between	0.00	2.00	0.00	0.09
S.D.	0.15	0.15	0.16	Within	2.83	117	0.02	
Post test Mean	12.75	13.36	11.76	Between	51.94	2.00	25.97	1424.75*
S.D.	0.14	0.09	0.16	Within	2.13	117	0.02	
Adjusted Post test Mean	12.74	13.36	11.77	Between	51.55	2.00	25.78	1657.16*
				Within	1.80	116.	0.02	

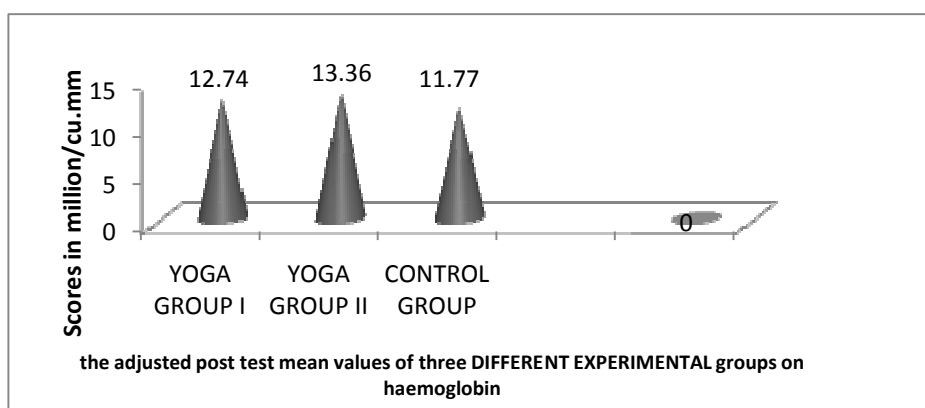
\* Significant at 0.05 level of confidence.

**Table –II: Ordered Scheffe’s Post Hoc Test Mean Differences On Hemoglobin Among Three Groups**

Yoga package I	Yoga package II	Control Group III	Mean Differences	Confidence Interval Value
12.74	13.36	-	0.62*	0.078
12.74	-	11.77	0.97*	0.078
-	13.36	11.77	1.59*	0.078

\* Significant at 0.05 level of confidence.

**Figure – I**



**Discussions:**

The hemoglobin among the women students was examined with blood analyzers (Table-I and Table-II). No significant variation was observed in the hemoglobin of the women students selected for a yoga package group-I (11.77 million/cu.mm) and yoga package group-II (11.78 million/cu.mm) compared to control group (11.76 million/cu.mm) during the pre-test

In post-test significant improvement was observed in hemoglobin of the experimental group. Yoga package group-II showed highly significant improvement in the hemoglobin (13.36 million/cu.mm), followed by yoga package-I (12.75million/cu.mm) with reference control (11.76 million/cu.mm) during post-test. The post-test was adjusted then similar results were obtained yoga package group-II showed highly significant improvement in the hemoglobin (13.36 million/cu.mm), followed by yoga package-I (12.74 million/cu.mm) with reference control (11.77 million/cu.mm).Yoga increases blood flow and levels of hemoglobin and red blood cells which allows for more oxygen to reach the body cells, enhancing their function. Yoga also thins the blood which can decrease the risk of heart attack and stroke, as they are often caused by blood clots. Twisting poses wring out the venous blood from internal organs and allow oxygenated blood to flow in when the twist is released. Inverted poses encourage venous blood flow from the legs and pelvis back to the middle and then pumped through the lungs where it becomes freshly oxygenated. {1}ShivaRamareddy *et al* (2012) observed the effect of 12 Weeks Yogic Activities and Medicine on Hemoglobin. This study showed beneficial effects of selected yogic activities and the use of Hepatoglobine medicine on the hemoglobin percentage among school boys. The study further concluded that yogic activities had greater influenced on hemoglobin as compare to Hemetoglobin medicine. {2}Gabriel A.Carranque *et.al* (2012) observed the Hematological and biochemical modulation in regular yoga practitioners. He found that the regular yoga package group shows higher hemoglobin levels and erythrocyte sedimentation rate and lower albumin levels than that of the control group. The regular practice of yoga brings about changes in basic hematological parameters. {3}Kasundra *et al* (2010), assess the impact of Pranayama training on selected components of blood. The variables selected for the study were cholesterol, blood glucose, hemoglobin, WBC, RBC, platelets. This study revealed a significant difference in pre-test and post-test of experimental groups of selected blood components. This shows that Pranayama training has an impact on selected components of blood. {4} Kamakhya Kumar(2007) studied on the effect of Yoga nidra on the Blood cells, especially on Hemoglobin and TLC (Total Leukocyte Count). Results was reported that Yoga nidra positively increases the Hemoglobin level and TLC level of male and female individual. {5}Abirami *et al* (2011) studies reveals that the RBC Count (Red Blood Cell Count), WBC Count (White Blood Cell Count) and Hemoglobin were significantly improved due to the influence of Suryanamaskar and Physical Exercises among College Women Students.

### Conclusions:

There is a significant difference in hemoglobin between all groups.The varied packages of yogic practices may significantly improve the hemoglobin among women college students.The second package of yogic practices may significantly improve the hemoglobin greater than that of first package of yoga practice and control group among women college students.The first package of yogic practices may significantly improve the hemoglobin greater than that of control group among women college students.

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## **Boxers –Diet Nutrition Before, After And During The Bout**

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### **Introduction:**

Nutrition is an important aspect for boxer for better performance. Diet is essentially taken for metabolism, growth and development process of the body. The amount and kind of food a boxer eats determines his body size, endurance, speed and strength. If a boxer takes a balanced diet according to his daily activity, he achieves his goal to increase fitness and quicker recovery. Diet is necessary during training and competition. Demand of nutrition is higher for boxers as it helps in heal up of external and internal injuries. For maintaining body weight, boxers have to fully check the balance calories expended and number of calories consumed.

**Balanced diet:** A balanced diet needs to contain foods from all food groups in correct proportions to provide the body with optimum nutrition. It should also be made up of the correct number of calories to maintain a healthy weight, and be low in processed foods. Every person is different and hence the correct healthy diet may vary from person to person. However, by following a varied diet covers all foods groups and is low in undesirable nutrients such as sodium saturated fats and sugar. This leads to a healthy body. Proper nutrition can help prevent a number of health conditions including diabetes, cardiovascular disease, osteoporosis and obesity. Understanding the importance of primary six components of nutrition helps you plan a balance diet and understand food's nutrition labels. Speak with your health – care professional for personalized nutritional requirements if you are concerned about malnourishment. Requirement of nutrition by a boxer as per the nature of training / competition how much calories he burns/reduced the weight. Daily diet per (kg) should be 2.4 to 2.5 grams of protein, 2.0 to 2.1 grams of fats, 9.0 to 10.0 grams of carbohydrate. The value differs as per the various weights and the training to be considered. Boxers diet must completely balance the energy consumption of the body and can asses by the dynamic of the body weight. Balance diet helps a boxer to maintain his competition weight. Pre competition meals – nutrition before, after and during the bout is also plays an important and vital role in individual performance.

### **A Balanced Diet Of A Boxer Contains The Following:**

**PROTEIN:** Protein is required for healthy muscles, skin and hair. In addition, it contributes to normal chemical reactions within your body. Complete sources of protein, primarily meat, contain the nine amino acids essential for human health. If you do not eat meat, combining incomplete proteins – such as rice and beans- provides your body with the nine essential amino acids. Average adults need 50 grams of protein daily.

**CARBOHYDRATE:** Carbohydrates are necessary to supply your body with glucose, which is its primary source of energy. They are generally divided into two categories: simple carbohydrates, which digest quickly, and complex carbohydrates, which digest slowly, sources of simple carbohydrates include fruits, sugars and processed grains, such as white rice or flour. You can find complex carbohydrates in green or starchy vegetables, whole grains, beans and lentils. Dietary fiber is another form of carbohydrate required for proper digestion. It bulks your stool and keeps you feeling full for hours after a meal. Men need 28 to 34 grams daily fiber.

**FATS:** Despite the belief that fats are bad for a person, they are required for general health. Fats help your body synthesize fat – soluble vitamin D, Healthy fats include monounsaturated and Polyunsaturated. Nuts, olives and avocados are sources of these fats. Fish and seafood are primary sources of polyunsaturated fats. In addition, vegetable oils such as canola, contain both fats. Certain types of fats are bad for health, however, such as trans-fat and saturated fat, both of which increase risk of heart disease. You should limit your intake of saturated fat to 16 grams daily and avoid trans-fats completely.

**VITAMINS:** Many vitamins are essential for health and thus considered primary components of nutrition. Essential vitamins include vitamins A, B complex, C, D, E, K and foliate. A vitamin deficiency can cause osteoporosis, scurvy, weakened immune system, premature aging and even certain cancers. Consuming too much of a vitamin can also result in serious toxicity, such as vitamin B-6 or vitamin A. Many fruits and vegetables have high vitamin content, as well as fortified dairy and bread products.

**MINERALS:** It is vital for proper human health, Essential minerals include calcium, iron, zinc, iodine and chromium. Deficiencies can result in serious health conditions such as brittle bones and poor blood oxygenation. Like vitamins, overdosing on minerals can result in life threatening conditions – for example, a potassium overdose can cause improper kidney function. Minerals are found in variety of foods including dairy and meat products.

**WATER:** The human body is composed of 60 percent of water and brain is composed of 70 percent of water. Water is necessary to maintain proper bodily function. Most individuals should aim for 8 to 10, 8 ounces of glasses of water daily. It is possible to overdose on water, and in severe cases, a water overdose can be fatal.

**Nutrition Before The Bout:** A boxer has to take his meal 3 or 4 hours before the bout this allows time for digestion and absorption it is not long enough to allow feeling of hunger to develop during the competition / bout. the diet is to be light and easily digested, semi solid food or liquid food, it should in limit, so as not to create any problem during the bout, always a boxer can take diet that is rich in carbohydrate before the bout. Long amount of glucose honey, or sugar eaten before the bout can lead to considerable pooling of water in the gastro intestine which dehydrated the muscles and it causes discomfort and can lead to nausea and diarrhea.

**Food to avoid before competition/bout:** fat it slows the empty of stomach as it is heavier to digest. Food with reputation for forming gas in flow is to be avoided – cabbage, onion, reddish, cauliflower, dry beans may cause discomfort during bout. Boxers should reduce the intake of protein, high cellulose or high fibres which must be avoided before bout.

**Nutrition During The Bout/Competition:** During the bout/competition co uric salt, phosphoric compound, vitamin 'C,' Juices, carbohydrate should be taken at the end of breakfast. In boxing a boxer can't take these things during bout except for plain water.

**Nutrition After The Bout /Competition:** It is necessary to give a proper balance diet to a boxer as it helps him to recover faster, from fatigue and recovery of broken cells muscle fibres during bout and heal up the injuries faster. If ¼ days a boxer is boxing then he must reduce the intake of fat percentage as it takes more time for digestion. The products containing high quality of protein and carbohydrate must be increase and lipotropic substances must also increase (curd ,milk, dairy product etc.) after a bout boxer can take fat in the meals and 20% to 25% of vegetable in the daily diet, major minerals salt 1200 to 1800 grams, calcium, phosphorous 1500 to 2500 grams, 20 to 25% of Iron. On the day of the bout the meals should contain product of high nutrition value, in small quantity.

Distribution of daily calories in boxer's diet: (Daily calories intake in %):

SNo.	Breakfast	Morn. Set up exercise BF	Day training lunch	Mid afternoon snacks	Evening training dinner
2 times	05 %	25 %	35 %	50 %	30 %
3 times	15 %	25 %	30 %	05 %	25 %

**Discussion:**

Boxing is all about explosive strength with combination of speed, agility, flexibility, muscular strength and endurance which develop through intake of balanced diet.

**Recommendations:**

Similar studies can be conducted on women boxers and other combative sports & games.

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## Impact of Obesity and Stress on Urban House Wives

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### Abstract

Physical and mental fitness has been the outcome of regular exercise and constant physical activity. In view of the mechanization of the domestic area especially the kitchen, the amount of physical work by women has been reduced to a large extent. Right from dawn to dusk, women are using manually operated or power based instruments. Now a day's conventional broom sticks, stone based tools for powder and chutney making, Iron goods have been completely replaced by plastic vessels, vacuum cleaners, mixers, grinders and washing machines. Therefore, there is no scope for utilization of physical labor. In other words, there is no scope left for exercise and physical activity which ultimately results in severe obesity followed by stress. This paper describes the need of physical exercises, their relevance for better lifestyles with a study of some parameters among various sections of house wives and a need to educate them on the relevance of conventional practices at home to counter the problems of obesity.

Key Words: obesity, physical labour, stress, conventional practices

### Introduction:

Obesity is a medical condition wherein excess body fat gets accumulated thereby impacting health in a negative way leading to reduced life expectancy and increased health problems. Obesity results out of several disorderly food habits such as hurried eating without chewing food, having snacks before and after meals, taking junk food, frequent consumption of snacks and sweets, consumption of outside food, taking food while watching TV and lack of regular exercise or physical activity. Stress is an abnormal physical reaction to an internal or external pressure exerted on body system. The body floods stress hormones, making the heart pump faster by increasing the breathing rate and there by tightening muscles with tension. Regular physical exercise guards health. Good health is impossible without proper exercise. Different people basing on their physical condition and tastes opt for several types of exercises. Morning walk, evening walk and free hand exercises are recommended for all. Physical exercise helps in strengthening muscles and cardiovascular system, reducing body weight, boosting the immune system, preventing lifestyle syndromes such as diabetes, obesity etc alleviating stress and enhancing enjoyment.

### Methodology:

30 women of varying social backgrounds i.e., from upper, middle and lower sections have been surveyed. Data on various headings like personal details, available of equipment /facilities, life style and food habits has been analyzed.

**Table-1: Recommended physical actives for urban house wives to reduce obesity and stress.**

Cleaning windows & doors	1 hour	burns 200 k,cal
Gardening	1hour	burns 300 k.cal
Walking	45 min	burns 300 k.cal
Staircase up & down	15 min	burns 300 k.cal
Rope skipping	25 min	burns 300 k.cal
Badminton	1 hour	burns 400 k.cal
Table Tennis	1 hour	burns 245 k.cal

**\*An average adult (Female) required - 2200k.cal.of energy per day**

**Table 2:Some facts about daily food intakeTable -2**

Daily requirement of water	2to 3 litres
Daily fruits and vegetables combinely	500g
Milk products (incl.tea &coffee)	400ml
Fibre foods	25g
Protein	45g
Corbohydrates	230g
Oil	1/2kg per month
Pulses	45g
Roots	50g
Jaggery/sugar	20g

**Table -3Body weight and height ratio (Female)**

Height(in mtrs)	Height(in feet)	Weight(in kgs)
1.48	4-10"	47.3-48.3
1.50	4-11"	49.1-51.1
1.52	5-0"	51.1-53.7
1.57	5-2"	53.1-56.7
1.62	5-4"	56.3-59.9
1.67	5-5"	58.9-63.5
1.70	5-7"	60.8-65.4
1.72	5-8"	62.2-66.7

**Results And Discussion:**

Out of the survey it is observed that (aged between 35 to 55yrs) 60% house wives having servant maid are suffering from obesity. Those 40% of them who are not having servant maids are not suffering from obesity. It clearly demonstrates the significant role of basic exercises at home in improving fitness. Those who are living in apartments are using lifts but not stairs to climb up or climb down. Therefore 60% of them are found to have obesity compared to people living in individual houses. Modern power based equipment which is not labour centric is a major factor in increasing the obesity of house wives. None of the women participated in the survey neither preferred walking or jogging. Most of them are dropping their children in the nearby schools by two wheeler.

**Conclusion:**

Obesity and stress denote the two major negative offshoots of the modern mechanized way of life especially for those confined to family life. In the event of increased reliance on machines, intake of food of low nutrition and heavy fat content, this trend has become more pronounced in the study. The study suggests some concrete changes in life style to negate the negative impact and tries to raise the levels of awareness among population in general and women in particular.

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## Effect of resistance training on selected strength variables of pondicherry university men students

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### Abstract

This study investigated the effect of resistance training on selected strength variables of Pondicherry University men students. Thirty male students studying at Pondicherry University were randomly selected as subjects. The age of the subjects ranged from 23 to 28 years. The selected subjects were divided into two groups with fifteen subjects in each group (n=15). The groups were named experimental group and control group. The experimental group underwent resistance training program for the duration of six weeks and the control group did not undergo any training program. The collected data was analyzed by using (ANCOVA) analysis of covariance. The findings of the present study revealed that there is a beneficial effect on upper body strength and abdominal strength for experimental group when compared to the control group after six weeks of resistance training.

Keywords: Resistance training, upper body strength, abdominal strength.

### Introduction

Sports training refer to specialized strategies and methods of exercise used in various sports for developing athletes and preparing them for performing in sporting events". Sports performance, as any other type of human performance, is not the product of single system or aspect of human personality, on the contrary, it is the product of the total personality of the sportsperson. The personality of a person has several dimensions, e.g., physical, physiological, social and psychic. In order to improve sports performance, the social and psychic capacities of the sportsperson also have to be improved in addition to the physical and physiological ones. In other words, the total personality of a sportsman has to be improving his performance. Sports training, therefore, directly and indirectly aim at improving the personality of the sportsman. No wonder, therefore sports training is an educational (i.e., pedagogical) process. The purpose of this study was to find out the effect of resistance training on selected strength variables of Pondicherry University men students.

### Methodology

The purpose of the study was to find out the effect of resistance training on selected strength variables. Thirty male students studying at Pondicherry University were randomly selected and their age ranged from 23 to 28 years. The selected subjects were divided into two groups of fifteen each (n=15). Group I treated as experimental group and Group II was considered as control group. The subjects were tested on upper body strength by pull-ups and abdominal strength by sit-ups. The collected data was considered as pre-test data. Group I was given resistance training. Group II acted as control group which did not undergo any training. The experimental group were given training for the period of 6 weeks. The subjects were tested on selected criterion variables immediately after the six weeks of the training programme for post tests data. The results of pre and post test were statistically treated by using analysis of covariance.

### Results And Statistical Analysis

#### Upper Body Strength And Abdominal Strength

The analysis of covariance on upper body strength and abdominal strength of pre and post tests for resistance training group and control group was presented in Table I

Table I: Analysis of covariance for the pre and post on upper body strength and abdominal strength of control group and experimental group



Upper body strength (Pull-Ups)								
	Control Group	Experimental Group	SO V	SS	df	Mean Square	'F' Ratio	Sig.
Pretest Mean	6.47	6.60	B	0.13	1	0.13	0.02	0.88
S.D±	1.80	3.13	W	183.3	28	6.54		
Posttest Mean	6.86	9.60	B	56.03	1	56.03	17.56	0.00
S.D±	1.72	1.84	W	89.33	28	3.19		
Abdominal strength(Sit-ups)								
Pretest Mean	22.80	23.27	B	1.64	1	1.63	0.18	0.68
S.D±	2.49	3.48	W	255.33	28	9.11		
Posttest Mean	22.67	25.73	B	70.53	1	70.53	8.29	0.008
S.D±	1.84	3.70	W	238.26	28	8.51		

\* Significant at 0.05

The Table I show that the pre test means on upper body strength and abdominal strength of the control group and experimental group for upper body strength 6.47 and 6.60 respectively. The obtained 'F' ratio value 0.88 for the pre test mean is lesser than the required table value 4.20 for significance at 0.05 levels. For abdominal strength 22.80 and 23.27 respectively. The obtained 'F' ratio value 0.68 for the pre test mean is lesser than the required table value 4.20 for significance at 0.05 levels. Hence it is not significant and it reveals that there is no significance difference between the experimental group and the control group on upper body strength and abdominal strength before commencement of experimental training. It is inferred that the random selections of the subjects for the two groups are successful. The post test means on upper body strength and abdominal strength of the control group and experimental group for upper body strength 6.86 and 9.60 respectively. The obtained 'F' ratio value 0.00 for the post test mean is greater than the required table value 4.20 for significance at 0.05 levels. For abdominal strength 22.67 and 25.73 respectively. The obtained 'F' ratio value 0.008 for the post test mean is greater than the required table value 4.20 for significance at 0.05 levels. It reveals that there is statistically significant difference among the experimental group and the control group on upper body strength and abdominal strength after the experimental training.

### Discussion

The finding of the study clearly indicates that the experimental group and control group has significant improvement on the selected strength variables namely upper body strength and abdominal strength on six weeks resistance training.

### Conclusion

It is proved that, selected resistance training contributes positively towards the improvement of upper body strength and abdominal strength.

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## A Study On Physiological Variables On Playing Ability Of National Level Men Hockey Players

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### **Introduction**

The professionals must be aware of the latest and sophisticated tool that can facilitate the measurement of various physiological and morphological characteristics. For sports event proper extensive training must be given over a prolonged period. Physiological variables may be defined as those variables which are directly linked with various physiological systems such as heart rate, blood pressure, vital capacity, fat percentage, respiratory rate and haemoglobin. Men's hockey develops separately from women's hockey. Hockey is a national game of India and is very popular in the country, but very little scientific work has been done especially in the field of physiological profiles of men hockey players. Research work is very important for advancement of the game through which we can educate the coaches, physical education teachers and hockey players regarding the role played by physiological variables in achieving high performance efficiency. Hence the scholar has undertaken the present study.

### **Methodology**

To conduct the study, 25 men hockey players from Karnataka State of IHF were selected as subjects. The age of subjects ranged from 14 to 19 years. On the basis of literature available pertaining to physiological variables of hockey players, opinion of coaches, teachers as well as personal experience of the scholar, the following physiological variables were selected for the purpose of the present study: Vital capacity, Breath holding capacity, Peak flow rate, VO<sub>2</sub> max, Resting heart rate and Percentage of fat. Breath holding capacity was measured in seconds by manual breath holding capacity, Vo<sub>2</sub> max for aerobic capacity, was measured in (mls/kg /min) by Cooper 12 minute run and walk, Vital capacity (lung volume) was measured in liters by dry spirometer and Peak flow rate was measured in liter/minute by peak flow meter, Resting heart rate was measured in beats/minute as well as Skinfold thickness measured by applying skin fold caliper on Biceps, triceps, subscapularies and suprailliac sites of the body and recorded nearest to one tenth of a millimeter. The percentage of fat was calculated by referring to assessment of fat percentage table suggested by Durnin and Rahman.

### **Results**

To examine the relationship of physiological variables with performance of hockey playing ability, Pearson's Product Correlation Method was used. The level of significance was set at .05, which was considered as adequate for the purpose of the study.

Table Shows Physiological Variable

Physiological Variables to Playing Ability in Hockey S.NO	Physiological Variables	Correlation Coefficient 'r'
1.	Vital Capacity and Playing ability	.728
2.	Breath holding capacity and Playing ability	.605
3.	Peak flow rate and Playing ability	.705
4.	Vo <sub>2</sub> max and Playing ability	.450
5.	Resting heart rate and Playing ability	-.61
6.	Percentage of fat and Playing ability	0.04

## Conclusion

Physiological variables of male hockey players of Karnataka State and hockey playing ability was found by administering appropriate tests as well as utilization appropriate statistics. It has been found that there is a positive relationship between vital capacity and hockey playing ability. Vital capacity is important for hockey players because the greater vital capacity means greater capacity of individual to inhale air into lungs as well as efficiency of exhale. Oxygen is directly proportional to the amount of air inhaled. The greater amount of oxygen is helpful to a player as adequate oxygen is supplied to the working muscle. Excess of oxygen in the blood delays the onset of lactic acid which may further help players to exhibit performance. A Significant relationship between breath holding capacity and hockey playing ability may be because it is usually seen that player hold their breath while executing any explosive action or stroke. The holding of breath may assist individual to minimize unwanted movement of the body which may lead to the improvement of the co-ordination, thereby executing the stroke with greater force as well as accuracy. Further, holding of breath prior execution of strokes may also help an individual to concentrate better.

Peak flow rate denotes the highest rate of expiratory output per minute during highest respiratory function. As and when individual play hockey she is to go for hyper ventilation in order to cope up with highest oxygen demand at that movement. Therefore higher peak flow rate will result in higher ventilation efficiency which will lead to conversation of more oxygen and ultimately producing more energy. Therefore, positive relationship of peak flow rate and playing ability was obtained. The Significant relationship between VO<sub>2</sub> max and playing ability may be due to the reason that the game of hockey is mainly endurance dominating game and ability of individual to utilize greater oxygen during work. It may significantly help the player to play the game with ease as sufficient oxygen is being utilized by him during contraction of muscles. The finding of the study is supported by M. J. Cosgrove and F.M. Impellizzeri.

A Significant negative relationship between resting heart rate and playing ability may be because resting heart rate and efficiency of heart rate are very closely related. The lower the resting heart rate, the better the efficiency of the heart and this may help in individual to play the game better as hockey is the game where endurance and speed endurance play a very important role. Further, a player may be able to adjust/adopt to the demand of the game as heart rate may not increase to that level where individual may feel uncomfortable. The Insignificant relationship between percentage of fat and hockey playing ability may be because of the sample selected. As all men were fairly fit and had been undergoing training for last two years. The percentage of fat was optimum in their body. Further keeping the nature in the mind where players play in different position and demand of different position are different. Usually it is seen that goalkeeper and fullbacks are taller and well built is in comparison to other players but such body structure supports the position of the player, hence insignificant relationship obtained.

## **A comparative study of anthropometric variables among dodgers, chasers and all rounders of state level kho-kho players**

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### **Introduction**

Kho-Kho is one such indigenous game, most popular in southern peninsula the game is played between two teams of nine players each, over a rectangular area of 27 meters by sixteen with particular reference to components of strength and endurance in correct proportions. Anthropometry means the measurement of man, whether living or dead and consists of primarily into measurement of the dimensions of the body or it is defined as a science of measuring the human body and facts. Anthropometry represents the typical and traditional tool of human biology and physical anthropology. Recently, it has taken a strong bonded relationship with physical education and sports science. There has been a general trend in all countries arising to reach international standards in different sports discipline to discover the talent athletes early in life. One of the most important methods that is widely used to discover potential athletes for different sports disciplines in the determination of the suitability of the child Athlete for different sports disciplines on the basis of psycho-biological and physical examinations that are developed by taking into consideration the requirements of each sports. One of the examinations that had been universally followed is the Anthropometric evolution. Today almost every Nation in the world attaches great significance to the development of sports in order to improve the nation's health and for the well being of future generation. Certain nations like U.S.A. and U.S.S.R. Even try to project the superiority of their political ideology and social systems through the field of Sports. India, still considered as one of the under developed countries, is also trying to attain such a level of performances in sports and to some extent succeeded in achieving the best performance in the game of Cricket, Hockey, Kabaddi, Badminton and Kho-Kho etc., particularly in Kho-Kho. India has its unique place at international level (Asian Country).

### **Methodology**

The purpose of the present investigation, that is comparison of anthropometric measurements, motor ability reaction time among male khokho players belonging to three specialized categories, chasers, dodgers and all-Rounder, Forty five [N=45], Male kho -kho players, representing, different clubs of Karnataka states who were adopting the assistance of the concerned coaches of the game and experience of the investigator and face validity method, and with the subjects were grouped under three categories. Chasers [N=15] dodgers (N=15) and all rounder (N=15) on the basis of their specialization in their respective departments of the game.

### **Statistical Analysis**

The statistical analysis of data on selected anthropometric variables. The anthropometric measurements selected for the study are Arm Length, Leg Length, Biceps, Chest Girth and Calf girth are presented. The data obtained on the above components have been analyzed among the Karnataka Association Kho-Kho Club Players. The analysis of the data such as the mean, standard deviation and 'F' value for the above components among Karnataka Association Kho-Kho Club Players.

Table showing Group, Number, Mean and Standard Deviation of Anthropometric Measurements among Karnataka State Kho-Kho Players. Variable Group Number Mean Standard Deviation

variable	group	Number	mean	Standard deviation
	Dodgers	15	30.900	1.616
Arm Length	Allrounders	15	30.433	1.811
	chesers	15	30.600	1.105
	Dodgers	15	38.066	3.058
Leg Length	Allrounders	15	38.966	0.990
	chesers	15	38.933	1.293
	Dodgers	15	10.300	0.959
Biceps	Allrounders	15	10.700	1.130
	chesers	15	10.533	0.693
	Dodgers	15	32.800	1.750
Chest Girth	Allrounders	15	32.433	1.545
	chesers	15	32.566	1.533
	Dodgers	15	12.700	1.130
Calf Girth	Allrounders	15	12.600	1.270
	chesers	15	13.033	0.833

### Conclusion

There was no significant difference in the anthropometric measurements that is arm length, leg length, biceps, chest girth and calf girth among Karnataka state level kho-kho players that is Dodgers, Allrounders and Chasers.

The kho-kho players have superior anthropometric measurements. The allrounders (M=42.232) have more arm power than dodgers and chasers (M=41.458 and 41.028 respectively).

## **A comparative analysis of selected physical fitness among state level sprinters middle distance runners and kho –kho players.**

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### **Introduction**

Running is the most natural of athletics movements. The best sprinters need a genetic combination of good length levers strength flexibility and majority of elite, fast twitch fibers in the muscles because of the critical timing and speed of his muscles the sprinter requires a very rapid recruitment of his forces with a hair trigger excitable motor system in the 100 and 200 metres the exercise is within the body's capacity to carry stored oxygen, so the sprinter can afford to be reckless in his energy expenditure it is clear that the start set is a matter for individual preference Research in this area indicates that the coach should concentrate on improving the athletes preferred style rather than attempting to alter it drastically

### **Methodology**

The present study was conducted on 45 state level athletes to 15 subjects each from sprinters. Middle distance runners and Kho-Kho player. All the subjects are boys. Their age between 18 to 25 years. The research scholar had examined the available literature pertaining to the performance related to physical fitness from library sources and also consulted experts in this area to select appropriate field tests to measure the physical fitness variables of Sprinters, Middle distance runners and Kho-Kho players disciplines for the present study along with the literature and the experts opinions. The administrative feasibility in events of availability of instruments.

### **Statistical Analysis**

The statistical analysis of data on selected physical fitness components is presented in this chapter. The data obtained was on speed, leg explosive power, abdominal muscular endurance; flexibility, endurance (cardio – respiratory) and reaction time have been analyzed among the state level sprinters, middle distance runners and kho – kho players. The components of fitness tests – 30 meters flying, broad jump, bent sit-up, dynamic flexibility, 800 meters run, and digital reaction time apparatus were conducted and the scorings were recorded as per the instructions of the test procedure. The data collected was statistically analyzed using appropriate statistical analysis by converting the raw scores to the standardized scores.

The significance was established by pushing the null hypothesis to test. The 'f'-ratio was calculated to find out the significant difference between the sprinters, middle distance runners and kho – kho players.

Sl no	variables	mean			Standard deviation		
		Sprinters	Mid. Dist Runners	Kho Kho	Sprinters	Mid. Dist Runners	Kho Kho
01	Speed	3.356	3.618	3.490	0.080	0.091	0.103
02	Leg explosive power	2.547	2.417	2.541	0.152	0.152	0.169
03	Abd.Muscular Endurance	38.26	36.133	40	5.161	5.161	4.440
04	Flexibility	36.17	35.461	38	10.207	0.772	0.531
05	Endurance	2.542	2.115	2.499	0.174	0.174	0.190

### **Conclusion**

The Mean and Standard Deviation value of selected component of physical fitness on Sprinters, Middle Distance Runners and kho-kho players. Compare the mean values of Leg Explosive power, flexibility between Sprinters, Middle Distance Runners and Kho Kho players. Compare the mean values of Abdominal Muscular Endurance between Sprinters, Middle Distance Runners and Kho Kho players.

## Computer Science and Importance of Virtual Reality in Coaching Sports and Games

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### **Abstract**

Computers Science has taken a major place in every existing field in the universe. In sports, computers play different roles in different ways. It has become an important integral part of the sports as it is used extensively as a mechanism in data gathering, media for communication and information, in the design of models for sports pedagogy, as a teaching aid, as an analyzing technique to measure the performance of the players, in the design of sporting clothes and equipment. These areas increasingly require the support of suitable computer tools like Video presentation techniques, spreadsheet for data analysis, database management system for storing data, virtual reality and simulation techniques are used for creating animated players and video games. In computer science the wide spectrum of applications with illustrations in which the computer is successfully used with benefits in the field of sports in this modern era. This article provides information on VIRTUAL REALITY in teaching and coaching sports techniques and strategies of any particular game for international players on par with other international coaches. Virtual reality gives the live experience of coaching on the field. It also helps to have a view of the game in different angles. With this an elite athlete can understand the strategy of the game and the techniques.

Key words: Computer Science, Virtual Reality, Techniques.

### **Introduction:**

Computers are widely being used for various purposes in the field of sports, as we see, in the compilation of statistics, in scouting, to store and watch videos, in design and development of safer sports equipment, in media outlets to cover their respective sports and in sports coaching and training. Coaching sports techniques and strategies used is a crucial part for a player to get clear, complete information and clarity on the sport, to get motivated and gain confidence. It should help guide the player to focus on right path, which ultimately contributes to a better performance of the player. A redesigned traditional pedagogy of coaching augmented with latest technology is required. VR is one such technology to bring a new face of visual based pedagogy to the coaching and training strategy in sports.

Virtual Reality (VR):

Virtual Reality is an upcoming technology that makes users feel in a **Virtual Environment (VE)** by using computer hardware and software. It provides a virtual world of multiple sense experience, which is a 3D visual perception, tangible sensation. Accordingly, VR cause people with a vivid sensation including three dimensional vision, hearing and touch to personally go through a situation. VR is a new paradigm of user interface and highly comprehensive technology, it offers great benefits in many application areas which includes artificial intelligence, figure and image processing, speech processing, audio mode recognition, intelligent interface, transducer, real time compartment system, database, parallel processing, system modeling and simulation, system integration, trace positioning, flight simulators, architectural walkthrough or data visualization systems, Modeling, designing and planning, entertainment, telepresence and teleoperating. Therefore, bringing the virtual reality technology in the sports can help athletes control action in the technical essentials and in training process, reduces blind repeats, reduces the possibility of injury, greatly improves training efficiency to achieve the best training effect.

## Discussion:

Function of VR Sport Simulation System:

The virtual training system can be developed for any sport, but they have specific requirements for training scenarios. So construction of Virtual Training Scene is required this includes the modeling of virtual training ground, virtual training equipment and virtual human, etc.

Sports physical data of movement can be directly recorded using sensor tracking devices and use it to generate computer animation. Since the player's real movement is captured, and is animated, definitely it ensures an effective, realistic and scientific training. Experts and elite player's minds, best actions in the live matches can be captured into the VR system. VR provides players to get the most accurate and realistic type of game repetitions. As the body has finite repetitions but the mind has infinite repetitions, VR has an ability to train the mind without incurring additional demands on the body. *VR speeds up the experience level of an athlete and essentially have freshmen operating at the same cognitive level as a senior.* System composition Sports virtual reality system can be of two kinds, the immersion and the submerged body simulation system, the former needs three-dimensional display, eyewear, data glove, stereo equipments, *the user will be able to step into a room with specified area and be immersed into simulated-game action. The experience makes the user feel as if they are standing on an actual playing field, complete with crowd noise, realistic game speeds and player avatars running real plays. But is little expensive.* While the latter mainly depends on the software technology, it is used to establish a team with rich visual and auditory information of the virtual world. It is economic and convenient.

## Application of VR in Sports

VR is class room training with animated players on the screen with a live experience and understanding the strategy of the team. Example, at present in television before live telecast of the match the experts and the commentators are using virtual reality technology and discussing the strategy of both the teams of the particular match for the benefit of the spectators for the interest and better understanding. They are showing the imaginary strategy of the game with the help of virtual reality technology in 2014 FIFA World Cup. On the screen the players' playing position strategy is displayed, the experts use their index finger to move the player's position according to expert's strategy of both the teams. VR system makes it easy for the coach to change and show different positional strategies and their effects. VR technology gives cutting edge in training athletes and in assisting teams to win games. VR is widely used in Football Coaching, Skiing, Golf Coaching Systems, Sport Simulators for Schools, Cycling - Training and Racing and in running movements etc.

## Conclusion:

Computer Science plays a major role in sports and games in this modern digital era. Since coaching and training is an important part for the performance of the player, the Virtual Reality, a highly comprehensive and computer based technology, provides a user with an opportunity to interact with a virtual space, also plays a major role in coaching and teaching sports techniques and strategies of any particular game for elite players on par with international coaches. It is essential that all coaching camps incorporate virtual-reality training into its regular routine of preparing its student-athletes for competitions.

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Overview of Virtual Reality Apply to Sports

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The computer virtual reality technology in the application of sports training

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Virtual Skiing as an Art Installation

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## A Comparison of Physical Fitness Factors between Football Players and Badminton players in Osmania University

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### Abstract

Physical fitness is a general state of health and well-being or specifically the ability to perform aspects of sports or occupations. So it is generally achieved through correct nutrition, exercise, hygiene and rest. It is a set of attributes or characteristics that people have or achieve that relates to the ability to perform physical activity. The purpose of this study was comparison of Physical Fitness Factors between Football Players and Badminton players in Osmania University. Fifty healthy young men participated as subjects in this study. The subjects were randomly assigned to Football group player (n=25) and badminton group player (n= 25). The results showed that no significantly different in body composition as (%Body fat) and muscular endurance between football and badminton players. In the other hand, there was a significant difference in power and flexibility among football and badminton player.

Key Words: Football player, Badminton Player, Physical Fitness Factors

### Introduction:

Physical fitness is a general state of health and well-being or specifically the ability to perform aspects of sports or occupations. Physical fitness is generally achieved through correct nutrition, exercise, hygiene and rest. It is a set of attributes or characteristics that people have or achieve that relates to the ability to perform physical activity. Physical fitness can also prevent or treat many chronic health conditions brought on by unhealthy lifestyle or aging. Physical activity is defined as “any bodily movement produced by skeletal muscles that result in Energy expenditure” (Caspersen, 2000). Participating in daily physical activity reduces the risk of cardiovascular disease, diabetes mellitus, obesity, hypertension, elevated blood lipid levels, some types of cancer, and musculoskeletal conditions (Jones, 2002). Regular physical activity reduces the risk of dying prematurely from heart disease; reduces the risk of developing diabetes; reduces the risk of developing high blood pressure; helps reduce blood pressure in people who already have high blood pressure; reduces the risk of developing colon cancer; reduces feelings of depression and anxiety; helps control weight; helps build and maintain healthy bones, muscles, and joints; and promotes psychological well-being (CDC, The Surgeon General’s Report, 2003). Children and adolescents who engage in regular physical activity have shown improvements in strength and endurance, healthier bones and muscles, maintenance of weight, reduction of anxiety and stress, increases in self-esteem, and improvements in blood pressure and cholesterol levels. Youth who engage in moderate intensity physical activity have shown a reduction in low-density lipoproteins and increased high-density lipoproteins; improvement of glucose metabolism for those with Type II diabetes; improved strength; improved self-esteem and body-image; reduction in back injuries; and an enhanced immune system. Due to the lack of moderate and vigorous physical activity and increased prevalence of overweight, obesity, and chronic diseases, rural Appalachian residents are in greater need of community-based interventions to improve physical activity and health. Physical activity behaviors are established during childhood, persist into adulthood, and are inter-related. Positive experiences with physical activity at a young age help lay the basis for being regularly active throughout life. So the aim of this study was to compare physical fitness factors between football players and badminton players in Osmania University.

## Materials And Methods

The statistical sample for the research was obtained from the population of male young students aged 19 to 32 from the Osmania University, Hyderabad. A total of 98 football and badminton player initially volunteered to participate in this study. After completing a health questioner, 50 participants were able to obtain criterion for entry into the study. The inclusion criteria were men who had body mass index (BMI)  $\leq 24.9 \text{ kg/m}^2$  and Student who were afflicted with heart diseases, and who had neurological limitations to physical exercise were excluded. All the subjects were asked to complete a personal health and medical history questionnaire, which served as a screening tool. The subjects were randomly assigned to one of the football player group (n=25) and badminton player group (n=25). Before performing Research, pilot study was done.

### Data collection procedures

Height and body weight were measured, and body mass index (BMI;  $\text{kg/m}^2$ ) was calculated from height and weight of each subject. Waist circumference was determined by obtaining the minimum circumference (narrowest part of the torso, above the umbilicus) and the maximum hip circumference while standing with their heels together. The waist to hip ratio (WHR) was calculated by dividing waist by hip circumference (cm) (ACSM, 2005). Body composition refers to the percentage of body weight that is fat (% body fat) and its measurement is based on the assumption that body weight can be dichotomized into lean body weight and fat weight. Skinfold measurement is the most reliable means for assessing body fat generally available to strength and conditioning professionals. Assessment of body fat is a common practice in many athletic programs since there is evidence that excess body fat typically impairs performance. Anthropometry is the science of measurement applied to the human body and generally includes measurements of height, weight, circumferences, diameters, and skinfolds. Anthropometric measurements can be useful in evaluating changes in body size associated with weight training. So in this study body fat was measured at 3 sites (chest, abdominal, and thigh) with a Lafayette caliper. Body fat percent was calculated from the formula developed by Jackson and Pollock (JACKSON and POLLOCK, 1985).  $\text{VO}_{2\text{max}}$  was determined by Rockport One-Mile fitness walking test. In this test, an individual walked 1 mile (1.6 km) as fast as possible on a track surface. Total time was recorded and HR was obtained in the final minute (ACSM) [1].  $\text{VO}_{2\text{max}}$  was calculated by following formula: ( $\text{VO}_{2\text{max}} = [139.68 - (0.388 \times \text{age (year)})] - [0.077 \times \text{body mass (pb)}] - [3.265 \times \text{time (min)}] - [0.156 \times \text{HR}]$ .) Muscle endurance has been evaluated through exercises with body weight such as the maximum number of pull-ups (Ebben, 1998). One muscular endurance test used by many strength coaches is patterned after the National Football League use of an absolute load of 225 pounds. The NFL 225-lb test requires a player to complete as many repetitions as possible in the bench press with a 225-lb barbell (Mayhew et al., 1999). The development of explosive power in the legs is important for success in many athletic activities (Klavora, 2000). Two tests used to assess lower body power are the vertical jump and the standing broad jump (Bridgman, 1991). Vertical jump measures the difference between a person's standing reach and the height to which he or she can jump and touch (Klavora, 2000). The sit-and-reach test is commonly used as a standard measure of flexibility and evaluates the flexibility of the lower back and hamstrings (Baechle, 2000).

Statistical method and information analysis

Chi-square test was used to find relationships between variables and independent T test was used to compare difference among groups.

### Results:

The results showed that no significantly different muscular endurance in the self-paced pull-up test compared to badminton players. There was not a significant difference in body composition as (%Body fat) between football and badminton players. In the other hand, there was a significant difference in power and flexibility among football and badminton players.

Table1. Physical and physiological characteristics (mean  $\pm$  SD)

Variables	Football player	Badminton player
Body weight (kg)	61.30 $\pm$ 6.76	63.90 $\pm$ 6.77
BMI ( $\text{kg/m}^2$ )	23.9 $\pm$ 6.45	24.67 $\pm$ 1.41
%Body fat	12.56 $\pm$ 1.53	13.48 $\pm$ 2.0
WHR	.80 $\pm$ .03	.81 $\pm$ .03
$\text{VO}_{2\text{max}}$ ( $\text{ml.kg}^{-1}.\text{min}^{-1}$ )	42.76 $\pm$ 3.37	39.68 $\pm$ 2.39

## Discussion

Physical inactivity is now strongly recognized as a major risk factor for all causes of mortality and is related to a number of health problems that together are referred to as degenerative diseases. Remarkable technological progress in spite of its numerous benefits in terms of speed and precision for human has brought about one of the main problems of modern life i.e. motor poverty. There is undeniable evidence that regular physical activity contributes to the primary and secondary prevention of several chronic diseases and is associated with a reduced risk of early death. Regular physical activity has been found to be one of the greatest predictors of long-term weight maintenance and has been promoted as a lifelong positive health behavior in adolescents. Physical activity interventions early in life have some association with the frequency of physical activity as an adult. However, the reality is that a dramatic decrease in physical activity takes place during adolescence. Statistical results in the present research showed that there is a meaningful relationship between some anthropometric and body composition measurements, power and flexibility in football and badminton players ( $P=0.05$ ). However, it seems that it can make more information accessible to study the relation between physical fitness factors of selecting more samples and direct measurement methods. In the other hand, the results of this study indicated that there were significant differences in the muscular fitness, power, flexibility and variances in physical fitness factors conducted and no statistical significant difference in muscle endurance and body composition between football and badminton players.

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## Common Injuries Of Hockey Players And Its Rehabilitation Measures

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### Abstract

In human life from birth to death injuries are very common. Injury is nothing but damage to the body. Injury is refers to harm caused by accident, falls, burns, and weapons. This injuries range from minor to life threatening, Injury can happen at work or play .It may be open injuries or closed injuries. In the field of sports we can see different types of injuries. Mainly sprains, strains, Knee injuries, swollen muscles, Achilles tendon injuries, pain along the shin bone, relative shoulder injuries, fractures, dislocation etc. Hockey is an ancient sport thought to be the forerunner of all 'stick and ball' games. The modern field hockey is a global sport and is played in over 125 countries around the world and is third only in popularity to soccer as a team sport. Epidemiological studies have consistently shown that injuries in hockey are numerous and can be serious. Most serious injuries result from being struck by the stick or the ball. The field hockey game is also not exempted from injuries, prevalence of various injuries in field hockey players are Hand and wrist injury, facial injury, Ankle injury, Knee injury, concussion, over use injury. The study revealed that Hand and wrist injuries 20%, Facial injury 10%, Ankle injury 25%, knee injury 20%, concussion 05%, overuse injury 20%, are observed during summer hockey camp for pre university boys in Coorg district. The treatment for these injuries is PRICE, Stretching, tapping and strength training.

Key words: Prevalence, hockey players, injuries and physiotherapy treatment.

### Introduction

*Injury:* Injury is damage to the body. It is a general term that refers to harm caused by accident, falls, blows, burns, weapons, and more. These injuries range from minor to life-threatening. Injuries can happen at work or play, Indoors or outdoors, driving a car, or walking across the street.

*Sports injuries:* Sports injuries are common among athletes and other people who participate in sports. Sports participation always carries the risk of injury. Individual differences in body structure can make people susceptible to sports injuries by stressing parts of the body unevenly.

*Hockey:* Hockey is one of the popular indigenous team games. Since Hockey is a team game, it puts many demands on the technical and tactical skills of the individual players. Because of the characteristics of hockey injuries in general, are all types of physical damage to the body occurring in relation to hockey game. *Injury incidence in Pre University Hockey boy's camp*

Injury incidences in Hockey summer camp seem to be higher in pre University Hockey players compared to other male sports. Injury in the game of Hockey is the result of a complex interaction of various risk factors in the course of time. pre University Hockey boys are at increased risk for certain game related injuries, particularly those including the knee injuries, hand and wrist injuries, and ankle injuries.

*Aim:* The aim of the study is to investigate the prevalence of various kinds of injuries and rehabilitation methods for pre University Hockey boys,

*Subjects:* 75 pre University Hockey boys from coorg district are the subjects for the study.

*Types of injuries considered for the study*

In the field of sports we can see different types of injuries. Mainly sprains, strains, Knee injuries, swollen muscles, Achilles tendon injuries, pain along the shin bone, relative shoulder injuries, fractures, dislocation etc. In Hockey the following injuries are common

Hand and wrist injuries, Facial injuries, Ankle injuries, Knee injuries, Concussion, Overuse injuries

Physiotherapy is a holistic treatment employing a variety of techniques to help correct neuron-musculoskeletal dysfunction, reduce pain, speed recovery from injury, restore movements and prevent recurrence.

#### Review of Related Literature

Most studies of sports-related injuries have been investigations of specific injuries resulting from specific, organized sports at the high school, college, or professional level. This study documented all types of sports-related injuries received by all school-aged children in a Midwestern community of 100,000 for a 1-year period. Public and private schools, community sports programs, hospital emergency rooms, the schools' accident insurance company, and local physicians provided initial accident reports. Injuries were sustained by 3% of all elementary school students, 7% of all junior high school (grades 7 and 8) students, and 11% of all high school students. Non organized sports and physical education classes each produced nearly twice as many injuries as organized sports. One-fifth of the injuries were considered serious and one-fourth of all injuries could have been avoided had nominal safety precautions been observed.

In a prospective study of 302 adolescent players in three ball games (soccer, handball and basketball), 119 incurred injuries. The injury incidence (number of injuries per 1000 playing hours) was 5.6 in soccer, 4.1 in handball and 3.0 in basketball. Ankle sprains accounted for 25 per cent of the injuries, finger sprains 32 per cent, strains in the thigh and leg 10 per cent, and tendinitis/apophysitis 12 per cent. The most serious injuries were four fractures, one anterior cruciate ligament rupture, and two meniscus lesions. The most serious injuries, with the longest rehabilitation period, occurred in soccer. In soccer, many injuries occurred during tackling and contact with an opposing player, while the injuries in handball and basketball were often caused by ball contact and running.

#### Results

##### *Data Collection:*

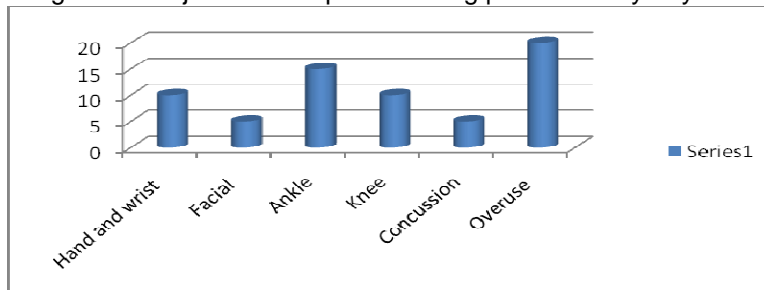
Subject: The number of subjects was taken to the study are 75, in the age group of 17-20 years of boys from Coorg district.

Collection of data: data collected through observation method.

Place of data collection: Data was collected in summer hockey coaching camp held at Coorg district.

*Analysis of data:* The present study was designed to survey of incidence of injuries and physiotherapy treatment given at Pre University Hockey boys from coorg district.

The data collected on the basis of players of observation by the researcher and interpretation of data with the help of physiotherapist. Total 30 injuries were reported out of 21 days of hockey camp. , prevalence of various injuries in field hockey players are Hand and wrist injury, facial injury, Ankle injury, Knee injury, concussion, over use injury. The study revealed that Hand and wrist injuries 20%, Facial injury 10%, Ankle injury 25%, knee injury 20%, concussion 05%, overuses injury 20%, are found. Study shows that the percentage of the injuries takes place among pre university boy's hockey players.



Observed during summer hockey camp for pre university boys in coorg district. The treatment for these injuries is PRICE, Stretching, tapping and warm.

## Causes of Injuries and its rehabilitation techniques

**Hand and wrist injuries:** Because field hockey is played in a semi-crouched position with the right hand placed low on the stick, the hands and fingers are extremely vulnerable to injury from contact with the ball or an opponent's stick. Hand fractures, especially in the fingers are common.

**Percentage of injuries:** The study shows that 20 % of the players suffer from hand and wrist injuries

**Rehabilitation techniques:** Rehab exercises for the wrist and hand should always be done pain free. The number of repetitions will depend on your injury or strengthening aims and stage of rehabilitation.

As a guide most trainers would recommend starting at one set of 8 reps daily increasing to 3 sets of 10 to 15 reps before increasing the resistance. Always seek professional advice if unsure.

Exercises can be performed with either no equipment at all (isometric contractions - pushing against a stationary object), or with simple equipment like a dumbbell (or alternative like a bottle of water) or resistance band.

**Facial injuries:** Accidental contact with a ball or an opponent's stick may result in injury to the face. While the majority of these injuries are minor cuts and bruises, more severe injuries such as facial fractures, penetrating eye injuries, and broken teeth have been reported.

**Percentage of injuries:** The study shows that 10% of the players suffer from facial injuries.

**Ankle injury:** Ankle sprains are the most frequent injury in sports. Inversion-type ankle sprains have been estimated to comprise roughly 15 percent of all injuries sustained during field hockey participation.

**Percentage of injuries:** The study shows that 25% of the players suffer from ankle injuries.

**Rehabilitation techniques:** Towel stretch, standing calf stretch, standing soleus stretch, ankle active range of motion, resisted active dorsi flexion, resisted active planter flexion.

**Knee injury:** Knee injuries, including anterior cruciate ligament (ACL) tears, are very common, as are muscle strains, particularly of the quadriceps and hamstrings.

**Percentage of injuries:** The study shows that 20% of the players suffer from knee injuries.

**Rehabilitation techniques:** Static Inner Quadriceps Contraction, Quads Over Fulcrum, Static Hamstring Contraction, Resistance, Band Knee Extension in Sitting .

**Concussion:** Concussions represent approximately 7 percent of all injuries sustained during field hockey competitions. Dizziness and confusion are the most common symptoms of a concussion, although longer-term issues such as headache, fatigue, and difficulty concentrating may also occur.

**Percentage of injuries:** The study shows that 05 % of the players suffer from concussion injuries.

**Rehabilitation techniques:** As a concussed patient becomes more symptom free at rest it does not mean they can automatically return to sports without experiencing problems. An incremental progression of exertion with heart rate monitoring is necessary prior to returning to sports or work specific activity.

**Overuse injuries:** While acute injuries are often more dramatic in nature, chronic injuries comprise a significant number of injuries. Chronic injuries such as low back pain, tendinitis of the hip, knee or ankle, and stress fractures of the leg and foot, typically result from repetitive activity and overuse.

**Percentage of injuries:** The study shows that 20 % of the players suffer from overuse injuries.

**Rehabilitation techniques:** The following techniques are most commonly used to treat overuse injuries via soft tissue mobilization: a) Active Release Technique (ART), b) Graston Technique.

**Suggestions:** 1) Using of proper equipments will avoid many of the injuries 2) Good fitness also helpful to avoid injuries. 3) Proper warming is must for the players to avoid total injuries. 4) Proper use of techniques also helps players to avoid injuries. 5) Knowledge of the rules of the game will come to the help of players in avoiding of injures.

**Conclusion:** Field hockey is very interacting game but still there is some situations leads to some injuries during play. Such situations are highlighted in the present study. The study would be very useful for the hockey players to take necessary steps to avoid injuries as well as to come out of such injuries.

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Injury prevention. stop sports injuries by AI Care

### A Study: Physical Education And Yoga

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**Abstract**—Yoga and physical instruction are not opposite controls yet correlative orders. Today, we find absence of legitimate co-appointment between yoga and physical training. This may be because of absence of understating about the conceivable commitment of yoga for the profit of physical instruction. We are, therefore, unable to exploit yoga in improving the field of physical instruction and games. The technique and systems of yoga and physical instruction vary in their degree and methodology. When we talk about yoga and physical training we should first unmistakably comprehend the thoughts of yoga and physical instruction.

**Keywords**— Physical, Education, Yoga , Student.

#### **Introduction**

The National policy on Education 1986 has recommended the inclusion of Yoga along with sports for students' youths. However, this attempt of associating Yoga with sports and physical education is not new. Yoga entered the field of physical education some six decades back. Swami Kuvalayananda was first person and the Kaivalyadhama founded by him is the first institution who brought scientific evidence about the utility of the yogic practices for the promotion of health and physical fitness. In 1956 when the national plan for physical education was prepared, a curriculum of yogic exercise was accepted along with other activities. Thus yogic exercises become an integral part of physical education programme.

Yoga and physical education are not contrary disciplines but complementary disciplines. Today, we find lack of proper co-ordination between yoga and physical education. This may be due to lack of understating about the possible contribution of yoga for the benefit of physical education.

#### **PHYSICAL Education**

The two separate words involve in physical education are "physical" and "education". The word physical refers to the body. It is often used in reference to various bodily characteristics, Such as physical strength, physical appearance, physical development and physical health. The word education means systematic instruction or training or preparation for some particular task or preparation for life. Education is the ongoing process of learning and total development the occurs throughout our lifespan.

The method of physical education to attain its objectives consists of various movements which can be classified as follows.

1. Natural or play full activities:

(a) Self - testing activities (b) Dramatic activities (c) Rhythmical activities (d) Hunting plays (e) Athletic activities (f) Personal Combative activities (g) Water activities (h) Winter activities related to Snow and ice.

2. Related activities:

(a) Locomotors adjustments (b) Outing activities like Hiking, Trekking etc., (c) Industrial activities.

3. Formalized or invented movements: (a) Marching, Military Drills (b) Postural Instructions (c) Special Corrective movements.

These vigorous movements contribute to development of various factors of physical fitness

#### **yoga:**

Although the word 'yoga' has many connotations, etymologically it means 'Integration'. The term 'Samatva' of Bhagawadgita conveys the same meaning. Other terms like homeostasis, equilibrium, balance harmonious development etc, more or less suggest the same thing. The aim of yoga itself is integration of personality in its all aspects. In order to help the development of such integration various techniques are employed. These techniques or practices enjoined in yogic literature and handed down in different traditions also go under the name of yoga. The various yogic practice may be classified in to (a) Asanas (b) Pranayamas (c) Bandhas and Mudras (d) Kriyas and Meditation.

**(a) Asanas:** These are certain special patterns of postures that stabilise the mind and body. The aim at establishing proper rhythm in the neuromuscular tonic impulses and improving the general tone of the muscles.

**(b) Pranayama:** These are the practices in the control of respiratory impulses which form one of the main channels of the flow of autonomic nerve currents.

**(c) Bandhas and Mudras:** In these practices one tries to consciously control certain semi-voluntary and involuntary muscles in the body. These influence the activity of the autonomic nervous system which functions as a whole. These tone up internal organs, decongest them and stimulate their healthy functioning.

**(d) Kriyas:** These are cleansing processes, usually classified into six divisions, each of which consists of many Sub-sections. They bring in control over the autonomic nervous system.

**(e) Meditation:** It involves mental practice from initial withdrawal of the senses to the complete oblivion of the external environment. There are innumerable stages and practices which could be included under this head. For undergoing yogic practice an adequate substratum is formed by resorting to a mode of self imposed code of conduct technically known as yamas and niyamas. They form the very basis of yoga and are considered to be an essential part of yogic routine, howsoever, on a mild scale

### **Contribution Of Yoga To The Field Of Physical Education And Sports**

Contribution of Yoga to the field of physical education and sports Utility of yoga in physical education and sports may be considered from the following points of view.

**(A) Systems of yoga and its importance:** Scriptures classify yoga into various systems namely Karma yoga, Bhakthi yoga, Jnana Yoga, Halth Yoga, Mantra Yoga, Yantra Yoga, Laya and Kundalini Yoga, Tantra Yoga and Raja Yoga. All the systems of yoga are important for physical educationists and players. But the degree of importance may vary depending upon the nature of Yoga.

1. Karma Yoga is useful for players to develop the steadiness as mind through selfless action.
2. Applications of Bhakthi Yoga principles help the physical educationists and players to achieve better emotional stability.
3. Jnana Yoga provides knowledge, insight and wisdom, which are essential to lead a successful life.
4. Haltha Yoga helps the physical educationists and players to have better control over the body.
5. Regular practice of mantra yoga develops the coordinated action of body and mind of players.
6. Yantra Yoga develops concentration.
7. Players can practice laya and Kundalini Yoga at later age to lead a peaceful life.
8. Tantra Yoga is a general form for the physiological discipline and union by harnessing sexual energy.
9. The Practitioner of raja yoga becomes the ruler of mind. It is the yoga of will. The yoga of mind culture or psychic control (Raja Yoga) gives a practical and easy approach to reach higher state of consciousness.

**(B) Yoga for the Prevention of Sports injuries:** Every sport involves vigorous movements. All vigorous activities shorten muscles and make them more susceptible to pulls and strains. It is necessary that the more a person involves himself in intensive and vigorous exercise the more he needs to stretch. Hearbert A devries has shown the utility of stretching procedures in the prevention of athletic injuries. When athletes exercise vigorously their muscles are injured slightly with healing, the effected muscle become shorter and tighter. Such a muscle is more susceptible to injury. Those who do not stretch lack flexibility and are more frequently injured. In sports like running the muscles most commonly injured by pulls and strains are the Hamstrings and the calf muscles. Athletes competing in running sport should regularly practice stretching.

Athletes engaged in running events should perform at least four Asanas to prevent injuries during running events. These are

1. Padahastaasana
2. Pasheimautanaasana
3. Ugaraasana
- and 4. Halaasana.

**(C) Yoga for the cure of sports injuries:** Aasanas – Yogic stretching exercises not only prevent sports injuries but also cure some of them in the form of muscle spasms etc. Herbert de varies has reported the utility of the stretching procedures of Hatha yoga in relieving certain conditions of muscles due to injuries in sports.



**(D) Yoga for the promotion of sports:** Application of yogic exercises has a considerable scope in the promotion of sports. Promotion of sports depends on

- (1) basic fitness factors
- (2) specific sports skills and
- (3) psychological factor.

a. Promotion of Basic Fitness factors through Yoga: - Scientific researches have shown enough evidence about how yoga could be gainfully employed in the promotion of basic fitness factors. Using elaborate Fleishman Battery of Basic Fitness Tests it was seen that even a short term yogic training could improve different basic fitness factors.

b. Promotion of Specific Sports Skills: - Development of sports skills depend on proper neuromuscular co-ordination. This co-ordination seems to be better influenced through yogic exercises. Various books are being written indicate the help of yoga rendered in the field of sports. Stretching improves the performance of all sports. The steady stretching in asana prepares the necessary back ground.

c. Promotion of Psychological Factors: - Emotional factor is very important in the performance of sports. It rightly used emotions can contribute to the improvement of the performance in sports. Emotions are governed by the working of the autonomic nervous system. Control over the autonomic nervous system brings the emotional disturbances down. Yogic exercises as a group play a significant role in the training of the autonomic nervous system. Stretching exercises like aasanas relaxation techniques and breathing exercises in the form of praanaayaama are excellent in conditioning the autonomic nervous system. A few studies made on the effects of a short term yogic routine have shown the utility of yoga in the achievement of emotional stability.

**(E) Maintenance of physical fitness during participation period and in off – season:**

Physical fitness is a must for any good performance in sports. Different sports require different types of fitness emphasizing on a particular fitness factor. However, a general level of physical fitness is necessary for every sportsman. The law of use and disuse suggests that if you want to be fit you must exercise. The routine of exercise differs from individual to individual according to purpose. Sports man also select different routines of exercise during the season of participation. But basic levels of physical fitness must be maintained even during off season. This can be attained excellently by indulging in yogic routine. Yogic exercise deal with the vital organs of the body on which health depends. The precursor of physical fitness lies in the efficient working of the vital organs of the body and yoga aim at it.

**Conclusion**

From the above discussion it will be clear that the deficiencies of the means of physical education and sports could be removed by including some of the means of yoga for the benefit of persons engaged in physical education and sports.

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## Effect Of Visual Skill Fitness Training Programme On Speed And Agility Of Male Cricket Players

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### Abstract:

To achieve this purpose, 30 cricket players were selected randomly as subjects for this present study. The subjects selected (N=30), were assigned randomly into two groups namely experimental group-1 and control group, consisting of 15 each. Thus they were named experimental group-1 as Visual Skills Fitness Training of Group (VSFTG), and Control Group (CG). Their age was fixed in the range of 19 – 24 years. VSFTG underwent visual skill fitness training programme for two days a week for about twelve weeks. Subjects in the control group were not engaged in any activity. Before and after the training period data will be taken to all the subjects. The collected data were processed with Paired t-test was used. The obtained result was tested at 0.05 level of significance. The results of the study show that experimental group shows better improvement on selected Speed and Agility when compared to control group.

Keywords: visual skills, cricket, Speed and Agility.

### Introduction

To participate in a competitive sport, such as cricket, one of the main aspects any coach should always keep in mind is that it is vital to achieve the best possible performance from the whole body – including the visual system. All aspects of cricket training and preparation are designed to maximize ability. Regardless of whether or not a cricket player has been genetically gifted with strong speed and agility traits, a player can dramatically improve his speed and agility by treating quick movements as a skill and training as such. Fitness is often thought of in terms of strength, endurance, flexibility and body conditioning. According to Barnes and Attaway (1996), cited in Roper (1998) agility has been defined as the ability of the player to change direction quickly and easily. Some objectives of agility training are enhanced power, balance, speed, and co-ordination (Barnes & Attaway, 1996).

#### Statement of the problem

The purpose of the study was to find out the effect of visual skill fitness training programme on selected visual skills and skill related fitness variables of male cricket players

#### Hypothesis

The hypotheses formulated in the present study as follows. In studying the individualized effect, it was hypothesized that visual skill fitness training would significantly develop the speed and agility of male cricket players from the base line to post treatment.

#### Significance of the study

The present study has significance in the following aspects. The present study helps the players to identify their level of performance on speed and agility. The results of the present study bring out the importance of visual skill fitness training towards development of skill in sports among the physical education teachers, training and coaches.

#### Selection of Subjects

The purpose of the present study was to find out the effect of visual skill fitness training on selected visual skills and skill related fitness variables of male cricket players. To achieve this purpose, as subjects, one hundred and twenty eight cricket players were selected as subjects. The selected subjects were the players pertained to teams qualified for quarterfinals in inter-collegiate level tournament. The subjects selected for this study were hailed from various socio-economic conditions. Their age was fixed in the range of 19 – 24 years.

## Selection of Variables and Tests

Table - 1

S.No	Variables	Tests	Unit of measurements
1	Speed	50 Yards Dash	In seconds
2	Agility	Illinois agility test	In seconds

### Training Procedure

The procedure used for the visual skill fitness training (VSFT) is as follows. The total duration of VSFT was 12 weeks. These twelve weeks VSFT was segmented into three phases. The duration of training programme for each phase was four week. Thus the Phase – 1 was executed in first four weeks (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> & 4<sup>th</sup>), Phase – 2 was executed in the second four weeks (5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup> & 8<sup>th</sup>) and the Phase – 3 was executed in the third four weeks (9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup> & 12<sup>th</sup>). Visual skill fitness training programme administered for subjects for two days a week for about 12 weeks. The duration of training for a day was 60 - 75 minutes. Of this 10 minutes used for warm – up, 5 minutes used for cool down. The subjects of VSFT were treated with running drills and visual skills station for 45 – 60 minutes. Subjects of this VSFT group were started with first running station after completion of running drills which they moved into visual skill training stations. In these training program nine exercises was fixed. 3 sets for Phase –I, 4 sets for Phase –II, 5 sets for Phase –III, were fixed for 12 week training programme. Duration of exercise in station was fixed for 30 seconds, the rest in between the station was fixed for 30 seconds and rest in between sets was fixed for 3 minutes.

Statistical TechniqueThe following statistical procedures were employed in the present study to achieve its purposes. To test the individualized effect of both combination of VSFTG and CG on speed and agility, Paired t-test was used. The level of confidence was fixed at 0.05 level.

### Results and Discussion

Significance of mean gains / losses between pre and post test Visual Skill Fitness training Group (VSFTG) and Control Group (CG) on speed and agility of male cricket players

Variables	Pre test (Mean and ±S.D)	Post test (Mean and ±S.D)	MD	SE	't' ratio
Visual Skill Fitness Training Group (VSFTG)					
Speed	7.43 ±0.39	6.68 ±0.39	0.75	0.08	8.89*
Agility	18.02 ±0.65	16.10 ±0.62	1.92	0.15	13.09*
Control Group (CG)					
Speed	7.30 ±0.45	7.11 ±0.32	0.19	0.09	1.99
Agility	18.29 ±0.57	18.13 ±0.42	0.16	0.09	1.77

\*Significant at 0.05 level: 2.14

### Conclusions

Based on the results the following conclusions have been made. In the present study speed and agility were significantly better as compared to players practiced with conventional training. In analyzing significant effect of VSFT, it was observed that the combined effect of visual skills, and running drills as they help to develop the speed and agility when compared to control group (conventional group).

## **Role Of Sponsorship In Indian Sports**

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### **Abstract**

Every man aspires to physically fit, sports and games as a means satisfied the needs of the man. But everyone didn't participating in sports and games because there is very expensive. Some sports and games equipment are costly. Example cricket kit minimum cost 10,000 rs. , tennis kit 4,000 rs. , Badminton Kit 3,000 rs., Bodybuilder need minimum 15,000 to 20,000 rs, and weightlifter and kabaddi players needs minimum 15,000 rs,. Which even amid order socio-economic player cannot afford to buy? As a result of this the highly skilful player of low socio-economic, stature forcefully stands away from sports. Organising sport is and over expanding avenue of human life. Example taluk level or district level tournaments take 3 to 4 lakhs rs. Sponsorship very helpful for participants and conducting of sports tournaments. Everyone has heard of the term 'sponsorship' but relatively few people have actually taken part in sponsorship negotiations. In recent days many multinational companies introducing their products via sponsorship to sports. Multinational companies spending more then million crore rs. on sports. Sponsorship helps to both sponsor and sponsee. For sponsors it will increase the brand image, introducing their products to people. For sponsee is will solve the financial problem, free equipments supply, free training and coaching, and finally concentrate on training without financial worries.

Key Words: Sports, Sponsorship

### **Introduction:**

Despite flashes of brilliance, the overall sports scenario in India has been bleak. Certain critical success factors in the system need to be tackled before the objectives of broad basing and excellence can be achieved. Due to lack sports culture in the country. Only few sports enjoy mass popularity. Sports in India are relatively low priority sector in terms of Government budget or policy. Also the training facility, sports science backup and media coverage are inadequate.

Sport has been acceptable as a part of society and culture through the world. It gets attention and involvement from the people to the extent of capturing news paper, headlines, media attention, and revenue for entrepreneurs. Games also affected social processes, human values, social life, and international affairs. Thus, sociology sees sports as any other major aspect of the society.

Every day thousands of people participating in sport in one form or the other. But the development of modern sports is impossible without the application of latest technical and scientific achievement. Non-traditional methods as the acupuncture will be useful to unite the latest achievements of science and technology and non-traditional methods. The popularisation of sports brought about the enormous demands of sports goods. Due to the Lack of sufficient infrastructure and hi-tech facilities and hi-tech equipments the participation of Indian youth's students has decreased.

The cost of a medium size meets like taluk, hobli or intervarsity amounts to worth three to four lakhs, which include the cost of boarding and lodging facilities and other organizational work. A big competition involve huge expenditure which amount to crore of rupees.

Participation in sports is very expensive. For example the complete kit of a cricket kit worth Rs 20,000.00/-, hockey goalkeeper kit Rs 8,000.00 /-, Tennis and badminton kit worth Rs 4,000.00 /- . A bodybuilder need Rs 15,000 /- to 20,000 /- per month for maintain their physic.

Sports persons need shoes; helmet, shin guard, and good playing surface to participating in sports, prevent injuries as well as improve performance.

Every day there are new findings in the equipment used which is not reaching to all sportsmen. For example in hockey and football there is a lot of change that has taken place in playing surfaces in the past decade. Costly synthetic surfaces in hockey, grass ground in football is not reaching the sportsmen. At university level due to lack of facilities, infrastructure, and the participation of the students has decreased.

### **Role of sponsorship**

In India sport is perceived as an essential component in society. It commands primacy like any other welfare program, demanding attention not merely to keep pace with its own enlarging range and dimension but also focusing on its flair, glamour and effervescence. This is impossible without generous funding. No single agency however endowed it may be with resources, will be able to meet the challenge; government too can play a limited role.

The role of sponsorship in the development of sports is threefold. First, sponsorship allocates land and resources to develop sports facilities. Second, create an environment that will allow the grassroots programmes that are sprouting across India to flourish. Some of these programmes will ultimately evolve into organised leagues.

Hence the remedy is sponsorship. Its significance in the present juncture needs no exaggeration. "Sponsorship has unquestionably changed the face of sport". No area of activity least of all sport will program without sponsorship.

Sports activities are organised towards achieving three objectives. They are  
Better physical development, Promotion of sport/ games, Preparing champion/ experts

These objectives could be achieved only through financial means.

Sponsorship helps in securing men and material resources for carrying out various activities, it creates sense of involvement example students contribution (through marginal) to sports funds generally creates some sort of involvement among the students in sports activities.

### **Advantages of sponsorship:**

Sponsorship is good for sports because it provides money for athletes to train and compete full-time, it used for competitions and promoted the development of new athletes, including Stadiums and grounds- New stands or grounds will often be named after the sponsor who has put money towards the development. Equipment- companies will often sponsor a player's equipment, usually one of the companies who manufacture the equipment. Accommodation and Transport- companies often offer free transport and accommodation to big teams. Companies often sponsor an actual competition or league so then their name and logo goes on all of the products and information regarding the competition. Sometimes the competition even named after the company.

Hence by the sponsorship the Young and new rising sports stars will be able to train and compete in their sport without having to worry about money and equipment. It can increase the income of a top athlete. Sport can promote by sponsors through the staging on special events. Money can be paid to a sport to improve facilities, provide more coaching and encourage participation.

Worldwide sponsorship: Worldwide sponsorship expenditures in 2006 26.7 billion US \$, in 2010 34.9 billion US \$, and projected sponsorship in 2015 45.3 billion US \$.

In India: Sport marketing spends between 2008-2013 advertising investment in Indian sport rose roughly two fold with a total spend of Rs 21.39 billion in 2008. This rose by 92 % to Rs 41.1 billion in 2014.

### **Conclusion**

Sponsorship is an ideal platform for development of sports in India. Sponsorship to be a suitable for strengthen to Indian sports. In future days in India more leagues will be conducted by the sponsorship. The sponsor is slotted to grow exponentially in the next few years with other sports like kabaddi, football, basketball, kho-kho, golf, motor sports, tennis. Sports are promoting in India. Improving performance by Indian players in the international arena. Wellness and fitness is gaining ever increasing traction.

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## Nutrition Problems and Recommendations to Female Athletes

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### **Abstract**

Female athletes are expected to be fit, lean and competitive in their sport. They also have the pressures of today's society, which places a high emphasis on body image and thinness. Because of this, some athletes will use extreme measures to reshape their bodies. Female athletes will diet or restrict various food groups in the hope that a thinner body will make them better in their sport. Unfortunately, the dieting techniques or eating practices they use are unhealthy and can lead to disordered eating behaviours and, in extreme cases, a clinical eating disorder. Low energy intake in highly active females can bring about a cascade of events termed the Female Athlete Triad (Triad) by the American College of Sports Medicine. The Triad refers to the causal relationships between low energy intake, menstrual function and bone health, which may manifest as eating disorders, amenorrhea (no menstrual cycles) and low bone density or osteoporosis. Adolescent female athletes, in a rapid growth and development phase, may be at greatest risk. We sought to identify athletes at risk, understand the origin of possible negative outcomes and recommend behavioral modifications that promote participation in competitive sports while supporting lifetime health. This review discusses the impact of disordered eating and menstrual dysfunction on bone mass in young, competitive female athletes and provides nutrition recommendations for their energy, carbohydrates, protein, vitamin and mineral intake.

Keywords : Nutrition Problems, Female Athletes triad etc

### **Introduction:**

Sports and exercise are healthy activities for girls and women of all ages. Occasionally, a female athlete who focuses on being thin or lightweight may eat too little or exercise too much. Doing this can cause long-term damage to health, or even death. It can also hurt athletic performance or make it necessary to limit or stop exercise.

Three interrelated illnesses may develop when a girl or young woman goes to extremes in dieting or exercise. Together, these conditions are known as the "female athlete triad."

The three conditions are:

#### **Disordered eating**

Abnormal eating habits (i.e., crash diets, binge eating) or excessive exercise keeps the body from getting enough nutrition. Although they usually do not realize or admit that they are ill, people with disordered eating have serious and complex disturbances in eating behaviors. They are preoccupied with body shape and weight and have poor nutritional habits. Females are five to 10 times more likely to have disordered eating compared with males, and the problem is especially common in females who are athletic. The illness takes many forms. Some people starve themselves (anorexia nervosa) or engage in cycles of overeating and purging (bulimia). Others severely restrict the amount of food they eat, fast for prolonged periods of time or misuse diet pills, diuretics, or laxatives. People with disordered eating may also exercise excessively to keep their weight down. Disordered eating can cause many problems, including dehydration, muscle fatigue and weakness, an erratic heartbeat, kidney damage, and other serious conditions. Not taking in enough calcium can lead to bone loss. It is especially bad to lose bone when you are a child or teenager because that is when your body should be building bone. Hormone imbalances can lead to more bone loss through menstrual dysfunction.

The true prevalence of the Triad is somewhat unknown. Studies have reported disordered eating in 15-62% of female college athletes and amenorrhea in 3.4-66% of female athletes. Research in Medicine and Science in Sports and Exercise examined 669 elite female athletes and found that over 60% of the female athletes were classified as at risk of the Triad.

Menstrual dysfunction :

Poor nutrition, low calorie intake, high-energy demands, physical and emotional stress, or low percentage of body fat can lead to hormonal changes that stop menstrual periods (amenorrhea). Missing three or more periods in a row is cause for concern. With normal menstruation, the body produces estrogen, a hormone that helps to keep bones strong. Without a menstrual cycle (amenorrhea), the level of estrogen may be lowered, causing a loss of bone density and strength (premature osteoporosis). If this happens during youth, it may become a serious problem later in life when the natural process of bone mineral loss begins after menopause. Amenorrhea may also cause stress fractures. Normal menstruation is necessary for pregnancy.

Premature osteoporosis (low bone density)

Lack of periods disrupts the body's bone-building processes and weakens the skeleton, making bones more likely to break. Estrogen is lower in girls with female athlete triad. Low estrogen levels and poor nutrition, especially low calcium intake, can lead to osteoporosis, the third aspect of the triad. Osteoporosis is a weakening of the bones due to the loss of bone density and improper bone formation. This condition can ruin a female athlete's career because it may lead to stress fractures and other injuries. Usually, the teen years are a time when girls should be building up their bone mass to their highest levels - called peak bone mass. Not getting enough calcium now can also have a lasting effect on how strong a woman's bones are later in life. Another study in the Journal of American College Health examined bone mineral density of elite endurance runners. Researchers found that 34.2% of the athletes studied had low bone mineral density at the lumbar spine, and osteoporosis was present in 33% of the sample. Other aspects of the Triad including menstrual dysfunction, disordered eating, and low bone mineral density were present in 15.9% of the athletes studied.

Female athletes should consider these questions:

Does they are dissatisfied with their body?

Does they strive to be thin?

Does they continuously focus on their weight?

If the answers are yes, they may be at risk for developing abnormal patterns of eating food (disordered eating), which can lead to menstrual dysfunction and early osteoporosis.

Doctor Examination:

Recognizing the female athlete triad is the first step toward treating it. See the doctor right away if you miss several menstrual periods, get a stress fracture in sports, or think one might have disordered eating.

One has to give the complete medical history to the doctor including :

What you do for physical activity and what you eat for nutrition.

How old you were when you began to menstruate and whether you usually have regular periods.

If you are sexually active, use birth control pills, or have ever been pregnant.

If you have ever had stress fractures or other injuries.

Any changes (up or down) in your weight.

Any medications you are taking or symptoms of other medical problems.

Family history of diseases (i.e., thyroid disease, osteoporosis).

Factors that cause stress in your life.

The doctor will give complete physical examination and may use laboratory tests to check for pregnancy, thyroid disease, and other medical conditions. In some cases, a bone density test will be recommended.

**Treatment:**

Treatment for female athlete triad often requires help from a team of medical professionals including doctor (pediatrician, gynecologist, and family physician), athletic trainer, a nutritionist, and a psychological counselor.

**Recommendations:**

A formal assessment of nutritional status is recommended on admission to hospital. Units should have a clear policy specifying who will make this assessment. A detailed laboratory assessment should take place at the time of initial physical assessment and again on admission to hospital. If significant abnormalities are detected, expert advice should be obtained. The amount of food given should be limited at first, and increased slowly. A weight gain of 0.5–1.0 kg per week is generally recommended for in-patients.

Patients in the early stages of re-feeding should be monitored closely for signs of biochemical, cardiovascular and fluid balance disturbance; electrocardiographic monitoring is strongly recommended in all cases of electrolyte disturbance and during intravenous replacement.

The use of a micronutrient supplement is recommended in both in-patients and out-patients.

The use of oral thiamin supplements is recommended for in-patients and out-patients undergoing rapid weight gain.

Enteral feeding should be carried out by a clinical team experienced and skilled in its use.

Patients undergoing enteral feeding should be monitored carefully; serum electrolytes should be monitored closely and deficiencies corrected promptly.

Enteral feeding should be initiated slowly, using an isotonic 1 kcal/ml (4.2 kJ/ml) standard feed delivered through a fine-bore nasogastric tube.

Parenteral B and C vitamins should be given before starting enteral feeding and possibly subsequently.

Phosphate supplements are recommended before enteral feeding starts; an additional mineral supplement may also be required.

Dietetic advice should always be sought when enteral feeding is used and it is recommended that units have a written protocol for its use.

Weight gain of more than 0.5 kg per week is not recommended in out-patients.

In out-patients who are gaining 0.3 kg per week or more, serum electrolytes should be monitored regularly.

For patients with chronic illness, it may be appropriate to aim for a low but safe weight in order to prevent hospital admission and maximize quality of life.

Religious dietary restrictions should be respected unless they present a threat to recovery. Care should be taken to ensure that drugs and nutritional supplements are consistent with the patient's religious or cultural practices.

Children and adolescents should be treated in a service that is age-appropriate and staffed by clinicians experienced in work with this group.

**Conclusion:**

It is important for athletes to refuel their body for the next day. A hearty meal after exercise will provide energy for building and repairing muscle tissue, refueling the energy stores of muscles, and preparing the body for the following day's workout.

The female athletes can achieve maximum performance by eating enough food to fuel their body, while still maintaining a healthy body weight. Help the athletes see that making good food selections will improve their performance and can be the key to a winning season.

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## **Effects of Alternate High And Low Intensity Training And Progressive Training on Physical And Physiological Variables Among Boys.**

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### **Abstract:**

The aim of this study was to finding out the Effects of Alternate High And Low Intensity Training And Progressive on Training on Physical And Physiological Variables Among Boys. The purpose of the study was to explore on the effect of alternate high and low intensity training and progressive training on physical and physiological variables among boys. To achieve this purpose ninety students (N=90) were selected randomly as subjects from, Guntur District, Andhra Pradesh, India. Their age is between 16 and 18 years. The subjects were randomly divided into three groups and each group contained 30 subjects Group-I (n=30) underwent alternate high and low intensity training, group-II (n=30) underwent progressive training and group-III acted as control. The subjects were free to withdraw their consent in case they feel any discomfort during experiment and testing period. The pretest and post-test means of experimental group I, II and the control group were tested for significance by applying analysis of variance (ANOVA) after eliminating the influence of pre-test, the adjusted post-test means of experimental groups and control group were tested for significance by using analysis of co variance (ANCOVA). The level of confidence was fixed at 0.05 for significance In addition to this Schaffer's post-hoc test was employed, when the 'F' ratio of adjusted post-test means was significant to find out the paired mean difference, if any among the groups of each variable separately.

Key words: High and low Intensity Trainig and Progressive Training on Physical and Physiological

### **Introduction**

Sports are about realizing one's potential, keeping people in sports longer are a huge gain for society. Today's world is a world of computers and spaceships. As civilization advances men's desire to compete with counterpart also increases. If he want to excel in his chosen field, the result of such desire is possible through scientific discoveries and their applications. Physical fitness is a thing which one cannot afford to neglect. The life without physical fitness is like "a ship without radar." One who is physically fit enjoys robust health and has a fine physique and satisfactory levels of social and emotional adjustments. Fitness represents the capacity to live most vigorously and effectively with one's only resources. According to Hockey (1993) physical fitness is the ability to carry out everyday task with vigor and alertness without undue fatigue and with ample energy to enjoy leisure pursuits and to meet unforeseen emergencies.

### **Methodology**

Sample:The purpose of the study was to explore on the effect of alternate high and low intensity training and progressive training on physical and physiological variables among boys. To achieve this purpose ninety students (N=90) were selected randomly as subjects from, Guntur District, Andhra Pradesh, India. Their age is between 16 and 18 years. The subjects were randomly divided into three groups and each group contained 30 subjects Group-I (n=30) underwent alternate high and low intensity training, group-II (n=30) underwent progressive training and group-III acted as control. The subjects were free to withdraw their consent in case they feel any discomfort during experiment and testing period. However, there were no dropouts in the study and all the volunteered subjects cooperated well throughout the period of training and experimentation. A written informed consent was also obtained from the subjects.

### Selection Of Variables

Independent Variables: Alternate high and low intensity training and Progressive training

### Criterion Variables:

The efficiency of cardio respiratory system and physical quality is the key to success in competitive sports and games. Each sports demand have specific qualities of physical and physiological systems for top class performance hence, the following criterion variables were selected under physical and physiological variables.

I Physical variables:Speed ,Explosive power (Vertical and Horizontal) and Cardio vascular endurance

II Physiological variables:Resting heart rate,Resting respiratory rate and Blood pressure

### Selection Of Tests

Even though many tests are available, the investigator has selected the standardized tests ideal for the chosen variables and most suitable for the chosen subjects for the purpose of the present study.

Table – I: List Of Criterion Variables And Their Respective Tests

Sl. No.	Name of the variable	Unit of Measures	Test/equipment
	Physical variables		
1	Speed	Seconds	50 metre dash
2	Explosive power (Horizontal) Explosive power (vertical)	Metre Centimeter	Standing broad jump Vertical jump
3	Cardio Vascular endurance	Metre	Cooper's 12 minutes run/walk
	Physiological variables		
4	Resting heart rate	Beat per minute	Automatic Blood Pressure monitor
5	Resting respiratory rate	Number per minute	Manual method
6	Blood Pressure Systolic blood pressure Diastolic blood pressure	mm. Hg mm. Hg	Automatic Blood Pressure monitor

Pilot Study:The training schedule was constructed after concluding a pilot study. For this 10 athletes were selected at random from the selected subjects. They underwent different physical activities as planned earlier. Their physical ability was assessed by the researcher along with other experts. Based on the purpose, for the subjects in the pilot study the training schedule for progressive and alternate high and low intensity training and progressive training was constructed separately. However, the individual differences were taken into consideration. The basic principles of training were followed while constructing the training program.

LOAD DYNAMICS:The intensity variations in 12 weeks of training for alternate high and low intensity training and progressive groups are given below:

TABLE – III :LOAD DYNAMICS

Weeks	Percentage of intensity	
	Alternate high and low intensity group	Progressive group
1 – 2	80	80
3 – 4	85	83
5 – 6	80	86
7 – 8	90	8 9
9 – 10	85	92
11 – 12	95	95

\*\* Load Increase/decrease – 5% \* Load increase/decrease – 3% Recovery – Partial recovery

### Collection Of Data

The data on speed, explosive power (Horizontal and Vertical) cardiovascular endurance resting heart rate, resting respiratory rate and blood pressure (systolic/diastolic) were collected by administering 50 meter dash, standing broad jump, vertical jump, cooper's 12 minutes run/walk, automatic bio monitor manual method respectively. Pre-test data were collected two days before the training program and post-test data were collected two days after the training program.

### Conclusions

From the results of the study the following conclusions were drawn.

1. Speed is significantly increased by alternate high and low intensity training. Further the improvement in speed is not in favour of progressive training.
2. There is no significance difference between alternate high and low intensity training and progressive training on speed.
3. Explosive power (Horizontal/Vertical) is remarkably documented in favor of alternate high and low intensity training and progressive training.
4. There is no significant difference between alternate high and low intensity training and progressive training groups on explosive power (Horizontal and Vertical)
5. Cardiovascular endurance has increased by alternate high and low intensity training and progressive training but the significant difference does not exist between training groups.
6. Resting heart rate (RHR) is significantly reduced by alternate high and low intensity training and progressive training.
7. There is no difference between training groups on RHR.
8. Resting respiratory rate ( $R^3$ ) is reduced only by alternate high and low intensity training where as progressive training failed to reduce resting respiratory rate.
9. There is no significant difference between alternate high and low intensity training and progressive training on resting respiratory rate.
10. Systolic blood pressure (SBP) and diastolic blood pressure (DBP) is reduced only by the alternate high and low intensity training where as progressive training has not influenced at significant level on systolic blood pressure and diastolic blood pressure.
11. There is no difference between training groups on systolic blood pressure and diastolic blood pressure.

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## Training On Musular Endurance Among Male Soccer Player

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### Abstract

The aim of this study was to finding out the effect of Continuous running Fartlek training and Interval training on Speed and Coordination among male soccer players. To achieve the purpose of the study 60 intercollegiate male football players were selected as subject at random from in an around the Guntur district of Andhra Pradesh and their age ranged of the subject is between 18 to 23years. The subject was divided into four group namely experimental group A, experimental group B, experimental group C and Control group D. Experimental group A underwent to Continuous running training, experimental group B underwent to Fartlek training, experimental group C underwent to Interval training and group D act as a control group they did not participate in any of the training programme other than their regular activates. The data was collected from four groups' pre and post of the experimental period. The raw data on speed and coordination was statistically analyzed by using Analysis of Covariance (ANCOVA). Scheffe's post hoc test was applied to determine the significant differences between the paired adjusted means. In all the cases 0.05 level of significance was fixed. The result of the study showed that there was a significantly improvement was found in Muscular endurance among the experimental group when compared with control group.

**Key words:** Continuous running, Fartlek training, Interval training, Muscular endurance

### Introduction

Aerobic Physical work out are done with oxygen. Use of oxygen in the body metabolic or energy generating process to perform the work by muscles is refereed as aerobics. Many types of exercise performed at moderate levels of intensity for extended periods of time are known as aerobic activity. Warming up exercise involving large muscles groups followed by at least 20 minutes and a cooling down exercise at moderate to intensity are also known as aerobic activity. Muscular endurance is defined as the force that muscles or a group of muscles can exert against a resistance for prolonged period (**Johnson and Stolberry 1961**). It may be defined as the ability of a muscle or muscle group to perform repeated contraction against a resistance to sustain contraction for a extended period of time with less discomfort and more rapid recovery (**Ajmer Singh 2002**).

Fartlek training is said to be the forerunner of the interval training system. It involves alternating fast and slow running over natural terrain. Interval training is a programme of repeated running with a set of resting full jogging after each repetition<sup>13</sup>. Continuous training is when an athlete's exercise in a steady aerobic way without any pauses or breaks in between.

### Statement of the problem

The purpose of the study was to find out the effect of Continuous running, Fartlek and Interval training Muscular endurance on male football players.

### Hypotheses

It was hypothesized that the effect of continuous running Fartlek training and Interval training on Muscular endurance would be significantly improve when compared with the control group.

## Methodology

To achieve the purpose of the presented study, sixty Inter collegiate football men players were selected at random from in an around the Guntur district of Andhra Pradesh their age ranged between 18 to 23 years. The selected subject was divided into four group namely experimental group A, experimental group B, experimental group C and Control group D. Experimental group A underwent to Continuous running, experimental group B underwent to Fartlek training, experimental group C underwent to Interval training and group D act as a control group they did not participate in any of the training programme other than their regular activates. Training was given for twelve weeks and alternative days in a week. The data was collected from four groups' pre and post of the experimental period and raw data was statistically analyzed by using Analysis of Covariance (ANCOVA). Scheffe's post hoc test was applied to determine the significant differences between the paired adjusted means. In all the cases 0.05 level of significance was fixed.

### Administration Of Test

**BENT KNEE SIT-UPS** (in numbers per minute)

#### Purpose

The Purpose of this test is to measure the abdominal muscular strength and endurance.

#### Equipment

Stop watch, clean floor mat/turf, score sheets

#### Description

The student lies on his back with knees flexed, feet on floor with heels between 12 and 18 inches from the buttocks. The fingers of the hands are clasped behind the head. The feet are held by partners to keep them in touch with the testing surface. The student by tightening his abdominal muscles curls to the sitting position and hands are placed on the chest. The sit-up is completed when the elbows touch the thighs. To complete the sit-up the student returns to the down position until the mid-back makes contact with the testing surface. The timer gives the signal "ready go" and the sit-up performance is started on the "go". Performance is stopped by the word "Stop". Only one trial is allowed. Rest between sit-ups is permitted. **Johnson and Nelson** (1988)

**Scoring** Number of correctly executed sit-ups performed in 60 seconds is recorded.

**Table- I**

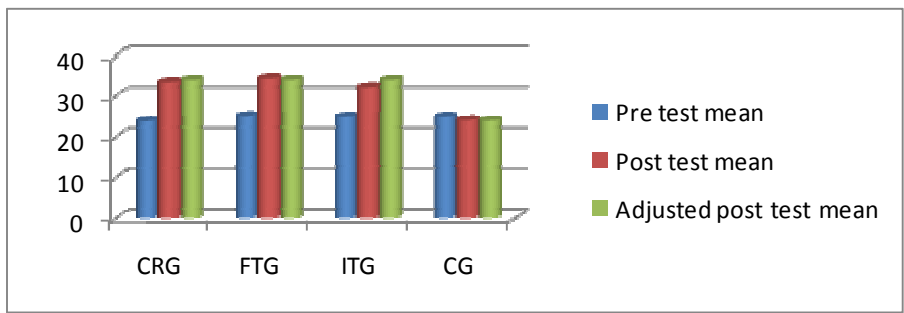
**Scheffe's post hoc test for the differences between paired adjusted post test means of muscular endurance**

CTG	FTG	ITG	CG	MD	CI
34.07	34.11	-	-	0.04	0.86
34.07	-	34.07	-	0.00	
34.07	-	-	24.13	9.94*	
	34.11	34.07		0.04	
	34.11		24.13	9.98*	
		34.07	24.13	9.94*	

**\*Significant at 0.05 level of confidence**

The table I Shows that the adjusted post test mean differences of, Continuous running (CRG) and control group (CG), Fartlek training group (FTG) and Control group (CG) and Interval training group (ITG) and Control group (CG) were 9.94, 9.98 and 9.94 respectively. They were greater than the confidence interval value 0.86 at 0.05 level, which indicate that there is a significant differences among the group of Continuous running group (CRG) and control group (CG), Fartlek training group (FTG) and Control group (CG) and Interval training group (ITG) and Control group (CG). The adjusted mean difference of Continuous running group (CRG) and fartlek training group (FTG), Continuous running group (CRG) and Interval training group (ITG), Fartlek training group (FTG) and Interval training group (ITG) were 0.04, 0.00 and 0.04 respectively. They were lesser than the confidence interval value 0.86 at 0.05 level, which indicate that there is no significant differences exist among the group of Continuous running group (CRG) and fartlek training group (FTG), Continuous running group (CRG) and Interval running group (IRG), Fartlek training group (FTG) and Interval training group (ITG).

The Comparison of pre, post and adjusted post mean values of muscular endurance for Continuous running group (CRG), Fartlek training group (FTG), Interval training, group(ITG).and control group (CG) on muscular endurance are graphically presented in figure 1.



**Figure 1:** Bar diagram showing the pre, post and adjusted post test mean values of Continuous running group(CRG), Fartlek training group (FTG), Interval training group (ITG) and control group (CG) on muscular endurance

**Conclusion**

Muscular endurance was significantly improved by the Continuous running group, Fartlek training group and Interval training group when compared with control group. There is no significant improvement in muscular endurance between Continuous running group Fartlek training group and Interval training group

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## Physical Activity And Exercises: Importance And Its Effect On Motor Components

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**Abstract:**The word health is an imperative aspect today in everybody's life, because if we are physically and mentally healthy we can definitely enjoy a healthy life. The healthy lifestyle must include eating right things at the right time and being physically active. Physical exercise or physical activities are any bodily activity that enhances or maintains physical fitness, overall health and wellness. The aim of the study was to know the effect of physical activity and exercises on motor components. In order to accomplish the stated purpose 60 active boys or athletes who participated in different sports and games and 60 non-active boys or non-athletes who have not participated in any physical activities were selected as subjects. Their age was ranged from 10 to 16 years. Data was collected and t test was conducted to know the effect of participating in physical activity and exercises on Reaction time, Agility, Sargent Vertical Jump and Leg explosive Power. The Independent sample t –test was conducted to know the significant difference between the groups. The obtained t – value for Reaction time, Agility, Vertical jump and Leg Explosive Power was 8.21, 10.82, 10.35 and 9.96 respectively. All the obtained values were found significant at 0.05 level of confidence. This significant difference between Athletes and Non-athletes showed the effect of physical activity and exercises on selected motor components.

**Keywords:** Physical activity, Exercise, Motor Components

### Introduction

“To keep the body in good health is a duty, otherwise we shall not be able to keep our mind strong and clear.” – Buddha. The word health is an imperative aspect today in everybody's life, because if we are physically and mentally healthy we can definitely enjoy a healthy life. Good and strong health is not sold in any grocery shop, it has to be created and maintained. It can be achieved by following some of the healthy lifestyle activities with few collective patterns which are related to health. These healthy patterns will help to reduce illness, maintain good looks and physique. The healthy lifestyle must include eating right things at the right time and being physically active. Plato while explaining the importance of physical activity says “Lack of activity destroys the good condition of every human being, while movement and methodical physical exercise save it and preserve it.”

Physical exercise or physical activities are any bodily activity that enhances or maintains physical fitness, overall health and wellness. It is performed for various reasons including strengthening muscles and cardiovascular system, weight loss or weight management and for the purpose of enjoyment. For a person to be active and good looking some of the motor characters or skills play a major role along with good physique.

The object of the present study was to know the effect of physical activity and exercises on bio-motor components of active and non-active children. Obtained results were reviewed in the background on the effect of participating in physical activity or exercises on development of motor qualities such as Reaction time, agility and leg explosive power.

### Methodology

In order to accomplish the stated purpose 60 active boys or athletes who participated in different sports and games and 60 non-active boys or non-athletes who have not participated in any physical activities were selected as subjects. Their age was ranged from 10 to 16 years. Data was collected on Reaction time, Agility and Vertical power. Average Leg explosive Power was calculated by using Lewis formula

## Results And Discussion

The independent 't' test for Reaction time, Agility, Vertical jump and Power have been analyzed and presented in the table 1 and Graphic representation are given in the fig 1,2,3 and 4 respectively.

**TABLE 1: Mean, Standard Deviation and obtained t-value of Reaction Time, Agility, vertical Jump and Leg explosive Power of Athletes (N=60) and Non-Athletes boys (N=60).**

	Group	Mean	Std. Deviation	t - Value
Reaction Time	Athletes	1.79	0.23	8.21*
	Non-Athletes	2.12	0.22	
Agility	Athletes	10.19	0.9	10.82*
	Non-Athletes	11.89	0.82	
Vertical Jump	Athletes	38.18	5.12	10.35*
	Non-Athletes	27.83	5.81	
Leg Explosive Power	Athletes	758.24	95.2	9.96*
	Non-Athletes	557.7409	123.5	

### \* Significant at $\alpha = 0.05$

It could be noted from the table 1 that Athletes showed significant difference in their Reaction Time, Agility, Vertical Jump and Leg Explosive Power when compared to Non-Athletes.

### Discussion And Conclusion

As in table 1 't' values for Reaction Time, Agility, Vertical Jump and Leg explosive Power are 8.21, 10.82, 10.35 and 9.96 respectively. Obtained 't' values were found significant as they were greater than the table value at 0.05 level of confidence. This shows that athletes showed significantly higher in their Reaction Time, Agility, vertical Jump and Leg explosive Power when compared to Non-athletes.

The mean scores of speed and reaction time of Athletes and non-athletes was found 1.78 and 2.12 respectively, which showed that athletes had faster reaction time when compared to Non-athletes. The mean scores of shuttle run of athletes and non-athletes was found 10.19 and 11.89 respectively, which showed athletes had better timing in shuttle run when compared to non-athletes. The mean scores of vertical jump of athletes and non-athletes was found 38.18 and 27.83 respectively. The mean scores of leg explosive power of athletes and non-athletes were found to be 758.24 and 557.74 respectively. The values showed highest leg explosive power in Athletes when compared to Non-Athletes.

The speed and reaction time of Athletes were found better when compared to Non-athletes. Athletes took an average of about 0.34 sec lesser time to react for signals when compared to Non-athletes. In case of agility Non-Athletes have taken 1.7 sec more to complete 30 feet shuttle run when compared to Athletes. Athletes showed better vertical jump capacity when compared to Non-athletes. Athletes showed better leg explosive power of average 200.5 watts more when compared to Non-athletes. This was supported by the obtained significant t values.

Based on the results of the study it can be concluded that selected motor characters of athletes such as speed and reaction time, agility, Vertical Jump and leg explosive power was found significant when compared to non-athletes. This showed the effect and importance of physical activities and exercises on some of the selected motor components.

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## **Yoga: Modern Training Technique To Improve Physiological Characters Of Athletes**

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**Abstract:** Training plays a major role in improving physical fitness components of an athlete which in turn improves the performance in sports performance. Training has specific goals of improving one's capability, capacity, productivity and performance. There are several training methods for improving sports performance. Now a days yoga is used to improve some of the physiological characters of athletes. The aim of the study was to know the effect of yoga on physiological variables of athletes. In order to accomplish the stated purpose 20 volleyball players were selected as subjects. Their age was ranged from 10 to 16 years. Data was collected on  $VO_2$  Max (Beep Test), Resting pulse rate, Mean arterial pressure and cardiorespiratory endurance (Cooper's 12 Minute Run/Walk Test). 12 weeks yoga training was given for all subjects. Surya Namaskar, vajrasna, Padmasana, Dhanurasana, Bhujangasana, Halasana, Padahastasana, Salabasana and Paschimothasana are included in the 12 weeks yoga training. The paired sample t –test was calculated to know the significant difference between pretest and posttest. The obtained t – value for  $VO_2$  Max, Resting pulse rate, Mean arterial pressure and cardiorespiratory endurance was 33.187, 5.933, 7.267 and 14.433 respectively. All the obtained values were found significant at 0.05 level of confidence. This significant difference between pretest and post test showed the effect of 12 weeks yoga practice on selected physiological components of Athletes.

**Keywords:** Training, Yoga, Physiological components

### **Introduction**

Sports and Games is all forms of competitive physical activity which, through casual or organised participation, aim to use, maintain or improve physical ability and skills while providing entertainment to participants, and in some cases, spectators. Hundreds of sports exist, from those requiring only two participants, through to those with hundreds of simultaneous participants, either in teams or competing as individuals. Now a day's participation in sports is becoming more competitive. Winning in a particular event or games is highly important and beneficial for both coach and for an athlete, which brings them status, recognition and financial benefits. Achievement in sports involves improvement in some of the physical fitness components such as speed, endurance, strength, flexibility and power. Different training methods are used to develop and train these components.

Training plays a major role in improving physical fitness components of an athlete which in turn improves the performance in sports performance. Training can be simply explained as the acquisition of knowledge, skills, and competencies as a result of the teaching of vocational or practical skills and knowledge that relate to specific useful competencies. Training has specific goals of improving one's capability, capacity, productivity and performance. Physical training concentrates on mechanistic goals: training-programs in this area develop specific skills or muscles, often with a view of peaking at a particular time. Some physical training programs focus on raising overall physical fitness. There are several training methods for improving sports performance. Now a day's yoga is used to improve some of the physiological characters of athletes.

### **Purpose Of The Study**

The main purpose of the study is to know the effect of yoga practice on physiological variables of athletes.

## Methodology

In order to accomplish the stated purpose 20 volleyball players were selected as subjects. Their age was ranged from 10 to 16 years. Data on VO<sub>2</sub> Max (Beep Test), Resting pulse rate, Mean arterial pressure and cardiorespiratory endurance (Cooper's 12 Minute Run/Walk Test) was collected before the training and after the completion of 12 weeks training programme. 12 weeks yoga training for 1 hour was given for all subjects. Surya Namaskar, vajrasna, Padmasana, Dhanurasana, Bhujangasana, Halasana, Padahastasana, Salabasana and Paschimothasana are included in the 12 weeks yoga training. Obtained pretest and post test scores were subjected to paired sample t – test.

## Results

**Table-1: Mean, Standard deviation and obtained t – value of VO<sub>2</sub> Max, Mean Arterial Pressure, Resting Pulse Rate and Cardiorespiratory Endurance**

	Variables	Mean	Std. Deviation	t - Value
Pair 1	Vo <sub>2</sub> Max Pre Test	5.65	0.75	33.187*
	Vo <sub>2</sub> Max Post Test	9.75	0.64	
Pair 2	Mean Arterial Pressure Pre Test	103.24	2.59	7.267*
	Mean Arterial Pressure Post Test	98.34	2.0	
Pair 3	Resting Pulse Rate Pre Test	72.50	1.96	5.933*
	Resting Pulse Rate Post Test	69.10	1.21	
Pair 4	Cardiorespiratory Endurance Pre Test	1796.7	53.29	14.433*
	Cardiorespiratory Endurance Post Test	1976.1	68.71	

### \* Significant at 0.05 level of confidence

It could be noted from the table 1 that the obtained 't' ratio of all variables was found significant and showed significant effect of yoga practice on selected physiological qualities. A bar diagram representation of pretest, posttest and gain scores of VO<sub>2</sub> Max, Mean Arterial Pressure, Resting Pulse Rate and Cardiorespiratory Endurance is given in figure 1,2,3 and 4 respectively.

## Discussion And Conclusion

As in table 1 that the obtained 't' ratio of VO<sub>2</sub> Max, Mean Arterial Pressure, Resting Pulse Rate and Cardiorespiratory Endurance are 33.187, 7.267, 5.933 and 14.433 respectively. Obtained t values were found significant as they were greater than the table value at 0.05 level of confidence. This showed the effect of yoga practice on selected physiological variables. The study revealed the positive effect of yoga practice in improving the selected physiological characters of volleyball players. All the variables such as VO<sub>2</sub> Max, Mean Arterial Blood Pressure, Resting Pulse Rate and Cardio-Respiratory Endurance showed significant improvement by participating in yoga practice. Subjects who participated in Beep test which was used to measure VO<sub>2</sub> Max showed significant improvement in their levels completed. Improvement in levels was found to be an average of 4.1. The Mean Arterial Pressure was found reduced from average of 103.24 to 98.34 with the drop down of around – 4.9. Resting pulse rate was also reduced to an average of -3.4 and the distance covered in 12min walk/run was improved to nearly about 179.40 mts. Within the limitations of the present experimental study, the following conclusions have been made in the light of the findings from the present study. Yoga can be used as a part of athletic training to improve some of the physiological characters such as VO<sub>2</sub> Max, Mean Arterial Pressure, Resting Pulse Rate and Cardiorespiratory Endurance, which in turn helps in the better sports performance.

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## Exercise And Physical Activity: A Mode For Improving Health And Physical Fitness For Optimum Life.

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**Abstract:**Physical activities increases blood supply to working muscles which increases nutrition supply for the tissues and removes waste products from that tissues which helps to improve the health and durability of those muscles. Regular physical activity helps to increase muscle mass. It burns and reduces body fat which results in maintaining body weight. This helps to avoid obesity and other weight related problems. Sweating during physical activity makes skin to be clean and fresh. Good physical activity increases blood flow to brain and helps to release endorphin and acts as a medium for relaxation, stress relief and fights depression and helps in sound sleep. All together physical fitness due to participating in physical activity keeps individual healthy with more efficient and good looking body.

**Keywords:** Exercise, Physical Activity, Health

### Introduction:

Exercise and physical activity plays a major role in improving physical fitness components of an individual. The terms physical activity, exercise and physical fitness are sometimes confused and used interchangeably. Each term has its own meaning.

Physical activity can be explained as any bodily movement produced by the skeletal muscle that requires more energy when compared to rest. Physical activity can be categorized as occupational, sports, house hold works and other activities. Walking, running, dancing, swimming, yoga, and gardening are a few examples of physical activity. Physical activity can be categorized into four main types i.e., aerobic, muscle-strengthening, bone-strengthening and stretching. According to the Department of Health and Human Services' "2008 Physical Activity Guidelines for Americans," physical activity generally refers to movement that enhances health.According to Medical Dictionary exercise is performance of physical exertion for improvement of health or correction of physical deformity. Exercises can be classified as active exercise, aerobic exercise, endurance exercise, isokinetic exercise, isometric exercise, isotonic exercise, passive exercise, range of motion exercise and resistance exercise or resistive exercise. It can also be explained as any action, skill, or maneuver that causes muscle exertion and is performed repeatedly to develop or strengthen the body or any of its parts.Physical fitness is a state of good health and well-being of an individual. Physical fitness is by and large achieved through correct nutrition, exercise and enough rest. It is a set of attributes or characteristics that people have or achieve that relates to the ability to perform physical activity. According to the United States Department of Health and Human Services (USDHHS), physical fitness is defined as "a set of attributes that people have or achieve that relates to the ability to perform physical activity".

Physical fitness is commonly defined as the capacity to carry out the day's activities, pursue recreational activities, and have the physical capability to handle emergency situations. Physical fitness is an important part of life. It is an indicator which shows whether you have the ability to perform and enjoy day to day physical activities with ease.

A person is called fit when he as "the ability to carry out daily tasks with vigor and alertness, without undue fatigue and with ample energy to enjoy leisure-time pursuits and to meet unforeseen emergencies"

**Physical fitness** comprises two related concepts: **general fitness** (a state of health and well-being) and **specific fitness** (a task-oriented definition based on the ability to perform specific aspects of sports or occupations).

Physical fitness is generally achieved through exercise, correct nutrition and enough rest. It is an important part of life. In previous years, *fitness* was commonly defined as the capacity to carry out the day's activities without undue fatigue.

However, as automation increased leisure time, changes in lifestyles following the industrial revolution rendered this definition insufficient. These days, *physical fitness* is considered a measure of the body's ability to function efficiently and effectively in work and leisure activities, to be healthy, to resist hypokinetic diseases, and to meet emergency situations.

The President's Council on Physical Fitness and Sports—a study group sponsored by the government of the United States—declines to offer a simple definition of physical fitness. Instead, it developed the following chart:

Physiology	Health related	Skill related	Sports
Metabolic Morphological Bone integrity Other	Body composition Cardiovascular fitness Flexibility Muscular endurance Muscle strength	Agility Balance Coordination Power Speed Reaction time	Team sport Individual sport Lifetime Other

Health related physical fitness components consists of five components which are related to health. Those components are body composition, cardiovascular fitness, flexibility, muscular endurance and muscle strength. Physical activity and regular exercises plays a major role in preserving and maintaining health. Physical activity has many health benefits. These benefits apply to people of all ages and races and both sexes. According to WHO Physical inactivity is the fourth leading risk factor for global mortality causing an estimated 3.2 million deaths globally, which reflects on the importance of physical activity. In his speech on the importance of physical fitness and health John F. Kennedy says "Physical fitness is not only one of the most important keys to a healthy body, it is the basis of dynamic and creative intellectual activity." VishwanatahnAnand focusing on the importance of Physical fitness says "I attend to my fitness. I go the gym every day and try to maintain my physical fitness; without that, it is tough to take challenges on the chess board". Physical fitness is generally achieved through physical activity, exercise, correct nutrition, enough rest, Stress management and relaxation. Uses or the prominent benefits of physical activities are Moderate risk for disease such as heart diseases, diabetes, metabolic syndrome, colon cancer, lung cancer, breast cancer and many more. It improves muscle strength and endurance, cardiovascular endurance, flexibility, agility, speed, bone density etc. and improvement of muscle tone. Regular physical activity or exercises especially participation in cardiovascular exercises increases the strength of the heart muscles and makes its more efficient. This strengthened heart muscle pumps more blood with less effort. The circulatory system is also improved because of improved blood flow and more oxygen to the muscles. These improvements will help in reducing heart diseases, heart attack and stroke. Physical activities increases blood supply to working muscles which increases nutrition supply for the tissues and removes waste products from that tissues which helps to improve the health and durability of those muscles. Regular physical activity helps to increase muscle mass. It burns and reduces body fat which results in maintaining body weight. This helps to avoid obesity and other weight related problems.. All together physical fitness due to participating in physical activity keeps individual healthy with more efficient and good looking body. It increases chance of leading a healthier, longer and more fulfilling life. It improves the confidence of an individual, delays the process of aging and increases the longevity of life. Results in good health and helps an individual to be happy, mental stability and fit. In other words it improves overall health and makes an individual to live his life to the fullest.

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## A Study Of Selected Physiological Variables On Basketball Referees Of Telangana State

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### **Introduction:**

Physical Education plays an important role in promoting physical fitness, character Building and Discipline among youth,child, player and any official. The foremost qualities of referees are Integrity, Hustle, Judgment, Communication, Consistency, Courage, Commonsense. Physical fitness is equally important for Basketball Referees as Basketball players. The Body Mass Index is beuristic proxy for human body fat based on an individual's weight and height divided by the square of his or her height. Basal Metabolic Rate(BMR) and the closely related Resting Metabolic Rate(RMR) is the amount of daily energy expended by animals at rest. Body composition can be measured in several ways. The most common method is using a set of measurement calipers to measure the thickness of subcutaneous fat in multiple places of abdominal area, the subscapular region, arms, buttocks and thighs of the body. These measurements are then used to estimate total body fat with a Margin of error of approximately four percentage points.A person's body fat percentage is the total weight of the persons fat divided by the persons weight and consist of essential body fat is highly required for maintain human life and reproductive functions. The percentage for woman is greater than Men, due to the demands of childbearing and other hormonal functions. Essential fat is 3% - 5% for men and 8% - 12% for women. Storage body fat consists of fat accumulation in adipose tissue, part of which protects internal organs in the chest and abdomen. The minimum recommended total body fat percentage exceeds the essential fat percentage value reported as above. The purpose to select the problem was to know and improvement in physical fitness and physiological conditions of state level Basketball referees of Telenganasatate.

### **Sample &Methodology : -**

The purpose of the study was to assess the selected physiological variables on state level Basketball referees of Telengana state. For the said purpose 60 candidates were selected to conduct the study from referee's examination. Age of the referees ranging from 25-35 years. Selected physiological variables for the study were BMI, BMR, fat percentage and lean Body Mass. Descriptive statistics such as Mean, standard deviation, range were used to assess the selected physiological variables of state level Basketball referees as well as compare the selected physiological variables among male and female Basketball referees of Telangana State. Descriptive statistical analysis has been done by the t-Test and the significance of the results was seen on 0.05 level. Entire instruments used in this research was found to be quite précised and reliable. To calculate the collected data SPSS version 16 and MS-Excel were used. The Blood pressure of the subject was measured by using sphygmomanometer.

### **Analysis And Discussion:**

Table:1 Comparison Of Basal Metablic Rate Of State Basketball Referees Of Telangana State

BMR	MEAN	S.D.	SIGNIFICANT "t"	t-RATIO
MALE REFEREES	1603	137.2	2.00	0.838
FEMALE REFEREES	1576	112.1	2.00	

\*Significant at 0.05 level

Table-2 revealed that the calculated value of t(0.838) was lower than the significant value of t(2.00) at 0.05 level of significant. So there was no significance difference between male and female Basketball referees with respect to Basal Metabolic Rate.

Table-2 Comparison Of Body Massindex Of State Basketball Referees Of Telangana State

BMR	MEAN	S.D.	SIGNIFICANT "t"	t-RATIO
MALE REFEREES	21.63	2.21	2.00	1.21
FEMALE REFEREES	20.95	2.09	2.00	

\*Significant at 0.05 level.

Table -2 revealed that the calculated value of t (1.21) was lower than significant value of (2.00) at 0.05 levels. So there was no significant difference found among male and female Basketball referees of Telanganastate in respect of Body mass index.

Table-3 Comparison Of Fat Percentage Of State Basketball Referees Of Telangana State

BMR	MEAN	S.D.	SIGNIFICANT "t"	t-RATIO
MALE REFEREES	19.20	1.84	2.00	2.261*
FEMALE REFEREES	20.15	1.38	2.00	

\*Significant at 0.05 level.

Table-3 revealed that the calculated value of t (2.261\*) was higher than the significant value of t (2.00) at 0.05 level of significance. Here in table-4 significance difference was found among male and female Basketball referees of Telangana with respect to fat percentage.

Table-4 Comparison Of Lean Body Mass Of State Basketball Referees Of Telangana State

BMR	MEAN	S.D.	SIGNIFICANT "t"	t-RATIO
MALE REFEREES	49.45	6.98	2.00	1.189*
FEMALE REFEREES	47.49	5.72	2.00	

\*Significant at 0.05 level.

Table-4 revealed that the calculated value of t (1.189) was lower than the significant value of t (2.00) at 0.05 level of significance. So there was no significant difference was found among male and female Basketball referees of Telangana with respect to Lean Body Mass.

### Discussion of findings :

The result of that there was no significant difference among male and female state Basketball referees of Telangana state in respect of BMI, BMR and Lean Body Mass. Whereas study revealed that there was a significant difference found among male and female Telangana state basketball referees in respect of Fat percentage. The Findings of the present study may also be attributed due to other factors such as dietary habits, geographical location, climatically condition and also due to other racial and ethnic factors and issues which require further study to substantiate the finding taking in to consideration the above factors which were not considered in the present study.

### Conclusion:

It can be concluded the Telangana State level Basketball Referees of Telangana have ideal body weight on the basis of body mass index. Also they passed normal amount of Basal metabolic rate. Referrers have 48.47 Kg of mass in their bones, muscles and other organs in average. Female Telangana state basketball referees have higher percentage of fat than male telangan state basketball referees. Finally the result of the study revealed that there was no significant difference was found in Mean differences of BMI, BMR and Lean Body Mass, whereas significant difference was found in Mean difference of fat percentages among Telangana State level basketball referees.

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## A Comparative Study of Endurance among Basket Ball and Net Ball Players of Osmania University in Telangana

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### **Abstract:**

Endurance are very important physical ability for performance in Net Ball and Basket Ball. Netball is very similar to basketball, except you do not dribble the ball and you can only take one step once you've received it. The purpose of the present study to compare the endurance among Net ball and Basket Ball Players. The sample for the present study consists of 20 Men Basket Ball Players and 20 Men Net Ball Players of Osmania University in Telangana. The 12 Minute Run Cooper Test for endurance is used to assess the results. This study shows that Basket Ball Players are having good aerobic endurance than net ball players.

### **Key Words:**

Net Ball, basket ball, dribble, aerobic endurance etc.

### **Introduction:**

Aerobic Endurance is the amount of oxygen intake during exercise. Aerobic Endurance is the time which you can exercise, without producing lactic acid in your muscles. During aerobic (with oxygen) work, the body is working at a level that the demands for oxygen and fuel can be met by the body's intake. The only waste products formed are carbon-dioxide and water which are removed by sweating and breathing. Aerobic exercise is physical exercise of relatively low intensity and long duration, which depends primarily on the aerobic energy system. Aerobic means "with oxygen", and refers to the use of oxygen in the body's metabolic or energy – generating process. Many types of exercise are aerobic, and by definition are performed at moderate levels of intensity for extended periods of time.

**Basketball** is a sport played by two teams of five players on a rectangular court. The objective is to shoot a ball through a hoop 18 inches (46 cm) in diameter and 10 feet (3.0 m) high mounted to a backboard at each end. Basketball is one of the world's most popular and widely viewed sports. A team can score a field goal by shooting the ball through the basket during regular play. A field goal scores two points for the shooting team if a player is touching or closer to the basket than the three-point line, and three points (known commonly as a 3 pointer or three) if the player is behind the three-point line. The team with the most points at the end of the game wins, but additional time (overtime) may be issued when the game ends with a draw. The ball can be advanced on the court by bouncing it while walking or running or throwing it to a team mate. It is a violation to move without dribbling the ball, to carry it, or to hold the ball with both hands then resume dribbling. Violations are called "fouls".

Netball is one of many sports that developed its unique form and structure from another, transplanted sport—in this case, from the United States to Great Britain—and then, as a result of that move, evolving into a significantly different sport. Netball was introduced to England in 1895 as the indoor game of basketball, which it greatly resembles, although a staccato game and a sport of stop, start, catch, and shoot compared to the all-action fluidity of basketball. Netball is an international sport, played by two teams of seven players and based on throwing and catching. Traditionally it is played by women but mixed and men's netball is becoming increasingly popular. The game consists of four quarters of 15 minutes each, with an interval of 3 minutes between the first/second and third/fourth quarters and an interval of 5 minutes at half time. Teams change end each quarter. The purpose of the present study to compare the endurance among Net ball and Basket Ball Players.

**Methodology:**

To find out the Aerobic Endurance between Male Net Ball and Male Basket Ball Players. The sample for present study consists of 20 Male Net Ball Players and 20 Male Basket Ball Players of Osmania University who has taken part in the O.U. Inter College sports and games during the year 2013-14 The 12 Minute Cooper Test is used for collection of Data. The Cooper test is a test of Aerobic Endurance.

**Results:**

This study shows that Basket Ball Players are having endurance compare to net ball players.. Basket Ball Players performed well in 12 min run because they are playing the game of and moving fast in the basket ball game for the longer period.

**Discussion:**

The Table No.1 showing the Mean, S.D, Standard Error, t-ratio of Net Ball Players and Basket Ball Players in Cooper Test.

Results of 12 min Cooper Test	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Basket Ball Players	20	3087.500	140.190	25.595	10.197	38.00	0.000
Net Ball Players	20	2645.833	190.729	34.822			

The Basket Ball Players mean performance in 12 Min cooper test is 3087.500 and Net ball Players mean performance in 12 Min cooper test is 2645.833. The Basket Ball players are having the better endurance i.e.3087.500 than Net Ball players is 2645.833

**Conclusion:**

It is concluded that Basket Ball Players are having good the good endurance compare to net ball players. Both this motor qualities are compulsory for both players to excel in their performance. Hence all the condition programme for improvement of motor qualities are included in the coaching programme of both the players.

**Recommendations:**

Similar studies can be conducted on other sports and games. The coaches must include the Physical Condition Programmes to improve the motor qualities of sports persons.

**Reference:**

Brianmac Sports Coach  
Wikipedia Basket ball and Netball



## The Effect Of Selected Yogic Activities And Hepatoglobulin Medicine On Hemoglobin For Four Blood Groups

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### **Abstract:**

The present generation engages most of their time with scientifically advanced equipment for their daily routine, resulting in fall and deterioration on their physical health and capacity. Physical activities begun at a young age are more effective in promoting health and longevity than those begun later in life. Hemoglobin is the protein molecule in red blood cells that carries oxygen from the lungs to the body's tissues and returns carbon dioxide from the tissues back to the lungs. Low hemoglobin is referred to many reasons loss of blood, traumatic injury, surgery, bleeding, nutritional deficiency, bone marrow problems, kidney failure etc. The purpose of this study is to know whether selected yogic activities and hepatoglobulin medicine do have influence on hemoglobin of different blood groups of High School boys, aged between 13-15 years. For this study 96 subjects were selected. Further they were divided in to four groups, with 24 subjects in each group, such as Yogic group, Medicine group, Yoga+ Medicine group and Control group. The training schedule for yogic activities and medicine are formulated by the help of proficient in yoga and medicine. The pre and post test hemoglobin among the four blood groups are tested in the lab. The data pertaining to criterion were taken before and after the training programme to access the effect of hemoglobin on four blood groups. The statistical technique of Analysis of Co-variance was used, which was followed by Bonferroni's post-hoc test. The study confirmed the hemoglobin among the experimental group has significantly enhanced.

**Key words:** Hemoglobin, Lab technician, Medicine.

### **Introduction:**

Health cannot be defined as a state at all, but must be seen as a dynamic process of continuous adjustment to the changing demands of living. In spite of its limitations, the concept of health as defined by WHO is broad and positive in its implications. Physical fitness is usually a result of regular physical activity and proper nutrition. The corporal activities that begin at the juvenile age are more effective in endorsing longevity and health than those begun later in life. Some scientific studies have revealed that Yogic activities enhance physical, physiological and psychological performance. Yoga is a science that consists of ancient theories, observations and principles about the body and mind. It's the form of physical activity that provides complete exercise to the entire body and massages all the internal organs and glands. The blood is composed of cells suspended in a liquid like substance. An adult human has about 4–6 liters of blood circulating in the body. A total of 32 human blood group systems are now recognized by the International Society of Blood Transfusion (ISBT). There are four major blood groups determined by the presence or absence of two antigens – A and B – on the surface of red blood cells. Hemoglobin is the protein molecule in red blood cells that carries oxygen from the lungs to the body's tissues and returns carbon dioxide from the tissues back to the lungs. The hemoglobin level is expressed as the amount of grams (gm) per deciliter (dL) of whole blood, a deciliter being 100 milliliters. The normal ranges for hemoglobin depend on the age and gender of the person. A low hemoglobin count is referred to as anemia.

**The Purpose Of The Study:** The urban area children (especially economically weaker section) are facing various health related problems due to lack of nutritional food, hygienic atmosphere, clean and pure water and adequate physical activities. The yogic activities have gained remarkable charisma all over, because of its therapeutic value as natural medicine.

**Methodology:**

The subjects are equally divided into four groups, such as Yogic group, Medicine group Yoga + Medicine group and Control group. Before and after the training blood test and hemoglobin content was measured at the lab. Yogic training for the duration of one hour a day, 6 days a week and a period of 12 weeks. 10ml of Hemetoglobin medicine weekly twice that is on Monday and Thursday.

**Administration Of Test:** Cleanse and lance the finger, lightly press to stimulate blood flow. Fill the cuvette in one continuous process and keep into the cuvette holder immediately. The results will appear in approximately 15-60 seconds. Record the results by writing the name, date and time on the subject's chart.

**Results:**

The hemoglobin level is expressed as the amount of hemoglobin in grams (gm) per deciliter (dL) of whole blood, a deciliter being 100 milliliters.

**Analysis Of The Data And Result:** Analysis of Covariance (ANCOVA) statistical technique was used to find out significant difference in means among four groups. Graphical representation of mean in pre-test, post-test and adjusted (for pre-test) were done using multiple bar plots. To tease out the source of significant difference if any, in the previous step, the Bonferroni's post-hoc test was carried. Profile plots were plotted. The following tables and figures illustrate the statistical results.

Table – 1

**DESCRIPTIVE STATISTICS FOR FOUR BLOOD GROUPS**

Group	N	Tests	Min	Max	Mean	Std. Error (mean)	Std. Dev
O+	32	Pre	<b>9.00</b>	<b>13.80</b>	<b>12.02</b>	<b>.218</b>	<b>1.233</b>
		Post	<b>10.90</b>	<b>15.80</b>	<b>13.80</b>	<b>.234</b>	<b>1.325</b>
A+	29	Pre	<b>9.90</b>	<b>14.20</b>	<b>12.09</b>	<b>.164</b>	<b>.882</b>
		Post	<b>11.50</b>	<b>16.30</b>	<b>13.82</b>	<b>.244</b>	<b>1.312</b>
B+	31	Pre	<b>9.80</b>	<b>13.90</b>	<b>12.35</b>	<b>.169</b>	<b>.945</b>
		Post	<b>11.60</b>	<b>15.80</b>	<b>13.92</b>	<b>.219</b>	<b>1.221</b>
AB+	4	Pre	<b>11.90</b>	<b>12.10</b>	<b>12.00</b>	<b>.057</b>	<b>.115</b>
		Post	<b>12.20</b>	<b>15.80</b>	<b>14.30</b>	<b>.878</b>	<b>1.757</b>
Total	96	Pre	<b>9.00</b>	<b>14.20</b>	<b>12.15</b>	<b>.104</b>	<b>.132</b>
		Post	<b>10.90</b>	<b>16.30</b>	<b>13.87</b>	<b>.131</b>	<b>1.288</b>

The table-1 reveals the descriptive statistics of hemoglobin for four blood groups. The minimum (min) hemoglobin in post-test is higher in four blood groups, when compared with pre-test. The maximum (max) hemoglobin in post-test is greater than pre-test in the respective groups. The Std. Error (of mean) and Std. Deviation are also high in the post-test when compared to the pre-test in the respective groups.

Table – 2

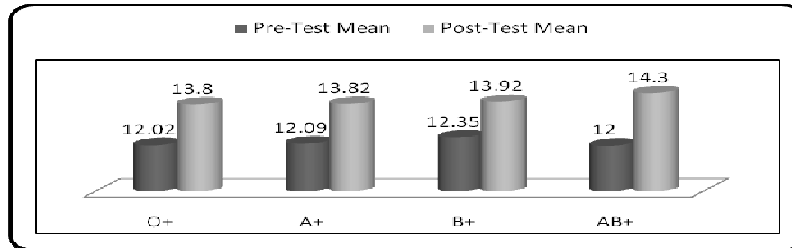
**MEAN SCORES OF HEMOGLOBIN FOR FOUR BLOOD GROUPS**

Group	Pre-Test Mean	Post-Test Mean	Adjusted post-test Mean
<b>O+</b>	<b>12.02</b>	<b>13.80</b>	<b>13.79</b>
<b>A+</b>	<b>12.09</b>	<b>13.82</b>	<b>13.90</b>
<b>B+</b>	<b>12.35</b>	<b>13.92</b>	<b>13.84</b>
<b>AB+</b>	<b>12.00</b>	<b>14.30</b>	<b>14.38</b>

The table -2 describes the pre, post and adjusted mean of hemoglobin among the four blood groups.

Figure – 1

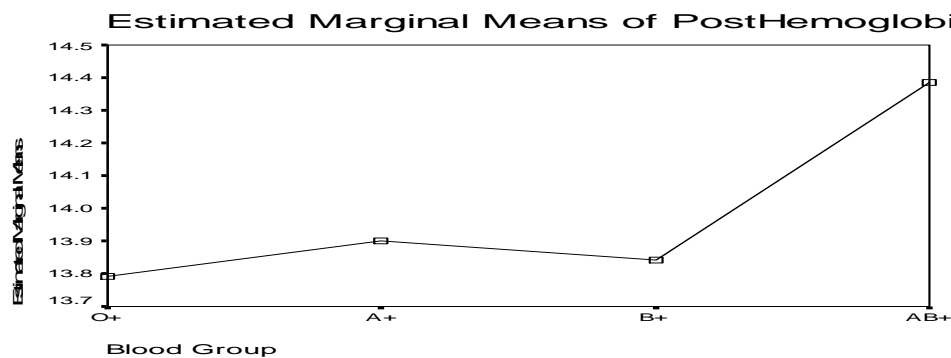
MULTIPLE BAR PLOT MEANS OF HEMOGLOBIN FOR FOUR BLOOD GROUPS



The mean scores in the table-2 are represented graphically in the multiple bar plot in figure-1.

Figure – 2

PROFILE PLOT ESTIMATED MARGINAL MEANS OF HEMOGLOBIN FOR FOUR BLOOD GROUPS



The profile plot in the figure-2 shows the increase in the adjusted post-test mean in AB+ & A+ group when compared to B+ & O+ blood groups.

### Discussion and Conclusion of the study:

The findings of the study shows that, the hemoglobin has significantly improved in AB+ & A+ blood groups when compared with B+ & O+ blood groups, in pre and post-test due to the influence of twelve weeks of yogic training and hemetoglobin medicine. The results have been shown in table 1&2 and figures 1&2. Because yogic exercises boosts circulation of blood and improve functioning of the entire circulatory system and develops cardio-respiratory efficiency. Regular practice of yoga and pranayama increases the RBC production as well as purifies the blood. Virtually the medicine also influence on increase of hemoglobin. The finding was however in conformity with previous studies reported by; Sanugam (1993) studied the effect of asana and jogging on selected physiological and hematological variables among school boys.

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## **Analysis of total runs and bowling economy in south zone inter university women cricket 2012**

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### **Abstract**

The purpose of the study was to analysis of total runs and bowling economy in south zone inter university women cricket 2012. Ten teams only performed south zone Inter university women cricket tournament in Pondicherry 2012. The study is limited to performing variables such as, total runs and bowling economy. For the purpose of the analysis top two teams (Qualified for All India Inter University Tournament) of the south zone inter university cricket women tournament namely Calicut and Pondicherry were considered. Independent t test was used for statistical analysis. There was no significant difference between successful team and unsuccessful teams in the selected variables.

KEYWORD: Total runs, Bowling economy, performance.

### **Introduction**

The Indian cricket is an international cricket team representing India. It is governed by the board of control in India (BCCI), the cricket governing body in India. The Indian cricket team is currently the highest paid national sports team in the world (in terms of sponsorship).

**Bowling Economy:** Bowling economy is defined for a bowler as how many runs give per over is called bowling economy. The lowest bowling economy is best bowler.

**Total Runs :** Safe crossing (s) from wicket to wicket, by a batter (and his partner) after hitting (earned runs) or off a fielding error (like stolen bases) (extras). Each crossing scores one run to the batting team.

### **STATEMENT OF THE PROBLEM**

The purpose of the study was to analysis of total runs and bowling economy in south zone inter university women cricket 2012.

### **Methodology**

This study was conducted only on the south zone inter university women cricket players and teams performance 2012. Ten teams only performed south zone Inter university women cricket tournament in Puducherry 2012. The study is limited to perform variables such as, bowling economic and total runs. For the purpose of comparison the top two teams (Qualified for All India Inter University Tournament) of the south zone inter university cricket women tournament namely Calicut and Pondicherry were considered as successful teams and other teams as unsuccessful teams. The data was statistically analyzed by using "t" ratio to find out the significant difference between two groups.

### **Results And Statistical Analysis**

The obtained scores in successful team and unsuccessful teams for perform variables such as, bowling economic and total runs have been presented in the table.

Results on Successful Verses Unsuccessful Teams

#### **TOTAL RUNS**

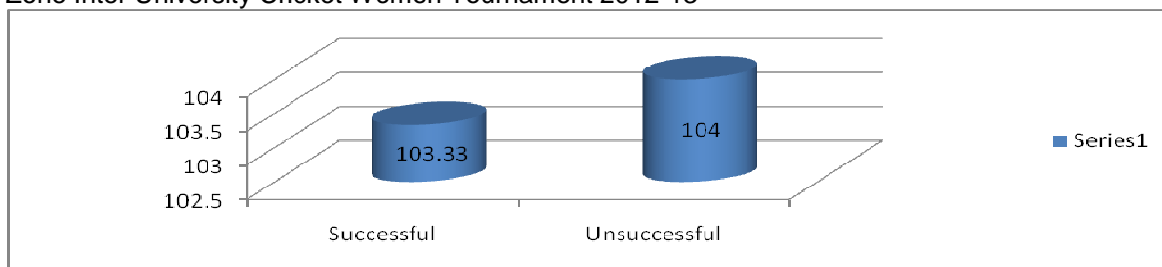
Table I: Total Runs Between Successful Team and Unsuccessful Teams in South Zone Inter University Cricket Women Tournament 2012-13

Group	MEAN	SD	SEM	MD	t
Successful	103.33	55.08	22.49	0.67	0.03
Unsuccessful	104	48.33	12.92		

Required tvalue (df 18) = 2.101 \* Significant

Table I reveals that there was no significant difference between successful team and unsuccessful team in the total runs as the obtained t value 0.03 was less than the required value of 2.101. For better understanding the total runs between successful and unsuccessful teams is given in figure 1.

Figure I: Bar Diagram showing total Runs Between Successful Team and Unsuccessful Teams in South Zone Inter University Cricket Women Tournament 2012-13



**BOWLING ECONOMY**

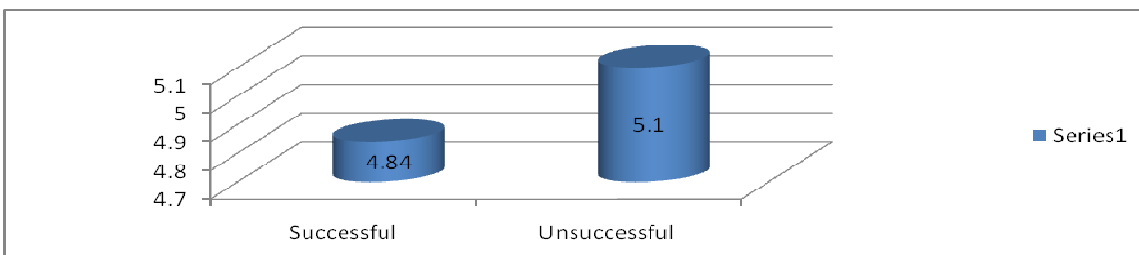
Table II: Bowling Economy Between Successful Team and Unsuccessful Teams in South Zone Inter University Cricket Women Tournament 2012-13

Group	MEAN	SD	SEM	MD	T
Successful	4.84	0.71	0.29	0.26	0.40
Unsuccessful	5.10	2.18	0.58		

Required tvalue (df 18) = 2.101 \* Significant

Table II reveals that there was no significant difference between successful team and unsuccessful team in the bowling economy as the obtained t value 0.40 was less than the required value of 2.101. For better understanding the bowling economy between successful team and unsuccessful teams is given in figure 2.

Figure II: Bar diagram showing, Bowling Economy Between Successful Team and Unsuccessful Teams in South Zone Inter University Cricket Women Tournament



**Discussion On Hypothesis**

The hypothesis states that there would be a significant difference between successful team and unsuccessful teams in the selected variables.

From the table I- II, it was observed that there was no significant difference between successful team and unsuccessful teams in the selected variables. Therefore the research hypothesis was rejected and null hypothesis was accepted.

**Conclusion**

In Team performance there was no significant difference between successful and unsuccessful teams in the selected criterion variables.

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## A Comparative Study of Upper Body Muscle Strength among Wrestlers and Judo Players of Osmania University

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### Introduction:

Weight training is a type of physical exercise specializing in the use of resistance to induce muscular contraction which builds the strength, anaerobic endurance, and size of skeletal muscles. When properly performed, strength training can provide significant functional benefits and improvement in overall health and well-being, including increased bone, muscle, tendon and ligament strength and toughness, improved joint function, reduced potential for injury, increased bone density, increased metabolism, improved cardiac function, and elevated HDL (good) cholesterol. Strength training is primarily an anaerobic activity, although some proponents have adapted it to provide the benefits of aerobic exercise through circuit training. Wrestling is a combat sport involving grappling techniques such as clinch fighting, throws and takedowns, joint locks, pins and other grappling holds. A wrestling bout is a physical competition, between two (occasionally more) competitors or sparring partners, who attempt to gain and maintain a superior position. There are a wide range of styles with varying rules with both traditional historic and modern styles. Wrestling techniques have been incorporated into other martial arts as well as military hand-to-hand combat systems.

Greco-Roman is an international discipline and an Olympic sport. In Greco-Roman style, it is forbidden to hold the opponent below the belt, to make trips, and to actively use the legs in the execution of any action. Recent rule changes in Greco-Roman increase opportunities for and place greater emphasis on explosive, 'high amplitude' throws. Pinning one's opponent to the mat is one way of winning. One of the most well known Greco-Roman wrestlers is Alexander Karelin from Russia.

Judo is a modern martial art, combat and Olympic sport created in Japan in 1882 by Jigoro Kanō. Its most prominent feature is its competitive element, where the objective is to either throw or takedown an opponent to the ground, immobilize or otherwise subdue an opponent with a pin, or force an opponent to submit with a joint lock or a choke. Strikes and thrusts by hands and feet as well as weapons defenses are a part of judo, but only in pre-arranged forms (kata, 型) and are not allowed in judo competition or free practice (A judo practitioner is called a judoka).

The philosophy and subsequent pedagogy developed for judo became the model for other modern Japanese martial arts that developed from *koryū* (古流?, traditional schools). The worldwide spread of judo has led to the development of a number of offshoots such as Sambo and Brazilian jiu-jitsu.

Wrestlers in Action



Judo Players in action



**Methods and Materials:**

The sample for the present study consists of 10 Male Wrestlers and 10 Male Judo Players of Osmania University those who have taken part in the O.U. Inter College Judo and Wrestling Tournaments for the year 2013-14.

To assess the Shoulder Strength the Pullups Tests were conducted among Wrestlers and Judo Players.

**Pull Ups Test:**

purpose: This test measures upper body muscle strength and endurance.

equipment required: Horizontal overhead bar, at an adequate height so that the participants can hang from with arms fully extended and feet not touching the floor. procedure: Grasp the overhead bar using either an overhand grip with the arms fully extended. The subject then raises the body until the chin clears the top of the bar, then lowers again to a position with the arms fully extended. The pull-ups should be done in a smooth motion. Jerky motion, swinging the body, and kicking or bending the legs is not permitted. As many full pull-ups as possible are performed.

**Results and Discussion;**

Table –I showing the Pull ups Test of Wrestlers and Judokas

Pull ups	N	Mean	t	Sig.
Wrestlers	10	12.60	6.19	0.000
Judo Players	10	10.10		

The Mean Score of the Wrestlers is 12.60 compare the Mean score of the Judo Players is 10.10.

The Average score of Pullups of Wrestlers is more compare to Judo Players. The practice of wrestling brings a rapid and overall development of all human organs and systems helps builds nice body develops strong muscles in the body. The Wrestlers beautiful body is used as a model for sculptures that can be seen today in museums.

**Conclusions:**

It is concluded that Wrestlers is having more upper body muscle strength compare to Judo Players.

**Recommendations:**

It is recommended that similar studies can be conducted on other sports and games.

This type of study is useful to coaches to give proper coaching for development of motor qualities for improvement of performance among Wrestlers and Judo Players.

**References:**

Wikipedia, wrestling

Wikipedia, judo

www.topendsports

martial-arts-self-defense.knoji.com/[wrestling-for-total-mind-and-body](#)

## Effect Of Medicine Ball Training On Isotonic Strength Of Secondary School Girls

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### Introduction

A medicine ball is a great exercise tool. It can be used for a total body workout because it tones and strengthens muscles as well as burns fat. It gives some variety to a stale routine and is easily adapted to fit your exercise needs. Medicine balls are available in various weights and sizes. If you are just beginning to use a medicine ball, opt for the lighter weights and work your way up. Medicine ball exercises allow the athlete and coach to devise drills that closely match the movements within a particular sport. Take tennis training for example. Mirroring the movement patterns of a forehand or backhand stroke with traditional free weights is difficult. Torso twists, where the ball is released to a partner incorporate many of the same muscle groups in the same firing pattern as a tennis forehand or backhand stroke. The purpose of this study is to find “effect of medicine ball training on isotonic strength of secondary School girls.

### Methodology

The methodology adopted in the present study related with selection of subject, selection of variable selection of test orientation of the subjects and administration of training program me.

#### Selection of subjects:

The purpose of the study is to find the effect of medicine ball training on isotonic strength to achieve this purpose 30 female students studying in Iqra school Bijapur Karnataka was be randomly selected as subjects.

#### Selection of variables:

The researcher has gone thought the available literature and has with various experts and with her guide before selection variable the availability of technique for purpose of analysis the feasibility, reliability of the procedure and the outcome was be extensively taken care before finalizing the variables after analyzing the various factors associated with the presents study criterion variable leg and back dynamometer was be used for strength check.

#### The test items and scoring:

Sl No	Test Items	Measurements
1.	Isotonic strength test	Record the pointer on the dial indicates the force exerted. Test should consist of pre-test and post-test measurements.

**Sample size of study:**In the present study single group design procedure was followed a group of 30 Male students was be selected from iqra school students The selected subjects was under go six week medicine ball training The researcher was adapted pre test and post test procedure to see the differences  
**Medicine ball Training**

The ability to generate strength and power is a very important component for success in many sports, particularly in those involving explosive movements. Medicine ball training, in conjunction with a program of weight training and circuit training, can be used to develop strength and power. Certain medicine ball exercises can also be used as part of a polymeric training program to develop explosive movements.



Medicine ball training is appropriate to all levels of ability, age, development and sport. To be most effective the program should contain exercises that match the pattern of movements of the sport.

**Medicine Ball Exercises**

Over Head Medicine Ball Throw, Seated Medicine Ball Throw, Side Medicine Ball Throw, Underhand Medicine Ball Throw, One Arm Med Ball Pushup

**Analysis And Interpretation Of Data**

The purpose of this study was to examine the effects of medicine ball training on the isotonic strength of school students. Pre-test as been conducted then the six week Medicine ball training program organized about the high school Female children’s after the six week training post-test conducted we know the effect of Isotonic strength the post-test results indicates significant improvement in the Isotonic strength.

**Table NO 1. Showing the pre-test and post-test for strength performance of Girls**

**Paired Samples Statistics**

Sl. No	Variables	Mean	Std. Deviation	t-value	t-value	Remark
1	Isotonic strength pre-test	74.83	15.61	-16.484	2.045	Significant
2	Isotonic strength post-test	94.33	16.33			

The level of Significant 0.05= Table value 2.045

Table value 2.045=0.05 significant table no1 indicates that the t-value is more than the table value that is 2.045.Hence, it is significant.The level of significant is 0.05=total value=2.045The pre-test mean value is 74.83and the post-test mean value is 94.33 the post-test value is greater Table indicates that the t’ value. Is more then he table value Hence it is significant.

**Result:** Six weeks medicine ball strength to the improves the isotonic strength among School children.

**Discussion**

The purpose of this study was to examine the effects of medicine ball training on the isotonic strength of school students. The pre-test mean value is 74.83and the post-test mean value is 94.33 the post-test mean value is greater than pre-test mean value it indicates significant improvement in isotonic strength performance of male students owing to six weeks medicine ball training

**Conclusion**

On the basis of the result the following conclusion may be drawn:

- 1] The six week Medicine ball strength training improves the isotonic strength.
- 2] The result of the study shown there was a significant difference between pre-test and posttest isotonic strength performance because both movements are not same.

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- 5-Faigenbaum, Zaichkowsky, Westcott, Micheli, and Fehlandt

## Design and development of a computer based data storage application for Physical Education personnel through Java.

Tara Singh Thakur  
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### Abstract

In today's world where computers have replaced books and manual labor, we are lagging behind in the application of computer science in Physical Education. This study is an attempt towards the basic application of Java language of computer programming in developing an application named Sportsinfo which would comfortably reduce the manual written work and record work of a Physical Education Personnel at his work place whether it is a School, College or a University. The total application shall be developed using the coding through Java language and the basic input would be the bio-data and game profile of each and every individual of your team. This application was developed in such a way that it can generate the outputs of the following data in PDF formats.

a) Individual Player Profiles, b) Team Lists of all games, c) Monthly Sports Reports, d) Annual Sports Report, e) List of Achievements, f) Attendance of players to tournaments, g) e-mails and messages to players etc. This application would definitely prove worthy for the profession of Physical Education and useful to each and every Physical Education Personnel. This application which is developed through Java can easily be operated on any computer with basic configuration making it user-friendly to each and every student and teacher. Hence this being a basic application, many more advanced ideas may be applied to computer science in Physical Education to make our profession a better and advanced on par with technology. Key Words: App or Application, Java, Coding, Output.

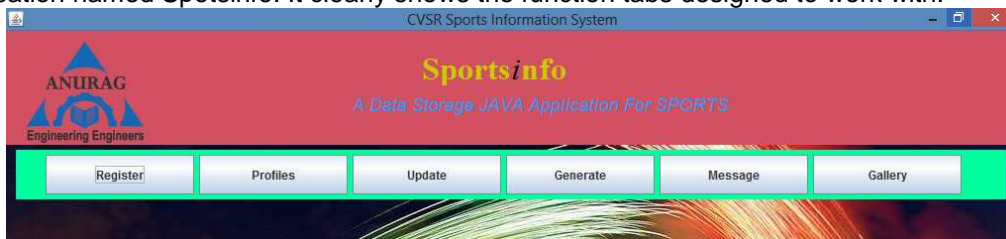
### Introduction:

Application of computer science in sports and physical education is most essential in today's competitive world where humans are creating records and wonders through their performances. This is an attempt to develop a simple basic application of computers to physical education which can help and assist physical education personals. Computers have developed rapidly through generations and the computer languages as well have taken many modulations and developments through centuries. Java is one such computer language which has got wide range of applications in various fields throughout the universe.

This Java application named *Sportsinfo.class* has been completely developed through Java language using the basic bio-data and sports details of all the players as the main data input which will further become the database for various outputs to be discussed below. The homepage of this application is designed in such a way that it contains the following tabs which shall further guide you to generate the required formats.

Register 2) Profiles 3) Update 4) Generate 5) Message and 6) Gallery

In the next page you can see the image of the home page which will actually appear as soon as u open this application named Spotsinfo. It clearly shows the function tabs designed to work with.



1. *Register*: This is the key function for creating the complete database for this application. Each and every individual player of the college is permitted to register to this application by filling up his/her complete details of personal profile such as general bio-data and height, weight, kit size and game profile such as game, highest achievement, total experience in the game and participations for the present academic year along with individual photograph.

After filling up the complete details in all the columns of the registration form, the player is supposed to click on the Submit button to register his name into the team and database. This data will also consist of the contact numbers and e-mail ids of the players which will serve us in future.

2. *Profiles*: This tab is designed to view the profiles of either a team or an individual by selecting the required field. Here if we intend to view the team profile of a particular game you need to select the game from the list of options provided in the tab and click Enter. This option will automatically generate the printable PDF format of the team profile containing names of the team members, Hall ticket numbers, Branch & Year of study, Date of birth and mobile numbers which is very essential as and when needed to be submitted during every tournament. The second option in this function is to view and print the profile of an individual. This can be used to view the complete profile of a player as entered in the registration form by just entering the player's name or hall-ticket number in the given space and clicking on Enter button below.

3. *Update*: This is a secured function designed with a credential which shall allow only the concerned Physical Education Personal to login and update the details of a team or an individual. If one intends to update the profile of a team, he needs to select the team from the list and click Enter. This option will open a tabular form which consists of various details of a tournament participated such as name of the tournament, venue, dates, number of days and result obtained. Once the Physical Education Personal enters all the above details regarding a tournament and clicks the Enter button, the details shall be updated in *Participations for present academic year* column of each and every player registered in that particular team hence updating individual player profiles too. The second option under this function is to update an individual profile. Select the option Individual and enter the player's name or hall-ticket number in the given space and click on Enter button below. This will automatically open the registered profile of that particular player permitting you to update whatever data required and click on the Update button at the end to save the updates.

4. *Generate*: This option enables you to generate the printable PDF formats of Sports reports, Players attendance and Achievement reports from time to time. If you wish to get the monthly or annual sports report, the option of Sports Report is to be selected and the date in the From column and To column are to be specified and click on the Enter button. This will automatically generate the printable PDF format of the table containing the details of the team, name of the tournament, venue, number of days and result obtained. Similarly if we intend to generate the player's attendance sheet for various tournaments we need to select the option Players Attendance and enter the dates as done above to specify the period and click on Enter. This will generate the table of players list with the details of individual hall-ticket numbers, class, discipline and number of days he/she has played in all tournaments in that specified period of time.

5. *Message*: This feature facilitates you with an option of either messaging or mailing team members or individuals. If a team is to be informed about a tournament or practice we can either message or mail them through this function key by selecting the desired mode. For this purpose we need to purchase additional SMS packages available in the market and install in the system which will create a new SMS tab in the MS Excel sheet.

6. *Gallery*: As known to everyone a gallery is a collection. This option helps us in uploading the collection of photographs of various tournaments during the games and during prize distributions or felicitations and saving them forever as memories. We have the option of uploading the photographs of teams or individuals through this option and can save it forever and view whenever you wish.

Conclusions:

- i) This design which is a basic application of Java language is very helpful for every coach and Physical Educationist to store huge data in his computer through basic database of the players.
- ii) Manual record writing work and maintenance of various files and mainly the wastage of paper can be reduced appreciably.
- iii) It is a simple eco-friendly application which can be easily maintained by any individual who has the basics of computer knowledge.

Recommendations:

- i) This is just a basic application and hence many more creative and technical applications useful to sports and physical education can be developed through innovative thoughts.
- ii) This application is mainly designed for desktops only. Advanced Android applications can be developed which can be easily accessible on your mobile phones and tablets.

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## Improvement In Visual Perfection Following Yoga Training

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**Dr.R.S.Varma,Coach, Dept. of Physical Education, Andhra University, Visakhapatnam**

### **Introduction:**

Visual discrimination was tested in two groups of 18 College students each, with ages ranging from 17 to 22 years. One group (the 'yoga' group) had 10 days training in yoga. Including asanas (physical postures), pranayama (voluntary regulation of breathing), tratakas (visual focusing exercises), meditation, and lectures on the theory of yoga. The control group carried on with their routine activities. The ability to detect intermittent light of fixed luminance, at varying frequencies was tested in both groups at the beginning and end of 10 days. While Initial values were similar for both groups. at the end of 10 days the frequency at which the yoga group was able to detect the flickering of the stimulus, was significantly more than the initial values (Wilcoxon's paired signed ranks test), whereas the control group showed no significant change. The final value of the yoga group was also significantly more than that of the control group (t test for unpaired data).

Meditation has been described as a training in awareness, which when kept over long periods produces definite changes in perception, attention, and cognition (Brown, 1977). Significant changes were reported in the visual perception of advanced meditators, who were able to distinguish subtle differences in color and shade, and were on the whole more perceptually sensitive (Brown & Engler, 1980). Another study described an increase in visual sensitivity following the practice of the mindfulness Buddhistic meditation (Brown 1984). It has also been shown that processing of sensory information at the thalamic level is facilitated during the practice of pranayama (Telles et al. 1992), and meditation (Telles & Desiraju, 1993, Telles et al. in press) These two practices, along with physical postures (asanas), cleansing practices (kriyas), devotional sessions, and lectures on the theory and philosophy of yoga were found to bring about an improvement in hand steadiness in college students following 10 days of practice (Telles et al. 1993). This improvement was believed to be due to improved eye-hand co-ordination, attention, concentration, and relaxation, as well. Hence the present study was carried out to assess whether practicing the same yogic techniques for 10 days would significantly alter visual perception.

### **Method**

There were 2 groups of subjects (with ages ranging from 17 to 22 years). Each group had 18 subjects, of whom 3 were females. One group participated in a 10 day residential camp in yoga. The control group, like the yoga group were university students.

### **Testing procedure**

Critical flicker frequency was measured using the apparatus fabricated by Visakha Eye Hospital (Visakhapatnam, India), which has a red light stimulus (6mm in diameter) with intensity of approximately 06 mw/cm<sup>2</sup> at a flash frequency from 12-95 cycles per second. Each subject was tested individually with binocular vision. The apparatus and subjects eyes were kept on the same line of vision and were 50cm apart. During the experiment all overhead lights were switched off except one 60w bulb to maintain a constant background illumination.

Assessments were made for both groups ('yoga' and control) at the beginning and end of 10 days. During the 10 day period the 'yoga' group received training in yoga, whereas the control group did not receive such training and carried on with their routine activities. The initial and final values were compared for significant differences using Wilcoxon's paired signed ranks test.

## Results

Both groups ('yoga' and 'control') had approximately similar values of critical flicker frequency (CFF) on initial testing (group mean + SEM,  $37.6 \pm 0.7$ , and  $37.9 \pm 0.6$ , respectively). At the end of 10 days, the CFF of the yoga group had significantly increased to  $42.6 \pm 1.6$  ( $p < 0.01$ , Wilcoxon's paired signed ranks test), whereas the control group showed no significant change ( $38.4 \pm 0.7$ ,  $p > 0.5$ , Wilcoxon's paired signed ranks test). The final value of the yoga group was also significantly more than that of the control group ( $p < 0.001$ , t test for unpaired data).

## Discussion

The CFF depends on a variety of factors, such as stimulus characteristics, concurrent stimulation of other sensory modalities, temperature, body position, and diurnal rhythms (Graham, 1965). In the present experiment stimulus parameters were kept constant. Also other sensations were cut-off by carrying out both initial and final tests under constant illumination and in a sound-attenuated room, with temperature maintained constant, and the subject seated in a comfortable position. Hence the significantly higher CFF levels seen after 10 days of yoga training could be due to diverse factors, ranging from more efficient processing of sensory information in the brain to increased attention, concentration, and simultaneous relaxation with yoga.

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## **Influence Of Symptoms Of Depression And Anxiety On Injury Hazard Among Andhra University Football Players**

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### **Abstract**

The purpose of this study was to examine the effect of depression and anxiety symptoms on the prospective injury hazard among football players. An open cohort of intercollegiate football players ( $n = 330$ ) were enrolled and followed during the 2011–2013 seasons. Of 330 enrolled players, 121 (36.7%) sustained at least one injury during the participation period. A total of 66 players (20.0%) reported experiencing symptoms of depression and 109 (33.0%) reported anxiety at the time of enrollment. Depression was associated with increased likelihood of injury. Football players who experienced depression at enrollment were 10% less likely to remain injury-free than those who did not have depressive symptoms. Evidence from this study suggests injury prevention efforts need to include strategies targeting psychological risk factors. Symptoms of depression and anxiety were independently associated with frequency and onset of injuries. With the intensity of inter-collegiate football competition, teams must focus on keeping as many players as possible healthy and injury-free. Injury prevention efforts have not widely implemented psychological aspects, and evidence from this study suggests this might be a promising and useful approach.

### **Introduction**

Football is a high collision sport with highest injury rates among all games. The combination of player size, speed of play, and the complex nature of the game makes injuries more common in football than in most other team sports (Dick et al., 2007; Kaplan et al., 2011; Scase et al., 2012). While more data are available on intrinsic physical or physiological risk factors of football injury, such as age, body composition, previous injury, poor muscle strength, flexibility and/or endurance, or poor skill level (Arnason et al., 2004; Chalmers, Samaranyaka, Gulliver, & McNoe, 2012), relatively fewer studies have examined the psychological factors that contribute to an increase or decrease in incidence rate of injuries in football.

### **Methods**

Andhra University inter-Collegiate football players were enrolled and followed for two years during the pre-season, in-season and off-season. Players were followed from enrollment until either their first injury or exit from the cohort (e.g., a player graduated, a player was lost to follow-up, or the study ended). Eligible players were those who were at least 18 years of age, participated in the 2011, 2012, and/or 2013 seasons, were not injured at enrollment, and agreed to participate through signed informed consent. Total 330 were enrolled and followed during 2011-2013 season.

### **Results :**

The survival rates were the lowest for players who were freshmen, had a history of injury in the past 12 months, and experienced depression at enrollment. It is estimated that 14.4% of Zone A players and 35.4% of Zone B players remained injury-free by the end of the second year of participation (Table 5). Furthermore, although Zone B players had relatively higher survival rates overall than Zone A players, the differences in survival rates between players with and without depression at enrollment at the two Zones were similar. Specifically, for freshmen with a history of injury, the difference in survival rates by the end of year two between players with and without depression were 11.0% for Zone A players and 12.5% for Zone B players. The trend was observed across all subgroups, with differences in survival rates ranging from 8.1 to 12.6%.

Table: Probability of remaining injury free by the end of one and two for participants zone A and zone B (n=330)

	Zone A		Zone B	
	P (Year 1) (%) <sup>a</sup>	P (Year 2) (%) <sup>b</sup>	P (Year 1) (%) <sup>a</sup>	P (Year 2) (%) <sup>b</sup>
Freshmen with history of injury in the past 12 months Symptoms of depression				
Yes	34.1	14.4	59.2	35.4
No	46.7	25.4	69.0	47.9
% Diff.	12.6	11.0	9.8	12.5
Freshmen with no history of injury in the past 12 months Symptoms of depression				
Yes	54.1	33.1	74.2	55.2
No	64.7	45.7	80.9	65.7
% Diff.	10.6	12.6	6.7	10.5
Non-Freshmen with history of injury in the past 12 months Symptoms of depression				
Yes	49.8	28.5	71.2	51.0
No	61.0	41.1	78.6	62.1
% Diff.	10.2	12.6	7.4	11.1
Non-Freshmen with no history of injury in the past 12 months Symptoms of depression				
Yes	67.2	48.9	82.4	68.1
No	75.4	60.2	87.2	76.2
% Diff.	8.2	11.3	4.8	8.1

Percent of participants remaining injury free by the end of year one.

Percent of participants remaining injury free by the end of year two.

### Conclusion

Symptoms of depression and anxiety were independently associated with frequency and onset of injuries. With the intensity of collegiate football competition, teams must focus on keeping as many players as possible healthy and injury-free. Injury prevention efforts have not widely implemented psychological aspects, and evidence from this study suggests this might be a promising and useful approach.

## Effect of Yogasanas on Flexibility

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### Abstract

Participating in physical education and sports helps a child in the development of allround personality by improving the physical fitness, and physical fitness is the pre-requisite for all other fitness such as mental, emotional etc. Fitness should be a life long process and commitment. Fitness can be achieved through participating in most enjoyable physical activity according to one's needs and ability. Yoga is one such most enjoyable activity everyone can participate. Yoga the art and science of maintaining physical and mental wellbeing that has its origin in India, is among the most ancient yet vibrant living traditions that is getting increasingly popular today. A potent stress buster, yoga is an instrument of self-evolvement and enlightenment, through physical and mental well-being. It enhances the quality of life by improving physical fitness. Flexibility is a major component of physical fitness. Yoga goes a long way in improving flexibility. Hence the study was undertaken. To achieve the purpose 60 high school students were randomly selected from Jawahar Navodaya Vidyalaya, Doddaballapur, Bangalore Rural District. The students were divided into two groups of thirty in each group. One group was utilized as the control group and the other as experimental group. Experimental group was given yoga training for twelve weeks. To find out flexibility sit and reach test was administered. The data were analyzed statistically by computing mean, standard deviation and 't' test. The hypothesis was tested at 0.05 and 0.01 levels of confidence. There was a significant improvement in flexibility of the experimental group due to yoga training.

Keywords : Yoga, Physical Fitness, Flexibility

### Introduction :

Yoga has become the fashion of the day. Millions and millions of people across the world are practicing yoga. India is the 'hub of yoga'. In fact yoga is the greatest contribution of India to the world. It is an ancient science which was originated some 5000 years ago. Yoga harmonises our growth. Practice of yoga contributes to human resource development and improvement in the quality of life by developing the fitness. Physical fitness is 'the ability to carry out daily tasks with vigour and alertness, without undue fatigue, with ample energy to enjoy leisure time pursuits and to meet unforeseen emergencies". Flexibility is one of the major components of physical fitness. "Flexibility is the range of motion of a joint or group of joints." Flexibility provides another dimension in performance that allows a higher degree of freedom and ease of movement coupled with some important implications for greater safety from injury. Yoga helps in improving and maintaining flexibility. The Purpose of the study was to find out the effect of yoga in improving flexibility.

### Review Of Related Literature :

Gitananda and Bhavani (1989) opines that Suryanamaskar when done properly serve the excellent purpose of providing one of the best systematic scientific stretches possible for the human body. These carefully structured movements balance backward bending with forward bending, stretching upward with stretching down. it increases flexibility of the body, tone up the organs, reduce laziness and fatigue and energize the whole organism. Deep breathing while moving adds to the beneficial effect. All in all Suryanamaskar forms one of the most perfect exercises known to man. Deepla (2008) conducted a study on developing motor abilities of high school students through yoga. The subjects (N=25) were given 12 weeks of Yoga training. After the training he found significant improvement in cardiovascular endurance, flexibility, freedom from obesity, balance and reaction time.



Saminathan (2010) conducted a study to evaluate the influence of selected yogic asana training of flexibility among sports persons. 40 sportsmen were given yoga training for 8 weeks. After 8 weeks of training he found that yoga training significantly improved flexibility among sports persons.

**Methodology :**

To achieve the purpose 60 high school students were randomly selected from Jawahar Navodaya Vidyalaya, Doddaballapur, Bangalore Rural District. The students were divided into two groups of thirty in each group. One group was utilized as the control group and the other as experimental group. Experimental group was given yoga training for twelve weeks. To find out flexibility sit and reach test was administered. The data was analyzed statistically by computing mean, standard deviation and ‘t’ test. The hypothesis was tested at 0.05 and 0.01 levels of confidence.

**Hypothesis :**

It was hypothesized that there would be a significant difference in the flexibility among experimental group by practicing yoga.

**Results And Findings :**

Table-1: Table showing significance of differences between pre and post tests scores of subjects in Flexibility among experimental and control groups (N=30).

Group	Test	Mean	Standard Deviation	‘t’ value	Level of Significance
Experimental (Yoga)Group	Pre	4.736	0.621	4.086	Significant at 0.01 level
	Post	5.433	0.697		
Control (Non-Yoga) Group	Pre	4.930	0.863	0.810	Not Significant
	Post	5.110	0.858		

It is observed from the above table that in experimental group the Flexibility mean scores of pre test is 4.736, which has increased to 5.433 in post test, whereas among the control group the pre and post test mean scores of Flexibility are 4.930 and 5.110 respectively. It is also evident from the above table that the obtained ‘t’ value 0.810 is less than Table value 2.05 even at 0.05 level of significance in control group and 4.086 is greater than Table value 2.76 at 0.01 level of significance in experimental group. The mean difference between pre and post tests scores of subjects on Flexibility was found to be significant in experimental group. It is inferred that the flexibility in experimental group is enhanced significantly through yoga training. Therefore, it is statistically proved that the yoga training has helped in enhancing Flexibility. Hence, the hypothesis is statistically proved and stated hypothesis is accepted.

**Conclusion :**

On the basis of the results it was concluded that 12 weeks of yoga training statistically improved the flexibility of the experimental group.

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## Comparative Analysis Of Sports Competition Anxiety Of State Level Male And Female Handball Players

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### Introduction

Anxiety differs around in that it encompasses both some degree of activation and unpleasant emotional state. Thus the term anxiety is used to describe combination of intensity of behavior and direction of an impact of emotion. The direction of characteristic of anxiety is negative in that it describes subjective feelings that are unpleasant. Anxiety plays an important role in the acquisitions of motor skills as well as in the athletic performance. Whether its effect is positive or negative depends on how individual athlete perceives the situation. Anxiety may be positive motivating force or it may interfere with successful athletic performances. As a positive motivating force it can be instrumental in motivating the athlete to work harder to find new and better ways to improve performances and to help set goals. The athlete who uses his anxiety in this way will seek out ways to improve himself. This not only reduces his anxiety but helps him increase his athletic skills and self confidence. As a negative motivator anxiety may interfere with productive as well as constructive thinking. Athletes may attempt to handle anxiety by denying the need to work hard. This can lead to the development of poor work habit or athletic techniques. These often lead to failure and in turn, lack of confidence and increased anxiety.

### Methods

50 male and 50 female Handball players were selected randomly for this study from the State level tournament which was 36 th State level Handball Championship for Men & Women, Guntu ,Andhra pradesh. The study was undertaken to pinpoint psychological characteristics like Sports competitive anxiety. The Sports Competition Anxiety was measured by using Sports Competition Anxiety Test (SCAT) developed by Renier martin. Descriptive statistics and independent 'T' test was used to compare Sports competition anxiety between state level male and female handball players and the level of significant was tested at 0.05.

### Results

#### Table no.I

#### Descriptive Statistics of Male and Female Hand Ball State Level Players on Sports Competition Anxiety Score

Groups	N	Mean	Standard Deviation	St. Error Mean
Males players	50	19.56	2.56	0.61679
Females player	50	17.50	2.53	0.41082

In the above table no.I, there were 50 Male players having mean of 19.56 with standard deviation of 2.56 and standard error of mean 0.61679. Similarly there were of 50 Female players having mean of 17.50 with standard deviation of 2.53 and standard error of mean 0.41082 respectively.(In the table N means number of subjects).

**Table no.2**  
**Independent sample 't' test of Sports competition anxiety**

T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
2.789	98	0.004	2.06000	.61964

In the table no.2. mean differences for the Sports competition anxiety of Male Players and Female Players was 2.06000. This difference when tested by Independent 't' test/t' value was found 2.789 which was statically highly significant at 0.05 significance level for 98 degree of freedom. Therefore the research hypothesis, there is significant difference between between male and female state level Handball players in Sports Competition Anxiety is Accepted.

**Discussion**

It was observed from the finding that the Sports competition anxiety of State Level Male and Female Handball Players from table no.2. That significant differences was found between Male and Female State Level Handball Players in Sports competition anxiety. Therefore the research hypothesis, there is significant differences between male and female state level Handball players in Sports competition anxiety is accepted. The results or descriptive statistics have indicated that the subjects mean scores in Sports competition anxiety shows that Male State Level Handball Players have high degree of Sports competition anxiety than Female State Level Handball Players.

**Conclusion**

The observation of the survey data, with in limitation of the present study, the following conclusion has been drawn. In the present study, we observed that Male State Level Handball Placers got good results in Sports competition anxiety. Researcher concluded that Male State Level Handball Players have more sports competitive anxiety, Lastly, we can say that the Psychological Variable like Sports competition anxiety of Male and Female State Level Handball Players is not similar and are very Important factors to be successful in the field as well as in society. Having an accurate understanding of the Psychological Variables that may influence the performance of the players and could serve him to do best.

**Recommendation**

It is recommended that similar study may be conducted on players of other games as well. It is recommended that a comparative study of Psychological Variables between sportsmen and non sportsmen can be studied. To make the study more detailed and valid the study may repeated on the large sample.

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## Effect of interval training on speed endurance of college students

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**Abstract:** Sport is as old as human society itself. It is an institution, which has its own traditions and values. Being an institutionalized and competitive activity, it involves vigorous physical exertion or the use of relatively complex of physical or structural advantages of individuals. Successful performance in sports competitions at various levels was based on the selection of the participants based on the structural or anatomical designs of the individuals, innovations of the new techniques and training methods that best suit to the population under processes. The aim of the study was to assess the effect of interval training on speed endurance of the college students. To serve this purpose forty subjects were selected randomly from Government Degree College, Naidupeta, Nellore district of Andhra Pradesh. The selected students were further divided into two groups (20 in each group) by random means. Out of these first group was treated as control and the other as experimental. The age, height and weight of the subjects ranges from 17 years 2 months to 19 years 4 months, 158cms to 181cms and 42kgs to 72kgs respectively. The experimental group underwent an eight week interval training programme apart from their regular physical activity. The control group was contended to their regular activity. The speed endurance was assessed by following 250 meter run test. The data collected was subjected to analysis of covariance to determine the significant difference between the adjusted post tests. It was found that the experimental group was significantly better than the control group in speed endurance.

**Key words:** Anatomical designs, Interval Training, Speed Endurance,

### **Introduction:**

Sport has historically played an important role in all societies, be it in the form of competitive sport, physical activity or play. Sport has been increasingly recognized and used as a low-cost and high-impact tool in humanitarian development and peace-building efforts. Sport can no longer be considered a luxury within any society but is rather an important investment in the present and future, particularly in developing countries. Sport has a unique power to attract, mobilize and inspire. It stands for human values such as respect for the opponent, acceptance of binding rules, teamwork and fairness.

Interval training is built upon alternating short, high intensity bursts of speed with slower, recovery phases throughout a single workout. The interval workouts can be highly sophisticated and structured training that is designed for an athlete based upon his or her sport, event and current level of conditioning. An interval training workout may even be designed based upon the results of anaerobic threshold testing that includes measuring the blood-lactate of an athlete during intense exercise. An early form of interval training, "Fartlek" (a Swedish term meaning 'speed play') was casual and unstructured. A runner would simply increase and decrease his pace at will<sup>4</sup>.

Interval training works both the aerobic and the anaerobic system. During the high intensity efforts, the anaerobic system uses the energy stored in the muscles (glycogen) for short bursts of activity. Anaerobic metabolism works without oxygen, but the by-product is lactic acid. As lactic acid builds, the athlete enters oxygen debt, and it is during the recovery phase that the heart and lungs work together to "pay back" this oxygen debt and break down the lactic acid. It is in this phase that the aerobic system is using oxygen to convert stored carbohydrates into energy. Interval Training Safety Tips Warm up before starting intervals. Assess current conditioning and set training goals that are within the ability. Start slowly. (for example: walk 2 minutes/ run 2 minutes) In general, longer intervals provide better results Keep a steady, but challenging pace throughout the interval Build the number of repetitions over time Bring the heart rate down to 100-110 bpm during the rest interval To improve, increase intensity or duration, but not both at the same time. Make any changes slowly over a period of time. Train on a smooth, flat surface to ensure even effort You can also use circuit training as a form of interval training

### Methodology:

To attain the purpose 40 students were selected at random from Govt. Degree College, Naidupeta. The selected subjects were divided into two groups and assigned to control and experimental groups. The experimental group underwent an eight week interval training program. The criterion variable speed endurance was assessed by following 250 meter run test<sup>5</sup>. Speed endurance was assessed before and after the training program from both the groups. The differences in motivation and environmental conditions during the pre and post tests were considered as limitations of the study. The collected data was analyzed by following analysis of covariance, the process that adjusts the initial mean differences to that of final means<sup>1</sup>. The level of significance was set at 0.05 level.

Results: The pre and post test data collected on speed endurance of control and experimental groups were analyzed statistically and presented in table 1.

Table 1: Analysis Of Covariance For The Data On Speed Endurance Of Control And Experimental Groups

	Means (Sec.)		SOV	SS	DF	WS	F
	Control Group	Expe. group					
Pre Test	40.66	39.77	BG	7.92	1	7.92	
			WG	107.31	38	2.82	2.80
Post Test	38.50	34.27	BG	353.43	1	353.43	
			WG	1241.07	38	32.66	10.82*
Adjusted Post-tests	39.50	34.54	BG	364.19	1	364.19	
			WG	1228.17	37	33.19	10.97*

\* Significant at .05 Level

Table 1 show that the pre test data on speed endurance of control and experimental groups yielded an f ratio of 2.80, which is less than the table value 4.10(df1&38) for significance at 0.05 level. It indicates insignificant difference between the pre test means. The post test means resulted an f ratio of 10.82, which is higher than the table value. The f ratio 10.97 for adjusted post test is also higher than the table value 4.11(df1&37) for significance. It indicates significant difference between the post test means. The observation of the means indicate that the experimental group is significantly better than the control group in speed endurance.

### Discussion:

It is thought that by performing high intensity intervals that produce lactic acid during practice, the body adapts and burns lactic acid more efficiently during exercise. This means athletes can exercise at a higher intensity for a longer period of time before fatigue or pain slows them down. Interval training adheres to the principle of adaptation. Interval training leads to many physiological changes including an increase in cardiovascular efficiency (the ability to deliver oxygen to the working muscles) as well as increased tolerance to the build-up of lactic acid<sup>2</sup>. These changes result in improved performance, greater speed, and endurance. Interval training also helps to avoid injuries associated with repetitive overuse, common in endurance athletes. Intervals also allow an athlete to increase training intensity without overtraining or burn-out.

### Conclusion:

The analysis of the data facilitated to conclude that the eight week interval training programme improved speed endurance of college students.

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## Motivation in Sports

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### Introduction:

Sports psychology is often quoted as being making the difference between someone who is good and someone who is a champion, giving you that little extra edge to put you ahead of your opponent. All good sporting performances come from being well prepared, mentally as well as physically. To be the best requires you to use the skills that you have as effectively as possible. Often athletes who are fit and talented do not achieve their best possible performances because they have not developed the necessary mental skills. Maybe their concentration lapses at vital moments, they lack motivation or find it hard to perform under pressure. Sport psychology is about helping athletes tap their potential and achieve the performances they dream about. Setting goals is an important starting point. All good athletes set goals and develop targets and plans to achieve their goals. Effective goal setting comes from making your goals positive, specific, actionable and flexible.

### Motivational techniques for coaches and athletes

#### 1. Goal setting

1.Athletes should be encouraged to set a few ambitious but achievable long-term goals; perhaps to represent their country in a major championship in three or four years. Through empowering athletes to set their own goals, they are more likely to accept the challenges that lie ahead and pursue the goals with enthusiasm.;

2.To keep athletes on track with their long-term goals, they should also set appropriate medium-term goals. For example, following a bronze medal-winning performance at the 2004 Athens Olympics, UK heptathlete Kelly Sotherton set herself the medium-term goal of winning the 2006 Commonwealth title in Melbourne (which she achieved) en route to pursuing her long-term goal to be crowned Olympic champion at the 2008 Beijing Games;

3.By far the most important goals in practical terms are those for the short-term, as it is these that keep athletes focused on the checkmarks which are seminal to achieving superior performance. Therefore, short-term goals should be predominantly process-oriented. For example, when Manchester United's Wayne Rooney injured a metatarsal six weeks before the start of the soccer World Cup, he set a series of process goals in his race to regain full fitness. These included daily physiotherapy sessions, remedial exercises in an oxygen chamber, non weight-bearing aerobic activities, monitoring of nutritional intake and so on;

4.Goals need to be monitored and revised on a regular basis. One of the biggest mistakes that coaches make in setting goals is that they are often too rigid in their approach. The goal setting process works best when there is some flexibility and the individual athlete or team take ownership of each goal. Thus, coaches and managers are better off exercising some democracy when setting goals, particularly if working with more experienced athletes.

#### 2. Using extrinsic rewards

According to SDT(1), the key aspect in using extrinsic rewards effectively is that they reinforce an athlete's sense of competence and self-worth. Thus, a reward should be informational in nature rather than controlling. If a reward comes to be controlling, it can significantly undermine intrinsic motivation. For a reward to be informational, it is advisable that it has relatively little monetary worth (ie it is a token reward), such as a 'woman of the match' or 'athlete of the tour' title.

Also, the reward should be presented to an athlete in front of all potential recipients with some emphasis placed on the prestige associated with it. Other popular ways of using token rewards include etching athletes' names on annual honours boards for their contributions, or awarding a special item of clothing.

### **3. Motivational music**

A particularly good way to motivate athletes in training and prior to competition is through the use of music they perceive to be inspirational. Sydney Olympics rowing gold medalist, Tim Foster, now a respected coach, uses music to punctuate all of the indoor training sessions that he leads. Specifically, during circuit training or rowing ergometer intervals, he puts on loud/fast music, while during recovery periods he plays soft/slow music. Therefore, work and recovery times are regulated by music. Research from Brunel University indicates that this approach increases work output, reduces perceived exertion and improves in-task affect – the pleasure experienced during the activity.

### **4. Positive self-talk**

Positive self-talk is a technique that can be used to enhance motivation across a wide range of achievement domains. It makes use of an athlete's powerful inner voice to reinforce their self-esteem or important aspects of their performance. With appropriate repetition, self-talk can positively alter an athlete's belief system. I use three types of self-talk in my work with athletes and will illustrate each with an example to assist you in coming up with your own.

#### **Summary**

Each and every one of us has an untapped energy source that can be drawn upon to bring about superior results. Enhancing motivation is fundamentally about a change of attitude, developing a positive 'can do' mindset and engaging in systematic behaviours – the short-term process goals – that facilitate improvement. If you have a leadership role in sport you will have considerable influence on how motivated your athletes or team might feel. You can instil a good work ethic, recognise individual effort and instigate transparent reward structures that reinforce people's sense of competence. To work best, the techniques mentioned in this article need to be moulded around specific circumstances and the needs of individual athletes. Always strive to be original and innovative in the application of motivational techniques.

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## **Total energy expenditure in physical activity of Lisbon children and adolescent's students obtained by self-report and accelerometry measures: preliminary results of a validation study**

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**Abstract:** Purpose of the study: To test the validity of: the physical activity level (PAL) versus total Evenson Children (2008) bout (EC2008) and steps average counts (Savg); and the estimate of total energy expenditure using accelerometry data as reference versus physical activity energy expenditure (PAEE) obtained through self-report measures of physical activity (PA) of Portuguese-speaking people. Methodology: A subsample of the FCT/FMH/UTL project (transversal study among Lisbon students) was randomly selected to take part in this study (n=101; mean age, 13.8 years). The self-report questionnaire (RAPIL2 questionnaire from FMH/UL/Portugal) data was collected using a recall of seven days within this period, and accelerometry was collected over four consecutive days during the school year. The PAL was obtained from RAPIL2 and, using PA intensity levels proposed by Ainsword et al. (2011), the EE was calculated by multiplying the resting metabolic rate (RMR) by PAL and by the growth factor 1.01 (FAO, 2001). EC2008 (Evenson et al., 2008), Savg and the PAEE were obtained from accelerometry. Results: Boys reported more PAL/hour and EE than girls (both, p=ns); Boys were significantly more active than girls (delta of: activity=808 kcal; average.1=127 kcal/day; activity.2=10.04 kcal; Savg=0.32), but EC2008 did not differ significantly between boys and girls; Savg was significantly correlated with PAL/hour, for boys and girls (Rho=.391;.321, respectively), and accelerometry were also positively correlated with EE, for boys (Rho=.303-.345) and girls (Rho: .290-.329); Significant correlations were observed between PAL/hour (Rho=.223;.353) and EE (Rho=.321-.357), with accelerometry; Significant differences were observed between self-reported and accelerometry data (in all groups). Conclusion: RAPIL2 questionnaire, used as described in methodology does not correctly measures the total energy spent in PA. Further research is suggested in order to fit an algorithm to adjust the ability of self-report measures of PA to predict the variability of PAEE. **Keywords:** energy expenditure; physical activity; self-report questionnaire.

### **Introduction**

The ambulatory physical activity (PA) is an important component of overall energy expenditure (EE). Nevertheless, quantifying PA has proven to be a difficult task (Crouter et al., 2006). Monitoring devices seem to be a useful tool to estimate total daily EE in free-living populations (Snodgrass, 2012). In accordance, accelerometers are objective measurement tools that allow researchers to estimate how much energy individuals are expending. Several regression equations have been developed to convert the Actigraph activity counts to EE (see Counter et al., 2006). However, this type of measurements is more expensive to implement in survey settings than self-report instruments (Ward et al., 2005).

### **Purpose of the study**

This study aims to test the validity of: (1) the physical activity level (PAL) versus total Evenson Children (2008) bout (EC2008) and steps average counts (Savg); and (2) the estimates of total energy expenditure (EE) using accelerometry data as reference versus physical activity energy expenditure (PAEE) obtained through self-report measures of physical activity (PA) of Portuguese-speaking people.

### **Methodology**

#### *Study design*

Cross-sectional study.



### Participants

Participants were a subsample of the FCT/FMH/UTL project (a transversal study among Lisbon Junior High Schoolstudents), randomly selected to take part in this preliminary validation study (n=101; mean age,13.8 years).

### Measurements

Accelerometry data was collected over a four-day period during the school year, and questionnaire data was collected using a recall of seven days within this period.

Individuals were visited at school where height and weight were measured by trained research staff. Participants were given an ActiGraph GT3X accelerometer (Actigraph LLC, Pensacola, FL, USA). The Actigraph was placed on the left side of the waist. An instruction sheet was given to participants, containing a brief description of the device, details on how to wear it, and contact information for the researchers. This instruction sheet also included a diary for the devices. Participants were instructed to note if they did not wear the monitor for any period >1 hour during the day, and were encouraged to wear it all day, except when showering, bathing or swimming. Fieldworkers visited the participants at school to collect the monitor and the diary, which provided any notes regarding the usage of device. As consequence, for most children and adolescents (>85%), accelerometer data was comprised of four consecutive days. The epoch was set to 5 s and data were analyzed using the ActiLife accelerometers software (ActiLife version 5; <http://support.theactigraph.com/dl/ActiLife-software>). Days with <600 min of registered data, and periods of time above 60 minutes of consecutive zero counts were excluded (Choi et al., 2011). For the purpose of this analysis, was considered the Evenson et al. (2008) threshold of 2,296 counts. In accordance, five variables were used in this study: (1) the PAEE (kcal; kcal/day; kcal/hour); (2) the total Evenson Children (2008) bouts; and (3) the steps average counts.

PA was also estimated through a standardized self-report questionnaire, the RAPIL2 questionnaire from FMH/UL/Portugal. The questionnaire investigated PA related to the mode of transportation to-and-from school, PA inside and outside school settings, as well as leisure-time activities, i.e., the physical activity level (PAL) was obtained from RAPIL2. Using PA intensity levels proposed by Ainsword et al. (2011), the EE (kcal/day) was calculated by multiplying the resting metabolic rate (RMR) by PAL and by the growth factor 1.01 (FAO, 2001).

### Statistical analysis

Descriptive statistics were used, initially, to describe the sample. In continuation: (1) the t-test was used to evaluate de differences between boys and girls; (2) the Spearman coefficient was used to evaluate the correlation among variables; and (3) the paired t-test was used to identify the differences and the SEM (boy, girls, and all sample). A significance level of 5% was uses in all analyses. All statistical analyses were performed using SPSS version 21.0 (SPSS IBM, New york, USA).

### Results

According with self-report data, boys tended to have more PAL/hour (delta=0.01, p=ns) and EE (delta = 234.27, p=ns) compared to girls. Boys were more active than girls by accelerometry (delta of: activity=808 kcal, p<.0001; average1=127 kcal/day, p<.0001; activity2=10.04 kcal, p<.0001; steps average counts=0.32, p=.029), but EC2008 did not differ significantly between boys and girls. Table 1 describes the participants in terms of energy expenditure and physical activity.

**Table 1.** Description of the sample in terms of self-report data (PAL and EE) and accelerometry data (PAEE, Total Evenson Children bouts and Steps Average Counts).

	Male (n=51)		Female (n=50)		Total (n = 101)	
	Mean	SD	Mean	SD	Mean	SD
<b>Self-report data (RAPIL2)</b>						
PAL/hour	1.55	0.13	1.54	0.15	1.54	0.14
Energy expenditure (kcal)	1552.64	935.82	1318.37	885.43	1436.66	914.27
<b>Accelerometry data (GT3X)</b>						
Activity (kcal)***	2406.86	977.30	1598.67	699.73	2006.76	939.35
Average.1 (kcal/day)***	438.73	196.48	311.26	142.31	375.62	182.56
Average.2 (kcal/hour)***	31.34	12.60	21.30	8.57	26.37	11.87
Total Evenson Children (2008) bouts	5.51	4.39	4.68	3.84	5.10	4.13
Steps Average Counts*	2.74	0.80	2.42	0.63	2.59	0.74

Differences between boys and girls: \*, p < .05; \*\*\*, p < .0001

Steps average counts was positively correlated with PAL/hour, for boys (Rho=.391, p=.005) and girls (Rho=.321, p=.023), and accelerometry were also positively correlated with EE, for boys (Rho: .303 to .345) and girls (Rho: .290 to .329). Significant positive correlations were observed in between PAL/hour (Rho: .223 and .353) and between EE (Rho: .321 to .357, all, p<.01), with accelerometry; and significant differences were observed between self-reported measures and accelerometry (in boys, girls and total). Results are presented in table 2.

**Table 2.** Spearman correlation coefficients between of PAL and energy expenditure by Accelerometry data.

Accelerometry data (GT3X)	Spearman's rho	Male (n=51)	Female (n=50)	Total (n = 101)
		PAL/hour (RAPIL2)		
Total Evenson Children (2008) bouts	Rho	.235	.170	.223*
	P	.098	.237	.025
Steps Average Counts	Rho	.391**	.321*	.353***
	P	.005	.023	<.0001
<b>Energy expenditure(RAPIL2)</b>				
Activity (kcal)	Rho	.309*	.329*	.362***
	P	.028	.020	<.0001
Average.1 (kcal/day)	Rho	.303*	.290*	.321**
	P	.031	.041	.001
Average.2 (kcal/hour)	Rho	.345*	.304*	.357***
	P	.013	.032	<.0001

\*. Correlation is significant at the: \*, 0.05 level (2-tailed); \*\*, 0.01 level (2-tailed); \*\*\*, 0.001 level (2-tailed).

## Discussion / Conclusion

The present study examined activities outside the laboratory, which should enhance the generalizability to free-living situations.

Results showed that boys were more active, and tended to have more energy expenditure, compared to girls. However, the slight association between accelerometer data and self-reported data showed that many of the accelerometer and self-report estimates were dissimilar. In fact, the RAPIL2 questionnaire, used as described in methodology, does not correctly measures the total energy spent in physical activity. Further research is suggested in order: (1) to fit an algorithm to adjust the ability of self-report measures of physical activity to predict the variability of physical activity energy expenditure; or (2) to validate this method with the gold standard for energy expenditure in free-living individuals, i.e., the doubly labeled water (DLW).

## Acknowledgements

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## “A Comparative Study among Indoor Game players and Outdoor Game Players Respect to Self Esteem and Locus of Control”

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### **Abstract**

An objective of the study was to examine the self esteem and locus of control among indoor game players and outdoor game players. Hypotheses: first there is no significant difference between indoor game players and outdoor game players with respect to self esteem. Second is there is no significant difference between indoor game players and outdoor game players with respect to locus of control. Sample: For the present study 100 Sample were belongings to and Aurangabad, 50 subjects were indoor game players. And 50 outdoor game players. The age range of subjects was 18-24 years. Purposive non-probability sampling technique was used. Tools: 1) Rotters Locus of Control (RLOC) by Dr Anand Kumar & Dr. S N Srivastava was used the study. 2) Self Esteem Inventory: this inventory developed and standardized by M S Prasad and G P Thakur. Results: first outdoor Game players have significantly high self esteem than the indoor game players. Second outdoor Game players have significantly high Locus of Control (External Locus of Control) than the indoor game players

### **Introduction:**

It represents the global value judgment about the self. A motive to achieve and maintain high self-esteem is one of the strongest motives of personality. American and many other societies have placed great hopes and emphasis on increasing self-esteem. Yet the clear benefits misfortune, such as persisting in the face of failure or feeling better after setbacks. There is however growing research evidence about "the dark side" of high self-esteem. Especially, studies link inflated self-esteem, to violence, dangerous risk-taking and maladjustment. Most of those findings involve high but threatened self-esteem, which seems to elicit irrational and dangerous responses. On the other hand low self-esteem is clearly accompanied with many individual problems such as less certain, less consistent and less stable self-knowledge. People with low self-esteem show greater emotional reactivity, greater malleability in response to external influence and greater orientations toward self-protection, than others. Deci and Ryan (1995) have criticized this concept of self-esteem for ignoring the distinction between self-determined and merely intentional acts. The successful pursuit of externally controlled rewards such as money, fame, physical attractiveness may furnish high self-esteem, but this is not the same self-esteem that is based on self-determined behaviors (behaviors with the aim of personal growth, meaningful relationships and community contributions). The latter behaviors are considered to be intrinsically motivated and not an instrument for achieving extrinsic goals. Some authors consider only self-esteem based on intrinsic motives to be true self-esteem insofar as it is based on autonomous integrated aspects of the self (Deci & Ryan, 1995; Janjetović, 1995).

Objective of the study:

An objective of the study was to examine the self esteem and locus of control among indoor game players and outdoor game players.

### **Methods:**

For the present study 100 Sample were belongings to and Aurangabad, 50 subjects were indoor game players. And 50 outdoor game players. The age range of subjects was 18-24 years. Purposive non-probability sampling technique was used.

Tools

Self Esteem Inventory:

This test is developed and standardized by M S Prasad and G P Thakur for measuring self esteem. The test consisted of 30 Items. The subjects were required to respond to each item in terms of 7, 6, 5, 4, 3, 2, and 1. The test spit half Reliability Range from .82 to .78 and highly reliable.

### Rotter's Locus of Control Scale:

Locus of Control Scale constructed by Dr. Anand Kumar and Dr. S. N. Srivastav. 29 items are in the questionnaire and each of the items has two responses (a and b). The reliability of the inventory was determined by split-half method and test-retest methods used. Split-half indexed reliability coefficients is .88 and test retest reliability is .85. And Construct validity of the inventory is determined by finding coefficient of correlation between scores on Maslow crown desirability scale.

Procedures of data collection

Both tests were administered individuals as well as a small group. While collecting the data for the study the later approaches was adopted.

Variable

Independent variable-

1) Game a) Indoor b) Outdoor

Dependent Variable

Self Esteem

### Statistical analysis and discussion:

Mean Std.Deviation and tvalues of indoor and outdoor game players on dimension self esteem and locus of control.

Dimension	Indoor (N=50)		Outdoor (N=50)		t'	df	p
	Mean	SD	Mean	SD			
Self Esteem	78.92	5.76	89.03	8.11	7.18**	98	< .01
Locus of control	17.59	3.49	11.98	4.66	6.81**	98	< .01

Result showed that the mean of indoor game players on dimension self esteem was 78.92 and mean of outdoor game players on dimension self esteem was 89.03, the difference between the two mean was highly significant  $t(98) = 7.18$ ,  $p < .01$ .

Research Null hypothesis had been rejecting there was no significant difference between indoor and outdoor individual game players with respect to locus of control. And alternative hypothesis was accepted outdoor game players had significantly high self esteem than the indoor game players. Result showed that the mean of indoor game players on dimension locus of control was 17.59 and mean of outdoor game players on dimension locus of control was 11.98, the difference between the two mean was highly significant  $t(98) = 6.81$ ,  $p < .01$ .

Research Null hypothesis had been rejecting there was no significant difference between indoor and outdoor individual game players with respect to locus of control. And alternative hypothesis was accepted outdoor game players had significantly high locus of control (External Locus of Control) than the indoor game players.

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## Analysis of Leg Explosive Power of Female Kabaddi Players

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### **Abstract**

Kabaddi is an indigenous game of our country. It is aptly known as the 'game of the masses' due to its popularity. It is a popular game throughout India especially in the rural areas. It is also popular in other Asian Countries like Japan, Malaysia, Srilanka, Nepal, Bangladesh, Pakistan etc. Kabaddi is a combative team game played without any equipment. Like any other sporting event Kabaddi also requires high level physical fitness and presence of mind. For a single player to take on seven opponents at a time is no mean task. Hence Kabaddi requires high level of physical fitness. Physical fitness is the ability to carry out daily tasks with vigour and alertness, without undue fatigue, with ample energy to enjoy leisure time pursuits and to meet unforeseen emergencies". Strength is a pre-requisite of Kabaddi players. Since the scholar herself is a national level kabaddi player she was motivated to take up the present study. Hence the present study is an attempt to analyse the leg explosive power of the female kabaddi players. To achieve the purpose thirty (N=30) female kabaddi players who have participated at Inter-Collegiate, Inter-University, State and National Level Kabaddi tournaments were chosen as the subjects. Leg explosive power was tested with the help of standing broad jump. The obtained data was treated statistically by calculating mean and standard deviation. The results revealed that the subjects of the study have better leg explosive power.

Keywords : Kabaddi, Physical Fitness, Leg Explosive Power.

### **Introduction**

Kabaddi was originated in India. It has a long history dating back to pre-historic times. Even in Mahabharatha, the great Indian epic, references are made about Kabaddi. Earlier it had many forms like Amar, Gemini and Sanjeevani. The present form or Kabaddi is a synthesis of all these forms of Kabaddi with modification in rules from time to time.

Kabaddi attained National status in the year 1918. It received its first international exposure during 1936 at Berlin Olympics, where HVP Mandal, Amravathi, Maharashtra demonstrated this game. Now it is popular in many countries like Japan, Malaysia, Srilanka, Nepal, Bangladesh, Pakistan etc.

Kabaddi is a combative team game played without any equipment. Like any other sporting event Kabaddi also requires high level physical fitness and presence of mind. For a single player to take on seven opponents at a time is no mean task. Hence Kabaddi requires high level of physical fitness. Physical fitness is the ability to carry out daily tasks with vigour and alertness, without undue fatigue, with ample energy to enjoy leisure time pursuits and to meet unforeseen emergencies". Strength is a pre-requisite of Kabaddi players. Leg explosive power plays an important role in Kabaddi. Explosive power is the ability of a muscle to get over resistance of sub maximum intensity of stimulus as fast as possible." Since the author herself is a National level Kabaddi Player she was motivated to take up the present study.

### Purpose of the Study

Purpose of the study was to analyze the leg explosive power of Female kabaddi players.

### Methodology.

To achieve the purpose thirty (N=30) female kabaddi players who have participated at Inter-Collegiate, Inter-University, State and National Level Kabaddi tournaments were chosen as the subjects. Leg explosive power was tested with the help of standing broad jump. The obtained data was treated statistically by calculating mean and standard deviation.

### Results and Discussions

Table-1

Table showing the Mean and Standard Deviation of Female Kabaddi Players on Leg Explosive Power.

N	Mean	S.D
30	1.851 mtrs	0.151 mtrs

The above table shows that the mean value on leg explosive power of female kabaddi players is 1.851 mtrs and standard deviation is 0.151 mtrs. It is evident from the above table that the selected female Kabaddi players are having a better leg explosive power.

### Conclusion

On the basis of the results it was concluded that the selected female kabaddi players have better leg explosive power.

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## Nation Building And Healthy Approach Through Sports Society And Ethics

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### Introduction

Physical Education and Sports concerned with morals as well as conduct, with trying to decide upon proper rules of conduct. We are on a way of discussion towards ideal conduct, the knowledge of good and evil. And that it seeks to determine what actions are rights and wrong, what should be and what should not be done. Ethical human experience mainly taught in this field since sports and physical education is the Scientific Laboratory for universe to establish and perpetuated such good virtues.

### Methods and Materials :-

Thirty six man 42 to 58 Years old were Selected for this study. The 18 men were recruited from private company who were more lazy then 18 active Member chosen from different Private Company Who Regularly Visited club and gym, A Prerequisite for 18 active participants was that they had engaged for at least two consecutive years In their respective activity with a frequency participation of 3 time per week lazy man led completely In active lifestyle, training characteristics (Table-1), were reported through a questionnaire as far as time, type and rating of perceived exertion (borg 1982) of activity perforated all subjected were thoroughly informed about measurement procedures before signing and informed consent, lazy man were measured and questioned at their premises, past participation in various Games and Sports.

**Table-1 Training Characteristics**

Game & Individual	Frequency (Days/week)	Intensity (Borg & Scale )	Intensity Subjective	Time (Minute)	Training Type
√	3	11-14	fairly light some what head	60	continuous

**Table-2 Denotes Lazy Vs Active Group (Total Question Right Ans. Ratio )**

Respect Catagory	Rating	Rating
Respect for Others	32	49
Respect For Rules	36	56
Justice/ equality	39	59
Relative Values	48	62
Self Respect	42	47

**Table-3 Physical And Body Composition Characteristics**

	Lazy Group	Active Group
Age (Years)	50.42 ±5.82	46.35± 5.35
Weight (K.G)	90.50 ±8.55	75.60± 6.51
Height (K.g)	172.25± 3.41	176.23 ±4.89
BMI (kG/M2)	30.22± 2.98	25.3 ±2.38*
Percent Fat (%)	24.31 ±3.71	±3.12**

\* Denotes Significance From Lazy Group

\*\*Denotes Significance From Active Group,  $P < 0.05$

### **Theme**

Sports and Physical Education Activities it self involves the ethics, guiding and governing the rule and regulations otherwise impossible to manage the situation. Its and interwoven aspects for both. The old saying that actions speaks louder than words is very true when we speak of ethical behavior. Broad area of values which comprises in physical Education and sports field are as under :-

- (1) Respect for others
- (2) Respect for rules and regulations
- (3) Justice and Equality
- (4) A sense of relative Values
- (5) Self Respect

#### **(1) Respect for others**

Teacher and students may learn to respect others through Sports and Games. The competitor who treats an opponent with respect is far more likely to receive the same treatment in return.

#### **(2) Respect for rules and regulations**

Respect for rules which governs the games and sports tournaments. Here, the sportsman spirit develops itself which leads to behave in the same way for whole life, in turn helpful to the society and mankind.

#### **(3) Justice and Equality**

The physical Educator must remember the main factor of gifted Athletic ability and poorly skilled athlete. Both should be treated equality in the sense of their respective ability and understanding.

#### **(4) A sense of relative Values**

An education has varied and different disciplines, since we recognize as inter-disciplinary approach in this field also. The most powerful inter-disciplinary approach of physical education and Sports are more important as to cope with all other parameters and goals are fulfilled through direct involvement with mind and body. all good virtues, objective, aims are maintained as well as develops through participation in games and sports.

#### **(5) Self Respect**

Here the main enlightening and concerning with the Coach, physical Educator and Students or mass participants or and individual involvement. A student or athlete needs a positive self respect to be a success. The teacher acts his/her role with equal treatment and equal respect and for so all motivational and adjudged factors keeps in mind so clearly. Teacher or Coach will never abuse if a student or class may not reflect as the desired standard. The teacher role is to raise the goals of the students to higher level. Treat others as you wish to be treated. The teacher can do much to remove the insecurity and help the athlete to develop a sense of self respect which leads to greater self reliance, self will power. In future, the leaders in physical Education and sports will determine the ethical values, practices and subsequent reputation of the field may establish in turn. We hope for marked improvement in near future as to see all above factors and ways. It's up to the coaches and physical education teachers to perpetuate the moral and ethics in such a higher level, since the society and universe may accept it easily and with higher respect. The whole world may feel the value of sports and Games through the involvement of students, athletes.

### **Conclusions**

A survey of middle age persons who were engaged in games and sports during their young age and present position and Inactive group shows. Survey as above mentioned subjects shows that High Leadership Quality successfully perpetuated and accomplished with good manners and well as honor.

Even their post life they acts and performs duty, social service with high standard and norms, with such dignity. High qualities and virtues which are desirable to the Nation as well as society for the progress.

It's a Universal acceptance and desirous for maintaining peace and prosperity through ethical values recognition. Only and only - a perfect and successful way of accomplishment of ethical values is sports culture. Physical Fitness Parameter are More Stronger As Well As Ethical Norms Standard Are Also Higher Than People Which Shows Sports Culture Must Be Perpetuated Every Nation.



## Role of Physical Education Teacher in Schools

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### Introduction:-

Physical Education including games and sports plays a tremendous role in development of our youth. It enables an individual's to live a healthy life in an ever-changing world. Physical Education makes the children psychologically, physically and physiologically active. It helps in the development of character building, reduction of rowdiness, and serves on the basis of group unity and solidarity. It introduces team work, self-discipline, sportsmanship, leadership and socialization among the youth. Regular physical activity provides numerous health and cognitive functioning. The surgeon general recommends daily participation in physical activity for taking maximum health benefits because inactivity has been found to be significantly related to coronary artery disease, obesity, hypertension and diabetes mellitus. It also helps the people to improve their physical fitness. Five basic components of fitness are important for good health: cardio-respiratory endurance, muscular strength, muscular endurance, flexibility in joints and body composition. It is clear from the literature that the development of an acceptable level of physical fitness helps to attain healthy personality and physiologically characteristics. Hence a better healthful living is universally accepted as a goal of a physical education programme. As quoted by Swami Vivekananda, a great saint of India: "You will be nearer to heaven through and physical activities."

### The Role and Responsibilities of the physical education teacher in the school:-

The NASPE (2003) recommends that children obtain a minimum of 60 minutes of physical activity in a day. It is not possible in most school to provide the 60 minutes of daily physical activity for every student though the physical education program alone: this has led to development of the idea of having comprehensive school physical activity programs. Some students attend physical education one day a week: others attend two or three days and a few have daily physical education. The physical education teacher is to provide maximum physical activity time within the class period, teach skills and activities that transfer into physical activities outside of physical education class, motivate children to be physically active, and take the role of physical activity director for the school. If students are to receive the amount of the physical activity they need each day, other opportunities to be physically active within the school day must be provided.

### Provide Maximum Physical Activity:-

The physical education teacher has unique responsibilities in the school physical active program to ensure that students are physically active within the physical education class. The physical education teacher also has the responsibility to help direct and guide opportunities for physical activity within the school outside the physical education class.

Physical education class in just one avenue during a school day that provide the opportunity for physical activity. During the allotted class time it is recommended that children be moderately or vigorously active for at least half of the class period. Several factors can contribute to making this happen:

Effectively organize space, equipment and students.

Provide adequate equipment that allows all children to be active at the same time (e.g., one ball per child)

Plan practice opportunities that are structured for maximum participation (e.g., individual partner and small group activities, no elimination activities, activities that require no wait time)

With maximum and quality activity time, children become more skilled knowledgeable and physically fit.

**Teach skills and activities:-**

Physical education teachers have the responsibility to teach skills that students will need to participate in physical activity outside of the physical education class and skills they will need for lifetime of physical activity. Skills learned in physical education class transfer to skills used in a child's play. From the kindergarten-age child playing tag, to the second grade child jumping rope, to the older child playing a game of kickball, the skilled child is more likely to participate in physical activity. If a child is confident in his or her skill, there is typically no hesitation to play however, the low skilled child especially in the upper grades, is less inclined to take part in group activities for fear of failure and peer ridicule. Students need skills to be participants in physical activity.

**Motivate children to be active:-**

Another role of the physical education teacher is to encourage and motivate children to be active. There are many ways to do this, including promoting community activities, assigning physical activity homework or home fun, showing an interest in the out-of class physical activity in which children participate and leading by example.

**Promoting community:-**

There are typically numerous activities in communities that promote physical activity such as organized recreational sports dance classes gymnastics programs and martial arts. A bulletin board in the gym, the school web site and regular announcements are simple ways to promote these opportunities. Brochures, web sites or newspapers announcements are available from most physical activity venues.

**Praise for participation:-**

A word of encouragement is a simple way to promote physical activity. Praising young students for play may sound somewhat strange to most of us, but for a generation that experience limited physical activity, it may be necessary. Simply inquiring about student involvement in physical activity and praising students for that involvement carry weight with young children. To take this a step further, if a physical education teacher shows up at a youth league sporting event or a dance recital, the child will be elated.

**Play a leadership role in the development of the school physical activity program:-**

The increase in the number of overweight children and the decrease in physical activity time in school make for a national problem. Curtailing this national epidemic can be addressed at a local level, and physical education teacher must be the "go-to" person to promote change in the schools. The physical education teacher is the physical activity expert in the building and should take on the role of physical activity director for the school. The responsibilities should include the following:

Being an active member of the school wellness committee  
Helping in the evaluation and planning process for the school  
Actively learning about and promoting opportunities for physical activity in the community  
Serving as a resource person for classroom teachers  
Informing classroom teachers about the need for and benefits of adding small bouts of physical activity to the school day.  
Providing resources and training to the classroom teachers  
Aiding teachers in understanding and implementing appropriate practices for physical activity.  
Providing opportunities for the teachers to engage in physical activity before or after school.  
Organizing school wide physical activity experiences  
Planning school wide activities such play day, sports day fun runs, a walking program and morning exercise breaks  
Encouraging fund-raisers that promote physical activity(e.g., Jump Rope for heart, Walk for Diabetes, St Jude's Walk)  
Planning before – and after school clubs for activities such as jump rope, walking dance, gymnastics and intramural sports.

**Conclusion:-**

Most physical education programs are holistic. The program allows students to interact together to a common goal and that is to win and excel physically. It brings out the competitive spirit of students. The purpose of physical education is to instill in students at an early age the value of self preservation and choosing a lifestyle that is good for both the mind and body.

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Ajmersinh, et al. shaaririk tathaa Olympic abhiyan.  
Judith rink, Tina hall and Lori Williams

## **The Effect of Agility Training Programme on Raiding Skills of Boys Kabaddi Players Age between 14 to 16 years.**

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### **Introduction:**

The aim of the present study was to develop the raiding skills of boys Kabaddi players from Baliram Patil vidyalaya. Baliram Patil vidyalaya has its favorite game since large period. This age ranged between 14-16 years students from Baliram Patil vidyalaya has been taken for raiding skills of kabaddi players as a subject who has been participated in the interest school competition and organize by director of sports and youth welfare services. The findings and developing of raiding skills of boys kabaddi players, ability of the players, we have conducted 6 weeks agility training programme and physical exercise for the students to participation in the pre and post test analysis. The pre and post test data was related and preserved carefully for statically by using group samples. In case of shuttle Run Table shows mean score of pre and post test. Mean score of pre test is 15.6134 sec. and the post test is 15.5196 sec. and pre test SD is .8271 sec. and post test SD is .7957 sec. and from Table 6 mean gain is .0829 sec. In this paper 'a study of the effects of Agility training programme on raiding skills of Kabaddi players was examined. Here study of Kabaddi players ranging their age from 14 to 16 was studied for understanding their improvement. This study was limit to Baliram Patil vidyalaya cidko begumpura Aurangabad in Aurangabad district. The Baliram Patil vidyalaya cidko has been selected here for sample because of their reasons Baliram Patil vidyalaya has a rich tradition of Kabaddi game since long period. The coaching and training facilities are available on large scale. Baliram Patil vidyalaya is big and old school in Cidko.

### **Methodology:**

Here in this study experiment of agility training was conducted on 40 Kabaddi players. Pre and post training improvement was examined by conducting experiments and records were maintained. Agility training programme was conducted through the 6 weeks on 20 players and the training was be improve through two modules i.e. (a) Training for raiding: In order to improve the boys Kabaddi player performance in raiding skills. The Agility training was conducted after this training improvement of the players performance is evaluated. Finally scale test was conducted to understand improvement in the raiding skills of Kabaddi players. The procedures adopted in Agility training are as under.

Variables: Experimental group and control group.

### **Findings**

After completion of 6 weeks Agility training programme and physical exercise all the subjects participated in the post testing programme which was conducted like pre test. The post test data were also recorded and preserved carefully for statistical analysis by using 't' test. In this analysis of data table 3 shows mean score and standard deviation of pre and post of the selected variable of the controlled and experimental group. Table shows paired samples correlations of pre and post test of the selected variables in case of controlled and experimental group. The comparison of mean gain and 't' value of pre and post test of the controlled and experimental group have been presented in table 3. Table 3 is a group statistics in which mean gain and standard deviation of the controlled and experimental group have been presented. Comparison of mean gain between the controlled and experimental group by using Independence sample test have been presented in table.

### Group Statistics

	group of the participants	N	Mean	Std. Deviation	Std. Error Mean
shuttle run mean gain	experimental group	20	.5167	.52118	.05212
	control group	20	.3341	2.99731	.29973

### Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
shuttle run pre test	11.4672	20	1.16176	.11618
shuttle run post test	10.98	20	1.094	.109

### Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
shuttle run pre test	11.2094	20	.97342	.09734
shuttle run post test	12.1661	20	9.95128	.99513

### Result on Shuttle Run Analysis

In case of shuttle Run Table shows mean score of pre and post test. Mean score of pre test is 15.6134 sec. and the post test is 15.5196 sec. and pre test SD is .8271 sec. and post test SD is .7957 sec. and from Table mean gain is .0829 sec. The mean score of pre and post test of the experimental group are 15.4681 sec. And 14.6811 sec. and pre-test SD is .9814 sec., post test SD is .76717 sec. respectively and from Table 6 mean gain is .8218 sec. Thus the within group comparison of the experimental group the result shows there is improvements in the performance of shuttle Run Comparison of mean gain between the control and the experimental group reveals in Table 4. That the mean gain in case of shuttle Run of the control group is .0829 sec. And the experimental group is .8218 sec. and their 't' value is 11.761 sec. From Table 5 which is significant at 0.05 level. Therefore the hypothesis sort in case of Shuttle Run is accepted. Graphically represented in Figure 4.1 has been accepted.

Thus the mean gain in Agility (as assessed by shuttle Run test) is evident in experimental group as compared to the controlled one. Therefore the  $H_0$  has been accepted.

### Conclusions:

The investigate within the limitation of the study made the following conclusions. Selected Agility training programme for 6 weeks period has improved raiding skills of the subjects of 14 – 16 years of age. Selected Agility training programme for 6 weeks period has improved the raiding skills of sub Jr. Kabaddi Players.

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## **Effect of physical fitness training on haematological variables of basketball players**

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### **Introduction:**

Exercise is known to affect many physiological parameters in the body likewise haematological indices, with the shifts in fluid. Exercising could be beneficial if continued un interrupted with healthy life style but acute physical activities found to cause drastic changes in regularly trained athletes. Neuroendocrine and immune systems contribute to the adaptation to increased physiological demand during exercise. These systems also adapt to chronic loading (Fdrugala, 2011). Blood is a complex fluid and has some specific dynamics of its circulation. There are many factors affecting the blood stream such as red blood cell number, deformability, leukocytes number, plasma proteins and haematocrit. Sports performance strongly depends on the oxygen transportation capacity to supply exercising muscles. This capacity is associated with the erythrocyte values, which may thus be regularly assessed throughout the sports season (Fallon, 2004; Lesesve etal, 2000) to allow trainers and medical staff members to collect useful fitness and health related information on players. The work of skeletal muscles causes a number of functional immediate nature changes in an organism. The nature of these changes is heterogeneous, which means that they proceed faster or more slowly. The factors such as the kind of training stimulus or individual genetic conditioning to physical work decide on the nature of changes. To investigate the "effect of physical fitness training on haematological variables of basketball players".

### **Methodology:**

Subjects were randomly selected from the college basketball team who were regularly undergoing the training schedule since 6 months. During the last week of the session blood samples are collected before starting the activity (pre-test) and after 45minutes of continuous activity again venous blood samples were taken (post-test). Red blood cell count, white blood cell count, haematocrit count, haemoglobin percentage, Mean Corpuscular value, Mean Corpuscular Haemoglobin, Mean Corpuscular Haemoglobin Concentration was analysed. The training protocol of this study was general conditioning exercises, weight training, speed conditioning exercises and endurance activities.

Subjects agreeing to participate signed an institutionally approved consent form.

#### **Blood samples:**

Blood samples were collected from each subject from antecubital vein and a blood sample was drawn before the activity and after the activity. EDTA coated vials (anticoagulant) were used for cell counts and immediately put on ice 4°C to 7°C temperature. Red blood cell count, white blood cell count, haematocrit count, haemoglobin percentage, Mean Corpuscular value, Mean Corpuscular Haemoglobin, Mean Corpuscular Haemoglobin Concentration was determined manually.

#### **Instruments:**

Haemocytometer RBC and WBC Count Microhaematocrite centrifuge Haematocrit

Sahlis haemoglobin meter Haemoglobin concentration

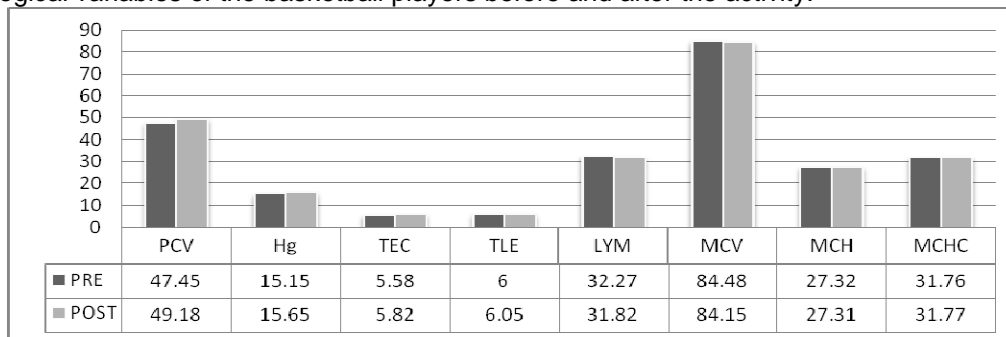
#### **Results:**

Data were expressed as mean and standard deviation. Data analysis was performed using pre-test and post-test changes that assessed by t-test for paired samples.  $P \leq 0.05$  was chosen for statistical significance. The mean values of the investigated haematological variables are presented in the table 1 and the p values of the variables are also shown in the table.

The average values of the investigated haematological parameters

Variables	Pre exercise	Post exercise	P value
PCV	47.45	49.18	0.12
Hg	15.15	15.65	0.12
RBC	5.58	5.82	0.17
WBC	6.00	6.05	0.18
LYM	32.27	31.82	0.30
MCV	84.48	84.15	0.75
MCH	27.32	31.76	0.95
MCHC	31.76	31.77	0.97

The below table explains about the averages and P- values of the blood samples collected from the samples. PCV- indicates the Packed Cell Volume, Hg- haemoglobin, RBC- Red Blood Cells, WBC- White Blood Cells, LYM- Lymphocytes count, MCV- Corpuscular value, MCH -Mean Corpuscular Haemoglobin, MCHC- Mean Corpuscular Haemoglobin Concentration. The histogram showing the changes in haematological variables of the basketball players before and after the activity.



The above histogram explains about the average values of haematological variables of the basketball players. It shows that there is a slight change in the hematocrit values after continuous activity. A highly increased Hct increases blood viscosity and thereby increases the work load of the heart to pump more oxygenated blood to the muscle tissues. It therefore bears the risk of cardiac overload. In this study, there is no significant difference in red blood cell; hematocrit, mean corpuscular volume, mean corpuscular hemoglobin, Mean Cell Hemoglobin Concentration and white blood cell were observed. The published data reveal that the intense and prolonged exercise training usually does not affect the immune system and haematological systems disorders in the college basketball players. Most reports describing haematological changes induced by sporting activity focus on specific disciplines or special training characteristics, such as endurance or strength training.

#### Conclusions:

Despite the available information, the point that is not exactly answered is that what volume of exercise intensity can have considerable impact on hematological parameters and the changes also depend on the surrounding environment and how possible changes in blood parameters can be optimally used to increase physical work and exercise capacity. Most of the studies are done in Foreign Nationals where there is lot of variations in the diet and environment conditions as compared to the Indian conditions. Given that few papers on the effects of exercise on hematological parameters, the importance of conducting studies on this topic becomes doubled.

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## To Study The Anxiety Level And Its Relationship With Academic Achievement Of XII CBSE And Junior College Students

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### **Abstract:**

Present generation is suffering from academic anxiety which is affecting their mental health; as in present scenario academic achievement is considered as a prime factor in every field, therefore the future of our students is in danger due to the high level of anxiety. Anxiety cannot be removed completely from the minds of the students, but it can be minimized to certain level. In school self confidence among students can be fostered and in turn minimizes anxiety through the organisation of various activities. The methodology selected is the survey method. The sample selected for the study consisted of 400 students belonging to class XII CBSE and State Jr colleges of Warangal city AP. The result obtained were Anxiety and academic achievement has a significant co-relation. Anxiety levels of CBSE & State Jr. College student's shows insignificant difference.

### **Introduction**

Human beings are socio, psycho, moral and cultural organisms. As we know, the functioning of life depends on the balanced inter relationship of demands between the environment and organism. We all have experienced the situations of stress and anxiety in our lives due to which we have come across many challenges and problems. One has to change his earlier habits of childhood in home, school and society. This changeover to new pattern of habits many times creates anxiety. So adolescents need proper guidance in the development of healthy social relations from teacher, parents and his well wiser and therefore this piece of research is undertaken.

### **Sample**

With the help of stratified random sampling method, 400 students of class XII CBSE were taken as sample from English medium Colleges of Warangal city AP. Out of these 400, students 200 students (100 male and 100 -Female) were from XII CBS Eand 200(100 male and 100 female) were from State Jr colleges .

### **Methodology of research**

The researcher has selected 'Normative Survey Method' for the present study.

### **Tools of study**

The following tools were used –

An standardised anxiety scale constructed by D.N. Srivastava & Dr. GovindTiwari and School Records for academic achievement.

### **Statistical Techniques used**

Pearson's product moment correlation technique was used to find out the relationship between anxiety and academic achievement.

't' test was used for determining the significance of difference between the 'mean'.

**Table No. 1**

**Table showing coefficient of correlation between anxiety and academic achievement of students of XII standard of Warangal city**

Variables		No. of students	Coefficient of correlation
Anxiety	Academic Achievement	400	-0.18

**Table No. 2**

**Table showing Mean, SD, 't' value of the scores of academic anxiety of the students of XII standard of Warangal city**

Sample Variable	Gender	N	Mean	S.D	t-value	Significant/ Insignificant
CBSE	Boys	100	15.36	4.85	2.41	Significant
	Girls	100	16.11	5.26		
State Jr.colleges	Boys	100	16.23	5.19	1.88	Significant
	Girls	100	16.43	6.37		

**Major Findings**

On the basis of this study, the following major findings were drawn; Table no. 1 reveals that co-efficient of co-relation is ( $r = - 0.18$ ) therefore  $H_0$  is rejected. Negative co-relation indicates that as anxiety increases, performance decreases and vice-versa. Thus, it is concluded that, there is significant co-relation between anxiety and academic achievement.

Table no. 2 reveals that 't' value is 2.41 which is less than table value at 0.01 level of significance, therefore  $H_0$  is refuted. Thus, it is concluded that, there is a significant difference between anxiety level of CBSE boys and girls students. It is also inferred from the data that girls have more anxiety level than boys.

**Conclusion**

The conclusion is drawn on the basis of the test and analysis; a few recommendations are made which may help in better academic achievement of the students.

It is clear that anxiety affect achievement level; therefore, teachers must identify anxiety of the students and try to incorporate activates to minimise it.

Various co-curricular and extra co-curricular activities should be organized by the schools like - dramas, debates, plays, sports, social services, health awareness programmes, etc. Participation in these activities helps the students to minimize their anxiety.

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## **The Effect Of Six Weeks Callisthenic Exercises And Yogic Asanas Training On Flexibility Of Boys Students**

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### **Abstract**

The prime interest of this study is to find out better means and methods of training for the improvement of selected physical fitness components i.e. Flexibility through callisthenic exercises and yogic asanas. Physical educators and coaches are concerned at times with team selection as well as training and preparation of team for competition and they can take benefit of the results of this study. The purpose of the study is to assess the effect of six weeks Callisthenic exercises and Yogic asanas training on flexibility of boy's students in the age group of 16 to 18 years. To achieve the purpose of study sixty boys studying in class 12<sup>th</sup> Govt. PU College, Bidar were selected randomly as subjects and divided into three groups of 20 subjects each. All the subjects were almost from the same socio-economic group and were found to be physically fit for the type of programme they were subjected. The subjects were divided into three groups (Group A, B and C) randomly by drawing the lots. The ages of these subjects ranged between 16 and 18 years. All of them are having the same environment and were also taking part in routine physical education programme as per the schedule of college. The group A and B subjects were administered to Yogic asanas and Callisthenic exercises training respectively. The group C served as control group. The results concluded that Callisthenic Exercises and Yogic Asanas training programmes are effective in improving the flexibility of the shoulder and trunk of boy's students. Yogic Asanas training programme was found to be more effective as compared to the Callisthenic Exercise programme in developing the flexibility. No significant improvement in the case of control group may be a reflection of inactivity.

### **Introduction**

Yogasana not only work to bring fitness and vigor to physical body, but also harness our will and emotions to improve our power of analysis, insight and vision. They calm the mind and steadily the Emotions, still not losing the sharpness of intellect that is the key to human progress. The science of yoga dedicated in helping people to change their personalities and life styles. Yoga is a timeless pragmatic science evolved over thousands of years dealing with the physical, moral being and man as a whole. Yogic practices provide emotional control. It increases power of concentration at work providing poisons and tranquility. It leads from ignorance to wisdom. It takes one from weakness to strength. It brings one from disharmony to harmony. It leads one from hatred to love. It brings one from diversity to unity and in perfection to perfection.

#### **Callisthenic exercises**

Callisthenic exercises are a form of exercise consisting of a variety of exercises, often rhythmical movements, generally without using equipment or apparatus. They are intended to increase body strength and flexibility with movements such as bending, jumping, swinging, twisting or kicking, using only one's body weight for resistance. They are usually conducted in concert with stretches. When performed vigorously and with variety, Calisthenics can benefit both muscular and cardiovascular fitness, in addition to improving psychomotor skills such as balance, agility and coordination.

## Methodology

Subjects: Sixty boys studying in class 12<sup>th</sup> Govt. PU College, Bidar were selected randomly as subjects of the study and divided into three groups of 20 subjects each.

All the subjects were almost from the same socio-economic group and were found to be physically fit for the type of programme they were subjected. The subjects were divided into three groups (Group A, B and C) randomly by drawing the lots. The ages of these subjects ranged between 16 and 18 years. All of them are having the same environment and were also taking part in routine physical education programme as per the schedule of college. The group A and B subjects were administered to Yogic asanas and Callisthenic exercises training respectively. The group C served as control group.

Criterion measure The performance of the subjects in following variables was taken as a criterion measure for this study. Trunk flexibility as measured by Goniometer recorded in degree. Shoulder flexibility as measure by Leighton flexometer recorded in degree.

## Analysis Of Data And Results Of The Study

### Findings

In order to determine the significance of difference, if any, made by the two experimental groups and the control group between pre-test for trunk flexibility performance are given in Table-1.

Table 1: Significance of difference between the pre-test and post test means of two experimental groups and the control group in trunk flexibility

Groups	Post test M	Pre-test M	DM	DM	t -Ratio
A	65.65	59.20	3.0	0.28	10.71
B	61.40	57.40	6.45	0.63	10.23
C	54.50	54.05	0.25	0.25	1.00

It is evident from Table 1, that 't' values obtained for the two experimental groups (A & B) were 10.71 and 10.23 respectively which were significant as they were much greater than 't' value of 2.09 required to be significant at 0.05 level confidence. The 't' value for the control groups was 1.00 which was not significant at 0.05 level.

Table 2: Analysis of co-variance of the scores of two experimental groups and control group in trunk flexibility performance

TEST	GROUPS			SS	df	M	F-ratio
	A	B	C				
Pre-test	59.20	54.40	54.50	A	2	165.05	4.90*
				W	57	33.77	
Post test	65.65	61.40	54.05	A	2	669.3	22.79*
				W	57	29.37	
Adjusted Post mean	62.70	58.72	56.13	A	2	191.48	65.80*
				W	56	2.91	

\*Significant at 0.05 level

The analysis of covariance for trunk flexibility indicated that the obtained F – ratio in the case of pre-test means was 4.90 which were significant at 0.05 level of confidence. As the difference between the adjusted post means for the three groups was found to be significant, the critical difference method for adjusted means was applied to find out which of the difference between the paired adjusted means was significant.

Table 3: Paired Adjusted Final Means and Differences between Means for the Two Experimental Groups and the Control Group in Trunk Flexibility Performance

Groups			Mean Difference	Critical Difference
A	B	C		
62.70	58.72		3.98*	1.08
	58.72	56.13	2.59*	1.08
62.70		56.13	6.57*	1.08

\*Significant at 0.05 level.

It is evident from the above table that mean differences of group A and the control group; and group B & the control were found to be significant at 0.05 level. The differences in the means of groups A&B were also significant at 0.05 level of confidence.

Table 4: Significance of difference between the pre-test and post test means of two experimental groups and the control group in shoulder flexibility performance

Groups	Post test	Pre-test	DM	DM	t – Ratio
	M	M			
A	6.57	58.8	3	0.28	9.07*
B	59.9	56.9	6.9	0.26	11.54*
C	54.85	54.6	0.35	0.25	1.00*

\*Significant at 0.05 level

It is evident from table-4 that the 't' values obtained for the two experimental groups (Group A & B) were 9.07 and 11.54 respectively which were significant as they were much greater than the t' value 0.09 required to be significant at 0.05 level of confidence. The 't' value for the control group was 1.00 which was not significant at 0.05 level. In order to find out the significance of difference among the groups in shoulder flexibility performance, analysis of covariance was done in Table 5.

Table 5: Analysis of co-variance of the scores of two experimental groups and control group in shoulder flexibility performance

TEST	GROUPS			SS	df	M	F-ratio
	A	B	C				
Pre-test	58.8	56.9	54.6	A 176.94	2	84.47	2.54*
				W 1981.79	57	34.77	
Post test	65.7	59.9	54.85	A 1179.10	2	589.55	17.85*
				W 1882.55	57	33.03	
Adjusted Post mean	63.85	59.78	56.82	A 457.85	2	289.93	53.49*
				W 239.66	56	4.28	

\*Significant at 0.05 level

The analysis of co-variance for shoulder flexibility indicated that the obtained F-ratio in the case of pre-test means was 2.54 which were not found to be significant at 0.05 level of confidence. The required F-ratio to be significant was 3.15. The difference between the post-test means and the adjusted post means were found to be significant as the obtained F-ratios for post means was 53.49 and they were higher than the required value at 3.15 at 0.05 level. As the difference between the adjusted post mean for three groups was found to be significant, the critical difference method for adjusted means was applied to find out which of the difference between the paired adjusted means was most significant. Differences between the paired adjusted final means are shown table 6.

Table 6: Paired adjusted final means and differences between means for the two experimental groups and the control group in shoulder flexibility performance

Groups			Mean Difference	Critical Difference
A	B	C		
63.85	59.78		4.07*	1.32
	59.78	56.82	2.96*	1.32
63.85		56.82	7.03*	1.32

\*Significant at 0.05 level.

It is evident from the above table that the mean difference of group A and the control group & group B and the control group was found to be significant at 0.05 level of significance. The difference between the two experimental groups was also significant at 0.05 level of confidence.

### Conclusions

Callisthenic Exercises and Yogic Asanas training programmes are effective in improving the flexibility of the shoulder and trunk of boy's students. Yogic Asanas training programme was found to be more effective as compared to the Callisthenic Exercise programme in developing the flexibility. No significant improvement in the case of control group may be a reflection of inactivity.

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## Important of Computer Skills for Sports Organization.

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### **Abstract:**

With the assistance of computer and related software, sport organization specialists can complete tasks and projects more effectively than before. As a result, having fundamental computer skill is essential for sport organization specialists. The major purpose of this study was to reveal important computer skills for sport organization specialists. Common sports organization tasks and projects completed by computer software and programs were also discussed. The top rated computer skills for sports organization specialists include word processing, using spread sheet programs and communication via the Internet. The results of this study provide important implications for sport organization educators and students to better prepare individuals skills for future careers in sport organization.

*Key words: Expert preparation, Computer skill, Computer application in sport organization*

### **Introduction**

In the late 1970s, the introduction of a powerful tool the computer changed the workplaces of business, educational institutions and government. Tasks that were once monotonous, superfluous and time intensive have been simplified, saving time and money (Case & Branch, 2003). As a result, the desktop or laptop computer has become a critical tool in the workplace. The use of computers and technology is common in different fields; sport organization is not excluded from this trend of increasing computer usage. With the help of computers and related programs, sport organization specialists can complete tasks and projects more effectively than before. For example, sport organization specialists use computer programs to create text (e.g., public relations materials) and databases (e.g., facility schedule), and to format documentation (e.g., brochures). Also, using computers not only enhances the quality of documentation, but also saves time and operational expenses for sport organizations. Currently, sport organizations post information and news on their websites, which saves a great amount of money in postage. Therefore, fundamental computer skills and applications are critical for sport organization experts, from those in entry level jobs to administrative positions.

### **COMPUTER APPLICATIONS IN SPORT ORGANIZATION**

Sport organization graduates go into various sport organizations such as Experts sports, non-profit organizations or other private sport organizations. Their use of computer programs and software might differ depending on their job functions, type and scope of the sport organizations and budget. For example, a ticketing system is used frequently, especially in Experts sports and Division I athletics. Yet, the following computer Skills and applications are important for most sport organization Experts to possess.

### **WORD PROCESSING TO DEVELOP DOCUMENTATION**

The major function of word processing is to make and format text. Sport organization Experts use word processing programs such as Microsoft Word and Corel WordPerfect to create and write letters, memos, faxes, reports, manuals and news releases. Some enhancing features, such as flyers and newsletters with text art, clip art and wizards can be done through these word processing programs. Authors can incorporate the WordArts feature to enhance the content's layout, shape and size, and to make the documentation more attractive.

## **SPREAD SHEETS TO MANAGE INFORMATION AND NUMBERS**

Under the required content area of Budget and Finance in Sports from the curricular standards developed by KCG and NICT Council, students are required to have the proficiency to utilize spread sheets. Lotus123, Microsoft Excel, Quattro Pro or Quicken's Quickbooks are common programs used to create spread sheets. One of the major functions in spread sheet programs is formulas, which save sport organization Experts time when handling accounting, numbers and data. Creating graphics and charts is another critical feature in spread sheet programs. Sport organization Experts create bar, column or pie graphics and charts to illustrate the Spread Sheet data, making it easier for the audience to follow. Spread sheet programs are used to organize numbers in rows and columns, to manipulate them and to analyze them for planning. Sport organization Experts frequently use spread sheets to prepare budgets and financial statements. In addition to accounting and financial uses, spread sheets also assist sport organization Experts in creating databases and comparisons not involving relationships with other data. As a result, spread sheets are widely used for inventory, purchasing, facility utilization and scheduling, budgeting and other countables (Bucher & Krotee, 2002), address lists, gradebooks and fitness journals. More complicated databases involving relationships with other data are usually completed through a database program such as Microsoft Access.

## **GRAPHICS AND SUPPORT TOOLS FOR GRAPHIC DESIGN**

Graphic software on the market currently for graphic designers can range from the creation of original work to image modification, for those who have no graphic design talents or expertise. Although sport organization experts are not graphic designers, knowing the fundamental graphic software is critical. For example, sport organization Experts can insert graphic images into brochures, newsletters and web pages. Today, numerous computer based graphics programs are available on the market that use more familiar Applications graphics based enhancements to enable individuals without graphics skills or expertise to make highly effective use of graphics in memos, presentations and reports (Carlson, 1999). Such various programs as Adobe's Illustrator, Corel's CorelDraw, Macromedia's FreeHand, Microsoft's PhotoDraw and Quark, and Adobe's Photoshop and Visio for business graphics are available on the market, enabling sport organization Experts to modify or create graphics. Some common projects completed by graphic design programs include graphics for web pages, T-shirts, posters, calendars, virtual reality applications or animation.

## **WEB PAGE DEVELOPMENT**

With the development of technology, most sport organizations have created a website for internal and external communication. As a result, developing and maintaining web pages has become an important skill for sport organization Experts. Although free downloads for web development are available on the World Wide Web (hereinafter, WWW), it is still critical for sports Experts to gain knowledge of web development and modification. In addition to web construction, some features such as online surveys and registration have been used frequently by sport organizations. Web development programs such as Dreamweaver and Microsoft FrontPage are popular. Many organizations also have templates for their employees to use for web construction. Electronic communication and search with the development of the WWW, the information available on the Internet has become endless. Using email or search information on the WWW has become another requirement for sport organization Experts in this modern age. Yet, using the most efficient way, such as keywords and the right search engines, to find correct and valuable information is critical. In addition to information searches, sport organization Experts also use listservs or e mail discussion groups to exchange information.

## **PRESENTATION SOFTWARE**

Experts communication is a critical requirement for sport organization Experts. Sport organization Experts often must present their projects and ideas. The presenters can incorporate multimedia functions such as graphic images, transactions, slideshows and web page links from the presentation software to attract the audience's attention and to enhance their presentation contents quality, compared to slides and transparencies. Some popular presentation software on the market is Microsoft PowerPoint, Xerox copies, Lotus Freelance, Harvard Graphics from Software Publishing and Corel Presentations (Carlson, 1999).

## **Methodology**

Research questions for this study are as follows:

1. What is the frequency of use of various computer applications among sport organizations?
2. What are the important computer Skills for sport organization experts?
3. Are there any differences between the frequency of use and important computer Skills perceived by sport organization experts?
4. What specific tasks and projects in sport organization are commonly completed through computer programs?
5. Are there any differences among sport organizations use of these computer Skills and applications?
6. Are there any differences among sport organizations regarding computer utilization for tasks and projects in sport organization?

## **CONVERSATION**

Findings show that using a word processing program to generate text such as letters, memos, minutes and reports, and to write news releases and fact sheets, is the most common task or project for sport organization Experts. Sport organization specialists use spread sheet programs widely for tasks and projects including budgeting, financial statements, calculations and scheduling. However, using a spread sheet to keep fitness journals and educational materials, and using graphics programs to create animation, were evaluated as low frequency. These items include using word processing to prepare certificates, using a spread sheet program for invoices and fitness journals, using a graphics program for graphics and creating online surveys and registrations. Note that these applications are not common tasks and projects for all types of sport organizations, which might also be due to the different types of sport organizations and job functions.

## **Conculsion**

Increasing numbers of sport organizations indicate the need for computer Skills in sport organization Experts. From the results of this study, the author provides the following suggestions regarding computer Skills for sport organization experts.

1. Sport Experts rated the following computer Skills as extremely necessary in sport organization: (1) word processing for managing text, (2) spread sheets for managing numbers and (3) communication via the Internet, all of which are critical computer Skills that students need to possess before graduation. It is important for sport organization educators to design a curriculum that will ensure that sport organization graduates possess these fundamental computer Skills.
2. Advanced computer abilities are required based on the type of sport organizations and job functions. Each sport organization program/major at colleges and universities has different emphasis and features. Some universities focus on preparing students for Experts sports, while others focus more on general sport organization Experts. As a result, sport organization educators need to design appropriate projects with specific computer applications based on their student needs
3. Multimedia authoring of web pages and graphics programs might become more important than they are now in sport organizations. As a result, students advanced computer skills will be helpful in the job search, and will make them more marketable.

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## **“Effect of sports achievements by the members of the family on Physical Fitness of their child”**

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### **Abstract:**

The objective of the present study was to analyze the Influence of selected socio-economic condition factor, “sports achievements by the members of the family” on Physical Fitness of college male students. With the assistance and help of the experts in the field of Physical Fitness, Physical Education, Sports and previous researches on these areas, a comprehensive and suitable Physical Fitness and Socio-economic factor package was evolved. 480 male college students were randomly selected from twenty one academic colleges of H.N.Gujarat University. For this research, AAHPERED Youth Fitness Test for Physical Fitness and Questionnaire for Socio-economic condition data of the same students was organized for the purpose of finding out the effect of “sports achievements by the members of the family” on Physical Fitness. The obtained Physical Fitness score and Socio-economic condition factor, “sports achievements by the members of the family” score were analyzed by using analysis of co-variance for significant influence of “sports achievements by the members of the family” on Physical Fitness. The researcher has studied all samples in four groups. The groups were as Rural and Urban area all students. Tribal and non-tribal area all students. Rural tribal area schedule tribe and non-schedule tribe all students. Schedule tribe and non-schedule tribe all students. Analysis the data by use of SPSS programme and find out the mean score of sports achievement by the members of the family, mean score of Physical Fitness of the sample and "F" values in all four groups and compare the result.

The calculated 'F' value of rural area all students is 1.634, Non-tribal area all students is 1.641 and rural tribal area S.T. all students is 1.792, were significant at both 0.01 and 0.05 levels whereas tribal area all students is 1.531, Schedule Tribe all students is 1.766 and Non-Schedule Tribe all is 1.489, were significant at 0.05 levels. Urban area all students is 0.758 and rural tribal area Non-S.T. all students is 1.473, were not significant at both levels.

Keywords: Physical Fitness, ST & Non-ST, Sports Achievement

### **Introduction:**

Physical Fitness is the basic need for participation in games & sports. So, it is universally accepted that success in various activities of games and sports mainly depends upon the physical fitness of its participants. The basic level of fitness has a vital role in improving any sport performance but there seems to be a lack of specific knowledge regarding effect of sports achievements of the family members on the Physical Fitness of their child. It has been a matter of great concern for the sports teacher and coaches to assess the effect of sports achievements of the family members on Physical Fitness of their wards. In order to accomplish this, I studied *"Effect of sports achievements by the members of the family on Physical Fitness of their child."*

### **Significance of the study:**

If we view in the field of physical education and sports, physical fitness plays a major role. The sportsman who doesn't have optimum level of physical fitness can not face the competition successfully. Some parameters such as family support, financial, moral, education and sports background of the family could also assist in the overall fitness as well as performance of their child. Inter-personal relationship with residential status, mode of stay and involvement of family members may lead to lack of support to participate in sports practice. The desired goals can be achieved better in sports performance, if the members of the family are also involved in sports and games participation. In absence of it, sports person as well as the society will suffer a greater lose.

Physical Fitness is the basic need for participation in games & sports. The basic level of fitness has a vital role in improving any sport performance but there seems to be a lack of specific knowledge regarding "Effect of sports achievements by the members of the family on Physical Fitness of their child". So, the study intends to identify the effect of sports achievement by the members of the family on physical fitness of their child in tribal and non-tribal area.

**Purpose of the study:**

The purpose of present study was to compare the "Effect of sports achievements by the members of the family on Physical Fitness of their child in trial and non-tribal area".

**METHODOLOGY:**

**Subject:**

Subjects selected for this study were four hundred eighty male students from twenty one academic colleges of Hemchandracharya North Gujarat University at randomly. The average age of the subjects were twenty years, ranging from 19-23 years.

**Variables:**

The research scholar reviewed the available scientific literature pertain to the socio-economic condition and Physical Fitness from the books, journals, periodicals, magazines and research papers and listed down the important socio-economic condition factors and Physical Fitness Test.

The experts in the field of Physical Education and Sports were consulted and detailed discussions were held related to the Physical Fitness and socio-economic condition variable. On the bases of review of related literature, expert's opinions and research scholar's own understanding of Physical Fitness and socio-economic condition, the following variables were selected for the purpose of this study.

**Independent variable:**AAHPERD Youth Fitness Test total score.

**Dependent variables:**Sports achievements by the members of the family.

**Statistical Analysis:**

The data obtained by various criterion measures for Physical Fitness and socio-economic condition variable "sports achievements by the members of the family" score were subjected to the statistical methods in order to compare with four groups which are Rural and Urban area all students.Tribal and non-tribal area all students.Rural tribal area schedule tribe and non-schedule tribe all students.Schedule tribe and non-schedule tribe all students.

As per statistic study, ANOVA test were done. Where the value of 'F' was found and compared with tabulated 'F' value. The level of significance was kept at 0.01 and 0.05

**Findings:**

**TABLE**

Total samples, mean score of sports achievements by the members of the family, mean score of Physical Fitness of the sample, "F" value, significant level at 0.05 and significant level at 0.01 in all four groups.

	Group-1		Group-2		Group-3			Group-4	
	Rural area all	Urban area all	Tribal area all	Non-tribal area all	Rural tribal area S.T.	Rural tribal area Non-S.T.	S.T. all	Non-S.T. all	
Total number of samples N	446	34	206	274	133	73	140	340	
Mean score of Sports achievement	1.70	3.08	1.43	2.08	1.69	0.95	1.64	1.87	
Mean score of Physical Fitness	32.25	25.77	30.95	32.42	32.77	27.64	32.86	31.35	
Calculated "F" Value	**1.634	0.758	*1.531	**1.641	**1.792	1.473	*1.766	*1.489	
Tabulated Significant level at 0.05	1.32	3.81	1.37	1.35	1.51	1.80	1.51	1.35	
Tabulated Significant level at 0.01	1.47	7.23	1.56	1.53	1.78	2.33	1.78	1.53	



### **Discussion Of Findings:**

On the basis of the findings shown in table following discussion may be drawn as below:

GROUP-1As shown in Table, calculated 'F' value of rural area all students is 1.634, this is significant at both 0.01 and 0.05 level and urban area all students is 0.758, this is not significant at both 0.01 and 0.05 levels. In comparison to rural area all students and urban area all students, sports achievement by the members of the family have significant affect Physical Fitness of rural area all students whereas there is not significantly affect Physical Fitness of urban area all students.

GROUP-2As shown in Table, calculated 'F' value of tribal area all students is 1.531, this is significant at 0.05 level and Non-tribal area all students is 1.641, this is significant at both 0.01 and 0.05 levels. In comparison to tribal and non-tribal area all students, sports achievements by the members of the family have significant affect Physical Fitness of tribal area all students at 0.05 level, whereas there is significant affect Physical Fitness of Non-tribal area all students at both 0.01 and 0.05 levels.

GROUP-3As shown in Table, calculated 'F' value of rural tribal area S.T. all students is 1.792, this is significant at both 0.01 and 0.05 levels and rural tribal area Non-S.T. all students is 1.473, this is not significant at both 0.01 and 0.05 levels. In comparison to rural tribal area S.T. all students and rural tribal area Non-S.T. all students, sports achievements by the members of the family have significant affect Physical Fitness of rural tribal area S.T. all students whereas there is not significant affect Physical Fitness of rural tribal area Non-S.T. all students.

GROUP-4As shown in Table, calculated 'F' value of S.T. all students is 1.766, and Non-S.T. all students is 1.489, these are significant at 0.05 level. In comparison to S.T. all students and Non-S.T. all students, sports achievements by the members of the family have significant affect Physical Fitness of S.T. all students and Non-S.T. all students at 0.05 level.

### **Conclusions:**

On the basis of the findings shown in table, sports achievements by the members of the family significantly affect Physical Fitness of rural area, tribal area, non-tribal area, rural tribal area schedule tribe, schedule tribe all and non-schedule tribe college students, whereas did not significantly affect urban area and rural tribal area non-schedule tribe college students.

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## **Anxiety and Aggression Variations among College Men Basketball, Cricket and Kabaddi Players**

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### **Abstract**

The purpose of the study was to find out the anxiety and aggression differences among college men basketball, cricket and kabaddi players. To achieve this purpose of the study, ninety college men players studying in the JNIT, VBIT and TKRCET, Hyderabad, Andhra Pradesh, India. were selected as subjects at random. Among them, thirty basketball players, thirty cricket players and thirty kabaddi players were selected. The age of the subjects were ranged from 18 to 28 years. The following psychological variables namely anxiety and aggression were selected as criterion variables. All the subjects of three games were tested on selected criterion variables such as anxiety and aggression by using Rainer Marten's sports competition anxiety test questionnaire and Smith's aggression test questionnaire respectively. The analysis of variance (ANOVA) was used to analyse the significant difference, if any among the groups. Whenever, the obtained "F" ratio was found to be significant, the scheffe's test was used as post hoc test to find out the paired mean differences, if any. In all the cases, .05 level of confidence was fixed to test the level of significance which was considered as an appropriate. The results of the study revealed that there was a significant difference among college men basketball, cricket and kabaddi players on selected psychological variables such as anxiety and aggression.

### **Introduction**

Sports psychology is the study of how psychology influences sports, athletic performance, exercise and physical activity. Some sports psychologists work with professional athletes and coaches to improve performance and increase motivation. Other professionals utilize exercise and sports to enhance people's lives and well-being throughout the entire lifespan. .

Basketball is probably the leading ball game in the world as far a "action occurrence" is concerned. The attraction of the basketball game lies in the fact that it is fast moving and played on are lavely small court. All the competitive level basketball demands a high level of technical and tactical skills.

Cricket is a bat and ball game, played between two teams of eleven players each. One team bats, attempting to score runs for a win, while the other bowls and fields the ball, attempting to restrict the scoring and dismiss the batsmen for a win.

Kabaddi originated from India and is the one of the most popular games of Asia. Kabaddi is played by two teams on a court measuring 13 x10 meters divided in to two equal half's. One team goes for a ride a tries to touch as many players as possible with out stopping the cant to get points. While the difence players tries to catch the offender (rider) to get a point for the defending team.

### **Methodology**

The purpose of the study was to find out the anxiety and aggression differences among college men basketball, cricket and kabaddi players. To achieve this purpose of the study, ninety college men players studying in the JNIT, VBIT and TKRCET, Hyderabad, Andhra Pradesh, India. were selected as subjects at random. Among them, thirty basketball players, thirty cricket players and thirty kabaddi players were selected. The age of the subjects were ranged from 18 to 28 years. The following psychological variables namely anxiety and aggression were selected as criterion variables. All the subjects of three games were tested on selected criterion variables such as anxiety and aggression by using Rainer Marten's sports competition anxiety test questionnaire and Smith's aggression test questionnaire respectively. The analysis of variance (ANOVA) was used to analyse the significant difference, if any among the groups.

Whenever, the obtained “F” ratio was found to be significant, the scheffe’s test was used as post hoc test to find out the paired mean differences, if any. In all the cases, .05 level of confidence was fixed to test the level of significance which was considered as an appropriate.

#### Analysis of the Data

The data obtained from the college men basketball, cricket and kabaddi players on selected criterion variables were statistically analysed and presented below.

#### Anxiety

The mean, standard deviation and ‘F’ ratio values on anxiety among college men basketball, cricket and kabaddi players have been presented in Table I.

TABLE I: The Mean, Standard Deviation And ‘F’ Ratio Values On Anxiety Among College Men Basketball, Cricket And Kabaddi Players

	Mean	Standard Deviation	Obtained ‘F’ Ratio
Basketball Players	25.03	1.13	90.77*
Cricket Players	24.13	1.01	
Kabaddi Players	27.40	0.83	

\* Significant at .05 level of confidence.

Table I shows that the mean values on anxiety of college men basketball, cricket and kabaddi players were 25.03, 24.13 and 27.40 respectively. The obtained ‘F’ ratio 90.77 was greater than the table value 3.103 required for significance with df 2 and 87. The results of the study showed that there was a significant difference on anxiety among college men basketball, cricket and kabaddi players.

Since, three groups were compared, whenever the obtained ‘F’ ratio was found to be significant, the Scheffe’s test to find out the paired mean differences and it was presented in Table II.

TABLE II: The Scheffe’s Test For The Differences Between Paired Means On Anxiety

Basketball Players	Cricket Players	Kabaddi Players	Mean Differences	Confidence Interval Value
25.03	24.13	-	0.90*	0.77
	-	27.40	2.37*	0.77
-	24.13	27.40	3.27*	0.77

\* Significant at .05 level of confidence.

The table II shows that the mean difference values between college men basketball players and cricket players, basketball players and kabaddi players and cricket players and kabaddi players 0.90, 2.37 and 3.27 respectively on anxiety which were greater than the required confidence interval value 0.77. Hence, the results of this study showed that there was a significant difference exists between college men basketball players and cricket players, basketball players and kabaddi players and cricket players and kabaddi players on anxiety.

#### Aggression

The mean, standard deviation and ‘F’ ratio values on aggression among college men basketball, cricket and kabaddi players have been presented in Table III.

Table III :The Mean, Standard Deviation And ‘F’ Ratio Values On Aggression Among College Men Basketball, Cricket And Kabaddi Players

Groups	Mean	Standard Deviation	Obtained ‘F’ Ratio
Basketball Players	35.87	1.89	197.90*
Cricket Players	37.30	1.23	
Kabaddi Players	42.50	1.68	

\* Significant at .05 level of confidence.

Table III shows that the mean values on aggression of college men basketball, cricket and kabaddi players were 35.87, 37.30 and 42.50 respectively. The obtained 'F' ratio 197.90 was greater than the table value 3.103 required for significance with df 2 and 87. The results of the study showed that there was a significant difference on aggression among college men basketball, cricket and kabaddi players. Since, three groups were compared, whenever the obtained 'F' ratio was found to be significant, the Scheffe's test to find out the paired mean differences and it was presented in Table IV.

Table IV :The Scheffe's Test For The Differences Between Paired Means On Aggression

Basketball Players	Cricket Players	Kabaddi Players	Mean Differences	Confidence Interval Value
35.87	37.30	-	1.43*	1.08
-	-	42.50	6.63*	1.08
-	37.30	42.50	5.20*	1.08

\* Significant at .05 level of confidence.

The table IV shows that the mean difference values between college men basketball players and cricket players, basketball players and kabaddi players and cricket players and kabaddi players 1.43, 6.63 and 5.20 respectively on aggression which were greater than the required confidence interval value 1.08. Hence, the results of this study showed that there was a significant difference exists between college men basketball players and cricket players, basketball players and kabaddi players and cricket players and kabaddi players on aggression.

### Conclusions

Based on the results of the study, the following conclusions were drawn.

There was a significant difference among college men basketball, cricket and kabaddi players on anxiety. There was a significant difference among college men basketball, cricket and kabaddi players on aggression.

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## Effect Of Asanas And Pranayam Onperformance Of Basketball Player

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### Abstract

The purpose of this study was to identify the effect of six weeks yoga training on basic skills of basketball players This study was limited to Sabarkantha basketball players only 30 boys of Sabarkantha district basketball players was selected randomly for the purpose of the study The age group was between 18-22 years. There was two group experimental group, and control group **experimental group (15)** basketball players and **control group (15)** basketball players Taking into consideration, the above reviews, and the following Johnson test was selected for this study **shooting, passing and dribbling** For yoga training there was 6 week program as per under Warm up:- jogging, jumping Yoga, suryanamaskar, Prāṇāyāṃ, shasanakasana, padamasana, bhūmanasana, vajasana All mention yogic asana was done with various positions.Asana was done till 12 weeks. With 5 to 10 % (hold up time) intensity was increased per Two week To check the mean differences of the experimental group and control group, "t" test was taken in consideration The "t" ratio of the basketball players experimental group in control dribble was 5.52 which was significant at 0.05 levels and control group control dribble was 0.36 which wasn't significant at 0.05 levels. The "t" ratio of the basketball players experimental group in push pass was 5.11 which was significant at 0.05 levels and control group push pass was 1.87 which wasn't significant at 0.05 levels The "t" ratio of the basketball players experimental group in shooting was 9.86 which was significant at 0.05 levels and control group shooting was 1.67 which wasn't significant at 0.05 levels

### Introduction.

Yoga not only trains and strengthens the body, but also sharpen an athlete's concentration and focus. With so many different types of yoga available, there is no simple or easy list of the best yoga poses or practices for athletes. Generally, athletes from any sport can handle the demands and reap the benefits of the two most common types of yoga, Hatha and Vinyasa. Ashtanga yoga helps to improve balance and stretch the back muscles, making it beneficial for runners and cyclists. On the other hand, Iyengar yoga focuses on body alignment and precise, rigid movements, making it ideal for tennis players and golfers. Bikram yoga follows a specific series of 26 yoga poses performed in a room heated at least 105 degrees Fahrenheit. Bikram yoga can provide an excellent and effective stretch for nearly all the body's muscles since heat helps the body relax. However, this type of yoga is extremely intense, and athletes should be cautious of over-training or over-exerting the body. When done regularly, yoga can have a wide variety of physical and mental benefits for athletes. Physically, yoga can help increase flexibility, improve balance and strengthen the core muscles

### Method

For this study basketball players from Sabarkantha district colleges were selected

For this study two group was there **experimental group (15)** basketball players and **control group (15)** basketball players Basketball players aged between 18 to 22 years were selected **Basketball skills like shooting, dribble, and passing** For yoga training there was 12 week program as per under Warm up:- jogging, jumping Yoga, suryanamaskar, Prāṇāyāṃ, shasanakasana, padamasana, bhūmanasana, vajasana All mention yogic asana was done with various positions. Asana was done till 6 weeks. With 5 to 10 % (hold up time) intensity was increased per Two week

### Result and Conclusion

To check the mean differences of the experimental group and control group, "t" test was taken in consideration

NO	GROUP	PRE TEST	POST TEST	MEAN DIFFERENCE	“t” ratio
1	EXPERIMENTAL	11.18	10.43	0.74	5.52*
2	CONTROL	12.18	12.33	0.15	0.56

**Table-1 The Difference of Mean of Basket ball players experimental and control group dribble** From table of control dribble it seems that experimental group mean is 11.18 of pre test and after giving training post test mean is 10.43 and control group pre test mean is 12.18 and post test mean is 12.33. Mean difference of two group is experimental 0.74 and control group is 0.15 and “t” ratio of experimental group is 5.52 and control group is 0.56 This is significant at level 0.05 level

**Table 2 :The Difference of Mean of Basket ball players experimental and control group in performance of push pass**

NO	GROUP	PRE TEST	POST TEST	MEAN DIFFERENCE	“t” ratio
1	EXPERIMENTAL	6.09	4.86	1.23	5.11*
2	CONTROL	6.71	7.07	0.36	1.87

\* significant level at 0.05 (2.13)

From table of push pass it seems that experimental group mean is 6.09 of pre test and after giving training post test mean is 4.86 and control group pre test mean is 6.71 and post test mean is 7.07. Mean difference of two groups is experimental 1.23 and control group is 0.36 and "t" ratio of experimental group is 5.11 and control group is 1.87. This is significant at level 0.05 level.

**Table 3: The Difference of Mean of Basketball players experimental and control group performance of shooting**

NO	GROUP	PRE TEST	POST TEST	MEAN DIFFERENCE	"t" ratio
1	EXPERIMENTAL	4.2	6.66	2.46	9.86 *
2	CONTROL	1.53	1.26	0.26	1.67

\* significant level at 0.05 (2.13)

From table of shooting it seems that experimental group mean is 4.2 of pre test and after giving training post test mean is 6.66 and control group pre test mean is 1.53 and post test mean is 1.26. Mean difference of two groups is experimental 2.46 and control group is 0.26 and "t" ratio of experimental group is 9.86 and control group is 1.67. This is significant at level 0.05 level.

### Conclusion

Experimental group gets benefit in basketball skill after yoga training program. Basketball players who have taken yoga training their shooting, dribbling and passing were improved and were very perfect in basketball skill.

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## **The Relationship between Job Satisfaction and Job Stress of Physical Education Teachers working in Degree Colleges of Sri Krishna Devaraya University Area**

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### **Introduction:**

Physical Education is an integral part of total education process in a field of endeavour which has its aim, the development of physically, mentally, emotionally, and socially fit citizen, through the medium of physical activities which has been selected with a view to realize this outcome- Charles A. Bucher (1979.). In its broadest perspective physical education covers play, exercise, recreation and sport and is characterized by a general programme of motor activity, skill, free play and exercise assuring strength, health, fitness and well being within and even outside education. Teaching is considered as an occupation with good job security and teachers are well paid for their services. The greatest positive aspect of teaching is the personal satisfaction it provides because it carries a degree of personal involvement in the success of students. Today, Physical Education teachers are playing a very vital role and their work can be divided into five different categories of duties namely, planning, teaching, evaluative, administrative and various unclassified ones. Physical Education teachers feel their workload heavier, strenuous and difficult too. They face a lot of problems due to longer working hours, inadequate facilities/materials, clerical work and non congenial working conditions. In proportion to the expectations of the society, the Physical Education teachers are not given due place and recognition. This leads to stresses and dissatisfaction. The extent of job stress, however, depends largely upon background experiences, temperament and environmental conditions. Some of the physical education teachers feel that they have a heavy workload, less recognition from society, lack of co-operation, little opportunities for growth and advancement and so on. Those who are not satisfied with their jobs have high stress level and are less adjusted in comparison to those who have job satisfaction.

**JOB SATISFACTION:** The term Job satisfaction devotes the extent to which an individual needs and expectations are satisfied and the extent to which the individual perceives that satisfaction as stemming from his total job situation.

**JOB STRESS:** Job stress refers to the work load undertaken by a teacher of Physical Education as a part of his duties in an Educational Institution.

### **Methodology:**

The purpose of the study was to investigate the relationship of teachers job satisfaction and job stress of physical education teachers of degree college in Sri Krishna Devaraya University area. The present investigation was an attempt to determine the Job Satisfaction and Job Stress of Physical Education Teachers of Degree Colleges in Sri Krishna Devaraya University Area. Various Indian and foreign studies were reviewed. Descriptive Survey method has been used in this study. The sample consisted of 50 Physical Education Teachers from Government, Private and Local body Degree Colleges of Sri Krishna Devaraya University Area using stratified random sampling method. Standardized tools were adopted for the study are Job Satisfaction Scale of B.C. Muthaiah and Job Stress Scale of T.R. Polival were used for the physical Education teachers to find out the opinions on Job Satisfaction and Job Stress of Physical Education Teachers. The data were analyzed using various statistical methods like correlation, t-test and ANOVA by SPSS package. The score obtained by different groups are compared across the variables like gender, age, marital status, service, management type of education and locality with respect of Physical Education Teachers. The results indicated that there is a positive correlation between Job Satisfaction and their Job Stress of Physical Education Teachers. The results show there is a significant relationship between Job Satisfaction and job Stress and the Physical Education Teachers showed average job satisfaction and high Job stress in the degree colleges of Sri Krishna Devaraya University Jurisdiction.



### **Objectives Of The Study:**

To find out the level of job satisfaction and job stress among physical education teachers working in different managements, Degree Colleges of Sri Krishna Devaraya University area. To examine the inter-relationship between the Job Satisfaction and Job Stress of physical education teachers working in different managements, Degree Colleges of Sri Krishna Devaraya University area. To find out the contributing causes of dissatisfaction among teachers so that appropriate measures can be taken-up by educational authority to minimize such causes. To study the effect of type of the college on job satisfaction and job stress of college (Degree College) Physical Education Teachers. To find out the level of degree of job satisfaction and job stress among the teachers on the basis of their age, sex, marital status, service, management, type of education and locality.

### **Hypothesis Of The Study**

There will be no significant relationship between Job Satisfaction and Job Stress of physical education teachers working degree colleges of Sri Krishna Devaraya University Area. There will be no significant difference between physical education teachers based on their socio-economic variables towards their Job Satisfaction and Job Stress in Sri Krishna Devaraya University Area.

### **Results and Discussions:**

Physical Education teachers showed positive response with respect to their Job Satisfaction and low Job Stress in Degree Colleges of Sri Krishna Devaraya University Area. There is a high significant relationship between Job Satisfaction and Job Stress of Physical Education Teachers working in Degree Colleges of Sri Krishna Devaraya University Area. There is a significant difference between Pay Scale and Consolidated Pay physical education teachers perceptions and Physical education teachers who are drawing Pay Scales expressed high perceptions than that of Physical education teachers who are drawing Consolidated Pay with respect to their Job Satisfaction in Degree Colleges of Sri Krishna Devaraya University Area. There is a significant difference between Government, Aided, Un-aided and Local body Physical Education teachers perceptions and Physical Education teachers working in Local body colleges expressed high perceptions than that of Government, Aided and Un-aided college Physical education Teachers with respect to their Job Satisfaction in Degree Colleges of Sri Krishna Devaraya University Area. There is a significant difference between rural and urban area Physical Education teachers perceptions and Urban area Physical education teachers expressed high perceptions than that of rural area Physical education teachers with respect to their Job Satisfaction in Degree Colleges of Sri Krishna Devaraya University Area. There is a significant difference between Pay Scale and Consolidated Pay physical education teachers perceptions and Physical education teachers who are drawing Pay Scales expressed high perceptions than that of Physical education teachers who are drawing Consolidated Pay with respect to their Job Stress in Degree Colleges of Sri Krishna Devaraya University Area. There is a significant difference between Government, Aided, Un-aided and Local body Physical Education teachers perceptions and Physical Education teachers working in Local body colleges expressed high perceptions than that of Government, Aided and Un-aided college Physical education Teachers with respect to their Job Stress in Degree Colleges of Sri Krishna Devaraya University Area. There is a significant difference between rural and urban area Physical Education teachers perceptions and Urban area Physical education teachers expressed high perceptions than that of rural area Physical education teachers with respect to their Job Stress in Degree Colleges of Sri Krishna Devaraya University Area.

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## **Exercise Protocol for Predicting the Sensitive Zone on Heart Rate Max.Among Untrained School Boys.**

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### **Abstract:**

The Heart is a chambered muscular organ in vertebrates that pumps blood received from the veins into the arteries, thereby maintaining the flow of blood through the entire circulatory system. A similarly functioning structure in invertebrates. Heart rate refers to the speed of the heartbeat, specifically the number of heartbeats per unit of time. The heart rate is typically expressed as beats per minute (bpm). The purpose of this study was to compare the Heart Rate Max.Among untrained school children of Hyderabad City. To achieve this purpose, 90 students were selected randomly and were categorized in three different groups, i.e. high intensity group, medium intensity group and low intensity group as random samples. They were ranged in age between fourteen to sixteen years only. In order to assess the Heart Rate Max., the Harvard Step Test method was used. The raw scores of untrained school boys of Hyderabad were converted into Mean, Standard Deviation, Standard Error, t-ratio and ANOVA comparison was made to find out the significance. Among these three groups Medium Intensity group (9 inches) has better average compare to 13 inches High bench and 4 inches Low bench group boys. Hence, it was concluded that the Medium Intensity Exercise Protocol could bring the significant positive improvements for predicting the Sensitive Zone on Heart Rate Max.Among Untrained School Boys. The Present Article/Paper deals with this issue and attempts to focus on the difference between the performance of trained & untrained sportsmen.

Introduction: A Human being resting heart rate (sitting) is influenced by many factors including age, level of heart and lung fitness, environmental temperature, altitude, anxiety and cigarette smoking. Physical activity can strengthen your heart. The heart will be more efficient and be able to pump more blood per beat. With cardiovascular training, your heart will have to do less work when resting, thus lowering your resting heart rate. How much change occurs varies from person to person. Resting heart rates vary from below 40 beats per minute in highly conditioned athletes to greater than 100 beats per minute in sedentary, unconditioned adults. Women tend to have higher resting heart rates (8-10 beats average) than men. A good average appears to be around 70-75 beats per minute. As exercise begins, heart rate increases. During low levels of exercise, such as walking, the elevated heart rate will level out at a constant rate (this is called steady state). As the workload of the heart increases, the heart rate will increase. A fit person will have a lower steady state heart rate value than an un-fit person. As the exercise workload continues to increase, the heart rate will eventually reach a maximum. This highest attainable heart rate is referred to as an individual's heart rate max (HRmax). During a maximal exercise stress test, your maximal heart rate can be determined. Predicted maximal heart rate can be calculated by using the formula  $207 - 0.7(\text{age})$ . This predicted HRmax has a standard deviation of +/- 6-8 beats per minute. HRmax decreases with age, and is lower in a more fit individual than in an unfit person of the same age.

Methodology: The purpose of this study was to compare the Heart Rate Max.Among untrained school children of Hyderabad City. To achieve this purpose, 90 students were selected randomly and were categorized in three different groups, i.e. high intensity group, middle intensity group and low intensity group as random samples. They were ranged in age between fourteen to sixteen years only. In order to assess the Heart Rate Max., the Harvard Step Test method was used on the students of Hyderabad City. The students were divided into three different groups of 30 students each randomly, which was thought necessary for the administration of activity smoothly. Before the activity the students initial pulse rate was taken for one minute and immediately after the activity the final pulse rate was also recorded.

The students were told to do 30 steps per minute and for administering this, the apparatus was also used. They were told to perform this activity for one minute. The students were given enough rest before taking up the testing.

**Results:**

The raw scores of untrained school boys of Hyderabad were converted into Mean, Standard Deviation, Standard Error, t-ratio and ANOVA comparison was made to find out the significance. The calculated t-value is compared with the table t-value at '42' degree of freedom at 0.05 level of confidence, which was given by Clarke and Clarke. The computation of Mean Standard deviation, Standard Error of the Mean, t-value and ANOVA of exercise protocol for predicting the sensitive zone on Heart Rate Max. Among untrained school boys between the age group of 14 to 16 years are presented in table from 1.0 to 1.18 respectively.

Table –Multiple Comparisons

Heart Rate (Final)		Mean Difference	Standard Error	Sig.
4 inches benchers	benchers	-24.30725	2.1748	0
	benchers	-21.16852	2.1748	0
	Initial	41.24722	2.1748	0
9 inches benchers	benchers	24.30725	2.1748	0
	benchers	3.13873	2.1748	0.152
	Initial	65.55447	2.1748	0
13 inches benchers	benchers	21.16852	2.1748	0
	benchers	65.55447	2.1748	0.152
	Initial	62.41574	2.1748	0
Initial	benchers	-41.24722	2.1748	0
	benchers	-65.55447	2.1748	0
	benchers	-62.41574	2.1748	0

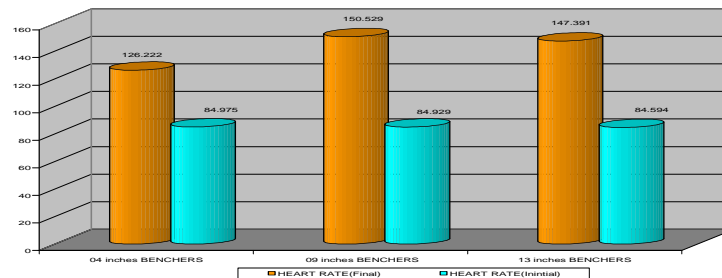


Fig. Heart Rate Final & Initial

The above figure Heart rate final and initial shows that the two different groups final and initial Means are compared among the three groups. 9 inch Medium bench group has highest influences of experimental treatment followed by 13 inch and 4 inch bench exercise.

**Discussion:**The table indicates that three groups combined influence was found out by multiple comparison method. When Low bench group and High bench group was compared and the value shows that these two groups are significantly influenced by experimental treatment. When Medium bench group and Low bench group was compared and the value shows that these two groups are significantly influenced by experimental treatment. When High bench group and Medium bench group was compared and the value shows that these two groups are insignificantly influenced by experimental treatment.

**Conclusion:**To find out whether there is any significant difference among this three groups, 13 inches High bench, 9 inches Medium bench, 4 inches Low bench of untrained school boys of Hyderabad t-ratio and ANOVA was tabulated. The calculated value of t-ratio was higher than the table value required at 0.05 level of confidence. The results of the study when compared with all the groups shows that all groups are not equal in Heart Rate Max. This speaks that 9 inches Medium group have better average compare to 13 inches High bench and 4 inches Low bench group boys.

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## Life Skills Life Styles Education For Young Male Athletes

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### **Introduction:**

Life styles programmes are a service for adolescent boys aimed to improve health and RH related issues. Although, there is an extensive research on life skills and life styles knowledge, attitude and practice is available among urban adolescent boys, a little is known to their rural counter parts in India. Yet health care providers and social workers are called up on to respond to this situation for research investigations in these area particularly rural adolescent boys.40 adolescent boys residing in rural area pursuing 9<sup>th</sup> and 10<sup>th</sup> standard in Z.P. high school, Kadiri rural in Anantapur District ages 15-17 years with a mean age of 15.8 years with participation back ground in physical activity recruited as subjects in this life skills and life styles centred single group empirical study.Experimental Approach to the problem: From the subjects selected for this experiment, data was collected on life skills education perceptions knowledge, attitude and practice (KAP), life styles related wellness perceptions practice and healthy life style preferences and physical characteristics of the subjects as pre test scores from the participants as a first step. The experimentation was commenced with an orientation to the subjects in order to familiarize life skills education, life styles preference and practice and aerobic training programme for a week.Aerobic training protocol: In 16 week aerobic training programme first week was allocated for orientation to familiarize aerobic training protocols to the subjects. The actual training was carried out for 15 weeks in order to find out any change occurs due to aerobic training treatment. The programme of the aerobic training protocol is appended in table No.2. Measurements of Tools: All the measurement were performed 3 days before the exercise treatment and 2 days after exercise programme for subjects involved in this experimentation. Height and Weight: Height with out shoes was measured by using stadiometer to the nearest 0.1cm. Weight in light clothing was measured to the nearest 0.1kg on the same instrument.Cooper's 12 minutes run test was used for measurement of Max VO<sub>2</sub> to determine aerobic fitness level.

### **Statistical Analysis:**

KAP was adopted in order to measure life skills education perceptions and life styles and aerobic ability measured collecting data using't' test comparing pre and post test scores. Statistical significance was established at P < 0.05 for all analysis.

Table No.1-Descriptive index of subjects (N=40)

Variable	Mean	S.D.
Age (year)	15.8	1.24
Height (centimetre)	1.46	4.13
Body Mass (kg)	47.2	6.71
VO <sub>2</sub> Max ml/kg/min	30.96	5.24

Table No.2- Aerobic exercise training programme.

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Training duration In min	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Training Intensity (percentage)	20	25	25	30	30	35	35	40	40	45	50	55	55	60	60
Training frequency (Days per week)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

**Results:**

Subjects physical characteristics of the 40 male adolescent boys participated in this investigation are presented in Table no.1 the mean age, height, Body mass (weight) and VO<sub>2</sub> max were 15.8 years, 1.49 cms, 47.2 Kgs and 30.96 respectively. Data related to life skills education perception KAP are presented in Table No.3. Significant changes in mean knowledge observed post test scores when compares to pre test scores levels perceptions RH care, life skills to avoid pregnancy, self protection from HIV, avoid the risk of STI/STD and accepting maleness. The level of knowledge perceptions increased positively as appended in Table no.3. The attitude and practice of life skills results also revealed significant progress in attitude and practice Table no.4 and 5 respectively. Table No.3- Results of knowledge on life skills perceptions.

Perceptions	Level	Number		Percentage	
		Pre	Post	Pre	Post
RH care and Management	Low	28	7	70	17.5
	Moderate	11	25	27.5	62.5
	High	1	8	2.5	20
Self-protection From HIV	Low	21	3	52.5	7.5
	Moderate	17	29	42.5	72.5
	High	2	8	5	20
Avoid the risk of STI/STD/	Low	30	11	75	27.5
	Moderate	9	22	22.5	55
	High	1	7	2.5	17.5
Accepting maleness	Low	31	5	77.5	12.5
	Moderate	7	29	17.5	72.5
	High	2	6	5	15

Table No.4- Results of Attitude on life Skills Perceptions

Perceptions	Level	Number		Percentage	
		Pre	Post	Pre	Post
RH care and Management	Low	21	7	52.5	17.5
	Moderate	15	26	37.5	65
	High	4	7	10	17.5
Self-protection From HIV	Low	8	2	20	5
	Moderate	23	26	57.5	65
	High	9	12	22.5	30
Avoid the risk of STI/STD/	Low	24	13	60	32.5
	Moderate	9	23	22.5	57.5
	High	7	6	15	17.5
Accepting maleness	Low	3	2	7.5	5
	Moderate	31	29	77.5	72.5
	High	6	9	15	22.5

Table No.5- Results of Practice on Life Skills Perceptions

Perception	Level	Number		Percentage	
		Pre	Post	Pre	Post
RH care and Management	Low	28	10	70	25
	Moderate	10	18	25	45
	High	2	12	5	30
Self-protection From HIV	Low	8	2	20	5
	Moderate	28	30	70	75
	High	4	8	10	20
Avoid the risk of STI/STD/	Low	28	8	70	20
	Moderate	10	22	25	55
	High	2	10	5	25
Accepting maleness	Low	7	2	17.5	5
	Moderate	22	28	5.5	70
	High	11	10	27.5	25

Significant reductions observed in life styles wellness perceptions- social wellness, pre and post scores mean difference (MD) 47.9, and (P < .5). Similarly the other components of life styles wellness perceptions spiritual, emotional and intellectual wellness also shown positively in the mean difference of pre and post scores. Spiritual wellness MD= 47.3, t=1.670 (p < .10). Emotional wellness MD= 46.2, t=1.681 and (P < .10) and intellectual wellness MD= 34.5, t=1.697 and (P < .10) respectively as presented in table no.6. In table no. 7 results of healthy life styles practice is appended. Exercise fitness, stress control and safety measures were presented. Eating habits pre and post scores MD 132, t = 1.960 (P < .05). Exercise and fitness MD = 98, t = 2.018 (P < .05). Stress control results MD = 126, t= 1.645 (P < .10) and safety measures results MD= 160, t = 2.57 (P < .01) significantly.

Table No.6-Results of Life Styles Wellness Perceptions Practice

Life Styles Perception	Pre Mean test	Post Mean test	Mean Difference	't'	Significance
1) Social wellness (1 to 90)	20.1	68	47.9	2.11	.05
2) Spiritual wellness (1 to 100)	24.3	71.6	47.3	1.670	.10
3) Emotional Wellness (1 to 90)	24.4	70.6	46.2	1.681	.10
4) Intellectual Wellness (1 to 100)	25.3	59.8	34.5	1.697	.10

Table No.7-Results of Healthy Life Styles practice

Practice perception	Pre Mean test	Post Mean test	Mean Difference	't'	Significance
Eating habits (1 to 10)	88	220	132	1.960	.05
Exercise/Fitness (1 to 12)	140	238	98	2.018	.05
Stress control (1 to 10)	92	218	126	1.645	.10
Safety measures (1 to 10)	80	240	160	2.57	.01

Results of aerobic training VO2 max and body mass (body weight) appended in table no.8, shows that there is a significant change in VO2 max MD = 10.3, t = 2.28 and (P < .05).

Body weight also revealed similarly MD= 1.2, t = 6.418 and (P < .10) respectively in Table No.8-Results of Aerobic Training on VO2 max and Body mass

	Pre test Mean	Post test Mean	Mean Difference	t'	Significance
VO <sub>2</sub> max (ml/kg/min)	30.96	41.26	10.3	2.28	.05
Body mass (kg)	48.4	46.2	1.2	6.418	.10

Discussion: The impact of the evaluated treatment protocols has significant effect on life skills and life styles education. The findings of Young et.al (2006), reveals that adolescent life skills oriented physical education curriculum may need to be combined with other approaches to increase the magnitude of effects on physical activity, behaviour in predominantly, the findings of this research has high correlation with the above findings. The findings of Rehman et.al (2004) reveals that scaling-up health, RH, life skills and life styles education and practice will increase knowledge and attitude significantly among adolescent boys. This research finding has positive correlation with the above findings. Korstn et.al (2007) investigated the effects of aerobic exercise on early adolescent boys, found that there was significant increase in max VO<sub>2</sub> values and decrease in body weight. Our study findings have high correlation with these research findings in aerobic training protocol results.

Practical Applications: The study provides the evidence that aerobic training benefits middle adolescent boys (15-17 years), who has very little KAP on life skills and life styles educations and benefits of aerobic training. Further research organized in systematic and scientific approach with suitable practice application treatment protocols and load implications will influence on middle adolescent boys positively on their life skills, life styles education and aerobic capability. Declaration: The full paper submitting for presentation is on adolescent girl's life skills and life styles centred education. This paper is neither copy righted nor published.

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## A Comparative Analysis On Motivational Level Among National Players Of Hyderabad In Relation To Their Time Factor Games And Non Time Factor Games

Parveen Banu, Doctoral Scholar, JNTU, Hyderabad

### Introduction

Motivation is one of the main psychological factors which affect the performance. Motivation means to be inspired to do something, it is to give reason, enthusiasm or interest that causes a specific action or certain behavior. Motivation is present in every function of life. Simple act such as eating, drinking are motivated by hunger and thirst respectively. Motivation in sports performance has been an interesting topic for many investigators during the past decade. This area can be considered from different view point: motivation for participating in sports activity, achievement motivation, competitiveness etc. Motivation plays an important role in all tests as well as in sport activities and at all levels of competition. Motivation climate, or positive social environment may influence and modulate motivation of individuals involved in sports.

### Methodology

The researcher has opted questionnaire method consist of 15 questions for testing the motivation level of the players. The researcher has gone to various experts for the suitability of the questions and got approved from them. The researcher took the pilot study for 20 players of time factor games and non time factor games which shows 90% of reliability.

### Sample Of The Study

The sample was divided in two equal groups as the Time Factor Games (TFG) ie: Kho-Kho, Kabaddi, Hockey, Football, Basketball and Non Time Factor Games (NTFG) ie: Volleyball, Lawn Tennis, Table Tennis, Badminton, Softball. Each group consist of 25 National players. The sample was collected from various colleges of Hyderabad of Osmania University and JNTU.

### Results And Discussions

Please do the needful statistical analysis for the data and write the results and discussions.

	<b>TOTAL</b>	<b>MEAN</b>
<b>TIME FACTOR GAMES</b>	<b>1628</b>	<b>65.12</b>
<b>NON TIME FACTOR GAMES</b>	<b>1699</b>	<b>67.96</b>

The motivation among Non-Time Factor Games is high compare to time Factor Games this due to the difference in their attitude to performance well in the Competitions. With out Motivation the performance of the Sports Persons will come down. The Mean of Time Factor Games is 65.12 to the Non Time Factor Games mean is 67.96. Hence it is concluded that Non Time factor Games are having higher motivation compare to time factor games.

### Recommendations:

This type of Study is useful to coaches to motivate the Sports persons to perform well in the competition. The Extrinsic and Intrinsic Motivation Plays the major role to achieve highest level of the motivation in the Sports and Games.



## Benefit Of Yoga Asanas

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### **Introduction -:**

Yoga is a subject of science of high order; which carries in it's the mystery of conservation of health and Transformation of life therefore yoga is basic tools for the development of health and happiness. The word yoga has been derived from the Sanskrit 'yu2' dhatu means 'union' and in the simple word, this union is between 'Atman' an 'paramatman' self to non-self, individual consciousness to universal consciousness. Yoga is a complete science for human interior or it can even be said that it is the way of life. Today the world is looking for solutions to solve the menacing problems of unhappiness, restlessness, conditional imbalance etc. how the times has come to think of change in attitude and take a new dimension to solve the problems. Yoga offers man a conscious process to solve his problems. Yoga helps the man evoke the hidden potentialities of man in a systematic and scientific way by which man becomes a fuller individual. Yoga provides we can have unlimited gains by spending lesser time and energy. It provides a bare to our life. The practice of yoga makes the body strong and flexible it also improves the functioning of the respiratory, circulatory, digestive and hormonal system with regular yoga practice; our health will be the best it can be, joints are lubricated, muscles are toned, bones have to bear weight in strengthening postures and internal organs activities of nervous system, flexibility and contractibility of muscles vital capacity of lungs, blood circulation etc. such type of biological processes are toned up.

### **Significance Of The Study -:**

The find out the effect of yoga asanas of the efficiency of the players. Utility of yoga for the promotion of sports may be useful from the following points of view application of yogic exercises have a considerable scope in the promotion of sports depends on basic motor fitness factors specific sports skills and psychological factors. Physical fitness is must for any good performance in sports maintenance of physical fitness during participation period and in offseason in necessary for every sportsman. This can be achieved excellently by the yoga routine exercise yoga exercises deal with vital organs of the body on which health depends Event sports involves vigorous movements shorten muscles and makes them susceptible to pulls and strains it is be noted a person involves himself in intensive on vigorous activates the more he need to stretch In sports like running the muscles most commonly injured by pulls and strains are the heartstring and the calf muscles athletics competing in running sports should regularly practices stretching is the most important injury preventive in sports, asanas are safety zone for such type of injury.

It is accepted by the trainers that warming up are necessary not to avoid injuries but also to improve the performance in sports. The key a good warming up is to increases the pace of the workout so gradually that the muscles can adjust to the increased pace and remain free form injury. The steady stretching asanas proper such a back ground. The method and procedure have been explained to compare the physical characteristics of the players.

### **Effect Of Yogasana On Different Systems Endocrine Glands :- ( Objectives)**

It is well known that padmasana, helps to regulate endocrine secretion of serotonin and dopamine. It controls such secretions thus such asana regulate endocrine gland of offer physical and mental health and also prevent disorders. Regular practice of such asana the nervures systems are well regulated and balanced which is helpful in progressive growth and development of the persons.

#### **Respiratory system:-**

Regular practice of pranayama and shavasana helps to regulate inspiration and expiration which provides adequate amount of oxeye in the body. The respiratory muscles become strong and work maximally, there are faster removed of carbon dioxide from body and increase the resistance power, thus cold, cough, asthma, sneezing, headache etc. can be prevented.

**Circulatory system:-**

Regular practices of yogasanas improve purification and circulation of blood in different systems of the body. Hemoglobin increases and carries more oxygen which improves the energy flow. There is faster removed of waste products from the body and the cholesterol level in blood is decreased thus yogasanas helps to prevent various disorders related to cardiovascular system

**Muscular system:-**

A regular practice of yogic asanas up muscles and offers flexibility. There is an increase in the number of capillaries in muscles which helps in faster circulation of blood. Thus, it improves the efficiency of muscles and an individual works for longer duration without fatigue. Due to flexible muscles the recovery from injury is very fast and there is less chances of injuries. It improves the neuro- muscular co- ordination by which various skills can be performed efficiently and accurately

**Digestive system:-**

Regular practice of yogasanas activities improves the contractibility and physiological activity of stomach secretion of gastric juices & hormones is increased. It makes the digestive process normal. The peristaltic activity of intestines is increased. The absorbing capacity of villi of small intestine is increased, thus the adequate amount of nutrients and observed and desired supply of nutrition is made available to respective part of the body processes, which thereby control gastric disorders, such as constipation, indigestion and acidity chiefly on digestive system include under shakti, dhanarasana and gomukhasana etc.

**Conclusion:-**

Yoga is said to be the art of living and the science of experience. Today's educational system, though has endowed us with all material comforts, somehow falls short in giving enough physical, mental, emotional and spiritual growth yoga, being an applied science can be utilized in solving man's existential problems as well as systematically managing human resources. Its philosophical bare and proven practical approach is being help as a great promise for humanity. In fact, yoga it self is a system of humanistic education The people in the world name how fully understand that yoga is the only option, alternative and a viable medium by virtue of which an era of peace can be ushered in the new world order. Regular parches of some yogasanas pranayama and dhyan are useful for all human being. Asanas re body postures bring flexibility in the body and provides physical health. Different pranayama purifies and harmonizes our mind, which is a reservoir of infinite energy and power through the practicing of pranayama the mind starts calming and enable the sadhak of pramayamas to control his mind and consequently positive energy starts flowing inwards us with a cherished state of peace and harmony. Practice of proper yoga is the basic tools for development of health and happiness. This regular practice of yoga is helpful in stress and health management.

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## **Effect Of Circuit Training On The Enhancement Of Heart Rate Max. Among The Girl Students Of Hyderabad Public School.**

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### **Abstract:**

Circuit training is an excellent way to improve mobility, strength and stamina. The exercises within each circuit are separated by brief, timed rest intervals, and each circuit is separated by a longer rest period. A group of sixty untrained girl students in the age group of 14-17 years were selected as subjects from Hyderabad public school, Ramantapur, Hyderabad. These groups consisted of 60 girls' students and they are divided into two groups, each group consisting of 30 students. One group is named as control group another group as experimental group. Before adopting the circuit training exercises on the Heart Rate max. Was measured for both the groups (Initial test). The experimental group was subjected for experimental treatment of circuit training exercise for a period of six weeks and final test of Heart Rate max. was recorded for both control and experimental groups. The raw scores of Subjects collected were subjected for the tabulation of Mean, Standard Deviation, Standard Error, t-ratio and correlation to find out the statistical significance. The calculated t-value is compared with the table t-value at '42' degrees of freedom at 0.05 level of confidence, which was given by Clarke and Clarke. Based on the mean value this can be mentioned that there is a significant improvement on the experimental group on the effect of circuit training on the enhancement of heart rate max. among the girl students of Hyderabad Public School, Hyderabad. The Present Article/Paper deals with this issue and attempts to focus on the difference between the performance of trained & untrained sportsmen.

### **Introduction:**

Circuit training is a type of exercise also known as interval training. It combines resistance exercise with aerobic exercise that is performed in intervals. Circuit training gyms have stations set up in an alternating fashion from a resistance machine to a jogging platform or bike for cardio exercise. This type of exercise can be done outside of a circuit training gym by simply alternating between resistance and cardiovascular exercise.

### **Methodology:**

Sixty subjects were selected at random from Hyderabad public school and are divided into two groups. These two groups are named as a control and experimental groups. The researcher has selected some of the specific circuit training exercises for the enhancement of the performance. A group of sixty untrained girl students in the age group of 14-17 years were selected as subjects from Hyderabad public school, Ramantapur, Hyderabad. These group consisted of 60 girls students and they are divided into two groups, each group consisting of 30 students. One group is named as control group another group as experimental group. Before adopting the circuit training exercises on the Heart Rate max. was measured for both the groups (Initial test).

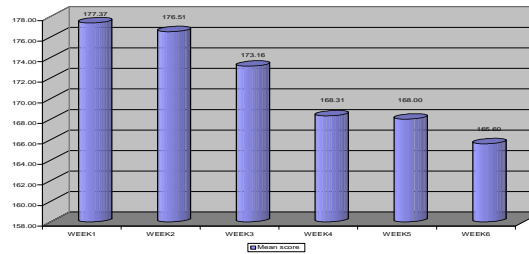
The experimental group was subjected for experimental treatment of circuit training exercise for a period of six weeks and final test of Heart Rate max. was recorded for both control and experimental groups.

Results: The raw scores of Subjects collected were subjected for the tabulation of Mean, Standard Deviation, Standard Error, t-ratio and correlation to find out the statistical significance. The calculated t-value is compared with the table t-value at '42' degrees of freedom at 0.05 level of confidence, which was given by Clarke and Clarke. The computation of mean, standard deviation, standard error of the mean and t-value of control and experimental groups, correlation of height and weight are presented in tables respectively. The mean, standard error, t-value and correlation of all Hyderabad Public School Students were presented respective Tables.

Paired Samples Test<sup>a</sup>

		Paired Differences		t	df	Sig. (2-tailed)	
		Mean	Std. Deviation				Std. Error Mean
Pair 1	DAY1 - DAY2	.667	2.426	.443	1.505	.29	.143
Pair 2	DAY1 - DAY3	.333	2.273	.415	2.249	.29	.032
Pair 3	DAY1 - DAY4	1.267	3.172	.579	2.187	.29	.037
Pair 4	DAY1 - DAY5	2.800	2.552	.466	6.011	.29	.000
Pair 6	DAY2 - DAY3	.267	2.333	.426	.626	.29	.536
Pair 7	DAY2 - DAY4	.600	3.529	.644	.931	.29	.359
Pair 8	DAY2 - DAY5	2.133	3.148	.575	3.711	.29	.001
Pair 10	DAY3 - DAY4	.333	2.928	.535	.623	.29	.538
Pair 11	DAY3 - DAY5	1.867	2.224	.406	4.597	.29	.000
Pair 13	DAY4 - DAY5	1.533	1.871	.342	4.490	.29	.000

<sup>a</sup>. Week = WEEK6



The above figure denotes that the heart rate week wise based on the experimental treatment to the experimental group.

In the First Week the Mean value = 177.37, In the Second Week the Mean value = 176.51, In the Third Week the Mean value = 173.16, In the Fourth Week the Mean value = 168.31, In the Fifth Week the Mean value = 168.00, In the Sixth Week the Mean value = 165.60

### Conclusions:

Based on the results of the above study the investigator has drawn the following conclusions. Experimental group girl students have significantly improved the heart rate max. compared with control group. This speaks that the Circuit training spot Jumps, Hopping, Push-Ups, Medicine Ball Throw, Lunging, Table Crossing, Skipping and Shuttle Run. Components training has improved Heart Rate Max. among the experimental girl students compare to Control Group girl students. To find out whether there is any significant difference among control group and experimental group girl students of Hyderabad public school. t-ratio was tabulated which is higher than the table value required at 0.05 level of confidence (t-ratio = 6.679). The results of the study further reveal that the experimental treatment of circuit training on heart rate max. has significantly improved among the girl students of Hyderabad Public School.

### Recommendations:

In the light of the facts presented above the investigator has made the following recommendations. Good physically fit students are an asset to our country. Firstly they are the healthy persons who can do work efficiently and can be good healthful living citizens. Educational institutions are the main agencies to student players since childhood educational institutions must provide adequate facilities to the children to become fit by taking part in various physical activities. Government sports organizations, private companies, private clubs, must come forward to provide opportunity to talented individuals for the enhancement of Heart Rate max. all physical education teachers who are giving training in sports and games must be specialized in their own field so that the best learning can be made possible among the participants. Good scientific and systematic training helps the students to achieve the high level of sports performance. The investigator makes the above recommendations for the benefit of girls students and also for the pride of the nation. All the citizens in the country must be made to realize through Television, Radio, Newspapers, Articles, Generals etcetera to take active part in physical activities to make themselves physically fit citizens of the country.

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## **Comparative Study On The Physical Fitness Among The Taekwondo And Karate Players Of Osmania University**

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### **Introduction:**

Regular exercise is a critical part of staying healthy. People who are active live longer and feel better. Exercise can help you maintain a healthy weight. Physical fitness comprises two related concepts; general fitness (a state of health and well-being), and specific fitness ( a task-oriented definition based on the ability to perform specific aspects of sports or occupations). Physical fitness is generally achieved through correct nutrition, exercise, hygiene and rest. Howley and Frank Physical fitness is a state of well-being with low risk of premature health problems and energy to participate in a variety of physical activities. Fitness was commonly defined as the capacity to carry out the day's activities without undue fatigue. However, as automation increased leisure time, changes in lifestyles following the industrial revolution rendered this definition insufficient. In current contexts, physical fitness is considered a measure of the body's ability to function efficiently and effectively in work and leisure activities, to be healthy, to resist hypokinetic diseases, and to meet emergency situation. My previous writings have all dealt with the components of health-related fitness. While physical fitness and a healthy lifestyle are desirable, many people of military age also participate in a variety of competitive sports or mission-related competition. Success in games and contests require more than just being fit. It demands motor skills, speed and power. The components of skill-related fitness enable one to move and perform more efficiently, whether it is in work-related activities, daily movement functions, or in sports performance. Further, health-related fitness may also benefit from skill-related since persons who possess skill-related fitness are more likely to be active throughout life. Skill-related fitness is compatible with health-related fitness. Many activities promote both types. Individuals who possess both will find participation in either type of activities more enjoyable and beneficial to their health and physical well-being. A person who is physically active cannot help but improve some aspects of skill-related fitness.

### **TAEKWONDO:**

General Choi Hong Hi "Taekwon-Do was developed by Choi in Korea during the 1940s as a combination of Korean Taek Kyon and Japanese karate. A method of unarmed combat for practical self-defence. It is concerned with both the physical and the mental, emphasizing self-discipline, humility and a sense of justice. In 1955 Choi gave it its name, comprising Tae (which means to kick with the foot) Kwon ( to strike with the flat) and Do (art) Taekwondo as a martial art is popular with people of both genders and of many ages. Physically, taekwondo develops strength, speed, balance, flexibility and stamina. An example of the union of mental and physical discipline is the breaking of wooden boards, bricks or tiles, which requires both physical mastery of the technique and the concentration to focus one's power. A continuous point system is utilized in ITF competition, where the fighters are allowed to continue after scoring a technique. Full Force blows are allowed and knockouts result in a victory; although these rules vary between ITF organizations. At the end of two minutes (or some other specified time) the competitor with more scoring techniques wins. Fouls in ITF sparring include heavy contact, attacking a fallen opponent, leg sweeping, holdings/grabbing, international attack to a target other than the opponent ITF competitions also feature performances of patterns, breaking, and special techniques ( where competitors perform prescribed board breaks at great heights.

**Karate:**

The sport of Karate is both an exhibition and a full-contact sport derived from traditional Chinese martial arts. It was developed in China after 1949, in an effort to standardize the practice of traditional Chinese martial arts, although attempts to structure the various decentralized martial arts traditions date back earlier, when the Central Institute was established at Nanking in 1928.

Significance:

The present study will bring the true facts for the importance of physical fitness among Taekwondo and Karate fighters.

**Experimental Design:**

The sample for the present study is twenty male Taekwondo fighters and twenty male Karate fighters of Osmania University area in Hyderabad between the age group of 18 to 21 years. The AAPHER Youth fitness test consisting of 6 items were used for study.

**Methodology:**

The AAPHER youth fitness test is most simple to test the achievement and the Physical fitness among the youth. Before administering the tests all the subjects were oriented to the test in procedure and the objectives of the tests in following items.

Pull-ups 2) Situps 3) Standing Broadjump 4) Shuttle run 5) 50 yard dash and 6) 600 yard run/walk. The above test items are conducted along with the well qualified testers in Hyderabad District.

**DISCUSSION:**

	GROUP	N	Mean	S.D	Std. error mean	t	df	Sig.2. tailed
50Y	T	20	7.02	0.24	0.07	1.80	18.01	0.09
	W	20	7.30	0.46	0.15			
600Y	T	20	1.65	0.20	0.07	0.37	18.50	0.73
	W	20	1.69	0.21	0.08			
SBJ	T	20	2.15	0.12	0.05	3.64	18.05	0.01
	W	20	2.26	0.06	0.03			
PULL UPS	T	20	11.01	0.95	0.31	4.72	18.01	0.01
	W	20	14.21	1.16	0.37			
SHT.RUN	T	20	14.13	1.21	0.38	2.54	18.02	0.02
	W	20	15.39	0.57	0.18			
SIT UPS	T	20	30.42	2.64	0.85	4.37	18.02	0.01
	W	20	24.81	2.93	0.94			

**Discussion:**

The taekwonodo fighters are found better physical fitness level in 50yard run, 600 yard run, shuttle run and sit-ups. The karate fighters are good in standing broad jump and pull ups.

**Conclusion:**

It is concluded that taekwondo fighters are having better physical fitness than the karate fighters.

**Recommendations:**

It is suggested that physical fitness must be given to taekwondo and karate fighters to increase overall performance.

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## Effect Of 40m Repeated Sprint Training On Physical Performance

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### Abstract

The purpose of this study was to investigate the effect of eight-week repeated sprint training program on maximum sprinting speed, multiple sprint tests and leg strength test. Twenty young, well-trained, elite male basketball players from Pondicherry University volunteered to participate in this study. The subjects age ranges from 21 to 23 ( $\pm$ SD) 22.3  $\pm$ 1.05 years, body mass 74.1  $\pm$ 9.4 kg, and stature 178.5  $\pm$ 7.3 cm, volunteered to participate in this study. All subjects were tested on 40 m sprint, multiple sprint test and leg strength test. Subjects were randomly assigned to one of two groups: a training group and a control group. The training group followed a repeated sprint training program twice a week. The results indicate significant improvement within the training group from pre-test to post-test in multiple sprint time, 40 m sprint time and leg strength. The control group results showed no notable improvements in 40 m sprint time, multiple sprint time and leg strength test. A comparison between groups indicates that there were marked differences between the two groups in 40 m sprint time multiple sprint time and leg strength. We concluded that repeated sprint ability is trainable and the larger improvement within the training group as compared to the control group could be explained by the extra weekly repeated sprint training.

**Key words:** Sprint Training, Multiple Sprint Test, 40 M Sprint and Leg Strength Test.

### Introduction

Sprint-assisted training is one technique that can also be used to improve stride frequency. Assisted sprinting will allow the athletes to develop the feel of running at a faster velocity than they would be capable of running normally. This added dimension of supramaximal speed will enable the athletes to improve their running mechanics at a faster pace than would be possible unassisted. By not having to run at 100 percent capacity, but still being able to achieve a speed that is at or slightly above their unassisted best, the athletes can learn to relax at high speed more easily. In Basketball Speed ability primarily signifies the ability to execute motor movements with high speed. These movements may be cyclic or acyclic in nature. Thesis and Schnabel (1987) give the following definition of speed: -  
"It is the performance prerequisite to do motor actions under given conditions (movement task, external factors, individual prerequisites) in minimum of time".

## MATERIALS AND METHODS

### SUBJECTS

To achieve this purpose of the study the investigator collected twenty well trained basket ball players who volunteered to participate in this study. The subject's age ranged from 21 to 23 ( $\pm$ SD) 22.3  $\pm$ 1.05 years, body mass 74.1  $\pm$ 9.4 kg, and stature 178.5  $\pm$ 7.3 cm. The subjects trained with repeated sprint training programme twice a week for a period of eight weeks. All participants gave their voluntary and informed written consent approved by their parents.

The subjects were matched according to their 40 m sprint time from the pre-test. Then they were randomly assigned to one of the two groups: the training group (n=10) and the control group (n=10). The study took part in the pre-competition phase of the subjects' training program and ended 13 weeks before the start of the season; the duration of the pre-competition period was 26 weeks. The length of the mesocycle was eight weeks. Each test round was conducted with no training in between. On test day multiple sprint time, 40 m sprint time and leg strength test performance were assessed.

### TESTING PROCEDURES

To familiarize themselves with the tests, the subjects completed a training session on the testing procedure one week prior to the pre-test.

In the 40 m maximum sprint test, the subjects started from a standing position by placing the front foot on the starting line, and when the test leader gave the signal, the subject started the sprint to the finish point (40 m). The time started when the leader gave the signal, and time was recorded when he passed at both 20 m and 40 m. Times were measured for the 0-20 m sprint and the 20-40 m sprint. The best results were retained for analysis. In the multiple sprint test, the subjects started from a starting line, and when the leader give the signal, the subject started the sprint to the finish finishing point (40 m). The time started when the leader gave the signal. The athletes perform six 40m sprints with 30 second recovery between each sprint. The time for each of the 40m sprints is recorded. The quickest sprint time is multiplied by 6 to give an optimal sprint time. In the leg strength test, Mark was made of the track with 2 cones on a 25m distance on the straight. The subjects start the test 10 to 15m behind the starting line. Using a jog run up, the athlete starts hopping on the dominant leg from the first cone. Time taken to hop between the 2 cones is recorded with the assistant.

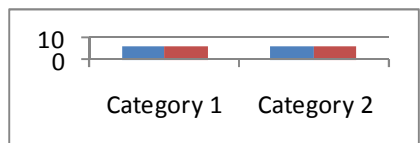
**The Training Intervention:**Both groups in this study performed Nordic hamstring exercise, balance training (ankle strength on balance board), sit-ups, the plank, push-ups and the alternating back and arm rise twice a week during their regular team training. Furthermore, the control group was instructed to continue with the team's original training plan. The training group completed two extra training sessions with repeated speed training. The training program completed by the training group included sprinting four sets of 5x40 m with 90 s recovery between repetitions and 10 min recovery between sets. The training was conducted every Monday and every Thursday. The regular training was carried out as usual. Before the speed training, the subjects completed both general and specific warm-up.

**RESULTS**

The means and the standard deviations for measurements of the groups are given in Table. As shown in Table, a significant effect was found for 40m sprint, multiple sprint test and leg strength.

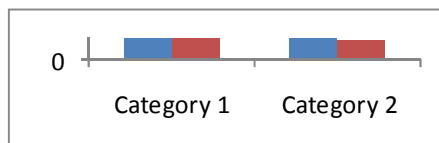
Group - Variables	Pre (Mean ± SD)	Post (Mean ± SD)	't' test	P value
Control – Sprint	6.40 ± 0.21	6.30 ± 0.24	1.73	0.118
Training – Sprint	6.38 ± 0.21	6.10 ± 0.19	6.18*	0.000
Control – Multiple Sprint	39.88 ± 1.05	39.82 ± 1.00	0.78	0.456
Training – Multiple Sprint	39.76 ± 1.19	38.73 ± 1.27	6.27*	0.000
Control – Leg Strength	8.33 ± 0.30	8.31 ± 0.27	0.49	0.639
Training – Leg Strength	8.27 ± 0.29	8.06 ± 0.25	5.56*	0.000

**Graphical Representation On Pre-Test And Post-Test On Speed Of Control Group And Experimental Group**



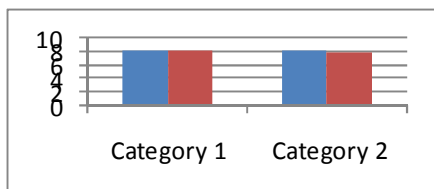
**Fig. 1**

**Graphical Representation On Pre-Test And Post-Test On Multiple Sprint Test Of Control Group And Experimental Group**



**Fig. 2**

**Graphical Representation On Pre-Test And Post-Test On Leg Strength Of Control Group And Experimental Group**



**Fig. 3**



## Discussion

The observed improvement in the repeated sprint ability within the training group is substantial, especially considering that the subjects trained basket ball for 13 hours per week on average and only engaged in a specific speed training twice a week over eight weeks. Nevertheless, the results demonstrate that this type of training is effective, and that the repeated strength ability appears to be trainable using only a repeated sprint training program with no involvement of strength, plyometric or agility training. On the other hand, the repeated sprint ability improvement detected within the control group could be attributed to the timing of the study, as well as to the impact of players' daily basketball training. These explanations could also apply to the improvement noted in the training group's 40 m sprint time, repeated sprint time and leg strength timing. Despite the fact that speed is believed to be a skill with a genetic quality, and less dependent on training, one could speculate from the results presented here that specialized training of running speed could result in an improvement in university basketball players' sprinting speed. Similar results indicating a gain in acceleration following a similar but resisted sprint training programme have been reported. The repeated sprint training programme had a positive and significant effect on multiple sprint test, 40 m sprint test and leg strength test performance within the training group. The control group, on the other hand, experienced no significant change in multiple sprint test 40 m sprint test and leg strength test performance. The lack of improvement within the control group could have been caused by not performing the two extra weekly training sessions of the training group

## CONCLUSION

In the present study, two weekly sessions of repeated sprint training (10.7% of the total training time) were only a small part of the subjects' total training load. However, the marked improvement observed within the training group compared to the control group could be explained by the extra repeated sprint training, confirming that the RSA is trainable. However, due to the fact that the results of this study demonstrate a positive effect on RSA, it would be of interest to repeat the study on elite basketball players from a higher division and examine whether it would lead to similar improvements.

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## **Plyometric Effect On Sprint And Jumping Performance – A Pilot Study**

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**Abstract:**The purpose of this study was to examine the effects of 8 weeks' plyometric training on squat jump and 30 m sprint in handball players age ranges from 22 to 25. The study consisted of 20 volunteer handball players from Pondicherry University. Participants were equally divided to either the control group or training group. The training group carried out a basic training program plus a set of plyometric exercises twice a week for 8 weeks. All players performed squat jump and 30 m sprint test, and pre- and post-test results were recorded. The control group carried out the basic training program only. Pre- and post-test results were analyzed using repeated measures analysis of variance (ANOVA) procedures. The result of the study reveals that there was significant difference at 0.05 levels. Based on findings of the research, it can be concluded that plyometric exercise increased squat jump but there was no significant effect on 30 m sprint performance. Also it can be concluded that plyometric training increased explosive and elastic power.

Key words: Plyometric training, handball, squat jump and speed

### **INTRODUCTION**

Handball is a sport requiring many different physical qualities in order to perform well, one of which is good jumping ability. For handball players available time to enhance power during in-season is often restricted due to an already high training load emphasizing other aspects of the sport than jumping ability. Therefore, one aim of this study was to examine if a small amount of additional plyometric training during in-season, combining drop jumps and box jumps, could give significant improvements in vertical jump height in female handball players after five weeks of training. Generally, vertical jump height is evaluated with two-legged tests, however, the question arises if the tests are relevant in sports that predominantly use several steps and one-leg jumps such as handball. A second aim of this study was thus to develop, evaluate and validate a handball-specific test performed on one leg. It is worth indicating that some important and extremely common activities in handball include: jumping and shooting over the head of the opponent into the goal the player's shooting at a speed of more than 70 miles per hour rapid redirecting (briskness), and passing the opponent around 6 and 9 meter lines of the handball court and 30 meter speed, which are effective features for elite handball players to execute counterattacks (Agha and Ghahremanloo, 2007). All of these abilities have a considerable impact on the final result of a match and they are proper predictors of successful performance in handball which will determine the winner and the loser. Accordingly, the research question is the one whether doing plyometric circuit exercises is effective for the performance of elite handball players? Therefore, the current research has been conducted to determine an answer to this question and clarify the differences in the scientific results and findings and obtain adequate information.

### **Materials And Methods**

#### **SELECTION OF SUBJECTS**

To achieve the purpose of this study, 20 handball players were selected from Pondicherry University, Puducherry. The subject's age ranged between 20 to 24 years as per the university records.

#### **INCLUSION AND EXCLUSION CRITERIA**

The subjects were oriented for this study and the purpose of the study was explained. The method of performing the test on squat jump and speed was explained to the subjects before conducting the test. The research scholar explained and demonstrated the squat jump and speed to the subjects. The recordings of the measurements were made known to the subjects with a view to familiarize about their

performance. The subjects of the experimental groups received personalized attention and supervision of the trainer in relation to the plyometric training. The training was given for forty five minutes in the morning hours at 6.30 am for eight weeks. The subjects living condition and life style were not taken into consideration for this study. The subjects were hostlers and their food pattern was similar.

**PLYOMETRIC TRAINING PROGRAM**

The experimental group performed plyometric exercises twice a week for 8 weeks. Each plyometric training session started with a 5 min run of low intensity, followed by 5 min of stretching exercises. The control group did not take part in the training program but followed a regular handball training program, the same as in the plyometric group. The content of the applied 8-week plyometric training program is shown below (Table).

**Table.** Plyometric training program

Plyometric training program	Number of sets x Number of repeats
Multiple two-feet forward hurdle jumps (hurdle height 0.5 m)	2 x 10
Sit-ups with 1kg load	2 x 20
Multiple two-feet forward lateral hurdle jumps (hurdle height 0.5 m)	2 x 10
Push-ups	2 x 20
Multiple two-feet lateral hurdle jumps (hurdle height 0.5 m)	2 x 10
Chest passes	2 x 20
Multiple two-feet vertical jumps	2 x 20

*Subjects rested between exercises (1-10 s) and sets (1.5-2 min)*

**Results**

The means and the standard deviations for measurements of the groups are given in Table. As shown in Table 3, a significant effect was found for active jump height, on the other hand, a non significant effect was found for sprint ability.

**Table – Mean, Standard deviation and “t” test**

Group - Variables	Pre (Mean ± SD)	Post (Mean ± SD)	‘t’ test	P value
Control – Squat Jump	24.20 ± 1.31	24.30 ± 1.05	0.29	0.780
Training – Squat Jump	24.40 ± 1.34	27.00 ± 1.15	8.51*	0.000
Control – Sprint	5.29 ± 0.14	5.31 ± 0.15	1.88	0.093
Training – Sprint	5.28 ± 0.12	5.26 ± 0.14	2.04	0.072

Graphical Representation On Pre-Test And Post-Test On Squat Jump Of Control Group And Experimental Group

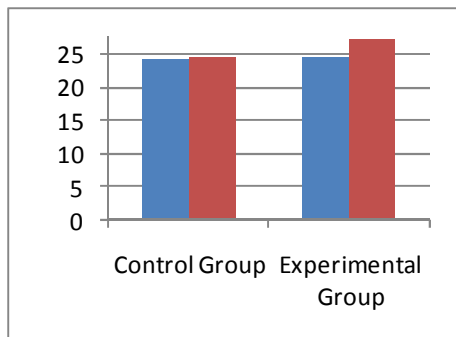


Fig. 1

Graphical Representation On Pre-Test And Post-Test On Speed Of Control Group And Experimental Group

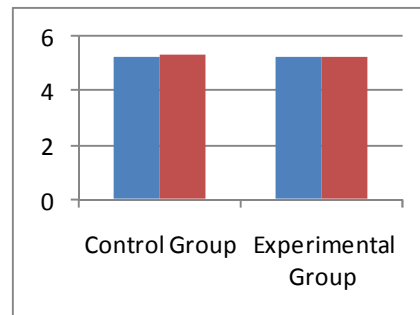


Fig. 2

## Discussion

We tested the hypothesis that eight weeks of plyometric training would lead to improvements in jumping and sprint ability as compared with traditional training programs in adolescent male handball players. It was observed that subjects who added plyometric training to their training program were able to achieve more improvements in jumping ability compared with the subjects who participated in the basic training program without plyometric training. The subjects from the plyometric group significantly improved their jumping ability. Plyometric training alone affects jumping ability, as evidenced by this study and the others, such as Kotzamanidis and Soundara and Pushparajan. There are general principles that apply to plyometric training regarding the muscular pattern of movement in the process of overcoming any strain, but each handball player requires an individual program. The vertical and squat jumps and the sprint ability are individual characteristics, so it is necessary to select exercises and determine the intensity and extent accordingly. One of the most significant conditions which occur with plyometric training is characteristically determined by the age of individual players.

Results of several investigations involving adults suggest that combining plyometric training with other training programs may be useful for enhancing muscular performance and running velocity. Similar to our findings, the effects of jump training also have been studied and several researchers have found that jump height can be improved through plyometric jumps. While some evidence suggests that plyometric training can increase speed in adults, data on the effects of plyometric or combined plyometric training on speed enhancement in youth are limited. Kotzamanidis demonstrated that running velocity improved in prepubertal boys following 10 weeks of plyometric training. The influence of the different training methods on performance has not been thoroughly examined across developmental ages. For this reason, the results of this research should be discussed in relation to adult and adolescent population studies.

## Conclusion

Plyometric training realized two times per week during the 8 weeks according to modeled training program from this study showed positive effects on jumping ability and we can state that plyometric training program indistinctly contribute to maintenance of jumping levels in adolescent handball players.

## PRACTICAL APPLICATION

Plyometric training can enhance jumping ability in young handball players. The effects of plyometric training may be greater when it is applied in combination with basic handball trainings in adolescent handball players. However, this study has demonstrated that 8 weeks of plyometric training was not sufficient to produce noticeable 30m sprint results.

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## **Sports Training: Aerobics As A Part Of Training With Different Duration And Frequency To Improve Selected Functional Qualities**

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### **Abstract:**

Training has been a part of human language since ancient times. It devotes the process of preparation for some task. Sports training aims at achieving high performance in sports competitions. Sports training involves several type of training methods. Along with these methods aerobic dance is used to improve the performance of an athletes. AIM: The main aim of the present study was to know the effect of aerobics training with varied duration and frequency on physiological and motor qualities. METHOD: In order to accomplish the stated purpose 80 soccer players were selected and divided into four groups of 20 each. Group A received 40 minutes with 5 days a week, Group B received 40 minutes 3 days a week, group C received 20 minutes with 5 days a week and group D received 20 minutes with 3 days a week of Aerobic dancing training for 12 weeks. Data was collected for  $VO_2$  Max, Mean Arterial Blood Pressure, Resting Pulse Rate, and Cardio-Respiratory Endurance. Gain score were calculated from pre-test and post-test scores and subjected to F – test and Schiff's post hoc test to find the significance between the groups. RESULTS: the obtained F – values for cardio-vascular endurance (58.316),  $VO_2$  MAX (51.345), Arterial blood Pressure (31.996) and Resting Pulse Rate (71.616) was found significant and post hoc analysis as revealed that increase in duration and frequency of aerobics training will improve selected functional qualities.

Keywords: Aerobics, Functional qualities, Sports Training

### **Introduction**

Sports training involves several type of training methods. Along with these methods aerobic dance is used to improve the performance of an athletes. Aerobic literally means "relating to, involving, or requiring free oxygen", and refers to the use of oxygen to adequately meet energy demands during exercise via aerobic metabolism. Aerobics is a form of physical exercise that combines rhythmic aerobic exercise with stretching and strength training routines with the goal of improving all elements of fitness (flexibility, muscular strength, and cardio-vascular fitness). It is usually performed to music and may be practiced in a group setting led by an instructor (fitness professional), although it can be done solo and without musical accompaniment. With the goal of preventing illness and promoting physical fitness. The main purpose of the present study is to know the effect of aerobic dance training with varied duration and frequency on function qualities.

**Methodology** In order to accomplish the stated purpose 80 soccer playing girls of Chamarajanagar district of Karnataka were selected as subjects. 80 subjects were divided into four groups A, B, C and D of 20 each. Their age was ranged from 10 to 16 years. Each group underwent aerobic dance training with different duration and frequency. Group A received 40 minutes with 5 days a week, Group B received 40 minutes 3 days a week, group C received 20 minutes with 5 days a week and group D received 20 minutes with 3 days a week of Aerobic dancing training for 12 weeks. Data was collected for  $VO_2$  Max, Mean Arterial Blood Pressure, Resting Pulse Rate, and Cardio-Respiratory Endurance. Gain scores were calculated from pre-test and post-test scores and subjected to ANOVA and Schiff's post hoc test to find the significance between the groups.

## Results

The mean and standard deviation of gain and loss scores of functional variable is given in table 1.

Table – 1: Means and Standard Deviations of Gain and Loss score of Functional Qualities of Group A, Group B, Group C and Group D.

Variables	Group A	Group B	Group C	Group D
	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$
Vo2 Max	4.66 $\pm$ 0.81	3.45 $\pm$ 1.05	2.65 $\pm$ 0.59	1.7 $\pm$ 0.57
Mean Arterial Pressure	8.65 $\pm$ 0.77	5.51 $\pm$ 2.58	4.79 $\pm$ 1.59	3.05 $\pm$ 2.15
Resting Pulse Rate	8.83 $\pm$ 1.27	5.6 $\pm$ 1.76	3.75 $\pm$ 2.11	1.98 $\pm$ 0.64
Cardio Respiratory Endurance	289.95 $\pm$ 71.16	204.15 $\pm$ 59.69	141.30 $\pm$ 27.50	93.55 $\pm$ 22.49

The result pertaining to the ANOVA for functional qualities is presented below in the table 2

Table -2: Summary Of Uni-Variate Anova Of Functional Qualities Of Group A, Group B, Group C And Group D.

		Sum of Squares	df	Mean Square	F- Value
Gain in VO2(max)	Between Groups	93.738	3	31.246	51.345*
	Within Groups	46.250	76	0.609	
	Total	139.988	79		
Gain in Mean Arterial Pressure	Between Groups	344.968	3	114.989	31.996*
	Within Groups	273.131	76	3.594	
	Total	618.100	79		
Gain in Resting Pulse Rate	Between Groups	514.597	3	171.532	71.616*
	Within Groups	182.032	76	2.395	
	Total	696.628	79		
Gain in CV Endurance	Between Groups	432469.837	3	144156.613	58.316*
	Within Groups	187870.650	76	2471.982	
	Total	620340.487	79		

\* Significant at  $\alpha = 0.05$

Mean and Standard deviation of gain and lose score of pre and post-test of four experimental groups is represented in table 1. Mean values for VO<sub>2</sub> Max 4.66, 3.45, 2.65 and 1.7, for Mean Arterial Pressure mean values are 8.65, 5.51, 4.79 and 3.05, Resting pulse rate mean values are 8.83, 5.6, 3.75 and 1.98 were as in case of cardiorespiratory endurance 289.95, 204.15, 141.30 and 93.55 for A, B, C and D respectively. In order to check the significance for gain scores F-test was computed. The obtained result was presented in the table 2. The obtained F ratio in the table 2 for gain in VO2 max, mean arterial pressure, resting pulse rate and cardiovascular endurance, was 51.345, 31.996, 71.616 and 58.316 respectively. The obtained F ratio for all selected functional variables was found higher than the table value at 0.05 level of confidence. This showed that there is a significant difference between four groups. In order to know the differences between particular groups the data was subjected to post – hoc test. The result of post-hoc analysis is given in the table 3.

Table- 3: Significant Levels For Difference Between Means Obtained Upon Post-Hoc Analysis For Group A, Group B, Group C And Group D.

Variables	Group A Vs Group B	Group A Vs Group C	Group A Vs Group D	Group B Vs Group C	Group B Vs Group D	Group C Vs Group D
Vo2 Max	1.200*	2.000*	2.950*	0.800*	1.750*	0.950*
Mean Arterial Pressure	2.141*	3.862*	5.609*	1.721*	3.468*	1.746*
Resting Pulse Rate	3.222*	5.085*	6.850*	1.863*	3.628*	1.766*
Cardio Respiratory Endurance	85.800*	148.650*	196.400*	62.850*	110.600*	47.75*

### Discussion And Conclusion

The value in the table 1 shows changes in the functional components of soccer players who participated in aerobic dance training and the values showed improvement in functional qualities with the increase in duration and frequency. In order to check the significance for gain scores F-test was computed. F - test values for all variables were found significant

While analyzing the results, it was revealed that there was a significant differences between pre and post test scores of all the four experimental groups. The results reveal that the variables used in the study evidencing that aerobic training of 5 days 40 minutes dancing, 3 days 40 minutes dancing, 5 days 20 minutes dancing and 3 days 20 minutes dancing has produced significant improvement positively on functional parameters. Aerobic dance with increase in duration and frequency all groups showed significant improvement in there maximal running aerobic fitness in Beep test. Mean arterial pressure and resting pulse rate was found decreased. Increase in distance covered in Cooper's 12 minute run/walk test showed the better cardiorespiratory endurance among soccer players.

On the basis of the findings it can be concluded that participation in aerobic dance training improves physiological and motor qualities of soccer players. Along with that improve in time and frequency also improves or brings changes in selected functional qualities of the soccer players.

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## Personality Traits Of Inter-University Volleyball Players

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### Introduction:

Personality has been studied in various forms and has received a lot of recognition in the present day world. Because it is a complex blend of many factors or traits. Personality becomes even more complex because it is neither exclusively biological, nor exclusively social, but depends upon the complex interplay between naturally endowed factors and environmental experiences. Personality and behavior are a major concern of psychology and modern theories concerning personality and behavior are concerned with the description of individual differences. Though there is a basic form of personality structure in each individual it can be developed according to the environment, society and the individual habits. Volleyball coaches are basically interested in the analysis of behavior of volleyball players.

### Personality Traits

“Personality traits are any particular characteristics of any individual which change and develop according to the experience, surroundings and time”.

### Materials And Methods

The purpose of the present investigation was to study the personality traits of volleyball players. To achieve the purpose of the study, necessary data regarding the personality traits of selected subjects were to be gathered. The investigator has come across many tests that would measure the personality traits or characteristics. After a thorough search and examination of the literature on the various psychological tests that would measure personality traits, it was decided by the investigator to administer Form ‘C’ of Cattell’s Sixteen Personality Factors Questionnaire.

### Sample

Hundred (100) men volleyball players participated in the All India Inter-Agriculture Universities Sports Meet were served as subjects for the present study. These 100 subjects together represented the sample for the present study.

### Test Administration and Collection of Data

To collect necessary data pertaining to the present study, all the selected subjects were administered to the ‘C’ form of Cattell’s Sixteen Personality Factors Questionnaire, during the state level yoga competition. The data were in the form of answer given by the subjects in response to the various questions of the questionnaire. The subjects completed answering the questionnaire within the stipulated time after which the questionnaires were collected back and the standard scoring key was used to get the raw score. The scoring of the completed questionnaire of each subject was done using the scoring key according to the method as described in the test manual. Each answer in every questionnaire was marked and awarded zero, one or two [0, 1, 2,] marks as described in the test manual. These scores would represent the raw scores, the raw scores were later on converted into sten scores or ‘Stens’ with the help of the standardized norms [key] provided in the tabular supplement of sixteen personality factors test.

### Statistical Analysis

The Mean, Standard Deviation and Co-efficient of Variation were used to calculate the data.



### Analysis And Interpretation Of Data

The raw scores collected were converted into standard sten scores with the help of scoring key as explained in the test manual, and the data thus obtained were statistically analyzed.

**Table Scores of Sixteen Personality Factors of Volleyball players**

S.NO	SIXTEEN.P.F	MEAN	SD	C.V (%)
1	A	9.12	1.74	42.96
2	B	8.76	1.90	56.89
3	C	8.05	1.70	50.90
4	E	8.53	1.59	23.04
5	F	8.90	1.61	40.86
6	G	9.20	1.69	44.59
7	H	8.35	1.61	50.47
8	I	3.89	1.13	22.20
9	L	4.52	1.47	31.89
10	M	4.24	2.01	43.32
11	N	5.37	2.02	37.62
12	O	3.84	1.82	26.15
13	Q1	5.13	1.34	21.44
14	Q2	3.23	1.75	54.18
15	Q3	9.38	1.42	40.23
16	Q4	5.61	1.52	27.09

Perusal of Table and Graph shows that, the Volleyball players as a group have shown a tendency or inclination, Towards the higher direction or high sten score description in eight out of sixteen personality factors A, B, C, E, F, G, H and Q3. Towards the average in four out of the sixteen factors I, N, Q<sub>1</sub> and Q<sub>4</sub> respectively. Towards the lower direction or low sten score description in four out of the sixteen personality factors L, M, O and Q2.

### Major Findings

In factor A (Reserved V/s Outgoing), Volleyball players were tends to be good natured, easy going, emotionally expressive, ready to cooperate, attentive to people, soft hearted, kindly and adaptable. They are generous in personal relations, less afraid of criticism, better able to remember names people.

In factor B (Less intelligent V/s More intelligent), Volleyball players were tends to be quick to grasp ideas, a fast learner and intelligent. There is some correlation with level of culture and some with alertness.

In factor C (Emotionally less stable V/s Emotionally stable), Volleyball players were tends to be emotionally mature, stable, realistic about life, unruffled, possessing ego strength, better able to maintain solid group morale.

In factor E (Humble V/s Assertive), Volleyball players were found to be assertive, self assured, and independent minded.

In factor F (Sober V/s Happy- go- lucky), Volleyball players were tends to be cheerful, active, talkative, frank, expressive, effervescent, carefree. They frequently chosen as an elected leader. They may be impulsive and mercurial.

In factor G (Expedient V/s Conscientious), Volleyball players were tends to be exacting in character, dominated by sense of duty, persevering, responsible, planful, "fills unforgiving minute". They are usually conscientious and moralistic and prefer hard working people to witty companions.

In factor H (Shy V/s Venturesome), Volleyball players were tends to be socially bold ready to try new things, spontaneous and abundant in emotional response. There "thick skinned ness" enables them to face wear and tear in dealing with people and grueling emotional situations without fatigue.

In factor I (Tough-minded V/s Tender-minded), Volleyball players were found to be neither tough-minded nor tender-minded (average). In factor L (Trusting V/s Suspicious), Volleyball players were found to have a tendency to trust, adaptable, free of jealousy, easy to get on with, cheerful, uncompetitive, concerned about other people and good team workers.

In factor M (Practical V/s Imaginative), Volleyball players were found to be anxious to do the right things, attentive to practical matters and subject to the dictation of what obviously possible. Careful, conventional, regulated by external realities and sometimes unimaginative. In factor N (Forthright V/s Shrewd), Volleyball players were found to be neither forthright nor shrewd (average). In factor O (Placid V/s Apprehensive), Volleyball players were tends to be placid with unshakable nerve. They have a mature, unanimous confidence in themselves and their capacity to deal with things. In factor Q1 (Conservative V/s Experimenting), Volleyball players were found to be neither conservative nor experimenting. In factor Q2 (Group-dependent V/s Self-sufficient), Volleyball players were prefers to work and make decisions with other people, likes and depends on social approval and admiration. They tends to go along with the group may be lacking in individual resolution. They are not necessarily gregarious by choice; rather they needs group support. In factor Q3 (Undisciplined self-conflict V/s Controlled), Volleyball players tends to have strong will control of there emotions and general behavior, are inclined to be socially aware and careful. They have "self- respect" and regard for social reputation. In factor Q4 (Relaxed V/s Tense), Volleyball players were found to be neither relaxed nor tense (average). But the obtained value shows a slight deviation from the average in a higher direction, which may reveal the tendency of Volleyball players to be tense, frustrated, driven, and overwrought with high agric tension.

### **Conclusions**

The Volleyball players were found to be more intelligent (Higher scholastic mental capacity), emotionally stable (Higher ego strength), assertive (Dominance), happy-go-lucky (Surgency), conscientious (Stronger superego strength), venturesome (Parmia), neither tough-minded nor tender-minded, trusting, practical, neither forthright nor shrewd, placid, neither conservative nor experimenting, group dependent, controlled (high self-concept control), neither relaxed nor tense. The Volleyball players in a group have shown better consistency in factors A, B, C, E, F, G, H, Q3 I, N, Q<sub>1</sub> and Q<sub>4</sub> these factors are the most common personality traits or features found among Volleyball players.

### **Recommendations**

On the basis of the present study, it may be worthwhile to recommend the following studies to be undertaken for investigation by the future research workers, A study on the dominance of personality traits of volleyball players at the different age groups. A study on the dominance of personality traits of volleyball players. A study on the relationship of personality characteristics in the selection of different skills by the volleyball players. A study on the personality traits of volleyball players and achievers at various levels like university, state, national, and international competitions and then a further study to compare the personality traits of performers and achievers at such different levels. A study on the personality traits of low level, mediocre and high-level achievers and performers. Results of the study are capable of strengthening volleyball player's performance in the form of 'training package' to be used by coaches and teachers in the field of volleyball game.

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## Role Of Yoga In Sports

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### Abstract

Yoga is a discipline that seers and saints have been practicing since ancient times to bring flexibility to the spine and joints, to keep the muscles of the body pliable and youthful, increase circulation in arteries and strengthen internal organs. And yet, yoga is so much more than this. Yoga has been said to help strengthen the power of concentration, to banish constipation, to relieve stomach disorders, improve muscle coordination and reduce excess body fat. Yoga has also been said to strengthen the mind-body connection, bring calmness and relaxation to mind, enhance self-confidence, strengthen self-discipline and self-resolve, reduce stress / anxiety and increase vitality and energy throughout the body. Evidently, it would appear that yoga has extensive benefits and can help us to be a more balanced, relaxed, focused, efficient and effective person. The benefits of yoga can thus be applied to a variety of disciplines including professional sporting athletes. This paper will highlight the benefits for professional athletes through the practice of Yoga and explore how Yoga can significantly enhance their performance. Yoga can help a sportsperson to have evenness of mind and control of their thoughts even during stress and/or adversity.

### Introduction

Yoga is a discipline that seers and saints have been practicing since ancient times to bring flexibility to the spine and joints, to keep the muscles of the body pliable and youthful, increase circulation in arteries and strengthen internal organs. And yet, yoga is so much more than this. Yoga has been said to help strengthen the power of concentration, to banish constipation, to relieve stomach disorders, improve muscle coordination and reduce excess body fat. Yoga has also been said to strengthen the mind-body connection, bring calmness and relaxation to mind, enhance self-confidence, strengthen self-discipline and self-resolve, reduce stress / anxiety and increase vitality and energy throughout the body. Evidently, it would appear that yoga has extensive benefits and can help us to be a more balanced, relaxed, focused, efficient and effective person. The benefits of yoga can thus be applied to a variety of disciplines including professional sporting athletes. This paper will highlight the benefits for professional athletes through the practice of Yoga and explore how Yoga can significantly enhance their performance.

### Importance Of Yoga In Sports

In order to understand how Yoga can benefit professional sports persons, it is necessary to explore what is required to play a sport and play it well. It is well acknowledged that to play any sport, whether it be tennis, volleyball, surfing, swimming or running, we must develop the basic skills and continually train the body so that we can apply the skill in a refined and polished way. This of course requires considerable time, energy and commitment to practice the skill at hand. Having a body that is flexible, strong and controlled is also another important consideration, if one is not able to move the body with the grace, velocity and speed required, then performance will be lackluster. Similarly, if a person is not able to maintain endurance or stamina for the required duration, the performance will be diminished. In order to play a sport well, it is also necessary that a person is able to focus and concentrate with confidence on the task at hand without distraction or timidity. As such, dealing with distractions, adversity and stress is an important component. Sporting mentor B.P Bam highlights this point by stating "*sporting skills require the attainment of deep focus*", "*living in every moment*" and emphasizes that "*the toughest part of any achievement is the handling of distractions and adverse conditions*". If one is not able to 'score the goal' or 'serve the ball' at the critical match point or deal with crowds who are 'cheering or booing', victory will be far away. As such, in addition to being able to maintain mental poise and balance, it is essential for a professional athlete to have a high degree of alertness, concentration and focus throughout the sporting match / event. How then can yoga assist in strengthening the mind and body to allow a sports person to perform at their highest potential?

Yoga is the application of physical postures, control of breath, purification and relaxation of mind / body and spiritual principles aimed at bringing greater unity and balance to the mind and body. Yoga teachers a person how to link the mind and body and to come into the present. The use of pranayama and breathing techniques prescribed in Yoga enables a person to focus on breath and helps to calm and still the mind and cultivate concentration ability. Swami Vishnudevananda mentions the importance of pranayama for strengthening concentration and calmness of mind through stillness of breath, he states *"through pranayama, mans will-power, self-control and concentration power can be increased"*. B.P Bam also highlights this point, he states *"coming into the present by focusing on breath is one of the best habits to be cultivated. That marks the beginning of concentration."* He also mentions that a recent study of pranayama from the Nath sect served the *"purpose of improving the focus admirably."* Internal cleansing methods prescribed in Hatha Yoga are beneficial for professional athletes to not only improve purity of body and overall physical wellbeing, but to also enhance one's concentration ability as well. Swami Vishnudevananda highlights this point, he states *"when the body is free from physical impurities, the concentration power of the mind increases to a very high degree."* Pranayama can also help to energise and revitalize the body.

The prescription of Yoga asanas also help to develop the control and concentration of the mind. Being able to hold a posture with steadiness, relaxation and comfort requires that a person is able to focus their mind for an extended period of time. This helps for developing strength and concentration in mind / body and is beneficial to playing sports at highly competitive levels. Swami Sivananda highlights this point, he highlights that steady and systematic practice of yoga will *"make the mind very obedient and faithful"* and make the practitioner *"successful in every attempt"*.

Asanas also help to create harmony and balance between the mind and body and help to achieve a healthy body and stable mind, they are aids for controlling the mind through physical discipline. Through asana the functioning and efficiency of internal organs is improved and this consequently affects all other parts of the body in a positive manner. Cells are nourished and revitalized and the internal functioning of body organs is enhanced. According to Yogic authorities, *"yogic exercises are mainly designed to keep the proper curvature of the spine and to increase its flexibility"*, they also state that *"balancing asanas develop the function of the cerebellum, the brain centre that controls how the body works in motion, improve muscle coordination and posture including physical and nervous balance which helps to achieve grace and fluidity of movement."*

### **Conclusions**

Yoga is able to mobilize joints, stretch tissues and ligaments, tone muscles, bring flexibility to the spine and strengthen internal organs.

Yoga exercises are based on the formula of stretching, relaxation, deep breathing, increasing circulation and concentration. As such, yoga is beneficial to a professional athlete as it enables them to strengthen their concentration ability, foster a calm and relaxed mind, enhance the mind / body connection allowing an athlete to have greater muscle coordination and fluidity of movement.

Yoga is also beneficial to a professional athlete as it positively contributes to the health and vitality of the body, strengthens internal organs such as the heart, lungs and liver and helps to maintain fitness and agility.

Yoga also helps to reduce stress and anxiety, cultivate self confidence and self-belief. All of these elements are pivotal to sporting excellence and peak performance. As highlighted above, in order to perform a sporting action efficiently and effectively, a person needs to have a high degree of concentration and focus with a mind that is calm and controlled. Swami Sivananda states the importance of mind control; he asserts *"without concentration you cannot have success in any walk of life"*.

Yoga can help a sportsperson to have evenness of mind and control of their thoughts even during stress and/or adversity.

Yoga is able to help a person have control over their body through control of their mind. As such, Yoga can play a key role in cultivating mind control and concentration which helps a sportsperson to perform at their peak level.

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## Influence Of Aerobic Exercises And Yogasanas On Flexibility Of High School Basketball Players

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### Introduction

Doherty states that Aerobic exercises leading to flexibility have long been a part of sports training. However for promoting high degree of flexibility, the ordinary aerobic exercises done routinely or by counts will not be much of help but deliberate stretching at a particular joint designed to gradually increase the range of motion at the joint with some amount of muscular force is essential. Yogic asana and Aerobic exercises are two different types of physical activities is dynamic, based on rhythmic swinging and the other static, confined to slow stretching, locked postures and controlled breathing. Asanas have regained popularity in recent years and has become a part of physical education programmes in India and in certain other countries. In the present study the researcher purpose is to find out the effect of aerobic training and yoga exercise training on the improvement of flexibility. This kind of study will also helpful in finding the ability of body and mind co-ordination of the subjects and results of the study would be helpful in talent identification process in different sports.

**Methodology** Sixty high school basketball players (boys) studying in various government high schools of Aland talukawere selected at random as subjects of the study and divided into three groups of 20 subjects each. The subjects were divided into three groups (group A, group B and group C) at random by drawing the lots. The ages of these subjects ranged between 16 to 18 years. All of them were taking part in routine physical education programme as per the schedule of the college.

### Selection of Variables

Trunk flexibility- Scott and French Bobbing test. Shoulder flexibility- Shoulder flexibility test.

**Criterion Measure:** Trunk flexibility as measured by Leighton flexometer in degree. Shoulder flexibility as measured by Goniometer recorded in degree.

### Administration of Test

**Trunk Flexibility:** To measure the trunk flexibility of the subjects Scott and French bobbing test is administered

**Shoulder Flexibility test:** To measure the shoulder flexibility of the subjects shoulder flexibility test is administered. **Statistical Technique**

The data was statically analyzed using mean difference method (t -ratio) and ANCOVA.

### ANALYSIS OF DATA AND RESULTS OF THE STUDY

**Table 1**

**Significance of difference between the pretest and post test means of two experimental groups and the control group in trunk flexibility**

Groups	Pre- Test Means	Post Test Means	DM	$\sigma$ DM	t-ratio
<b>A</b>	59.20	65.65	3.0	0.28	10.71*
<b>B</b>	57.40	57.40	6.45	0.63	10.23*
<b>C</b>	54.05	54.50	0.25	0.25	1.00

\*Significant t.05 (19) = 2.09

It is evident from table 1 that t values obtained for the two experimental groups (group A and group B) were 10.71 and 10.23 respectively which were significant as they were much greater than the t value of 2.09 required to be significant at .05 level confidence. The t-value for the control group is 1.00 which is not significant at .05 levels.

In order to find out the significance of difference among the groups in trunk flexibility performance analysis of covariance was done. The results pertaining to it are given in table 2.

**Table 2 Analysis of co variance of the scores of two experimental groups and the control group in trunk flexibility performance**

Tests	Groups			SS	df	MSS	F-ratio
	A	B	C				
Pre-Test	59.20	54.40	54.06	A 331.23	2	165.01	4.90*
				W 1924.95	57	33.77	
Post- Test	65.65	57.40	54.05	A 1138.63	2	669.31	22.79*
				W 1674.35	57	29.37	
Adjusted Post Mean	62.70	58.72	56.13	A 382.96	2	191.48	65.80*
				W 162.93	56	2.91	

\*Significant at .05 levels  $F_{.05}(2,57) = 3.15$

The analysis of covariance for trunk flexibility indicated that the obtained F ratio in the case of pre test means was 4.90 which are significant at .05 level of confidence.

The difference between the post test means and adjusted post means were found to be significant as the obtained F ratio of post test means was 22.79 and they were higher than required value of 3.15 at .05 level. As the difference between the adjusted post means for the three groups was found to be significant, the critical difference method for adjusted means was applied to find out which of the difference between the paired adjusted means was significant. Difference between the paired adjusted final means is shown in table 3.

**Table 3**

**Paired adjusted final means and differences between means for the two experimental groups and the control group in trunk flexibility performance**

Groups			Mean Difference	Critical Difference
A	B	C		
62.70	58.72		3.98*	1.08
	58.72	56.13	2.59*	1.08
62.70		56.13	6.57*	1.08

\*Significant at .05 level

It is evident from the above table 3 that mean differences of group A and the control group; and group B and the control were found to be significant at .05 the difference in the means of group A and B were also significant at .05 level of confidence.

**Table 4: Significance of difference between the pre test and post test means of two experimental groups and the control group in shoulder flexibility performance**

Groups	Post Test Means	Pre- Test Means	DM	$\sigma$ DM	t-ratio
A	65.7	58.8	3	0.76	9.07*
B	59.9	56.9	6.9	0.26	11.54*
C	54.85	54.6	0.35	0.25	1.00

\*Significant at .05 level  $t_{.05}(19) = 2.90$ .

It is evident from table 4 that the t values obtained to the two experimental groups (group A and group B) were 9.07 and 11.54 respectively which were significant as they were much greater than the t value of 2.09 required being significant at .05 level of confidence. The t-value for the control group is 1.00 which is not significant at .05 levels.

In order to find out the significance of difference among the groups in shoulder flexibility performance, analysis of covariance was done. The analysis pertaining to it is given in table 5.

**Table 5**  
**Analysis of co variance of the scores of two experimental groups and control group in shoulder flexibility performance**

Tests	Groups			SS	df	MSS	F-ratio
	A	B	C				
Pre-Test	58.5	56.9	54.6	A	2	84.4	2.54
				176.94	7	7	
Post-Test	65.7	59.9	54.8	W	5	34.7	17.8
				1981.79	7	7	
Adjusted Post Mean	63.85	59.7	56.8	A	2	589.	53.4
				457.85	93	55	
		8	2	W	5	33.0	9*
				239.66	6	3	

\*Significant at .05 levels  $F_{.05}(2.57) = 3.15$

The analysis of co variance for shoulder flexibility indicated that the obtained F ratio in the case of pre test means was 2.54 which were not found to be significant at .05 level of confidence. The required F-ratio to be significant was 3.15. The difference between the post-test means and the adjusted post means were found to be significant as the obtained F ratios for post test means was 17.85 and adjusted post means was 53.49 and they were higher than the required value at 3.15 at .05 level. As the difference between the adjusted post mean for the three groups was found to be significant, the critical difference method for adjusted means was applied to find out which of the difference between the paired adjusted means was most significant.

Difference between the paired adjusted final means is shown in table 6

**Table 6**

**Paired adjusted final means and differences between means for the two experimental groups and the control group in shoulder flexibility performance**

Groups			Mean Difference	Critical Difference
A	B	C		
63.85	59.78		4.07*	1.32
	59.78	56.82	2.96*	1.32
63.85		56.82	7.03*	1.32

\*Significant at .05 level

It is evident from the above table that means difference of group A and control group and also group B and control group were found to be significant at .05 level of significance. The difference between the two experimental groups is also significant at .05 level of confidence.

### Conclusions

Aerobic exercise and yogic asana training programme are effective in improving flexibility of the shoulder and trunk. Yogic asana training programme is found to be more effective as compared to the aerobic exercise programme in improving the flexibility.

No significant improvement in the case of control group may be a reflection of inactivity.

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## **Influence Of Varied Intensity Of Walking On Selected Physical, Physiological And Psychological Variables Among Middle Aged Men**

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### **Introduction**

Various works might have been done about walking. Particularly this study expresses about low intensity and high intensity walking so this study is need. In the modern world people have no time to take care about their health that's why the study is need. Many theses have been done only about walking, but my area focuses walking on selected physical, physiological and psychological variables among middle aged men. I can state that middle aged men can never do hard exercise. They can do simple exercise like jogging and walking. Middle aged men are affected by some disease like diabetics they being middle aged men, it is difficult to them to undertake hard exercise so the study is need. .

### **Methodology**

The purpose of the study was to find out the influence of varied intensity of walking on selected physical, physiological and psychological variables among middle aged men. To achieve this purpose, sixty men subjects who were not involved in any vigorous physical training programme at the age ranging from 35 to 45 years were selected from in and around Tirunelveli city. The selected subjects were divided into three groups at random with 20 each. In the experimental groups twenty men subjects would serve as control group and the remaining Twenty would undergo systematic walking training, under the supervision of researcher. The control group did not undergo any special training programme. The selected subjects were medically examined by a qualified medical person for undergoing the training programme. The training groups underwent 12weeks training programs regularly from 6 a. m to 7 a.m. in the morning session Weekly 6 days

### **Result**

**TABLE I :Means, Standard Deviations and Adjusted Means among Experimental and Control Groups on muscular strength, Body Fat and Mood States**

Criterion Variable	High Intensity Walking Group				Low Intensity Walking Group		
	Pre test	Post test	Adjusted post test means	t test	Pre test	Post test	Adjusted post test means
muscular strength	36.350	40.550	40.385	40.385	36.000	38.900	38.939
	0.671	0.999			0.725	1.119	
Body Fat	23.650	20.500	20.618	20.618	24.000	22.100	22.053
	0.745	0.827			0.725	0.641	
mood states	126.450	123.800	123.800	123.800	126.350	123.750	123.751
	0.999	1.105			0.875	0.910	

\*Significant at .05 level. The table value required for .05 level of significance with df 19 is 1.729.



\*Significant at .05 level. The table value required for .05 level of significance with df 19 is

The table I show that the obtained dependent t-ratio values between the pre and post test means on muscular strength, Body Fat and mood states of HIWG, LIWG and control groups are 40.385, 20.618 and 123.800, 38.939, 22.053 and 123.751 respectively. The table value required for significant difference with df 19 at .05 level is 1.729. Since, the obtained 't' ratio value of experimental groups are greater than the table value, it is understood that training programmes had significantly improved the performance of muscular strength, Body Fat and mood states. However, the control group has not improved significantly as the obtained 't' value is less than the table value, because they were not subjected to any specific training

**TABLE II**  
**Analysis of Covariance of High Intensity Walking Group, Low Intensity Walking Group and control groups on muscular strength, Body Fat and mood states**

Criterion Variable		Sources of Variance	Sum of Squares	df	Mean Squares	F-Ratio
muscular strength	Pre test	Between	2.633	2	1.317	2.769
		Within	27.100	57	0.475	
	Post test	Between	192.900	2	96.450	98.260*
		Within	55.950	57	0.982	
	Adjusted Post test	Between	156.507	2	78.254	93.644*
		Within	46.796	56	0.836	
Body Fat	Pre test	Between	1.900	2	0.950	1.836
		Within	29.500	57	0.518	
	Post test	Between	96.133	2	48.067	44.477*
		Within	61.600	57	1.081	
	Adjusted Post test	Between	80.487	2	40.243	40.937*
		Within	55.051	56	0.983	
mood states	Pre test	Between	1.300	2	0.650	0.690
		Within	53.700	57	0.942	
	Post test	Between	85.033	2	42.517	49.307*
		Within	49.150	57	0.862	
	Adjusted Post test	Between	83.031	2	41.516	47.304*
		Within	49.148	56	0.878	

\*significant at .05 level of confidence. (the table value required for significance at .05 level with df 2 and 57 and 2 and 56 are 3.162 and 3.166, 3.162 and 3.166, 3.162 and 3.166 respectively)

From the table II, the obtained F-ratio for pre test is 2.769, 1.836, 0.690 which is greater than the table value of 3.162 and 3.166 with df 1 and 56 required for significance at 0.05 level of confidence. The result of the study indicates that there was significant difference among the pre test means of HIWG, LIWG and control groups on muscular strength, Body Fat and mood states. Table II also shows that the obtained F-ratio value is 93.644\*, 40.937\*, 47.304\* which is higher than the table value 3.162 and 3.166 with df 2 and 56 required for significance at .05 level. Since the value of F-ratio is higher than the table value, it indicates that there is significant difference among the adjusted post-test means of HIWG, LIWG and control groups. To find out which of the three paired means had a significant difference, the Scheffe's post-hoc test was applied and the results are presented in Table III

**TABLE III**

Scheffe's Test for the Differences between the Adjusted Post Test Paired Means of muscular strength, Body Fat and mood states

Adjusted Post Test Mean						
Criterion Variable	High Intensity Walking Group	Low Intensity Walking Group	Control Group	Mean Differences	C.I. Value	Result at 5% Level
muscular strength	40.385	38.939		1.447	0.727	Sig
	40.385		36.326	4.059	0.727	Sig
		38.939	36.326	2.613	0.727	Sig
Body Fat	20.618	22.053		1.435	0.789	Sig
	20.618		23.529	2.912	0.789	Sig
		22.053	23.529	1.476	0.789	Sig
mood states	123.800	123.751		0.049	0.745	N.S
	123.800		126.299	2.498	0.745	Sig
		123.751	126.299	2.548	0.745	Sig

\*Significant at .05 level.

Table III shows that the adjusted post test mean differences on muscular strength between the high intensity walking group, low intensity walking group; high intensity walking group and control group; low intensity walking group and control group were 18.69, 48.79 and 67.48 respectively. The values are greater than the confidence interval value 15.61, which shows significant difference at .05 level of confidence. Body fat between the HIWG, LIWG; HIWG and control group; LIWG and control group were 6.16, 7.60 and 13.76 respectively. The values are not greater than the confidence interval value 8.21, the value between yoga training and control group is only significant difference at .05 level of confidence. Mood states was noted the mean difference between the HIWG and control group, LIWG and control group and the HIWG and the LIWG were 2.498, 2.548 and 0.049 respectively and these values are greater than the C.I value of 0.745. It was clear that both the group showed improvement on mood states when compare with control group when compare the no improvement between the HIWG and the LIWG.

#### Discussion

It was clear that both the groups showed improvement on muscular strength and body fat when compare with control group when compare the improvement between the HIWG and the LIWG, the HIWG showed better improvement than the LIWG. It was clear that both the groups showed improvement on mood states when compare with control group when compare there was no improvement between the HIWG and the LIWG.

#### Conclusions

It was found that the High intensity walking group (HIWG) showed better result on the variables Muscular strength and Body fat for middle aged men.

Regarding, Mood states there was a significant change between the experimental groups and control groups of in mean time. There was no markable improvement between the experimental groups namely HIWG and LIWG.

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## Effectiveness Of Anuloma Viloma Pranayam On Selected Respiratory Variables Of School Boys

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### **Abstract:**

The purpose of this study was to determine the Effect of Anuloma Viloma Pranayama on selected respiratory variables. The subjects were 30 male students of 12th Standard of St. Marry School, Gandhinagar. The subjects were ranging from 15 to 18 years of age. Depending upon the level of physical fitness subject were divided into two groups i.e. experimental group and control group. Experimental group participated in a training programme of Anuloma - Viloma Pranayama for a period of six weeks and control group was not exposing to any kind of training programme. The training was given every day early in the morning. Selected respiratory variable were Vital Capacity, Peak Flow Rate, Negative Breath Holding Time Positive Breath Holding Time. Pre & posttest date on selected respiratory variables were recorded pre and after completion of 6 weeks of pranayama timing of both the groups. The data on respiratory variable were recorded with the help of standard procedure such as: Vital Capacity by dry Spiro meter, Peak Flow Rate by Peak Flow Meter and Breath Holding Time after forced inhalation & exhalation by stop watch. In order to study the Effect of Anuloma-Viloma Pranayama on Selected Respiratory Variables. The analysis of covariance statistical technique was employed to analyses the raw data at .05 level of significance from the finding it was observed that F ratio were found to be significant at 0.05 level of Vital Capacity, Peak Flow rate and Negative Breath Time. However in case of Positive Breath Holding Time F ratio was not significant.

**Key words:** Anuloma Viloma, Vital Capacity, Peak expiratory Flow Rate etc

### **Introduction:**

Yoga exercises are scientific means for strengthen of all living or atrophying muscle fiber and tissues. This system teaches how to awake new life pulsations in active tissues. In this context it is different from other system of Exercise the course of yogic study pranayama plays a very important role. According to "Hatha Yoga" Pradipika pranayama is in a second place. Pranayama is one of the first exercises for a weak heart and weak lungs its physiology is properly known and if it is judiciously administered exercises in capable of giving wonderful result. Anuloma pranayama is one of several Pranayama or breath exercises used in the practice of Hath yoga. Anu roughly translates as with and Loma means hair implying "with the grain" or "natural". It is the opposite of Viloma pranayama which means against the grain. Similar to the practice of Nadi Shodhana (commonly called alternate nostril breathing and known in some circles as Anuloma Viloma): Anuloma involves inhaling through both nostrils together and exhaling alternately between the left and right nostrils. The thumb of the right hand is used to manipulate the right nostril, while the pinky and ring finger are used to control the left nostril. Inverted Anuloma breath is called Pratiloma and involves inhaling through alternating nostrils and exhaling through both together. The practice of a kumbhaka or retention is encouraged as students advance at the practice; first at the end of the inhale and eventually the end of the exhale. The purpose of the study was to investigate the effect of Anuloma-Viloma Pranayama on the selected respiratory variables of school boys

### **METHODOLOGY:**

The purpose of this study was to determine the Effect of Anuloma Viloma Pranayama on selected respiratory variables. The subjects were 30 male students of 12th Standard of St. Marry School, Gandhinagar. The subjects were ranging from 15 to 18 years of age. Depending upon the level of physical fitness subject were divided into two groups i.e. experimental group and control group. Random group design was used for the purpose of the present study. First the Subjects were divided in to two equal groups by drawing a lot. Group "A" acted as experimental group and group "B" acted as Control group. Both groups consists of fifteen subjects each.

The training of Anulom vilom executed as Adopting the padmasana (Post) the yogi should draw in breath through the candra (left nostril) and having retained it to capacity, should exhale through the surya (right nostril). Then he should again fill in the (thoracic) cavity by taking in breath through the surya (right nostril) and exhale through the candra (left nostril) after performing Kumbhaka in a systematic manner. Inhaling through that nostril by which he had exhaled and having retained the breath so long as it can be done without suppressing the impulse to exhale, one should exhale by the other one slowly-never rapidly. In the training first and second week 5 rounds of anulom vilom was given with savasana. Second week 5 round duration of 15 sec. without kumbhak, third and fourth week 20 to 30 second following 5 and 10 rounds. The fifth and sixth week 30 second 5 round and 40 second with 8 rounds. The last week they performed 20 second with 8 round and as per their capacity. To asses respiratory aspects the vital capacity, peak expiratory flow rate and breadth holding capacity (Positive –Negative) had been chosen as dependent variables. The vital capacity was measured by dry spirometer and recorded in liters. The peak expiratory flow rate was measured by peak flow meter in liters/min. whereas the breadth holding time was measured by stop watch in minutes and seconds. Prior to the administration of test pretest scores for all the selected variables were collected. After eight weeks of training post test scores were collected on each of the selected variables. Experimental group perform Anuloma-Viloma Pranayama daily for 30-40 minutes. No training was imparted to the control group. Experimental group participated in a training programme of Anuloma - Viloma Pranayama for a period of six weeks and control group was not expose to any kind of training programme. The training was given every day early in the morning. Selected respiratory variable were Vital Capacity, Peak expiratory Flow Rate, Negative Breath Holding Time, Positive Breath Holding Time. Pre & posttest was conducted on selected respiratory variables were recorded pre and after completion of 8 weeks of Anulom vilom pranayam training of both the groups. In order to study the Effect of Anuloma-Viloma Pranayama on Selected Respiratory Variables. To find out the effectiveness of Anulom vilom training programme, mean difference and paired “t” test was applied.

**Results:**

Data were collected on thirty subjects belonging to two group i.e. one experimental and one control group to study the effect of anuloma viloma pranayama on selected respiratory variables.

**Table-1: The Difference of the Mean of experimental and Control group in the Vital capacity**

Sr. No.	Groups	Pre test Mean	Post test Mean	Mean Difference	SD	“t” ratio
1	Experimental group	3.38	4.29	0.91	0.32	11.01*
2	Control Group	3.39	3.41	0.02	0.2	0.58

\* Significant value of  $t_{0.05} (n-1) = t_{0.05} (14) = 1.761$

The analysis of mean difference and t ratio between pre test and post test of experimental and control group has been done. Table 1 reveals that, difference between means of experimental group is 0.91, whereas in control group is 0.02. It shows that there is more change in experimental group compared to control group. The obtained “t” ratio of experimental is 11.01, which is more than significant value. Thus it is seen that there is significant difference between pre and post test in vital capacity. The “t” ratio of control group is not significant at .05 level

**Table-2: Difference of the Mean of experimental and Control group in the Peak expiratory flow rate**

Sr. No.	Groups	Pre test Mean	Post test Mean	Mean Difference	SD	“t” ratio
1	Experimental group	3.86	4.64	0.78	0.4	7.55*
2	Control Group	3.85	3.8	0.05	0.35	0.55

\* Significant value of  $t_{0.05} (n-1) = t_{0.05} (14) = 1.761$

The analysis of mean difference and t ratio between pre test and post test of experimental and control group has been done. Table 2 reveals that, difference between means of experimental group is 0.78, whereas in control group is 0.05. it shows that there is more change in experimental group compared to control group. The obtained “t” ratio of experimental is 7.55, which is more than significant value. Thus it is seen that there is significant difference between pre and post test in peak expiratory flow rate. The “t” ratio of control group is not significant at .05 level.

**Table-3: Difference of the Mean of experimental and Control group in positive breath holding time**

Sr. No.	Groups	Pre test Mean	Post test Mean	Mean Difference	SD	“t” ratio
1	Experimental group	75.2	76.67	1.47	1.4	4.06*
2	Control Group	74.07	74.13	0.06	9.39	0.03

\* Significant value of  $t_{0.05} (n-1) = t_{0.05} (14) = 1.761$

The analysis of mean difference and t ratio between pre test and post test of experimental and control group has been done. Table 3 reveals that, difference between means of experimental group is 1.47, whereas in control group is 0.06. it shows that there is more change in experimental group compared to control group. The obtained “t” ratio of experimental is 4.06, which is more than significant value. Thus it is seen that there is significant difference between pre and post test in positive breath holding time. The “t” ratio of control group is not significant at .05 level.

**Table-4: Difference of the Mean of experimental and Control group in Negative breath holding time**

Sr. No.	Groups	Pre test Mean	Post test Mean	Mean Difference	SD	“t” ratio
1	Experimental group	66.53	70.4	3.87	2.29	6.54*
2	Control Group	66.67	66.13	0.54	2.49	0.82

\* Significant value of  $t_{0.05} (n-1) = t_{0.05} (14) = 1.761$

The analysis of mean difference and t ratio between pre test and post test of experimental and control group has been done. Table 4 reveals that, difference between means of experimental group is 3.87, whereas in control group is 0.54. it shows that there is more change in experimental group compared to control group. The obtained “t” ratio of experimental is 6.54, which is more than significant value. Thus it is seen that there is significant difference between pre and post test in negative breath holding time. The “t” ratio of control group is not significant at .05 level.

#### Conclusions:

There was significant difference in the vital capacity which revealed that there is a significant effect of the eight weeks training programme of anuloma viloma pranayama on male students of school. There was a significant difference in the peak expiratory flow rate which revealed that the eight week training programme of anuloma viloma pranayama was effective in this variable. There was significant difference in the positive breath holding time which revealed that the eight weeks training programme of anuloma viloma pranayama was effective in this variable. There was a significant difference in the negative breath holding time. Which revealed that there is a significant effect of the six weeks training programme of anuloma viloma pranayama on male students of school.

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## **A Comparative Study Of Selected Variables Of Physical Fitness And Body Composition Of Tribal And Non-Tribal Students Of Javahar Navodaya Vidyalaya**

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### **Abstract:**

The aim of the present study was to compare the physical fitness and body composition of tribal and non-tribal students of Navodaya Vidyalaya. Total 200 students in each group were selected from Javahar Navodaya Vidyalaya, Kharedi, Dist. Dahod and Javahar Navodaya Vidyalaya, Bhandariya, Dist. Amreli. Pull ups, Sit ups, Shuttle Run, Standing Broad Jump, 50 Yard Run tests were applied to measure arm and shoulder strength, abdominal strength, agility, explosive strength of leg muscles, speed respectively. BMI was calculated manually by measuring weight and height of the subjects. For the analysis of data 't' test was applied at 0.05 level of significance. The result of the study shows that there was a significant difference between both the group regarding strength of arm and shoulder muscles, abdominal strength whereas there was insignificant difference found between both the group regarding agility, explosive strength, speed, and BMI.

Key Words: strength, speed, muscular endurance, agility and BMI

### **Introduction:**

In sports and physical education, as in life, teachers and coaches are constantly measuring and evaluating. They measure their students, players, associates, opponents, programs, teaching strategies, coaching techniques and many other facets of the educational continuum. The least valid forms of evaluation they might employ are hunches or calculated guesses. The most valid form is the use of well-established criteria as a basis for comparison. Usually this is done by means of tests and measures that have been developed through research and validated against suitable criteria. Physical educators, like educators in general, should be prepared to submit to those who need or request it objective evidence obtained through valid measurements that physical education really educates – educates in the sense that the degree of attainment can be shown in the goals, both general and specific, that have been established. Measurement techniques can be applied in both the product and the process.

### **Purpose Of The Study:**

The purpose of present study was to compare the physical fitness and body composition of tribal and non-tribal students of Javahar Navodaya Vidyalaya, Kahredi, Dist Dahod and Javahar Navodaya Vidyalaya, Bhandariya, Dist. Amreli. In Dahod district of Gujarat most of the students belongs to tribal and those where selected as the subjects to achieve the objective of the study.

### **Methodology:**

For the purpose of this study 200 students in each group were selected from Javahar Navodaya Vidyalaya, Kharedi, Dist. Dahod and Javahar Navodaya Vidyalaya, Bhandariya, Dist. Amreli. Pull ups, Sit ups, Shuttle Run, Standing Broad Jump, 50 Yard Run tests were applied to measure arm and shoulder strength, abdominal strength, agility, explosive strength of leg muscles, speed respectively. BMI was calculated manually by measuring weight and height of the subjects. For the analysis of data 't' test was applied at 0.05 level of significance

## Result Of The Study & Discussion:

Table – 1

Mean, mean difference and 't' value of test of selected variables of tribal and non tribal students.

No	Test	Group	Mean	Mean Difference	't'
1	Pull ups	Tribal Group	5.68	2.52	6.63*
		Non-Tribal Group	3.16		
2	Sit ups	Tribal Group	27.94	5.16	4.73*
		Non-Tribal Group	22.78		
3	Shuttle Run	Tribal Group	12.72	0.27	1.80
		Non-Tribal Group	12.99		
4	Standing Broad Jump	Tribal Group	1.46	0.02	0.67
		Non-Tribal Group	1.44		
5	50 Yard Run	Tribal Group	9.74	0.13	1.17
		Non-Tribal Group	9.61		
6	BMI	Tribal Group	16.23	0.17	0.53
		Non-Tribal Group	16.40		

$$t_{0.05} (198) = 1.972$$

It is evident from table – 1 in Pull ups that the calculated 't' value 6.63 is greater than the tabulated value i.e. 1.97. So it can be said that there is significant difference between the means of both the groups in pull ups test with the mean difference of 2.52. It is evident from table – 1 that in sit ups the calculated 't' value 4.73 is greater than the tabulated value i.e. 1.97. So it can be said that there is significant difference between the means of both the groups in sit ups test with the mean difference of 5.15. It is evident from table – 1 in shuttle run that the calculated 't' value 1.80 is not greater than the tabulated value i.e. 1.97. So it can be said that there is no significant difference between the means of both the groups in shuttle run test with the mean difference of 0.27. It is evident from table – 1 in standing broad jump that the calculated 't' value 0.67 is not greater than the tabulated value i.e. 1.97. So it can be said that there is no significant difference between the means of both the groups in standing broad jump test with the mean difference of 0.02. It is evident from table – 1 in 50 Yard run test that the calculated 't' value 1.17 is not greater than the tabulated value i.e. 1.97. So it can be said that there is no significant difference between the means of both the groups in 50 yard run test with the mean difference of 0.13. It is evident from table – 1 in BMI that the calculated 't' value 0.53 is not greater than the tabulated value i.e. 1.97. So it can be said that there is no significant difference between the means of both the groups with reference to BMI with the mean difference of 0.17.

### Conclusion:

The result of the study shows that there is significant difference between tribal and non tribal students of Jawahar Navodaya Vidyalaya with reference to strength of arm and shoulder muscles and abdominal strength whereas there is no significant difference found between both the groups regarding explosive strength of leg muscles, agility, speed and BMI. The reason for the same may be the nature of activities the students of both the groups were doing in their respective schools and inherent quality of the students.

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## **Comparative Study Of Body Composition And Physical Fitness Of Urban And Rural Secondary School Boys Of Mehsana District**

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### **Abstract:**

The purpose of present study was to compare the Body Composition and Physical Fitness of Urban and Rural Secondary School boys. Total 100 secondary school boys were selected as the subjects of this study. Among them 50 boys of Urban Secondary School boys and 50 boys of Rural Secondary boys of Mehsana District, Gujarat were selected. Body Composition (B.M.I.) and Physical Fitness components like Arm and Shoulder strength, Abdominal strength, Agility, Explosive leg strength, Speed and Cardiovascular fitness were taken into consideration for the study. The main aim of present study was to study the Body Composition and Physical Fitness of Urban Secondary School boys and Rural Secondary School boys of Mehsana District. The data were recorded i.e. Body Composition by height and weight of subject arm and shoulder strength by Pull-Ups on single bar for 30 seconds. Abdominal strength by Sit-Ups for 30 seconds. agility was tested by Shuttle Run. Explosive strength by Standing Broad Jump. Speed was measured by 50 yard run and cardiovascular fitness was measured by 600 yard run. The analysis of obtained data was made by “t” ratio at .05 level of significance. Rural Secondary School boys Body Composition (B.M.I.) Efficiency was seen well than Urban Secondary School boys. On the basis of results it was conclude that there were significant difference in Shuttle Run, Standing Broad Jump, 50 Yard Race and 600 yard Run. There were no significant difference in pull ups and BMI between urban and rural school boys.

Key words: Body composition, Urban, Rural

### **Introduction:**

In ancient time our ancestors quench their thirst for physical activity through daily hard work to earn livelihood. Now in developed modern era and as per new social structure, many people perform daily work as well as earn livelihood without wasting physical strength. Even though for appropriate mental strength it becomes necessary for everyone to do physical activity. Physical fitness is the most precocious gift for the human beings. It cannot be purchased but obtain through daily appropriate physical exercises. It is familiar to all that the efficient citizens are the asset of the nation and on the contrary weak citizens represent the burden on the nation. Thus, it is the duty of each nation to protect the physical fitness of each citizen. The individual basic requirement for daily life is physical fitness. Regular activity, fitness and exercise, are critical for the health and well being of people of all ages. Research shows that everyone, young or old can benefit from regular exercise, either vigorous or moderate. Even very old adults can improve mobility and function through physical activity. It should be a priority for everyone. Millions of people suffer from chronic illnesses that can significantly improve through activity. Exercise reduces the risk of heart disease, diabetes, colon cancer, and high blood pressure. People who are active outlive those who are inactive. Body Composition - often considered a component of fitness. It refers to the makeup of the body in terms of lean mass (muscle, bone, vital tissue and organs) and fat mass. An optimal ratio of fat to lean mass is an indication of fitness, and the right types of exercise will help you decrease body fat and increase or maintain muscle mass. The purpose of this study was to compare Body Composition and Physical Fitness of urban and rural secondary school boys of Mehsana district

### **Methodology:**

For the purpose of this study 50 boys studying in urban secondary school and 50 boys studying in rural secondary school were selected randomly as a subject from Mehsana District .The age group was between 12 to 16 years. The Study was delimited to the male students only. Total population of 150 government schools, among them 80 schools in rural area and 60 schools were in urban area.



The 10 schools from both part had been selected by lottery method and 5 students from each school had been selected by random sampling method. In this study, BMI of subjects was assessed by weight (kg)/Height (meter<sup>2</sup>) formula and measured by measure tape and weight machine. Muscular strength was measured by pull ups in numbers, strength endurance was measured by 1 minute bent knee sit ups in numbers of sit ups correctly done, speed and agility was measured by shuttle run test in seconds, explosive leg strength was measured by standing broad jump in feet and inches, speed by 50 yard run in seconds, cardiovascular efficiency by 600 yard run in minutes and seconds. The raw scores obtained from the test given by the subjects was converted in to A.A.H.P.E.R.D. Youth Fitness Test scoring table and this score was taken into consideration for the statistical procedure. To find out the comparison of Body Composition and Physical Fitness Status of Urban and Rural Secondary School boys of Mehsana District “t” test was applied.

**Results:**

TABLE-1:The Difference of the Mean of Urban and Rural Secondary School boys in the BMI

No.	Group	Mean	Mean Difference	“t”
1	Urban Secondary School	16.82	0.65	1.928
2	Rural Secondary School	17.47		

Significant at  $t_{0.5} (98) = 1.98$

The mean difference is 0.65. Received “t” ratio is 1.928, which is not more than significant level. Hence, it is revealed that there was no significant difference between urban and rural students.

TABLE-2:The Difference of the Mean of Urban and Rural Secondary Boys in the Pull-Ups

No.	Group	Mean	Mean Difference	“t”
1	Urban Secondary School	34.50	4.70	2.231*
2	Rural Secondary School	39.20		

Significant at  $t_{0.5} (98) = 1.98$

The mean difference is 4.70. Received “T” ratio is 2.231, which is more than significant level. thus, there was significant difference between urban and rural students

TABLE-3:The Difference of the Mean of Urban and Rural Secondary boys in the Sit-Ups

No.	Group	Mean	Mean Difference	“T”
1	Urban Secondary School	30.30	14.40	4.422*
2	Rural Secondary School	15.90		

Significant at  $t_{0.5} (98) = 1.98$

The mean difference is 14.40. Received “t” ratio is 4.422, which is more than significant level. thus, there was significant difference between urban and rural students in strength endurance.

TABLE-4:The Difference of the Mean of Urban and Rural Secondary boys in the Shuttle Run

No.	Group	Mean	Mean Difference	“t”
1	Urban Secondary School	31.70	8.20	2.919*
2	Rural Secondary School	23.50		

Significant at  $t_{0.5} (98) = 1.98$

The mean difference is 8.20. Received “t” ratio is 2.919, which is more than significant level. thus, there was significant difference between urban and rural students in speed and agility.

TABLE-5: The Difference of the Mean of Urban and Rural Secondary boys in the Standing Broad Jump

No.	Group	Mean	Mean Difference	"t"
1	Urban Secondary School	32.70	8.20	2.257*
2	Rural Secondary School	40.90		

Significant at  $t_{0.5} (98) = 1.98$

The mean difference is 8.20. Received "t" ratio is 2.257, which is more than significant level. thus, there was significant difference between urban and rural students in explosive leg strength.

TABLE-6: The Difference of the Mean of Urban and Rural Secondary boys in the 50 Yard Race

No.	Group	Mean	Mean Difference	"T"
1	Urban Secondary School	31.30	11.30	2.677*
2	Rural Secondary School	20.00		

Significant at  $t_{0.5} (98) = 1.98$

The mean difference is 11.30. Received "t" ratio is 2.677, which is more than significant level. there was significant difference between urban and rural students in speed.

TABLE-7: The Difference of the Mean of Urban and Rural Secondary boys in the 600 Yard run

No.	Group	Mean	Mean Difference	"T"
1	Urban Secondary School	17.70	8.90	2.933*
2	Rural Secondary School	26.60		

Significant at  $t_{0.5} (98) = 1.98$

The mean difference is 8.90. Received "T" ratio is 2.933, which is more than significant level there was significant difference between urban and rural students in Cardiovascular efficiency.

**Conclusions:**

Rural Secondary School boys Body Composition (B.M.I.) was seen same as Urban Secondary School boys. Rural Secondary School boys Muscular Strength was seen more than Urban Secondary School boys. Urban Secondary School boys Endurance Strength was seen greater than Rural Secondary School boys. Urban Secondary School boys Speed and Agility was more than Rural Secondary School boys. Rural Secondary School boys Explosive leg Strength was seen well than Urban Secondary School boys. Urban Secondary School boys Speed Strength was seen well than Rural Secondary School boys. Rural Secondary School boys Cardiovascular Efficiency was seen more than Urban Secondary School boys.

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## Effect Of Suryanamaskar On Anxiety Level Of Physical Education Students

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### Abstract:

The purpose of this study was to determine the effect of Suryanamaskar on anxiety level of physical education students. For this study forty (40) students of Shri and Smt.P.K. Kotawala Arts College. were selected as subject; age 18 to 22 years. These students were randomly divided into two group i.e. experimental group and control group. Six weeks training was designed for this study. Pre-test and post-test was calculated using 't' test at the significant level of 0.05. It was observed that anxiety score of experimental group decreased significantly at 0.05 level of significance whereas control group shows least significant changes in anxiety score.

Key words: Yoga training, Suryanamaskar and Anxiety.

### Introduction:

Modern Science provides us with leisure, comfort and an easier material existence but it does not give us peace of mind and minor clam. There are so many examples throughout the world of people who have everything they need materially and who are nevertheless unhappy restless and frustrated.

According to Patanjali, yoga is a process of gaining control over the mind. In this context, control involves two aspects. (a) the power of the mind to concentrate on any desired object. (b) the capacity of the mind to remain quiet anytime. The yoga is a skilful science of gaining mastery over the mind. It is capable of leading us to the ultimate stage of perfection. Yoga is a state of Samadhi. It is a state of extraordinary steadiness at the emotional level. It is a fine integration of the body and the mind. It is conceived as the creating power in man and that of the reality itself.

Suryanamaskar is the most useful and popular mode of yogic exercise which briefly bestows the benefits of the asana pranayam and mudras together Suryanamaskar or sun salutation is a common sequence of Hatha yoga asana. Its origin lies in a worship of surya the Hindu solar deity. This sequence of movements and poses can be practiced on varying level of awareness, ranging from that of physical exercise in various styles to a complete sadhana which includes asana, pranayam, mantra and chakra meditation.

Anxiety is a state of emotional and physical disturbance induced in a person by real or imagined threat.

Purpose of the Study:

The purpose of the study was to analyze the effect of Suryanamaskar on anxiety level of students of physical education.

### Material and Method:

Forty students who were having high anxiety scores were selected as the subjects from the students of yoga center Patan (Guj.) The range of the age of the subjects was 18 to 22 years. After the selection of subjects, the experimental group underwent the Suryanamaskar training for eight weeks. The training was given twice a day morning. The duration of the practice was one hour a session slow progress was then in the number of repetition of asanas.

All the selected students were assembled inside a yoga hall of yoga center Patan. They were given the questionnaire of test anxiety scale. The questionnaire consists of 15 items each item has got four choices to answer. The subjects were asked to tick in the place provided for each answer which they feel most appropriate. The questionnaire was analyzed by using the questionnaire key and scores were recorded as the anxiety scores. Random group design was applied in the study twenty students were selected for Suryanamaskar training group and twenty students were selected for control group.

Both the groups were administered with pre test for assessment of anxiety. The experimental group was given training of Suryanamaskar for duration of six weeks after the experiment duration both the groups were tested again. Main effects were assessed by comparing the post test scores of the two groups.

**Result and Discussion:**

The pre test and post test data were analyzed In the following pattern to observe the difference.

(1) The pre-control and per-experimental data was treated with ‘t’ test for significance of mean difference.

The result pertaining to this has been presented in table-1

Table-1

Comparison of means of pre test scores of experimental of control groups in anxiety

No	Group	N	Test	Mean	Mean Difference	‘t’
1	Experimental	20	Pre-test	20.35	1.75	2.45*
	Experimental		Post-test	18.60		
2	Control	20	Pre-test	22.55	0.95	1.35
	Control		Post-test	19.60		

t 0.05 (19) = 2.093

It is evident from table -1 that the calculated value of ‘t’ of pre-test mean and post test mean of experimental group is greater than the tabulated value whereas there is no significant difference between the pre-test mean and post test mean of control group.

**Discussions of the study:**

The results of the study indicate that there is a significant difference in pre and post test anxiety scores of experimental group that participated in Suryanamaskar treatment for eight weeks have shown progress in anxiety by reducing it.

The analysis of data clearly shows that as a result of regular practice of Suryanamaskar then is a significant decrease in anxiety level as Suryanamaskar is known as physical and mental exercise.

Continuous participation in Suryanamaskar will help the person to overcome that psychological problem of daily life Suryanamaskar practices clams the mind there help to get sound. It increase concentrate memory, learning and focusing ability and Vigilance.

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## A Comparative Study of Personality Traits of Players of Individual and Team Games

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**Abstract:**

The purpose of the study was to compare the different personality traits of players of individual and team games. 50 players were selected randomly from athletics, swimming, judo and wrestling. 50 players were selected randomly from volleyball, basketball, football and handball games. For this study all the subjects were selected from The M S University of Baroda. Extraversion, Conscientiousness, Neuroticism, Agreeableness and Openness were assessed through Big Five Personality Test (Online Test). For the analysis of data ‘z’ test was applied at the significant level of 0.05. The result of the study shows difference of extraversion, conscientiousness, neuroticism, agreeableness and openness in the players of individual and team games.

**Key Words:** Extraversion, Conscientiousness, Neuroticism, Agreeableness and Openness.

**Introduction:**

Extraversion describes a person’s inclination to seek stimulation from the outside world, especially in the form of attention from other people. Neuroticism describes a person’s tendency to experience negative emotions, including fear, sadness, anxiety, guilt and shame. While everyone experiences these emotions from time to time, people low in Neuroticism seem especially resistant to them. People who are low in Neuroticism are typically; carefree, optimistic, relaxed, self-confident, and calm. People who are high in Agreeableness experience a great deal of empathy and tend to get pleasure out of serving and taking care of others. People who are high in Agreeableness tend to be; kind, sensitive, cooperative, and compassionate. Agreeableness is a good predictor of the quality of relationships: people high in the trait are more likely to keep friends and less likely to fall out with people. They are more likely to think of other people kindly and to be forgiving of faults and slights. People high in Openness are more able to connect seemingly unrelated concepts, making them more likely to appreciate art and unusual ideas. People who are high in openness are typically creative, imaginative adventurous, intellectual, unconventional and artistically inclined.

**Methodology:**

**Selection of Subject:**

For this study all the subject were selected from the M S University of Baroda; 50 players were selected randomly from athletics, swimming, judo and wrestling as individual group. 50 players were selected randomly from volleyball, basketball, football and handball games as team group.

**Collection of Data:**

The big five personality traits questionnaire was used for data collection. This personality is best described as five traits was discovered through the study of the adjectives that people used to describe themselves and the use of a type of statistical analysis called factor analysis that is used to reduce lots of information down to its most important parts. This five personality trains are Extraversion, Conscientiousness, Neuroticism, Agreeableness and Openness.

**Criterion Measure**

No	Variable	Criterion Measure
1	Extraversion	On a scale of 1 to 5
2	Conscientiousness	
3	Neuroticism	
4	Agreeableness	
5	Openness	

This test consist of fifty first person statement that one must rate on how much one agree that is true about one using a five point scale where: 1=disagree, 2=slightly disagree, 3=neutral, 4=slightly agree, and 5=agree. The items should be responded to quickly without over thinking. It should take most people no more than four minutes to complete.

### Statistical Analysis

For the analysis of data 't' test was applied at the significant level of 0.05.

Findings of the Study:

Table I:Table showing the mean, mean difference and 'z' value of Extraversion, Conscientiousness, Neuroticism, Agreeableness and Openness.

No	Variable	Group	Mean	Mean Difference	't'
1	Extraversion	Team	2.58	0.23	3.83*
		Individual	2.81		
2	Conscientiousness	Team	3.44	0.16	2.67*
		Individual	3.28		
3	Neuroticism	Team	2.55	0.09	1.50
		Individual	2.45		
4	Agreeableness	Team	3.54	0.17	5.67*
		Individual	3.37		
5	Openness	Team	3.36	0.20	2.86*
		Individual	3.56		

$t_{0.05}(98) = 1.980$

### Discussion of Finding:

It is evident from table – I that the mean of individual group (2.81) is greater than the mean of team group (2.58) which is significant on the level of 0.05 (cal.  $t = 3.83$ ) with the mean difference of 0.23. It can be said that the group with higher mean value on Extraversion seems to be related to the emotional payoff that a person gets from achieving a goal. On the contrarily the group with lower mean value on Extraversion tend be more content with simple, quiet lives, and rarely seek attention from others.

It is evident from table – I that the mean of team group (3.44) is greater than the mean of individual group (3.28) which is significant on the level of 0.05 (cal.  $t = 2.67$ ) with the mean difference of 0.16. The group with the higher mean value on Conscientiousness shows good ability to exercise self-discipline and control in order to pursue their goals whereas the group with lower mean value on Conscientiousness is impulsive and easily side tracked.Both the groups do not show any significant difference in Neuroticism with the mean difference of 0.09.It is evident from table – I that the mean of team group (3.54) is greater than the mean of individual group (3.37) which is significant on the level of 0.05 (cal.  $t = 5.67$ ) with the mean difference of 0.17. The group with the higher mean value on Agreeableness shows its tendency to put others' needs ahead of their own and to cooperate rather than compete where as the group with the lower mean value on Agreeableness seems to be more concern about themselves rather than others.

It is evident from table – I that the mean of individual group (3.56) is greater than the mean of team group (3.36) which is significant on the level of 0.05 (cal.  $t = 2.86$ ) with the mean difference of 0.20. The group which shows higher mean value of Openness describes their tendency to think in abstract, complex ways. High scorers are prone to associative thinking, meaning that they readily see relationships between things. High openness scorers are also more likely to have a high IQ.

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## A Study Of Effect Of Indigenous Activities And Yogic Exercise On Selected Psychomotor Domain

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**Abstract:**

The purpose of this study was to study the effect of indigenous activities and yogic exercise on selected psychomotor domain. 60 students, 15-18 years of age of Gyan Dhara High School, Sadara were selected as the subject of the study. Further the students were divided into three groups i.e. Group A – participated in Indigenous activities, Group B – participated in yogic exercise, and group C – was control group, The strength of abdominal muscles, agility, power, strength of shoulder girdle muscles, and endurance strength were measure by sit ups, side stepping, standing broad jump, modified pull ups and squat thrust tests respectively. It was observed that there were significant changes in all selected psychomotor domains in both the experimental groups.

Key Words: strength of abdominal muscles, agility, power etc

**Introduction**

The psychomotor domain is concerned with movement and other closely related factors that influence it. Through sports, exercise, or dance, as well as all work and locomotor skills, students overcome both their own forces and the forces universally found in nature, such as the physical laws and principles governing force, gravity, friction and motion. The purpose of the study was to determine the effect of indigenous activities and yogic exercise on selected psychomotor domain.

**Methodology:**

For the purpose of this study 60 students, 15-18 years of age of Gyan Dhara High School, Sadara were selected as the subject. Further the students were divided into three groups i.e. Group A – participated in Indigenous activities, Group B – participated in yogic exercise, and group C – was control group, The strength of abdominal muscles, agility, power, strength of shoulder girdle muscles, and endurance strength were measure by sit ups, side stepping, standing broad jump, modified pull ups and squat thrust tests respectively. Analysis of Covariance was applied at significance level of 0.05 to test the hypotheses. Training of indigenous activities and yogic exercise was given for thrice a week and for eight weeks to both the experimental groups where as control group did not participated in any specific training program.

**RESULT OF THE STUDY & DISCUSSION:**

Table – 1 : ANCOVA table of pull ups test

Source of Variations	df	SSx	SSy	SSxy	MSSx	MSSy	F
Treatment	2	203.7	1007.43	419.05	330.87	165.44	21.26*
Error	56	2169.15	2868.75	2297.3	435.73	7.78	

Tab.  $F_{0.05}(2, 56) = 3.15$

Table – 2: LSD Test of ANCOVA pull ups test

Group A	Group B	Group C	CD	Groups	Mean Difference
40.61	40.01	35.23	1.76	a-b	0.6
				a-c	5.38*
				b-c	4.78*

It is evident from table 1 & 2 that the calculated F value of pull up test is 21.26 which is greater than tabulated value i.e. 3.15. It can be concluded that there is significant improvement in modified pull ups test performance. Further it is observed from LSD test that both the experimental groups showed improvement in pull ups test performance.

Table – 3: ANCOVA table of side stepping test

Source of Variations	df	SSx	SSy	SSxy	MSSx	MSSy	F
Treatment	2	219.1	1515.03	572.25	562.35	281.18	22.3*
Error	56	2473.3	3037.7	2401.35	706.21	12.61	

Tab.  $F_{0.05}(2, 56) = 3.15$

Table – 4: LSD Test of ANCOVA of side stepping test

Group A	Group B	Group C	CD	Groups	Mean Difference
69.07	70.26	62.97	2.24	a-b	1.19
				a-c	6.10*
				b-c	7.29*

It is evident from table 3 & 4 that the calculated F value of pull up test is 22.30 which is greater than tabulated value i.e. 3.15. It can be concluded that there is significant improvement in side stepping test performance. Further it is observed from LSD test that both the experimental groups showed improvement in side stepping test performance.

Table – 5: ANCOVA table of sit ups test

Source of Variations	df	SSx	SSy	SSxy	MSSx	MSSy	F
Treatment	2	19.6	219.03	-52.5	330.71	165.36	9.46*
Error	56	3074.4	3584.7	2830.5	978.75	17.48	

Tab.  $F_{0.05}(2, 56) = 3.15$

Table – 6: LSD Test of ANCOVA of sit ups test

Group A	Group B	Group C	CD	Groups	Mean Difference
61.55	61.64	56.61	2.64	a-b	0.09
				a-c	4.94*
				b-c	5.03*

It is evident from table 5 & 6 that the calculated F value of pull up test is 9.46 which is greater than tabulated value i.e. 3.15. It can be concluded that there is significant improvement in sit ups test performance. Further it is observed from LSD test that both the experimental groups showed improvement in sit test performance.

Table – 7: ANCOVA table of scot thrust test

Source of Variations	df	SSx	SSy	SSxy	MSSx	MSSy	F
Treatment	2	43.23	524.93	125.93	808.84	404.42	25.6*
Error	56	4440.7	5199	4377	884.79	15.8	

Tab.  $F_{0.05}(2, 56) = 3.15$

Table – 8: LSD Test of ANCOVA of scot thrust test

Group A	Group B	Group C	CD	Groups	Mean Difference
63.86	66.42	57.63	2.52	a-b	2.56*
				a-c	6.23*
				b-c	8.79*

It is evident from table 7 & 8 that the calculated F value of pull up test is 25.60 which is greater than tabulated value i.e. 3.15. It can be concluded that there is significant improvement in scot thrust test performance. Further it is observed from LSD test that both the experimental groups showed improvement in scot thrust test performance.



Table – 9: ANCOVA table of standing broad jump test

Source of Variations	df	SSx	SSy	SSxy	MSSx	MSSy	F
Treatment	2	5.43	93.1	-12.95	127.05	63.53	12.17*
Error	56	1001.3	1459.5	1081.15	292.13	5.22	

Tab. F<sub>0.05</sub> (2, 56) = 3.15

Table – 10: LSD Test ANCOVA of standing broad jump test

Group A	Group B	Group C	CD	Groups	Mean Difference
26.21	26.45	23.25	1.44	a-b	0.24
				a-c	2.96*
				b-c	3.20*

It is evident from table 9 & 10 that the calculated F value of pull up test is 12.17 which is greater than tabulated value i.e. 3.15. It can be concluded that there is significant improvement in standing broad jump test performance. Further it is observed from LSD test that both the experimental groups showed improvement in standing broad jump test performance.

**Conclusion:**

The result of the study shows that there is insignificant improvement in abdominal muscles strength, agility, power, strength of shoulder girdle muscles, and endurance strength with effect of indigenous activity and yogic exercise in both the experiment groups.

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## **Effect Of Socio-Economic Status And Anxiety On Performance Of Physical Education Students**

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### **Abstract:**

The athletes for the study have been selected from Mahadev Desai Sharirik Shikshan Mahavidyalaya, Sadra.. Socio Economic Status is an independent variable and based on Socio Economic Status criteria. A sample of 120 athletes were selected on whom anxiety scale was administered, to assess the level of anxiety. Subsequently, categories based on level of anxiety were made. The other variables like religion and sex were taken to match the sample. Thus there are an equal number of sports persons on variables like Socio-Economic Status, anxiety, religion and sex. The sample design is as under. Personal Bio-data: This is framed to collect the demographic variables of the athletes. Anxiety Scale: This scale is developed by Sinha,1975, which consists of 100 items. The response categories are true or false. The responses are scored with the help of manual. Socio-Economic status Scale: Developed by Gupta and Chauhan 198, was used in the present study to measure social, educational, professional and economic perspective of the norms that were given in the manual. Some competitors do better when their anxiety levels are high and that moderate levels of anxiety seems to elicit increase in performance. Some performers react adversely to the competitive situation by reacting states of hyper-anxiousness which often results in the inability to achieve optimum levels of performance. Hence, it is generally considered that performance is optimal at intermediate level of anxiety.

### **Introduction:**

Some competitors do better when their anxiety levels are high and that moderate levels of anxiety seems to elicit increase in performance. Some performers react adversely to the competitive situation by reacting states of hyper-anxiousness which often results in the inability to achieve optimum levels of performance. Hence, it is generally considered that performance is optimal at intermediate level of anxiety.

The present Socio-Economic Status has been to seek clarity of distinct aspects of Social and Economic status of an individual separately and integrally. The connection of hurlock. 'The economic status of a family frequently determines what the family social status will be' does not appear to be appropriate and quite vocal in the Indian Socio-cultural setting. Keeping this in view, it has been considered appropriate to determine social and economic status separately in two areas of social and economic aspects, and then the two scores of different areas switched to one continuous or in standard scores, which can give the Socio- Economic status of an individual.

### **Materials And Methods:**

The athletes for the study have been selected from Gujarat Vidyapith, Ahmedabad run by Mahadev Desai Sharirik Shikshan Mahavidyalaya, Sadra. Dist. Gandhinagar. (Gujarat) India, Socio Economic Status is an independent variable and based on Socio Economic Status criteria. A sample of 120 athletes were selected on whom anxiety scale was administered, to assess the level of anxiety. Subsequently, categories based on level of anxiety were made. The other variables like religion and sex were taken to match the sample. Thus there are an equal number of sports persons on variables like Social Economic Status, anxiety, religion and sex. The sample design is as under

TABLE-1  
DISTRIBUTION OF SAMPLE

Category	High Socio-Economic Status	Low Socio-Economic Status	Total
MEN	30	30	60
WOMAN	30	30	60
TOTAL	60	60	120

TOOLS USED:

Personal Bio-data: This is framed to collect the demographic variables of the athletes.

Anxiety Scale: This scale is developed by Sinha, 1975, which consists of 100 items. The response categories are true or false. The responses are scored with the help of a manual.

Socio-Economic status Scale: Developed by Gupta and Chauhan 198, was used in the present study to measure social, educational, professional and economic perspective of the norms that were given in the manual.

**Results And Discussion Of The Study:**

1. Socio-Economic status

TABLE-2: Sports performance 100 meters sprint in two Socio-Economic Status

Socio-Economic Status	Mean	SD	t-value
High(N=60)	10.5	1.4	3.0**
Low (N=60)	11.31	1.54	

\*Significant at 0.01 level

Results given in table-2 indicate that the performance of high Socio- Economic Status athletes is significantly higher 10.50 than they are of low Socio economic Status 11.31. The t-value of 3.0 is significant at 0.01 levels to reveal significant differences between the two groups. It can be noted that one who takes less time in sprint speed test of 100 meters is said performance is found to be in high Socio economic Status group. Availing more excellence in sports activities.

2. ANXIETY

TABLE-3: Sports performance 100 meters sprint in two anxiety

ANXIETY	Mean	SD	t-value
High(N=60)	13.21	2.08	9.66**
Low (N=60)	10.02	1.57	

\*Significant at 0.01 level

Table-3 clearly reveals that anxiety is an important factor of sport activity. It can be observed that the mean score of high anxiety group is significantly lower 13.21 than that of low anxiety group 10.02. The t-value 9.66 is significant. Then higher anxiety is found to inhibit the performance in 100 meter sprint.

3. RELIGION

TABLE-4: Sports performance 100 meters sprint in two religions

RELIGION	Mean	SD	t-value
High(N=60)	11.91	1.49	1.92 N
Low (N=60)	11.39	1.51	

N- Not significant

Table – 4 Clearly reveal that there is no significant difference in sports performance between two religions. The t-value is not significant. Thus religious belongingness has nothing to do with sports performance.

4. SEX

TABLE-5:Sports performance 100 meters sprint in male-female subgroups

SEX	Mean	SD	t-value
MALE (N=60)	9.79	1.56	5.81**
FEMALE (N=60)	11.71	2.01	

\*Significant at 0.01 level

Table-5 reveals that the male athletes have significantly higher means 9.79 than female 11.71 in 100 meter sprint. The t-value 5.81 is significant at 0.01 levels. This clearly indicates that there are significant sex differences in sports performance. Sex belongingness is a factor, which makes a difference in better achievement of sports activities.

TABLE-6: CORRELATION BETWEEN VARIABLES

VARIABLES	r- VALUES
Anxiety Vs Performance	0.91*
Sex Vs Performance	0.52*
Socio-Economic Status Vs Performance	0.84*
Religions Vs Performance	0.11 NS

\*Significant at 0.01 level N- Not significant

An attempt is made to correlate variables with performance and table – 6 demonstrates the r-value. R- Values are significant between anxiety and performance Socio-Economic Status and performance at 0.01 levels. This reveals that there is a strong relationship between these variables and performance in 100 meter sprint. R-value between religion and performance is not significant which speaks the fact that religion is not correlated with performance of athletes.

**Conclusions:**

High Socio-Economic Status sports persons have significantly higher performance in 100 meters sprint than low Socio-Economic Status respondents.

There is a significant effect of anxiety on sports performance. Lower anxiety group achieved better.

There is significant sex difference in sports performance, males achieved better than females.

There is significant correlation of Socio-Economic Status, anxiety and sex with sports performance.

Religion is found to be insignificant factor in sports performance.

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## A Study Of Competition Anxiety Among Sports Climbers

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### **Abstract:**

The objective of this study was to understand the level of sports competition anxiety among sports climbers of different events. For this purpose 72 junior & senior male and junior & senior female sports climbers were selected as the subject who has participated in West Zone Sports Climbing Competition – 2013, held at Surat, Gujarat. Further the total number of subjects were divided into two groups i.e. Group A - climbers having less than 2 years of participating experience and Group B – climbers having more than 2 years of participating experience regardless of their chronological age. Data regarding sports competition anxiety was collected during 'lead climbing' and speed climbing' events through SCAT. 't' test was applied to test the hypothesis. It was observed that there was not any significant difference found between the group of experienced climbers and novice climbers when it come to sports anxiety.

Key Words: Sports Climbing, Competition Anxiety, Speed Climbing, Lead Climbing.

### **Introduction:**

During recent years sports climbing has become popular worldwide. The first sports climbing competition was held in the former USSR in the late 1940s, however the events were more focused on Speed Climbing only. IFSC was granted provisional recognitions into the Olympic Movement on 10<sup>th</sup> December 2007 and on 4<sup>th</sup> July 2011 the IOC Executive Board decided to include sports climbing as a possible new event for the 2020 Olympic Games.

Generally, in sports climbing competition there are three events i.e. 'lead climbing', speed climbing' and 'bouldering'; however 'team speed' has recently introduced. These events are different in its design, rules, conditions and so in nature. In 'lead climbing' event climber has to climbing a specific designed route by route setter. The route is set as par the age, category, and level of competition differently. In this event the core safety is provided by the running belay. In 'speed climbing' event the climber's aim is to complete the route within minimum time. For this event the route is pre-determined and core safety is provided by tope belay. Whereas the 'bouldering' is un-roped climbing on boulder (low height route).

Anxiety during sports competition can cause various effects on sports performance. It is very obvious that a sports person feels this type of anxiety while participating in competition, of course level may vary from an individual to individual. An individual under this anxiety may feel restless breathing, uneven hear rate, lack of concentration etc. This anxiety affects all three aspects of sports performance i.e. physiological, mental and behavioral.

### **Purpose Of The Study:**

The purpose of the study was to compare the competition anxiety among experienced and non experienced sports climbers who participated in zonal competition.

### **Methodology:**

For the purpose of this study total 72 participants were selected during West Zone Sports Climbing Competition – 2013 held at Surat, Gujarat. Data regarding competitive anxiety were collected using SCAT questioner. Sports climbers who took part in lead climbing, speed climbing and bouldering events were introduced about the questioner and so the objectives of the study. Further the total number of subjects were divided into two groups i.e. Group A - climbers having less than 2 years of participating experience and Group B – climbers having more than 2 years of participating experience regardless of their chronological age. Raw score of SCAT was calculated as par key and norms. To compare the means of the both of the group 't' test was applied at 0.05 level of significance.

**Result Of The Study:**

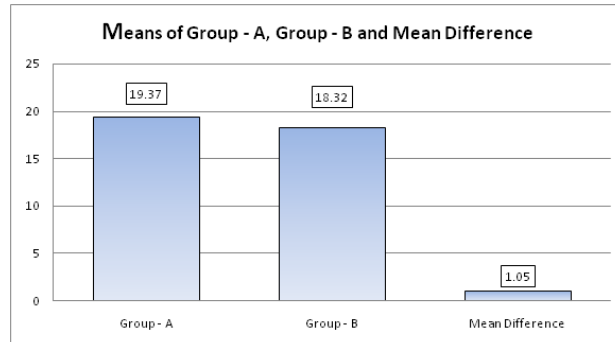
Table – 1: Table showing mean, mean difference and ‘t’ value in group A, and group B

No	Group	N	Mean	Mean Difference	‘t’
1	Group – A	35	19.37	1.05	1.22
2	Group – B	37	18.32		

$t_{0.05} (70) = 1.98$

It is evident from table – 1 that the mean of Group – A is 19.37, Group – B is 18.32 whereas the mean difference in between both of the group is 1.05. it is observed that the calculated ‘t’ value is 1.22 which is not significant at 0.05 level of significance.

Chart – I: Chart showing means of Group – A, Group – B and mean difference of competitive anxiety in sports climbers



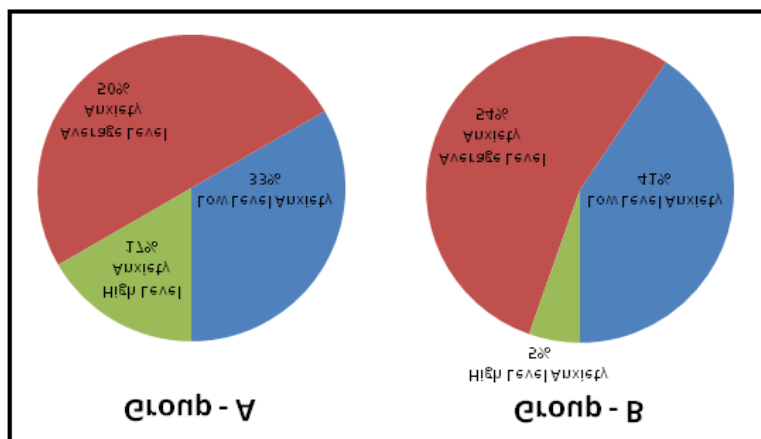
Just to get an overview of anxiety level in each group; mean and percentage of total participants of particular group is shown here with table and illustrated chart.

Table – 2: Table showing mean and percentage of low, average and high level of sports competitive anxiety in both the group

No	Level of Sports Competitive Anxiety	Group – A		Group – B	
		Mean	Percentage	Mean	Percentage
1	Low Level	14.70	33 %	15.27	41 %
2	Average Level	20.15	50 %	19.95	54 %
3	High Level	25.6	17 %	25	5 %

Table – 2 shows that in group – A 33 %, 50 % and 17 % of sports climbers respectively feel low level, average level and high level of competitive anxiety, whereas in group – B 41 %, 54 % and 5 % of sports climbers respectively feel low level, average level and high level of competitive anxiety.

Chart – 2: Chart showing percentage of competitive anxiety level among sports climbers



**Discussion And Conclusion Of The Study:**

The result of the study shows that there is insignificant difference of sports competitive anxiety between experienced sports climbers and novice sports climbers at 0.05 level of significance as the calculated 't' value is less than the tabulated 't' value. The reason for the same could be that novice climbers may lack competitive experience that can cause competitive anxiety but even experienced climbers shows approximately same level of competitive anxiety due to their consciousness for better performance or some other psychological factors. Further study is required to understand this aspect selecting relevant variables.

**Recommendations:**

The same sort of study may be taken to compare the sports competitive anxiety among climbers of specific events i.e. lead climbers vs speed climbers.

The same type of study can be taken to compare the sports competitive anxiety between sports climbers and other traditional sports.

The study can be taken to compare male sports climbers and female sports climbers.

The same type of study may be taken to compare sports competitive anxiety for sports climbers of various levels, i.e. zonal, national and international.

The study can be taken to correlated competitive anxiety level with their climbing performance.

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## A ringside view of women students' motivation for games and sports in rural area

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### Abstract

Motivation is crucial for participation in games and sports. However, motivation for games and sports, as with any other human activity, differs from context to context. Socio-cultural perspectives on motivation suggest that motivation is shaped by the surrounding environment. Drawing on it this paper presents a study of motivation of women students' for games and sports in rural area.

The aim of this paper is to explore factors that influence motivation of women students for games and sports activities. In India, the majority of undergraduate students study in the rural areas and they show very little motivation for games and sports. The paper is based on a small-scale study conducted in a college located in rural area in the Maharashtra State in order to understand what factors motivate and de-motivate students towards games and sports. The hypothesis taken for the study was that social and cultural forces influence motivation for participation in games and sports. The data was collected through questionnaire (semi-structured and open ended) and interviews (open ended). Interviews were conducted to clarify and confirm the information collected from the questionnaires. The sample size was n100 and the total number of women students enrolled in the college is 210. The data was analysed using qualitative research methodology framework. The theoretical framework for the analysis is drawn from socio-cultural theory of human motivation. The results show that motivation for games and sports is dependent upon social and cultural environment of the students. Support from parents and larger societal factors are positively related to students' participation in games and sports.

Keywords: motivation, socio-cultural theory, rural area

### Introduction:

Motivation is the key driving force behind every human activity. In educational psychology motivation has been given a prominent place as it decides the engagement in and outcome of learning. In physical education too motivation of students is equally crucial as with cognitive activity of learning. Primary role of motivation is to enforce one to engage in some activity and sustain that engagement. In literature human motivation is discussed in behaviouristic, cognitive and recently, through socio-cultural theoretical frameworks. Socio-cultural theory proposes that surrounding environment exerts a huge influence on motivation. It is believed that socio-cultural theory of motivation offers more focused local insights into human motivation (Dornyei: 2001). Therefore, in this paper we aim to explore factors affecting motivation of women students studying in rural area for participation in games and sports activities drawing on socio-cultural theory. The paper is written into 4 parts. The first part begins with the description of context. In the second part we describe the purpose of the study and methodology. Third part deals with the presentation of results and discussion. The paper concludes with the identification of factors affecting motivation and suggesting implications.

### Context

The study was conducted in a rural place called Seloo in the Wardha district of Maharashtra state. The subjects, namely women students, are students studying for BA degree. The profile of the participants is given in the following table.

Table 1: Profile of participant students

<i>Total number of students</i>	<i>Age</i>	<i>Family background</i>	<i>Health awareness</i>
100	17-20	Farming and farm labour	Poor



Most of the students under consideration are first generation learners. They have very low self-esteem and they have enrolled in BA programme as there are no other alternatives available. The college is also poorly resourced with minimum facilities. There are only three grounds available for kabaddi, kho-kho and volley ball. The college provides limited sports facilities in terms of equipment and kits. There exists a low enrolment trend in physical education activities as the performance in physical education is not taken into account for final assessment. Besides, as most of the students commute from surrounding villages, they depend on State Transport Buses for commuting. Their stay in the college is dependent on bus schedule. So they cannot give additional time for physical education. Further, there is no specific provision for physical education in the routine time-table of the institution.

**Purpose of the study and methodology**

The aim of the study is to identify factors that influence the motivation of women students for games and sports. To our knowledge there exist no studies that investigated the motivation of rural women students. In India, majority of students study in institutions located in rural area. To identify the factors affecting motivation a small-scale study was conducted in the college. The researchers are the faculty members of the same college where the study was undertaken. The research question was as follows:What factors affect the motivation of rural women students for participation in games and sports? Out of total number of enrolled students (i.e. 210 in the academic session 2013-14) 100 students were selected for the study. The selection was based on a formal announcement of the study and inviting students' interest for participation. All the students were briefly oriented about the overall purpose of the study in session and their final consent for participation was obtained. All students were given a structured questionnaire prepared following the principles discussed in research methodology literature (for example, Kerlinger: 1995 and Kilpatric et al: 2005). The questions asked include the following:

Do you like games and sports? Give at least one reason for your response. How much time you can spare for games and sports?What are the challenges you face in participating games and sports?

What is the response of your family for your interest or otherwise in games and sports? After collecting the filled-in questionnaires a few selected students were interviewed for the clarification of some of their responses to questions. The interview data was noted down by the researchers. The data was analysed by drawing insights from socio-cultural theory of learning in qualitative terms.

**Results and discussion**

The information gathered using the above discussed questionnaire was analysed in qualitative terms. The general trend emerged suggests that students stay away from games and sports as they are not valued in the surrounding environment. Games and sports are not considered to be the skills one needs for life. The results can be briefly summarised as follows:

Table 2: Emergent issues

Sr. No.	Question	Student response
1	Preference/opinion for games and sports	Games and sports are not important because it is not considered important in society.
2	Time spent for games and sports	Only compulsory time allotted for games and sports (i.e. routine physical examination conducted at the end of academic session)
3	Challenges	Lack of: Support from family Support from the institution Support from peers
4	Family views on games and sports	Games are not crucial for making career

The data in the above table shows that students have no preference for games and sports as it is not considered important in surrounding society. One student said, "if a student scores 100 marks in academic subject it becomes a news but performance in sports is neglected". Therefore, students do not wish to spend more time on games and sports. During the interview one student remarked that "although I like games but it is difficult to participate as there are many onlookers".

In keeping with the wider societal attitude that girls should keep a low profile in outside world students also stay away from physical activity. On the challenges front, the support from family, institution, and peers is missing. Given this, it is almost impossible for any students to feel motivated for games and sports. The most crucial source of motivation is family and family believes that games and sports do not lead one to a successful and rich career.

#### Factor affecting motivation

From the above discussion following conclusions can be drawn regards factors affecting motivation of rural women students for games and sports. Wider societal perception about games and sports as non-essential skill for life demotivates students. The absence of clear provision of games and sports in the curriculum also contributes to students disengagement from games and sports. Lack of support from family, peers and institutions also negatively influences students' motivation (Kilpatric et al: 2005).

Absence of support from the family operates as a major hurdle for students' participation in games and sports. Overall, these factors are largely responsible for the demotivation and disengagement of student for games and sports. However, this study needs to be replicated in several rural places in order to confirm these findings. In this sense these finding can be taken as indicative rather than definitive factors influencing motivation of rural women students.

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## **DNA Markers: To Identify Potential Elite Athletes**

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### **Abstract**

Physical fitness is a complex phenotype influenced by a myriad of genetic and environmental factors. The variation in human physical performance and athletic ability has long been recognised as having a strong heritable component. Recently, the development of technology for rapid DNA sequencing and genotyping has allowed the identification of some of the individual genetic variations that contribute to athletic performance. This review article/lecture will examine the evidence that has accumulated over the last three decades for a strong genetic influence on human physical performance, which are particularly important for performance in a variety of sports. Finally, explore the scientific implications of our rapidly growing understanding of the genetic basis of variation in performance.

### **Introduction**

It is well known that brothers and sisters with the same parents inherit different traits from different ancestors on both sides of the family. For example, there may be differences in eye color, height, fitness level, or the ease with which one loses or gains weight. Only identical twins, those developed from the same egg, have the same genetic background because they are duplicates of the same person. Non-identical or fraternal twins develop from two eggs and are as different genetically as any other two siblings. Genes are parts of DNA molecules in every cell of the body that carry information responsible for the subsequent production of specific chains of amino acids, which are then used to develop specific proteins. The genotype is the total combination of the thousands of genes within the body, that is, the genetic potential of a person. However, not all of the genes are used or expressed to their full potential. The anatomical, biochemical, and physiological, and behavioral characteristics of a person at any given time represent the extent to which the various genes are expressed; these characteristics are known as phenotypes. Examples of phenotypes include brown hair, blue eyes, a resting heart rate of 60 beats/min, a maximal oxygen intake ( $VO_2max$ ) of 50 mL. Kg<sup>-1</sup>.min<sup>-1</sup> min or a body weight of 90kg. Genes affect how a phenotype is expressed now, as well as how it will respond to a change in environment. While one's eye color is set for life, one might reduce blood pressure with medication, increase  $VO_2max$  with training, and lose weight by dieting. The speed and the extent to which changes in phenotypes occur are affected by one's genetic background. For a particular phenotype, there are people who are superior responders, average responders, poor responders, and non-responders to a change in the environment. Thus, there are people who lose weight or who improve their fitness more easily than others. It is this variation in phenotypes and how they respond to changes in the environment that allows scientists to study the role of genes. For instance, if all participants improve their  $VO_2max$  by 14-16% after 12 wk of standardized exercise training, then it is clear that genes play a minor role and it is only the change in environment (training) that is important. On the other hand, if there is a large variation in adaptations to the same training program, genes may be important. The variation within a given phenotype in a population is influenced by the variation due to genes, the variation due to environment, and the interaction between these two sources of variation. Elite athletes, viz. athletes who have competed at a national or international level in their chosen sport, represent a rare convergence of genetic potential and environmental factors (Myburgh 2003). There is no question that environmental factors such as training and nutrition are essential for the development of an elite athlete. However, these factors alone are not sufficient; most of us could never achieve elite athlete status, however hard we trained. Just as genetic predisposition plays a major role in determining one's susceptibility to multifactorial diseases such as diabetes and cancer, elite athletic performance is a complex fitness phenotype substantially determined by genetic potential. Athletes and coaches are curious about the possible role of genetics in determining who will be a champion. Coaches would like to know if an athlete's genetic background could be used to help select those who have a better chance of succeeding. Athletes wonder if the genes they have

inherited might help or limit their abilities to perform at high levels in various sports. This article/lecture will address these issues.

### **DNA Markers in elite athletes**

Differentiation of marker genes (or DNA markers) is correlated with predispositions to perform different types of effort, which can be divided into two main groups: endurance effort (aerobic character) and power effort (anaerobic character) (Ahmetov and Fedotovskaya 2012). The genes which have been most often discussed in this context are heterogeneous, so we can divide them into following four major groups:

1. Genes encoding proteins involved in the regulation of blood pressure, including proteins of the kallikrein-kinin system (e.g. angiotensin-converting enzyme gene – ACE, bradykinin B2 receptor gene – BDKRB2, endothelial nitric oxide synthase gene – NOS3, angiotensinogen gene – AGT) and proteins of adrenergic receptors (adrenergic receptor genes – ADRA2A, ADRB1, ADRB2 and ADRB3).
2. Genes encoding factors associated with the structure of muscle fibers, connective tissues and regulating the development of muscles, myogenesis and muscle angiogenesis (e.g.  $\alpha$ -actinin-3 gene – ACTN3, myostatin gene – MSTN, collagen-related genes – COL1A1, COL5A1, COL6A1, vascular endothelial growth factor A gene – VEGFA and VEGF receptor 2 gene – VEGFR2, interleukin 15 receptor  $\alpha$  gene – IL15RA).
3. Genes encoding transcription factors that control the expression of genes involved in the metabolism of cells (e.g. GA binding protein gene – GABPB1, hypoxia-inducible factor-1 $\alpha$  gene – HIF-1 $\alpha$ , peroxisome proliferator-activated receptor  $\alpha$ ,  $\delta$ , and  $\gamma$  genes – PPARA, PPARD, and PPARG, PPAR $\gamma$  coactivator 1  $\alpha$  and  $\beta$  genes – PPARGC1A and PPARGC1B, mitochondrial transcription factor A gene – TFAM, endothelial PAS domain protein 1 gene – EPAS1, calcineurin/NFAT-related genes – NFATC4, PPP3CA, PPP3CB, PPP3R) and involved in DNA methylation (5, 10-methylenetetrahydrofolate reductase gene – MTHFR, methionine synthase gene – MTR, methionine synthase reductase gene – MTRR).
4. Genes encoding/participating in important metabolic pathways (e.g. aquaporin-1 gene – AQP1, hemochromatosis gene – HFE, uncoupling proteins 1, 2, and 3 genes – UCP1, UCP2, and UCP3, potassium inwardly-rectifying channel, subfamily J, member 11 gene – KCNJ11); and pathways associated with the release of energy essential in working muscles (adenosine monophosphate deaminase 1 gene – AMPD1, muscle creatine kinase gene – CKM, mtDNA genes).

A literature search revealed that at least 79 genetic markers (located within 40 autosomal genes, mitochondrial DNA and Y-chromosome) are linked to elite athlete status (listed below). These include 59 endurance-related genetic markers and 20 power/strength-related genetic markers (Tables 1-2). Importantly, 20 genetic markers (25.3%) that have shown positive associations with athlete status (14 endurance-related genetic markers: ACE I, ACTN3 577X, ADRB2 16Arg, AMPD1 Gln12, BDKRB2 –9, COL5A1 rs12722 T, GABPB1 rs7181866 G and rs12594956 A, HFE 63Asp, KCNJ11 Glu23, PPARA rs4253778 G, PPARD rs2016520 C, PPARGC1A Gly482, UCP3 rs1800849 T; and 6 power/strength-related genetic markers: ACE D, ACTN3 Arg577, AMPD1 Gln12, HIF1A 582Ser, NOS3 rs2070744 T, PPARA rs4253778 C). Interestingly, almost all chromosomes (except for 13, 16, 18, 20 and X chromosomes) include sport-related genetic markers.

#### Implications for sports science

The field of sports science encompasses the multitude of biological and environmental factors that determine athletic success. Ultimately, the findings and recommendations of sports scientists are used to guide the decisions of sporting bodies, coaches and athletes in two major areas: (1) talent identification, the process of selecting individuals with the potential of becoming champion athletes, and (2) the formulation of training programs that will maximise an individual's potential. The process of talent identification could, in principle, be revolutionised by the discovery and characterization of genetic variants that strongly influence athletic performance, with routine genetic analysis being added to the existing battery of physiological, biochemical and psychological tests that form the current basis for selecting talented young athletes for further training. However, there is still no evidence that any of these variants have any substantial predictive value for prospectively identifying potential elite athletes. The detailed analyses of physiological parameters currently used actually represent integrated measurements of the effects of multiple genes and environmental influences on the phenotype, whereas genetic tests examine only single isolated determinants. This said, however, there may be situations in which genetic tests will provide invaluable predictive information: for instance, if a gene influences performance through a physiological pathway that is poorly characterised or difficult to measure directly or for analysis of the athletic potential of young children in whom some physiological tests are only weakly predictive of adult

performance. We will only be able to evaluate the true benefits of genetic testing when geneticists and sports scientists can collaborate in large prospective cohort studies, which empirically determine the utility of genetic analyses in predicting future performance. The potential benefit of genetic testing for optimizing training programmes is also currently unclear, although selection of the optimal sport for a young athlete could benefit from genetic information. Several of the genetic factors for which positive associations have been reported in elite athlete cohorts (including both the ACE I/D and the ACTN3 R577X polymorphisms discussed above) do not appear to influence whether someone can become an elite athlete but instead may influence in which sport an elite athlete can compete successfully. In the case of both ACE and ACTN3, one allele at the polymorphic site appears to favour performance in sprint or power events (the ACE D and ACTN3 R allele), whereas the other appears to benefit the ability to compete in endurance sports (the ACE I and ACTN3 X allele), findings that are consistent with the observation of “trade-offs” between sprint and endurance performance in elite decathletes (Van Damme et al. 2002). This suggests that some genetic factors might not be useful in predicting whether a young amateur athlete has elite potential but may help to guide the choices of young athletes and their coaches in determining the events to which they would be best suited. In other cases, such as the finding that a variation in the APOE gene increases the probability of serious brain damage in boxers (Jordan et al. 1997), genetic testing might serve to steer young athletes with an increased genetic potential for serious injury away from particular sports.

#### Implications for human health

Genetic variants influencing athletic performance are likely to have wider significance for human health and biology. In many cases, the variants associated with performance traits and elite athlete status are reasonably common in the general population; for instance, both the ACTN3 577X allele and the ACE I allele have frequencies of more than 30% in a variety of human populations (Mills et al. 2001; Sagnella et al. 1999). Whereas some variants may only have a phenotypic impact under specific environmental conditions, such as in response to the heavy physical training experienced by elite athletes, many genetic variations probably have a significant impact on the wide variation in physical traits within the general community. If the influence of genetic variants on athletic performance were limited to traits such as muscle strength and running speed, their influence on daily life in most modern humans would be trivial. However, many performance-associated genetic variants are thought to influence physical traits such as energy metabolism, response to exercise and cardiovascular fitness, which are just as crucial to health and fitness in the general population as they are to the performance of elite athletes. Some “athlete genes” might have a positive effect on health; for instance, genetic variants that boost the response to training of athletes may well increase the health benefits of regular exercise in less athletic humans. Conversely, and perhaps counter-intuitively, factors that help athletes could actually have a strong negative effect on health in others; for instance, genes that allow a long-distance runner to conserve energy over long periods of intense physical activity might be disastrous to less physically active individuals, leading to obesity, diabetes and heart disease. Similarly, a polymorphism that boosts the cardiac function of sprinting champions may lead to a greater incidence of cardiac disease in the general population, as has been suggested for the D allele of the ACE gene (Crisan and Carr 2000; Van Berlo and Pinto 2003). Thus, although the relationships will not always be simple, research into the genetic factors influencing physical fitness in elite athletes should boost our understanding of genetic influences on health in the general population.

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## A Relative Study On Selected Anthropometric Measurements And Sepak Takraw Performance At National Level

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### Introduction:

The practice of selection of team or squads based on certain anthropometric or compositional criteria may reflect a coach in tuition of the degree of application in diet control or training effort than an importance of advantage of characteristics as an indicator of training or for a team role.

### Methodology:

On selected anthropometric measurements (age, height, weight, west circumference, leg length, thigh circumference, knee circumference, calf circumference, ankle circumference, foot length, foot circumference and head circumference) and Sepaktakraw performance (service test, lifting test, shooting test, placing test, heading test and overall performance test).

### Results:

Coefficient co-relation between selected anthropometric measurements and Sepaktakraw performance of the Sepaktakraw men players was found to be significant

Height and heading performance (Males, N=25, 'r'=.540, 'p'=.005) Leg length and service performance (Males, N=25, 'r'=.792, 'p'=.000) Leg length and placing performance (Males, N=25, 'r'=.541, 'p'=.005)Thigh circumference and lifting performance (Males, N=25, 'r'=.643, 'p'=.001)Knee circumference and lifting performance (Males, N=25, 'r'=.558, 'p'=.004)Calf circumference and lifting performance (Males, N=25, 'r'=.603, 'p'=.001)Foot length and servicing performance (Males, N=25, 'r'=.661, 'p'=.000)Foot length and placing performance (Males, N=25, 'r'=.881, 'p'=.000)Foot length and heading performance (Males, N=25, 'r'=.555, 'p'=.004)Foot circumference and lifting performance (Males, N=25, 'r'=.579, 'p'=.002)Foot circumference and heading performance (Males, N=25, 'r'=.604, 'p'=.001) Head circumference and heading performance (Males, N=25, 'r'=.923, 'p'=.000)

Coefficient co-relation between selected anthropometric measurements and Sepaktakraw performance of the Sepaktakraw women players was found to be significant

Height and service performance (Males, N=25, 'r'=.599, 'p'=.002)Height and shooting performance (Males, N=25, 'r'=.806, 'p'=.000)Weight and lifting performance (Males, N=25, 'r'=.552, 'p'=.004) Leg length and service performance (Males, N=25, 'r'=.866, 'p'=.000) Thigh circumference and lifting performance (Males, N=25, 'r'=.906, 'p'=.000)Knee circumference and lifting performance (Males, N=25, 'r'=.700, 'p'=.000)Calf circumference and lifting performance (Males, N=25, 'r'=.743, 'p'=.000)Foot length and placing performance (Males, N=25, 'r'=.852, 'p'=.000)Foot circumference and placing performance (Males, N=25, 'r'=.596, 'p'=.002)Head circumference and heading performance (Males, N=25, 'r'=.843, 'p'=.000)

### Conclusion :

General body measurement like height, weight, leg length, thigh circumference, knee circumference, calf circumference, foot length, foot circumference and head circumference were formed to be better for participating both genders of men and women Sepaktakraw players at National Level.Men players group has shown highly significant difference than the women group in relation to their anthropometric measurements.Both men and women groups have shown positive relationship among the placing performance in relation to their anthropometric measurements.

### Recommendations:

Now-a-days games and sports have become more competitive than before. The standards of tests are the need of the hour. The achievement and progress made by players can be monitored. Skill test scores may well be utilized in conjunction with other appropriate information for grading purpose. The anthropometric measurements play a vital role in Sepaktakraw performance among the Men and Women players.

## **A Comparative study of Self-Confidence between Kho-Kho Players and Kabbadi Players of Bangalore University**

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**Department of Physical Education, Karpagam University.Coimbatore**

### **Abstract**

Self-confidence is one of the most important psychological factors for the success of sportsmen in the competition. People who lack self-confidence can find it difficult to succeed in competition. Team games depend upon self-confidence of each and every individual player. Self-confidence enhances the performance of Athletes and enhances the skill learning ability of a sportsman. Self-confidence is extremely important in almost every aspect of an Athlete. A total of 60 subjects consisting of 30 Kho-Kho and Kabbadi Players were randomly selected from different affiliated colleges of Bangalore University. All the selected players were taken part in State Level, National and Inter-University Tournaments organised by All India Inter University Board. The Athletes age range from 19-25 years. Standard Scale and Questionnaire were used to assess the Self-confidence. In Statistical Analysis we use both Descriptive and Comparative Analysis. In Descriptive Analysis we measure Mean and Standard Deviation and in Comparative Analysis we measure T-Test. Discussion, findings and results will be analysed after appropriate statistical analysis.

### **Introduction**

Since the turn of 20<sup>th</sup> Century coaches and selectors expect Sports man to have high level of Self-confidence because when an individual goes to play in a competition, Individual performance counts and this individual performance depends upon the level of Self-confidence. What makes Self-Confidence so important to us? Self-Confidence is "The ability to belief in once self, decision and opinion. Oneself should have confidence in execution of skills and belief in one's ability to perform at high level. The present study was an attempt to understand how Self-confidence is important to give optimal performance. With each passing year more and more sportsman are losing their Self-confidence. To regain the Self-confidence and to come back to the previous performance level athletes mould there mind through different progressive therapeutic techniques and yogic practices. The concept of Self-confidence is not new in the field of sports. Self-confidence has immense effect on performance. The absence of Self-confidence there will be low attitude and there will be no performance, not only the attitude, aggression and the release of energy in a person depends upon Self-confidence. Sometimes when we try new task or skill Self-confidence is most important. Self-confidence is very comprehensive term it is gained through lot of practices and experience. Self-confidence in physical education means change in the player's attitude and mould their confidence and helps in performing motor skill in sports/ team games. Self-confidence does not ensure that you will win every competition; instead confidence is a belief in your ability to perform well having stable confidence allows you to quickly get over losses just because you lost doesn't mean that you no longer have the ability to compete a high level competition. With Self-confidence you can focus on your strength in the upcoming competition and increase the enjoyment of activity.

### **HYPOTHESIS**

It was Hypotised that Self-confidence of Kho-Kho Player is better than Kabbadi Player.

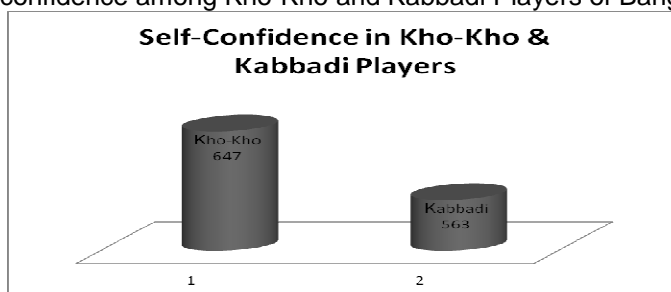
## Methodology

A total of 60 subjects consisting of 30 Kho-Kho and 30 Kabbadi Players were randomly selected from different affiliated colleges of Bangalore University. All the selected players were taken part in District Level, State Level, National Level and Inter-university level competitions conducted by AIU (All India Inter-university Board). The athletes age range from 19-25 years. The Questionnaire of Self-confidence given by D.D.Pandey 1983 was used to analyse the Self-confidence. We have used both Descriptive and Comparative method for statistical analysis. For Descriptive analysis we have used Mean & Standard Deviation and for Comparative analysis we have used T-test.

The Table showing Descriptive and Comparative Analysis of Kho-Kho and Kabbadi Players.

Players	Kho-Kho	Kabbadi
Numbers	30	30
Mean	21.57	18.77
S.D	2.99	
T-test	0.000136972	

Pie Chart showing Self-confidence among Kho-Kho and Kabbadi Players of Bangalore University.



## Recommendations

Athletes should have a good rapport with the coach so that he can discuss how to hike the attitude, aggression and release of energy while engaged in sports. Coach should help the Athlete by changing the training method so that he can boost athlete's confidence level. Athlete should engage in positive self-talk while performing to keep his attitude high. Players should be thought how to visualize the play through imagination. Identification of Opponents strategy to enhance the Self-confidence.

## Conclusion

The primary outcome of the study concluded that Self-confidence among Kho-Kho and Kabbadi player were high to enhance the Self-confidence athlete has to go through many progressive therapeutic techniques in training and also in reducing stress, anxiety level while involving in sports.

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## Role Of Aerodynamics On Swing Bowling In Cricket

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### **Abstract**

Aerodynamics plays a prominent role in almost every sport in which a ball is either struck or thrown through the air. The main interest in the fact that, the ball can be made to deviate from its initial straight path, resulting in curved flight path. The actual flight path attained by the ball is, to some extent, under the control of the person striking or releasing it. Present theoretical aims to study the role aerodynamics on cricket ball. And also to study the effect aerodynamics on swing bowling in cricket. Further to study the behavior of cricket ball when it is propelled in the air. The study analyzed three types of swing bowling in cricket based on that it is concluded that Aerodynamics plays a prominent role on the cricket ball swing. Aerodynamic principles play a vital role in understanding the behavior of cricket ball. Further aerodynamics is very effective in all weather conditions of cricket and it gives an advantage to the bowlers.

### **Introduction**

Aerodynamics plays a prominent role in almost every sport in which a ball is either struck or thrown through the air. The main interest in the fact that, the ball can be made to deviate from its initial straight path, resulting in curved flight path. The actual flight path attained by the ball is, to some extent, under the control of the person striking or releasing it. It is particularly fascinating that, not all the parameters that affect the flight of the ball under human influence. Lateral deflection in flight (variously known as swing, swerve or curve) is well recognized in cricket, baseball, golf and tennis. In most these sports, a swing is obtained by spinning the ball about an axis perpendicular to the line of the flight, which gives rise to what is commonly known as the Magnus effect. To study the role aerodynamics on cricket ball. To study the effect aerodynamics on swing bowling in cricket. To study the behavior of cricket ball when it is propelled in the air.

### **Aerodynamics Of Cricket Ball**

#### **Cricket Ball Swing**

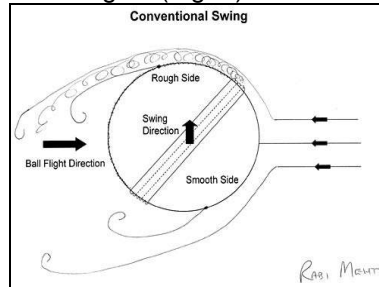
The fundamental flow physics that will help to explain all three types of cricket ball swing. As the ball is flying through the air, a thin layer of air called the "boundary layer" forms along the ball's surface. The boundary layer cannot stay attached to the ball's surface all the way around the ball and it tends to leave or "separate" from the surface at some point. The location of this separation point determines the pressure, and a relatively late separation results in lower pressure on that side. A side force or swing will only be generated if there is a pressure difference between the two sides of the ball. The boundary layer can have two states: a smooth and steady "laminar" state, or a time-varying and chaotic "turbulent" state. The transition from a laminar to a turbulent state occurs at a critical speed that is determined by the surface roughness; the rougher the surface the lower the critical speed. However, on a very smooth surface and at nominal speeds, a laminar boundary layer can be forced to turn turbulent by "tripping" it with a disturbance. The disturbance can be in the form of a local protuberance or surface roughness which adds turbulent eddies to the laminar layer and forces it to become turbulent. It is similar to putting your finger into a smooth stream of water from a tap: note how small chaotic turbulent motions are generated downstream of the finger location.

Now it turns out that a turbulent boundary layer (because of its increased activity and energy) can stay attached to the ball's surface for a longer distance compared to a laminar layer.

## Conventional Swing

Fast bowlers in cricket make the ball swing by judicious use of the primary seam. The ball is released with the seam at an angle to the initial line of flight. In conventional swing, the ball swings in the same direction that the seam is pointing. So a ball released with the seam angled towards the slip fielders will swing away from the batsman (outswinger) and one released with the seam pointed towards fine leg will swing into the batsman (inswinger).

So how and why does a cricket ball swing in the conventional mode? Let us see what happens to the flow over a cricket ball released with the seam angled (Fig. 1).



Between about 30 and 70 mph, the laminar boundary layer along the bottom surface separates at about the apex of the ball. However, the boundary layer along the top surface is tripped by the seam into a turbulent state and its separation is therefore delayed. This asymmetry results in a pressure differential (lower pressure over the top) and hence side force which makes the ball swing in the same direction that the seam is pointing (upwards).

The photograph in Fig.2 shows a cricket ball with the seam angled and held in a wind tunnel.



The flow is from right to left and smoke is injected into the region behind the ball. It is seen clearly how the boundary layer over the bottom surface separates relatively early compared to that over the top. Also, the clean, smooth edge of the smoke at the bottom separation point indicates a laminar boundary layer while the rather chaotic nature of the smoke near the top separation point indicates a turbulent state.

The key to successful conventional swing is to keep that leading side (the one facing the batsman) as smooth as possible so that a laminar separation is obtained. So the age-old practice of polishing the ball makes a lot of scientific sense.

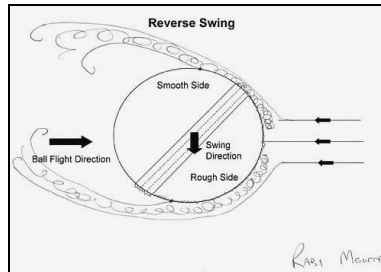
Of course, in reality, some backspin is always imparted when a cricket ball is bowled. For successful swing bowling, the ball should be released so that it spins along the seam with minimal wobble. Wind-tunnel tests on spinning cricket balls show that the maximum side force is generated at about 70 mph with the seam angled at 20 degrees and the ball spinning backwards at 11 revolutions/second.

So what happens at speeds above 70 mph?

The boundary layer on the bottom side in Fig. 1 begins towards transition, the asymmetry is reduced and so is the swing such that at around 80 mph there is no swing. So if you are unfortunate enough to bowl at around this critical speed, the ball will not swing, no matter how perfectly the ball is released.

## Reverse Swing

The flow over a ball exhibiting reverse swing is shown in Fig. 3.



So now, at a high enough bowling speed (over about 85mph for a new ball) the laminar boundary layer transitions into a turbulent state relatively early, more importantly *before* reaching the seam location. In this case, the seam actually has a detrimental effect on the turbulent boundary layer by making it thicker and weaker and it therefore separates earlier than the turbulent layer over the bottom surface. Still following this at the back of the class? That means that the asymmetry is now switched and so is the side force. Result: the ball swings in the opposite or *reversed* direction. *It is only true reverse swing if the ball swings in a direction that is opposed to that of the seam.* This means that the fastest bowlers in the world who bowl at over 90mph will only produce reverse swing, even with a brand new ball. Of course, not many bowlers can bowl at 90mph so how can we mere mortals produce reverse swing? Well, that is where the surface roughness comes into play. As the roughness on this leading side (facing the batsman) is increased, the critical bowling speed above which reverse swing can be obtained is reduced (experimental data showing this effect can be found in a New Scientist magazine article, Vol. 139, No. 1887, August 21st 1993). It also means that more effective reverse swing will be obtained at the higher bowling speeds.

## Conclusion

Aerodynamics plays a prominent role on the cricket ball swing. Aerodynamic principles play a vital role in understanding the behavior of cricket ball. Aerodynamics is very effective in all weather conditions of cricket and it gives an advantage to the bowlers.

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## Teams Of Karnataka And Maharashtra States

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### **Abstract**

The purpose of the study is to find out the differences in the performances of sub junior boys and girls and senior boys and girls lagori teams of Karnataka and Maharashtra states which are participated in the 4<sup>th</sup> Senior and 2<sup>nd</sup> Sub Junoir National Lagori Championship 2014 organized by Karnataka State Lagori Association under the auspicious of Amateur Lagori Federation of India held at Jyoti Residential School, Bijapur, Karnataka. To achieve the purpose of the study the investigator was chosen three matches performances of Karnataka and Maharashtra lagori teams in the senior and sub junior boys and girl's category. And also three and four match's performances of Karnataka and Maharashtra lagori teams in the sub junior boys and girl's category respectively. It is concluded that there is no significant difference in the performances of senior boys and girls' lagori teams of Karnataka and Maharashtra states. There is a significant difference in the performances of sub junior boys and girl's lagori teams of Karnataka and Maharashtra states. The Maharashtra state sub junior boy's lagori team performed better than the Karnataka state team. The Karnataka state sub junior girl's lagori team performed better than the Maharashtra state team.

### **INTRODUCTION**

Lagori is a team sport played in India. It is played with fervor and lot of excitement by the youth. It is a simple game that gives maximum excitement. It's almost akin to avoiding bullets in a firing range where one twists and turns to the hit. The game is generally played in a huge ground that has a capacity of lot of running and also noise. Lagori is a noisy sport in a scene that the players make a lot of noise by calling out or shouting out instructions to their teammates. It's almost nosier than a group of chuckling hens in a cage. In Lagori two teams share a ground (no limit) and one of the team's members throw ball at a pile of stone and disassemble them. Now the opponent should hit as many as possible other team members with the ball while they try to arrange stone pile back. If the ball touches the member he is out and team should continue without him. But a team member can always safeguard himself by touching the opposite team member before ball hits him. The present investigation aims to find out the differences in the performances of sub junior boys and girls and senior boys and girls lagori teams of Karnataka and Maharashtra states which are participated in the 4<sup>th</sup> Senior and 2<sup>nd</sup> Sub Junoir National Lagori Championship 2014 organized by Karnataka State Lagori Association under the auspicious of Amateur Lagori Federation of India held at Jyoti Residential School, Bijapur, Karnataka.

### **Purpose of the Study**

The purpose of the present study aims to find out the differences in the performances of sub junior boys and girls and senior boys and girl's lagori teams of Karnataka and Maharashtra states which are participated in the 4<sup>th</sup> Senior National Lagori Championship 2014.

### **Objectives**

To find out the differences in the performances of senior boys and girls lagori teams of Karnataka and Maharashtra states.

To find out the differences in the performances of sub junior boys and girls lagori teams of Karnataka and Maharashtra states.

**Materials And Methods**

The researcher visited Jyoti Residential School, Bijapur where 4<sup>th</sup> Senior and 2<sup>nd</sup> Sub Junoir National Lagori Championship 2014 was held and he gathered the information and data about the performances of Karnataka and Maharashtra senior and sub junior lagori teams through the scoring sheets.

The investigator was chosen three matches performances of Karnataka and Maharashtra lagori teams in the senior and sub junior boys and girl’s category.

The investigator was chosen three and four matches performances of Karnataka and Maharashtra lagori teams in the sub junior boys and girl’s category respectively.

**Statistical Tools:**

Mean, standard deviation and t-value were used to analyze the data.

**Findings And Discussions**

The analysis of data on the performances of senior and sub junior boy’s and girl’s lagori teams of Karnataka and Maharashtra states were presented in the following tables,

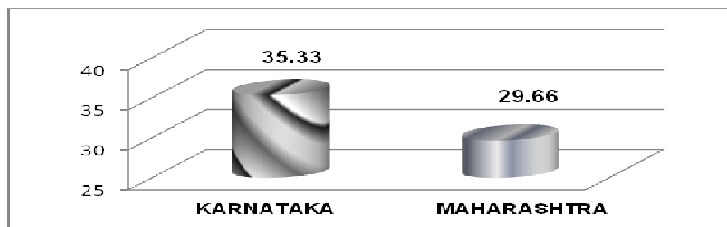
**Table.No.1**

**Scores of Karnataka and Maharashtra state senior boy’s lagori teams**

Team	Mean	Std. Deviation	t-value
Karnataka	35.33	21.38	0.88
Maharashtra	29.66	10.40	

Table.No.1 presents the mean score, standard deviation and t-value of Karnataka and Maharashtra state senior boy’s lagori teams. The mean score of Karnataka state senior boy’s lagori team (35.33) is higher the than Maharashtra state senior boy’s lagori team (29.66). But the t-value (0.88) is insignificant which is clearly indicates that there is no significant difference in the performances of respective teams. The graph 1 reveals the same.

**Graph 1**



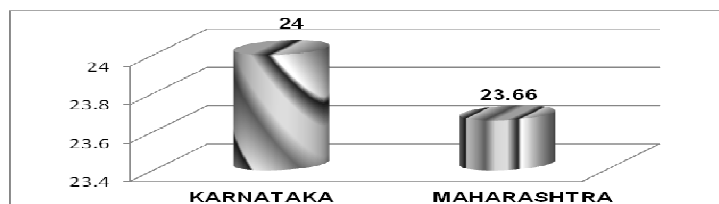
**Table.No.2**

**Scores of Karnataka and Maharashtra state senior girl’s lagori teams**

Team	Mean	Std. Deviation	t-value
Karnataka	24	3.60	0.11
Maharashtra	23.66	8.50	

Table.No.2 presents the mean score, standard deviation and t-value of Karnataka and Maharashtra state senior girl’s lagori teams. The mean score of Karnataka state senior boy’s lagori team (24) is higher the than Maharashtra state senior boy’s lagori team (23.66). But the t-value (0.11) is insignificant which is clearly indicates that there is no significant difference in the performances of respective teams. The graph 2 reveals the same.

**Graph 2**



**Table.No.3:Scores of Karnataka and Maharashtra state sub junior boy's lagori teams**

Team	Mean	Std. Deviation	t-value
Karnataka	27.25	07.27	1.11**
Maharashtra	35.50	20.72	

Significant at 0.05\*\*

Table.No.3 presents the mean score, standard deviation and t-value of Karnataka and Maharashtra state senior boy's lagori teams. The mean score of Karnataka state senior boy's lagori team (27.25) is higher than Maharashtra state sub junior boy's lagori team (35.50). But the t-value (1.11) is significant which clearly indicates that there is a significant difference in the performances of respective teams. That means the Maharashtra state sub junior boys lagori team performed better than the Karnataka state team. The graph 3 reveals the same.

**Graph 3**



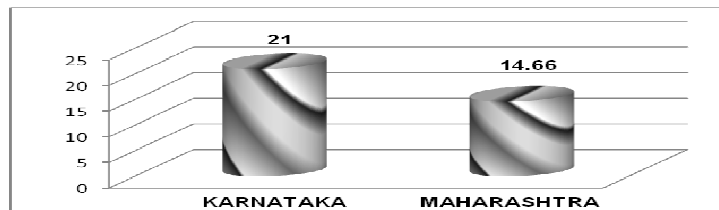
**Table.No.4:Scores of Karnataka and Maharashtra state sub junior girl's lagori teams**

Team	Mean	Std. Deviation	t-value
Karnataka	21	8.14	2.89**
Maharashtra	14.66	4.58	

Significant at 0.05\*\*

Table.No.4 presents the mean score, standard deviation and t-value of Karnataka and Maharashtra state sub junior girl's lagori teams. The mean score of Karnataka state senior boy's lagori team (24) is higher than Maharashtra state senior boy's lagori team (23.66). But the t-value (2.89) is significant which clearly indicates that there is a significant difference in the performances of respective teams. That means the Karnataka state sub junior girls lagori team performed better than the Maharashtra state team. The graph 4 reveals the same.

**Graph 4**



### Conclusions

There is no significant difference in the performances of senior boys and girls' lagori teams of Karnataka and Maharashtra states. There is a significant difference in the performances of sub junior boys and girl's lagori teams of Karnataka and Maharashtra states. The Maharashtra state sub junior boy's lagori team performed better than the Karnataka state team. The Karnataka state sub junior girl's lagori team performed better than the Maharashtra state team.

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## **Effects Of Selected Yogic Practices And The Problems During Menopausal Period Of Women Between 35 To 55 Age Group.**

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### **Abstract:**

The purpose of this study was to evaluate the "effects of selected yogic practices and the problems during Menopausal period of women between 35 to 55 age group". It is single group design in which 200 menopause women was randomly selected as sample from Bharti Vidhyapeet Camps, Pune. The researcher conducted 4 ½ months yogic Pracritya training programme. For the collection of data Teacher made questionnaire were used in which physical & psychological problems obtained data were analyzed using paired sample 't' test and 'Chi Square' technique. Result shows that women's physical & psychological problem scores of experimental group as well as pre-test and post test scores is the significant effect. It is suggested yogic Practices is powerful technique that can help menopausal women to reduce the physical & psychological problems. The study indicates the post menopausal women have the highly significant results ( $P=0.001$ ) in physical and psychological problems.

Keywords: Yoga, Menopause, menopausal proble etc..

### **Introduction :**

In the present era of globalization we are trying to achieve our goal of development with the help of education. In each and every field there is a competition for achieving goals. To survive within this competition we need to be physically and mentally strong. As women of this era now a day are being working competitively similar as men. Hence, women of this era also needs to be physically and mentally strong and fit. After being in womanhood women passes through menopausal period. Menopause is the time in a women's life when menstrual periods permanently stop; it is also called the "Change of life". Menopause is the opposite of the menarche. It is natural occurring events of women's live as they transit from the productive stage of life to the non reproductive one. In general, the cessation of menopause occurs at a medium age 35 to 55 in India. As Yoga is effective on flexibility, stress etc. Is yoga effective on menopause to conclude this the research is being held by the researcher.

Yoga: One of the most simple and effective way to achieve their desire is yoga and important form of exercise yoga has several secondary goals, such as improving physical health, enhancing mental well-being and emotional balance. One of the most simple and effective way to achieve their desire is yoga and important form of exercise. improving physical health, enhancing mental well-being and emotional balance.

Menopause :

Menopause is a part of women's life. It is the stage when your period permanently stop. In this stage associated hormonal, physical and psychological changes. This changes gradually. When the ovaries are removed stopped functioning. Menopause is not an illness but a natural biological process.

Concept yogic exercise: (Asana, Pranayama and sudhikriya.)

Asanas: Lord Patanjali describes asana has "Sthirasukhama Asana"

"The posture brings stability of body and poise of the mind".

Pranayama : "Knowledge age of the breathing." or control over the breathing.

Yogic practices: "Ayurveda describe "physical exercise as those which are capable of producing beneficial results through action or movement brings lightness to the body,"

Menopause: " This period is generally associated with unavoidable manifestation of aging process in women. It is the end of fertility "

Yogic Exercise Program:

"Training program achieve the aim of research. During the menopause problem of suffering women."

### **Objectives of the Study :**

To construct a teacher made questionnaire as a tool which will measure problems during menopausal.

To measure the present level of menopause problems of 35 to 55 years old women.

prepare 4½ months yoga program Asana, Pranayam and Sudhikriya.

To implement the training programs on respective groups.

To evaluate the effect of Yoga Pranayam program with the help of questionnaire.

### **Materials and Methods:**

*Subjects.*

The sample for this experimental study consist of 200 menopause women's in 35 to 60 years age group from Bharti Vidhyapeet camps, pune.were selected by randomly with the help of purposively sampal technique. There is only single group design. Researcher make a single experimental group and given the training of yogic practices..

Training programme:

Selected yogic practices (asana ,pranayama, sudhikriya)

Asana: Ardhalasana, Halasana, Bhujangasana, Shalabhasana, Sarvangasana, Pashimothanasana , Pavan muktasana

Pranayama :Ujjayi Pranayam

Sudhi Kriya: ,Kapal Bhati

Design of the study

Pre test – observation – Training – follow up – Post Test – Conclusion

### **Statistical analysis.**

After collection of data with half of questionnaire, the data was analyzed by using Statistical package for social science (S.P.S.S) Version 17.0. The analysis of the data was done using Chi- Square and Argentites .The comparison of the Pre test and post test was done wing paired sample 't' test.

### **Results**

Yogic practicestraining for a period of 18<sup>th</sup> weeks was effective to improve the explosive strength and muscles strength, improve the bonsentency and mentally strong of the woman during menopause subjects of 35 to55 years of age

The problems were measured at previous (before) and after implementation of the training program. The results of evaluation showed significant improvement in menopausal related physical and psychological problem of the woman.

### **Conclusion:**

The results cited above helped to conclude that

The observation of the experimental data, within limitations, help to conclude that, using yogic prakriya training program there was improvement in explosive strength and muscles strength, improve the bone sensitivity and mentally women strong during menopause. And conclude that significant improvement in menopausal related physical and psychological problems of the women.

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## Looking at Physical Fitness Status of Students as Basis for Improving the Physical Fitness Program of Capitol University

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### **Abstract**

The study explores the fitness test scores derived from a research conducted with college students enrolled in PE1 Physical Fitness class. This research was made with the purpose of providing basis for the continuous improvement of the fitness program at Capitol University. In the Philippines, physical fitness is a core lesson in Physical Education. Fitness test is one of the class activities that students need to undergo for the instructor to measure physical fitness status, and which will be the basis to determine their need for physical development. Schools and universities are mandated to implement Philippine Executive Order 63 Section 19 (1), Article XIV of the 1987 Constitution which says: "The State shall promote physical education and encourage sports programs, league competitions and amateur sports including training for international competition, to foster self-discipline, teamwork and excellence of a healthy and alert citizenry." Primarily, the research intended to create better and appropriate options for physical engaging activities to both male and female students. Four hundred sixty-three (463) students whose fitness test scores were retrieved and recorded comprise the data. These data were supplemented with interview using survey questionnaire. Percentage, frequency, and Pearson-r correlations were used. Findings revealed that there were a majority of female students whose fitness scores were taken yet the current fitness program of the University was designed for male students. Overall observation revealed specific needs for activities in order to develop abdominal endurance, balance, agility and leg power. Respondents showed excellent status in flexibility and speed. Results implied that the ability to perform and to tone the body has no significant relationship to a person's age where null hypothesis (at 0.05 level of significance) is rejected. Conversely, abdominal endurance, agility, leg power and speed showed weak and moderate correlations relating to gender. Scores in balance were influenced by indices of a person's body mass. Notably, female students showed greater interest in participating in physical activities compared to males and they are more likely to associate exercise, workout, and training with self-esteem. Keywords: Physical Fitness, Exercise, Physical Activity

### **INTRODUCTION**

Getting over the inertia towards health and fitness spells effort to put on sneakers to reduce sedentary lifestyles. Warnings about inactivity is seen almost everywhere but the ideas generated to respond to the problem is too minimal to necessitate urgency to make it a priority. The concept of physical literacy provides a sure way to think about movement and educational institutions best serves as an appropriate vehicle to counteract several ill- health concerns of the entire society. Old as time Aristotle once said, "Education is the process of creating sound mind in the sound body". Education as a strong tool to affect change to the society, it is obvious that schools both public and private are responsible to drive-range of directives for the adherence of Executive Order 63, Article XIV of 1987 Philippine Constitution. And in response a well-planned PE programs in schools is apparently a great responsibility. While awareness of the importance of physical activity to health has certainly increased, what most of our students do not understand is how important physical activity is to the well-being for all in areas other than health and of course apart from having good grades in PE classes. Physical fitness testing is most effective when it is part of a comprehensive physical education program that supports testing with educational and motivational information (McAdaragh, 2009). School programs should have the long-term view of

promoting appropriate physical activity not missing the development of life-long fitness. To formulate recommendations for developing school and community programs to increase physical activity for both male and female students deserves to be recognized. And to deliberate efforts to use this to develop policy and programs to support lifespan approach for a sustainable fitness and wellness endeavors is strong gauge to widen community extension and services as a higher institution.

## **PURPOSE OF THE STUDY**

This research examined the characteristics of PE1 students in terms of their physical fitness test result correlating age, gender and body mass index (BMI). The main purpose of this study is to design a fitness program for the students of Capitol University to continually develop their physical ability and sustenance of a healthy well-being, targeting a culture of lifelong fitness to be embedded in student's school activity whole year round; geared towards institutionalized fitness and wellness program for all. To begin to establish physical fitness norms as a baseline data in determining fitness status of Filipino college students is an underlying intention. Furthermore, it is hoped that this study will serve as a model for further physical fitness testing of defined samples of this population. Finally to report age, gender and BMI will serve as significant inputs in the improvement of the physical fitness program for all students. Specifically, this study sought answers to the following:

What is the characteristics of PE1 students in terms of:

Age ,Gender,Body Mass Index, Arm Strength,Abdominal Endurance, Flexibility,Balance,Agility, Leg Power and Speed

Is there a significant relationship between age, gender and BMI towards students' physical fitness test scores in arm strength, abdominal endurance, flexibility, balance, agility, leg power and speed?

## **Methods**

The study employed descriptive-evaluative survey that uses random sampling procedures. The research design obtained information about the current status and characteristics of PE students in terms of their physical fitness ability expressed in their test scores in push-up (arm strength), sit-ups (abdominal endurance), sit and reach (flexibility), stork stand (balance), Illinois run (agility), sergeant chalk jump (leg power), and 50M run (speed) where correlation towards age, gender and body mass index (BMI) were considered. Sample includes PE students enrolled in PE1 subject during the first semester of the school year starting 2009-2013. The samples are withdrawn from the archive of the PE department, Management Information System (MIS) and from various teachers handling PE1 subjects. Only completed and fully filled-up worksheets were included in this survey. Descriptive statistics such as frequency and percentage were used to analyze and interpret the profile of PE students in terms of age, gender and body mass index (BMI) while Pearson-r correlation was used to describe the relationships of the variables.

## **DATA PRESENTATION AND ANALYSES**

### **Profile of Students**

**Age:**The data revealed that there are four-hundred eight (408) or 88.1% PE1 students who belongs to age set 16-19 years old; fifty-three (53) or 11.4% in age set 20-29 years old. While males suggests re-entering college at age set 30-39 with 1 or .6% and the same number at age set 40-49 years old. Data further disclosed that female students were consistently higher in number both in age set 16-19 and 20-29 years old. Data revealed a strong indication that in designing the fitness program for Capitol University, it needs to consider the volume of young men and women participants in the fitness and wellness program.

**Gender:**This research makes use of four-hundred sixty-three (463) sample of co-ed PE1 class officially enrolled during the first semester of school year 2009-2013. There were three-hundred nine (309) or 66.7% female students while males were outnumbered at one-hundred fifty-four (154) or 33.3%. The data indicates the mass of young women to be placed in appropriate physical activities and throughout their college course requirement and instill the ultimate goal of physical literacy to achieve lifelong fitness.

**Body Mass Index:**In this survey, majority of three-hundred (300) or 64.8% among the respondents belongs to normal range in terms of body mass index; while there are one-hundred eighteen (118) or 25.5% identified to be underweight and there are thirty-one (31) or 6.7% classified as overweight. Data further shows that women are likely to experience extreme obesity and being underweight due to their limited participation in sports and less motivation to engage in any physical activities.

**Arm Strength :**Students were pre-tested to determine their arm strength by doing push-ups standard execution for males and modified push-up for girls where the results revealed that majority of one hundred eighty-nine (189) or 40.8% had an **average** rating. Consequently, a bulk of female students one-hundred thirty-six (136) of them or 44.0% revealed had **average** ratings in their arm strength; while there were majority of fifty-three (53) of 34.4% male students also showed **average** ratings. This is an indication that majority of male PE1 students compared to women needed more of exercises specific to the development of arm muscles to achieve strength expected of their age.

**Abdominal Endurance:**The abdominal endurance of four-hundred sixty-three (463) students was tested using the sit-up test, where majority of them three-hundred thirty -four (334) or 72.1% were identified with **very poor** ratings. Majority of female students, two-hundred thirty-three (233) or 75.4% of them showed **very poor** abdominal endurance; and among male PE1 students, data reveals that there are one hundred-one (101) or 65.6% of them identified with **very poor** ratings. Based on these findings it can be concluded that females need activities that will focus on developing the muscles of the abdominal or the core area. It is also identifiable that the incorporation of the development of the core muscles among males is also necessary to continually achieve desired physical condition.

**Flexibility:**Data gathered from this survey described a majority of three-hundred ninety-seven (397) or 85.7% among the students displayed **superb** ratings in flexibility. Two hundred fifty-eight (258) or 83.5% among female PE1 students displayed a remarkable **superb** performance in flexibility; and out of one hundred fifty-four (154) male PE1 students, there are one-hundred thirty-nine (139) or 90.3% showed **superb** level of flexibility significantly higher than females. The marginalization that women are flexible than men proven to be not generally true based on the findings of these research where male students exhibit higher percentage of those who scored superb with a 6.8% difference compared to women's superb ratings. Given this sample at random, the probability that flexibility is exclusively a woman's trait is not at all a wide-ranging conclusion which most studies and literature is telling. Flexibility among students revealed that regardless of gender, scores would likely exhibit high or low levels of ability.

**Balance:**Based on the data gathered from this research, there are two hundred seventy-five (275) or 59.4% among the 463 respondents who were identified to have **poor** ratings in terms of balance using stork stand test. Among female students, there are one-hundred ninety-two (192) or 62.1% among them showed **poor** ratings while similarly, male students eighty-three (83) of them or 53.9% showed **poor** scores. Results revealed that female students exhibited poor performance ability in balance compared to male students; a strong indication that drills and activities to develop balance is essential to be greatly integrated in the wellness program.

**Agility:** Data showed a mainstream of two hundred ninety-eight (298) or 64.4% revealed **poor** ratings. Majority of female respondents had poor ratings in agility showing two hundred twenty-eight (228) or 73.8% out of 309 females who participated in this survey. Consequently, out of one hundred fifty-four (154) male participants in this study revealed also a mainstream of seventy (70) or 45.5% with poor ratings. Findings show that there are majority of female students that needs attention in terms of developing their agility, correspondingly with their male counterparts.

**Leg Power:**Evaluating leg power performance of students using Sargent chalk jump, revealed that majority of one hundred ninety-three (193) or 41.7% had **poor** ratings. Among the three-hundred-nine (309) female students who participated in this survey, a mainstream of one hundred forty (140) or 45.3% showed poor performance while there are fifty-three (53) or 34.4% of male students also scored poor. Noticing the series of movements a performer will do in the execution of a jump, discriminates maximum execution among women given their biological designs, and in most cases women gets shy in performing jumps except of few. It is perceptible that female lagged behind correspondingly with their male counterparts in their evaluation of leg power.

**Speed:**Testing speed using 50 meter sprint among students, results shows that majority of one hundred twenty-one (121) or 26.1% identified to have **good** ratings. Among females, ninety-three (93) or 30.1% showed good ratings; and males notably performs better than females in terms of speed showing a majority of fifty-nine (59) or 38.3% with good ratings.

### **Correlations**

The findings of this survey provide evidence for schools to grant students more opportunities to help improve their physical fitness levels. Results of correlations made in this study are shown in table 1.

Table.1 The relationship between age, gender and BMI towards fitness test scores in arm strength, abdominal endurance, flexibility, balance, agility, leg power, and speed

	AGE	GENDER	BMI
Arm strength	0.031 Not significant ( <b>0.503</b> )	0.125 Not significant ( <b>0.007</b> )	-0.012 Not significant ( <b>0.796</b> )
Endurance	0.031 Not significant ( <b>0.504</b> )	0.435 Moderately correlated ( <b>0.000</b> )	0.004 Not significant ( <b>0.939</b> )
Flexibility	0.046 Not significant ( <b>0.323</b> )	0.095 Not significant ( <b>0.041</b> )	0.002 Not significant ( <b>0.962</b> )
Balance	-0.030 Not significant ( <b>0.522</b> )	0.097 Not significant ( <b>0.038</b> )	-0.102 Weakly correlated ( <b>0.028</b> )
Agility	-0.030 Not significant ( <b>0.521</b> )	-0.219 Weakly correlated ( <b>0.000</b> )	-0.042 Not significant ( <b>0.371</b> )
Leg power	0.014 Not significant ( <b>0.757</b> )	0.419 moderately correlated ( <b>0.000</b> )	0.071 Not significant ( <b>0.129</b> )
Speed	0.033 Not significant ( <b>0.473</b> )	-0.224 Weakly correlated ( <b>0.000</b> )	-0.006 Not significant ( <b>0.901</b> )

Table 1 presented the correlation coefficients describing relationship of variables of this study namely arm strength, endurance of abdominal muscles, flexibility, balance, agility, leg power and speed in relation to age, gender and BMI. Figures written in bold numbers are corresponding observed probability values for each coefficient. Physical ability to perform and develop specific muscle group or tone the body has no significant relationship to a person's age where null hypothesis is rejected tested at 0.05 level of significance. Similarly, given the variable such as endurance, agility, leg power and speed showed weak to moderate correlations relating to gender; while scores in balance revealed to be influenced by indices of a person's body mass. Another key finding of this research about Body Mass Index (BMI) was weakly correlated with students' score in balance. Implications shows that determining balance ability may be affected by one's weight category which is consistent with research from Datar and Strum (2004) who found significant associations across grades, fitness test scores and gender.

Girls tend to be less physically active than boys, result showed very similar findings to studies of (Biddle et.al. 2005) that says; physical activity can decline in girls as early as the late elementary school age. Furthermore, research has noted a decline in physical activity from childhood to adolescence, and this trend is more prominent in females.

Several factors have been contributors to lower physical activity levels observed in girls. Some of these include low self-esteem and body image, lack of motivation, enjoyment, interest of value of physical activity, low athletic competence (Jobe et.al., 2006) and lack of parental and/or peer support (Bailey, 2006). Physical activity programs for girls should provide experiences that focus on increasing self-esteem, positive body image, and value for physical activity, motivation to be physically active and fun activities that girls will enjoy. Based on the research, it seems that females need physical activities than males. Gender has been found to be a major factor influencing physical activity among children (Huang et. al., 2000). However, in the same study both men and women who had high Body Mass Index (BMI), also engaged in less physical activity.

## **Students Qualitative Inputs in Improving the Physical Fitness and Wellness Program of Capitol University**

The female students exhibited positive responses regarding the notion of improving the Physical Fitness and Wellness (PFW) program of the university. They appeared excited and motivated about it. Likewise, male students suggested more time to engage in playing sports such as basketball, volleyball and soccer. Interviews, survey and casual conversations conducted with students randomly generated that out of 254 students, one hundred ninety (190) or 74.80% said that they do not exercise regularly and majority of them were in their mid-junior and senior years compared to only sixty-four (64) or 25.2% who does engage in exercise. When asked about what particular time of the day they favor to exercise, 86.69% out of two-hundred thirty-three (233) preferred in the morning and eighty-six (86) or 65.65% agreed to engage in exercise at least twice in every week. A resounding chorus of 96.58% said “yes” when asked if they will agree, support and engage in the various fitness activities in the campus, moreover, 48.41% of these students were willing to pay monthly membership to compensate honoraria of fitness trainers and operational needs for the program.

### **Conclusion And Recommendation**

The result of this study concluded that physical fitness status as described according to physical fitness test scores finding correlations between age, gender and Body Mass Index (BMI), where age has no relationship to arm strength, endurance, flexibility, balance, agility, leg power and speed. Whilst gender was moderately correlated with endurance where p-value = 0.435 and with leg power with p-value=0.419; and weak correlations on agility with p-value=-0.219 and speed with p-value=-0.224. And lastly, scores in balance revealed to be weakly influenced by indices of a person’s body mass; but the latter has no definite evidence of influence to fitness in other fitness components considered in this study. Findings generated from this research revealed that activities in PE classes alone will not achieve the recommended amount of exercise expected of a college freshman, thus many would need and can be benefited by expanding wellness pursuits of Capitol University. While barriers such as a lack of time and motivation, and multiple commitments are most common, it is necessary to identify the specific factors that potentially compromise their exercise adherence and work together to identify solutions. The university has at its core, a student-centered commitment to prepare broadly educated, technologically proficient, and highly productive citizens to attain meaningful careers, to enjoy enriched lives, and to make contributions to a culturally diverse society. Based on the findings and conclusions of this research, the recommendations includes; create opportunities for students that will encourage maximum engagement to physical training and exercise by offering of specialized fitness classes. Secondly, include physical fitness challenge, recreational outdoor activities, and other sorts of exciting activities in the University calendar of every school year. Strengthen the integration of physical activity with the academic curriculum to enhance brain function and improve on-task behavior during academic instruction time by scheduling physical activity breaks during instruction time, creating opportunities for students to be active through non-sedentary learning activities, providing institutional recognition for students’ co-curricular fitness skills and achievements throughout their tenure at Capitol University. A significant move in improving existing on-campus exercise facilities is deemed necessary, adding opportunities that will encourage the participation of females. Finally, augment physical activity-focused integrated in special University events thrusting involvement in university life is an important and vital aspect of a student’s collegiate career; such as competitions and challenges, can be an effective method for getting students focused on and excited about participating in health-related activities, and for promoting physical activity.

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## The Effect of Social Support on the performance of Kho-Kho Women's players

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### Introduction

The concept of social support has been occupying a prominent place in the lives of the individuals. It speaks about enhancing qualities and the feelings of being cared for, loved and accepted. A broad definition of social support is the "resources provided by others" (Cohen and Syme, 1985). Social support stems from relationships with family members, friends, colleagues, and acquaintances. Thus a person enjoying higher social support is believed to be more productive whether it is social setting or a field of competition. Hence, the present study addresses itself in analyzing the influence of the performance of sports persons especially Kho Kho Women's players selected from Karnataka State Women's University Bijapur. The findings of the study would be of immense use in coaching, guiding, and training the Youth. The term *social support* likely is a very familiar concept to most individuals and many would agree that it plays an important role in influencing the well-being of children and families. Broadly speaking, "social support consists of social relationships that provide (or can potentially provide) *material* and *interpersonal resources* that are of value to the recipient, such as counseling, access to information and services, sharing of tasks and responsibilities, and skill acquisition" (Thompson, 1995, p.43). Furthermore, the category of interpersonal resources often includes a range of emotional supports (e.g., empathy, caring, love, and trust), informational supports (e.g., advice, suggestions, access to information, etc.) and instrumental supports (e.g., aid in kind, sharing of tasks and responsibilities, skills acquisition, among others), that either by themselves, or in combination with more concrete material resources, helps the recipient cope and adapt to stressful life events and supports their positive well-being (Barrera, 1986; Dunst & Trivette, 1985; Lakey & Cohen, 2000; Thompson, 1995).

**Significance of Study:**The study makes an attempt to assess the influence of social support – the social factors-- on sports performance of Kho Kho Women's players selected from Karnataka State Women's University Bijapur. It is well understood that these factors are highly inter-related to sports activities. Knowing the significant influence of a sports educationist can manipulate these psychological factors to improve the performance of sports.

**Statement of the problem:**To study the effect of social support on the performance of Kho Kho Women's players.

**Objectives:**To study the impact of social support on the performance of the Kho Kho Women's Players.

**Hypotheses:**There is a significant influence of social support on Kho Kho Women's Players performance.

**The Sample:**The study was conducted on a sample of 20 players of Kho Kho Women's Players selected from Karnataka State Women's University Bijapur . The selection was done based on level of social support. The respondents were administered social support scales. Based on the scores obtained in the sample was divided in to high and low social support. The sample selected like this was given the performance of Kho Kho Women's *Social Support Appraisal Scale* is developed by Vaux, et.al. (1986) which consists of 234 items with five alternatives. As per the manual of the scale, higher score indicates higher social support. The reliability and the validity of the scale are fairly high.

**Statistical Analysis:**To meet the objectives of the study and to verify the formulated hypotheses the data were analyzed, using the statistical technique of t-test to compare the sample sub-groups.

The aim of this study was to know the effect of social support on the performance of Kho Kho Women's players. The players were selected Karnataka State Women's University Bijapur. The players were administered the social support scale and grouped into high and low categories of social support.

Thus the sample was grouped equally in to two groups high and low social support. The subgroups on these variables were subjected to Kho Kho Women's performance. The t-test was applied to compare the sample sub-groups on mental health, social support.

The data were organized and presented in the tables.

Table-1: Shows the Mean's and t-values of Sports Performance of Kho Kho Women's Players in Two categories of Social Support (N=20)

Category	Mean scores	SD	t-value
High Social support	32.22	2.15	3.19**
Low Social support	29.19	1.98	

\*\*Significant at 0.01 level

Table-1 Gives the mean scores of the sample divided into two groups based on social support. Thus there are two groups high and low social support. The mean scores of high social support group are 32.22 and that of low social support is 29.19. This clearly tells that high social support group has higher performance than the low social support. The t-value of 3.19 is significant at 0.01 levels to suggest that there is a significant difference in the performance of the Kho Kho Women's players. The high social support group generally gains more reinforcement, encouragement and motivation. The family members, friends, teachers, coaches, and significant persons do encourage the sport persons by way of their support. This perceived social support produces more spirit of playing, participating and acquiring new sports skills. But the low social sports persons don not have these facilities of cooperation help and encouragement and so on, and hence they suffer with inadequacy. As a result of this, the low social support groups' sport performance is comparatively low than the high social support group in the given performance.

The aim of the present investigation was to explore the impact of social support on the performance of Kho Kho Women's players selected from KS Women's University Bijapur . The sample selected was 20 players which was equally divided in to high and low social support group. The data of the Kho Kho Women's performance of the sample were statistically analyzed and the conclusions were drawn as under:

### Conclusions:

1. There is an effect of social support on the performance of Women's players
- 2.. The sample with high social support exhibited higher sport performance of women.

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## Nutrition Awareness Among Type -2 Diabetics Attaining A Tertiary Care Hospital –An Observational Study

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### Abstract

Nutritional well-being is an integral component of the health, independence, and quality of life of individuals. Diabetes has now become a major chronic condition that the people are suffering from. As Defined by World Health Organisation(WHO), the term "diabetes mellitus" describes a metabolic disorder of multiple aetiology characterized by chronic hyperglycemia with disturbances of carbohydrate, fat and protein metabolism resulting from defects in insulin secretion, insulin action, or both. Therefore knowledge of optimum consumption of carbohydrate, protein and fat is important. This study is aimed to access the peoples' knowledge of Nutrition requirement and providing them with the same. A study conducted among 50 individuals suffering from Type 2 Diabetes Mellitus in a Tertiary Care Hospital and clinic with the help of nutrition awareness questionnaire shows that people who have attended the hospital and clinic were unaware of the daily nutrition requirement. Education on daily nutrition requirement had provided to them. The selected fifty people suffering from diabetes mellitus were administered the nutrition awareness questionnaire which was specifically constructed to include the nutritional requirements of the diabetic individuals. The scores were analysed using descriptive statistics. This study has shown that the people are unaware of daily nutrition requirements and therefore counseling them about the daily nutrition requirement will help them to manage their diabetes in an effective manner and prevent future complications. **Conclusion:** On the basis of the above study, it is important to understand that the diabetic individuals are unaware of the daily nutrition requirements and in this context the thus the need for educating them on the specific nutritional requirements becomes all the more important.

**Introduction:** Nutritional well-being is an integral component of the health, independence, and quality of life of individuals. Diabetes has now become a major chronic condition that the people are suffering from. To control Diabetes, knowledge on optimum consumption of Carbohydrate, Protein and Fat is important. Our study is aimed to access the people's knowledge on Nutrition. To the best of our knowledge this is the first study of its kind to identify patient's knowledge about diabetic diet.

**Methodology:** Present pilot study has been conducted in tertiary care teaching hospital for the period of one month. It is a questionnaire based prospective study having list of 8 questions regarding awareness of nutrients of diet in Diabetic mellitus (DM), to assess knowledge of patients regarding diabetic diet. Every Question includes 4 options and was asked to patients and asked to mark the answer which he/she feels best for current question.

**Results:** Current research paper includes 50 patients of DM. Total, 17 (34 %) female and 33 (66 %) males were presented to OPD of diabetic care centre (P value<0.001 ). 28 (56 %) patients age ranged between 31 to 50 years. 20 (40 %) patients' age ranged between 51 to 65. Only two patients reported age above 65 years. Patients with mean (SD) history of DM was 41.28 (21.15) months. 18 (36 %) patients were reported with co morbidities and among them 98 % of patients were reported hyper tension as co morbidity. 12 % of patients were newly diagnosed (Diagnosed within 1 year) and 88 % of patients were well known cases of DM. The questions consisted of queries regarding the nutritional values of common food and the practice that should be followed. Not a single patient has marked all answer correctly (Figure 1) which indicates that either the patients do no attempt to be aware of their nutritional practices or there is no attempt to educate diabetes patients about the values and food practices.



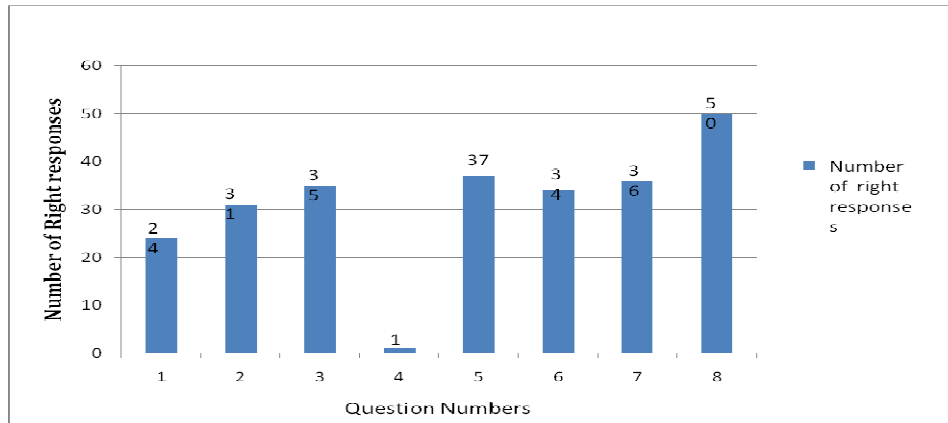


Figure1: Patient reported answers on questionnaire about diabetic diet.

**Discussion/Conclusion:**

This study has shown that the most people are unaware of the daily nutrition that should be followed and the nutritional value of food and therefore counseling them about the daily nutrition will help them to manage their blood sugar level and will prevent complications. Specifically the question regarding sugar free food, almost all (99 %) patients are unaware of the caloric content of the food, providing knowledge on this sector will greatly help patients to control their Diabetes well.

Further, large randomized control trial will be suggested with large sample size to identify effectiveness of patients counseling on diabetic diet to control DM and its complications.

## **Effect Of Selected Yogic Exercises On Health Related Physical Fitness Components Of Mentally Retarded Male Children**

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### **Introduction**

Mental retardation (MR) is a development disability. It first appears in children under the age of 18. It is defined as a level of intellectual functioning (as measured by standard intelligence tests) that is well below average and results in significant limitations in the person's daily living skills (adaptive functioning). In most cases, it persists throughout adult life. A diagnosis of mental retardation is made if an individual has an intellectual functioning level well below average, as well as significant limitations in two or more adaptive skill areas. Adaptive skills refer to skills needed for daily life. Such skills include the ability to produce and understand language (communication); home-living skills; use of community resources; health, safety, leisure, self-care, and social skills; self-direction; functional academic skills (reading, writing, and arithmetic); and job-related skills. Yoga is an all-encompassing system of exercise that creates a healthy mind, body and spirit. Breathing, meditation, healthy eating, and positive thinking are just some of the activities that have a beneficial effect on people that perform yoga. Yoga brings emotional and physical health together that causes a very powerful response. Yoga is practiced to balance an individual's life so they can enjoy good health and overall well-being.

### **Significance Of The Study :**

The study is new in the research literature. It has, therefore, multiple benefits not only for the mentally retarded children, but also has tremendous significance for mentally challenged, physically handicapped and other persons having deficient human potentialities. However, some of the points relevant to this study are as follows :

### **Statement Of The Problem :**

Mentally retarded children are mostly neglected. Although some new organizations are coming up today to serve better, no one could think of their Health related physical fitness level.

Many people are in confusion between physical fitness and health related physical fitness. Although it is considered that enriching physical fitness is good for health, but this principle does not work all the times. Even if a person is having good physical fitness, it may not be always true that he has good health. Therefore, the concept of health related physical fitness has become popular. Although ample of studies available on physical fitness of mentally retarded children, but reports on their health related physical fitness is meager. Therefore, the present investigation has been undertaken.

### **Methodology :**

Which reflects that twenty male students (n=20) from Sradha School for mentally retarded children at Begumpet, Hyderabad. They were participated in this study the subjects' age group was ranging from 8 to 14 years. The age was determined from the date of birth certificate available in the school record. The selected twenty students were then again randomly assigned into two equal groups, viz., one experimental group (Group A, n=10) and one control group (Group B, n=10). The researcher made sure that the entire subjects were ready to go through the experimental requirements of this research project. This was done by discussing with the principal, parents and school teachers. The investigator himself expounded the details and importance of this project to school authorities as well as parents of the students who were participating in this project.

### **Experimental Design :**

All the selected subjects were then randomly assigned into two groups, viz., Group A and Group B consisted of 10 subjects each. Group A received a specified 'Yoga' training while Group B was treated as control. The design of the experiment has been planned in three phases :

Phase – I : Pretest  
Phase – II : Training or Treatment  
Phase – III : Post test

### **Selection Of Variables :**

After the pre-test was over with the assessment of all the items of Health Related Physical Fitness (sit and reach test, 1 mile run, sit up) and associated variables viz., grip strength (left & right) and chin up.

### **Training Program Procedure :**

As the purpose of the study was to efficacy of the yogic exercises training to the mentally retarded male children aged between 8 years to 14 years. All the students of experimental and control groups were exposed to different test i.e., sit and reach, one mile run, situp, grip strength and chinup to record the pre-test data. After pre-test all the subject of experimental group were exposed to 10 week training of selected yogic exercises training practices for one hour daily in the evening except Sunday and holidays. Finally post-test was conducted considering the process as followed in the pre-test.

### **Collection Of Data :**

Descriptive statistics have been applied to process the data prior to employing inferential statistics, since there were five major variables, along with two testing programmes (i.e., pre-test and post-test) conducted for two different groups 2x2x8 factorial ANOVA followed by Scheffe's post hoc test have been applied.

### **Results;**

*Results of Yoga on Flexibility* : In Sit and Reach test (Cm.), the Ordered Means (pre-&post test) of Control (pre:1&post:2) and Yoga Groups (pre:3 & post:4) respectively. Scheffe's post hoc test further revealed that the experimental group (Yoga) showed significant superiority over the control group in Flexibility (CD=0.57,  $p<0.01$ )

*Results of Yoga on Chin up* : In Chin Up test (No.), the Ordered Means (pre-&post test) of control (pre:1 & post:2) and Yoga Groups (pre:3&post:4). Further Scheffe's post hoc test revealed that experimental group showed significant improvement than control group (CD = 0.72,  $p<0.01$ ) in Chin Up test.

*Results of Yoga on Grip Strength (Right Hand)* : In Grip Strength (Right) test (Kg-M) the ordered means (pre-&post-test) of Control (pre:1 & post:2) and Yoga groups (pre:3 & post:4). Scheffe's post hoc test indicates that the experimental group (Yoga) showed significant superiority over the control group in Grip Strength (Right) test (CD = 0.74,  $p<0.01$ ).

*Results of Yoga on Grip Strength (Left Hand)*: In Grip Strength (Left) test (Kg-M), the Ordered Means (pre-&post test) of Control (Pre:1& post:2) and Yoga Groups (pre:3 & post:4). The result of Scheffe's post hoc test revealed that experimental group (Yoga) showed significant superiority over the control group in Grip Strength (Left) test (CD=0.69,  $p<0.01$ ).

*Results of Yoga on Sit Up* : In Sit Up test (No./Min), the Ordered Means of Control (Pre:1 & post:2) and Yoga Groups (Pre:3&Post:4), Scheffe's Post Hoc test indicates that experimental group (Yoga) showed significant superiority over the control group in Sit UP test (CD=0.63,  $p<0.01$ ).

*Results of Yoga on 1 Mile Run* : In 1 Mile Run test (Min/Sec.), the Ordered Means of Control (pre:1 & post:2) and Yoga Groups (pre:3 & post:4) Scheffe's Post Hoc test indicates that experimental group (Yoga) showed significant superiority over the control group in 1 Mile Run test (CD=0.62,  $p<0.01$ ).

### **Conclusions :**

The result of this study, within limitations, concludes that Yoga training was found effective for improving health related physical fitness and associated variables of mentally retarded male children.

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## Maracana Game for Ivoirian Youths

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### Introduction

African youths and particularly the Ivoirian youths, face very often a good number of problems such as unemployment, poverty and many other vices in need of assistance both in their development and integration within the society. In view of this some youths, including members of the Ivorian authority somehow created projects aimed at addressing the situation. These projects or activities includes many aspect of recreational programs such as Maracana. Maracana is a type of soccer played mainly by Ivoirians youths, however, the older men have gotten involved due to the passion of the game and exercise purposes. Contrary to the normal soccer game, it is played almost with in any size of a provided space, such as parking lots, dusty grounds, cemented grounds, basketball courts, and even on the normal soccer fields. It is so popular that it is played everywhere in the country. Contrary to the normal soccer game, maraca, consists of two goal posts smaller in size. Compare to the normal soccer game, some of the rules of Maracana are similar while others differ too. Maracana constitutes a major factor of social cohesion and a way of bringing people closer together today. This is why all sectors of activity and society utilize this sport as a means of self-fulfillment for the youth. This contributes in obtaining a society that is less violent and more respectful of human values in regards to self-esteem.

### Ivoirian Youths playing the Maracana Game



### Conclusions:

This contributes in obtaining a society that is less violent and more respectful of human values in regards to self-esteem and also develops the Physical fitness and overall development of the human being.

## **Effect Of Silambam Practice On Body Composition, Cardiovascular Endurance And Explosive Strength Among College Girls**

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### **Abstract**

Silambam fencing is a martial art native to the soil of Tamil Nadu. It has been originated from 3000 B.C and practiced by the pre-historic Dravidian Tamils who were dwelling from the Mohan-ja-daro & Harappa regions and is still practiced today. Today the great martial art of Tamilnadu is just reduced to a demonstration art in public gatherings and folk art festivals despite the effort of many well wishers. The purpose of the study was to find out the effect of Silambam practice on body composition, cardio vascular endurance and explosive strength among college girls. To achieve this purpose of this study, 40 sedentary college girls were selected as subjects. The age of the subjects were ranged from 18 to 20 years. The subjects were further classified at random into two equal groups of 20 subjects each. Group - I underwent Silambam training for three days per week for sixteen weeks and group - II acted as control. The selected criterion variables namely body weight, BMI, lean body mass, percent body fat, cardio vascular endurance and explosive strength were assessed before and after the training period. The collected data were statistically analysed by using Analysis of Covariance (ANCOVA). From the results of the study it was found that there was a significant improvement in cardio vascular endurance and explosive strength; significant reduction in body weight, BMI, lean body mass, and percent body fat among the experimental group when compared with the control group.

Key Words: Silambam, cardio vascular endurance, explosive strength

### **Introduction:**

India is a Land of Knowledge, where many Gods and Saints have given divine knowledge to lead a good human life and the art of Silambam also has age-old history in ancient texts of South India. Silambam fencing is a martial art native to the soil of Tamil Nadu. It has been originated from 3000 B.C and practiced by the pre-historic Dravidian Tamils who were dwelling from the Mohan-ja-daro & Harappa regions. 'Silambam' denotes an elastic cane bamboo, uniform in cross section from end to end, having a length a little less than that of the height of the performer wielding it (David Manuel Raj 1967). Silambam is a common word now used in Tamil Nadu, for the Martial art of stick- fencing. In other parts of South India it is called by different names, such as Kolu Varasay or Dhonay Varasay in Karnataka, Kolu Aatta or Karadi Aatta in Andhrapradesh, Neduvari in Kerala. Generally in silambam includes single stance (otrai suvado) separate stances,(pereevusuvado) double swing, weapons sequences, locks, throws long stick and short sticks series techniques are there (Arunachalam,1995). Silambam has the potential to be included as a mainstream activity in the physical education curriculum as it is simple , inexpensive and also has the capability of improving all the major biomotor abilities. There are many benefits to training in the martial arts. What often attracts students to the martial arts is the attempt to enhance not only the physical body but the mind and spirit as well. According to a study by Twemlow and coworkers (1996), the top four reasons that people cite for studying the martial arts are self-defense, exercise, building self-confidence, and developing self-discipline. For several disease processes, training in the martial arts may be an excellent adjunct to other therapeutic interventions (Massey,1995; Kirsteins et al.,1991; Hart et al.,2004). There is very few literature available on the effects of silambam training on these selected variables among Indian population in general and girls in particular. The present study was taken up to investigate the effect of silambam practice on body composition, and cardiovascular endurance among college girls.

## Methodology

The experimental design adopted in the study was similar to a random group design involving 40 sedentary girls who volunteered for the study. A written explanation of the experimental procedure and potential risk factors were given to each of them. The age of the subjects were ranging from 18 to 20. The 40 subjects were randomly assigned to either control group ('CON', No: 20) or experimental group, ('EXP', No: 20). Physical examination and medical checkup at the initiation of the study yielded normal results in all the subjects and none of the subjects received any medication during the period of the study. The selected variables were tested 24 hours prior (Pre) and 24 hours after (Post) the training program using standard and appropriate techniques. The experimental group underwent silambam practice thrice a week for a period of 16 weeks whereas the control group maintained their regular routine activities. The training commenced with one week of general physical conditioning for the experimental group, so that the subjects were ready physically and mentally to take on specific load administered to them for the purpose of the study. The following techniques were practiced from week two to sixteen for 3 sessions per week with 30 to 65 min per session with a progressive increase in duration with the number of weeks. Each session starts with a 5 min warm-up, teaching the skill, correction and practice initially slowly till the subjects find the rhythm and then with speed and the sessions end up with a 5 minutes warm down. Care was taken to avoid any injuries and proper instructions were given regarding using the stick, avoiding wrong foot movements and accidental contact with fellow subjects. The subjects of the experimental group practiced the following skills namely guru vanakam, kuthuvarisai, holding the stick (grip), basic foot movements (lessons I,II&III without stick), basic foot movements (I,II &III lesson with stick), basic boat swing (forward & reverse), forward rotation (full stick grip & middle stick grip), padaiveechu (nedungkkambu), padaiveechu in moving steps with full stick (nedungkkambu, forward & backward rotation (full & middle stick grip), rotation above the head (thalai sutru) with middle stick grip (nadungkambu), padaiveechu in moving steps with middle stick grip (nadungkambu), four house (kaaladai varisa), naaladai varisai with stick four direction, double stick (erattai kambu veechu), combination of all the skills (thanithiramai). The data collected from Experimental group and control groups prior to and after completion of the training period on selected variables were statistically examined for significant differences if any, by applying analysis of covariance (ANCOVA). The pre test and posttest means of experimental and control groups were tested for significance by applying ANOVA. As both the groups (EXP and CON) were selected from the same population and no attempt was made to equate the groups on the selected dependent variables or any other common variables, initial differences may exist, and there is a possibility of affecting the posttest mean.

## Results And Discussion

TABLE-I : Analysis of Covariance for Selected Variables among Experimental Group & Control Groups.

		Experimental Group	Control Group	F-Ratio
BODYWEIGHT	PRE TEST	61.00(5.30)	58.50(5.80)	2.13
	POST TEST	58.80(58.63)	58.80(5.80)	0.02
	AD PO TEST	57.23	60.02	128.75*
LEAN BODY MASS	PRE TEST	113.21(11.66)	111.25(12.57)	0.26
	POST TEST	104.18(11.75)	111.97(12.39)	4.17*
	AD PO TEST	103.20	112.90	149.72*
PERCENTAGE OF BODY FAT	PRE TEST	7.97(1.70)	8.10(1.70)	0.039
	POST TEST	5.80(1.28)	8.12(1.68)	25.10*
	AD PO TEST	5.81	8.07	348.01*
BMI	PRE TEST	23.71(0.64)	23.40(1.54)	0.793
	POST TEST	23.54(1.17)	23.71(0.64)	4.12*
	AD PO TEST	22.60	23.70	125.74*
CARDIO-VASCULAR ENDURANCE	PRE TEST	1373.0(42.81)	1373.0(39.35)	0.00
	POST TEST	1490.0(56.20)	1374.50(41.92)	54.30*
	AD PO TEST	1490.00	1374.00	412.83*
EXPLOSIVE STRENGTH	PRE TEST	0.23(0.02)	0.24(0.26)	0.481
	POST TEST	0.35(0.01)	0.23(0.02)	258.16*
	AD PO TEST	0.40	0.23	702.10*

TABLE-II :The Pre And Post Test Means Of Silambam Training (EXP) And Control (CON) Groups With Percentage Of Gain

		PRE TEST	POST TEST	Gain	Percentage of Gain
BODYWEIGHT	Experimental	61.00(5.30)	58.80(58.63)	2.2	3.60% ↓
	Control	58.50(5.80)	58.80(5.80)	0.3	0.51% ↑
LEAN BODY MASS	Experimental	113.21(11.66)	104.18(11.75)	9.03	7.97% ↓
	Control	111.25(12.57)	111.97(12.39)	0.72	0.65% ↑
PERCENTAGE OF BODY FAT	Experimental	7.97(1.70)	5.80(1.28)	2.17	27.23% ↓
	Control	8.10(1.70)	8.12(1.68)	0.02	0.25% ↑
BMI	Experimental	23.71(0.64)	23.54(1.17)	0.17	0.72% ↓
	Control	23.40(1.54)	23.71(0.64)	0.31	1.32% ↑
CARDIO-VASCULAR ENDURANCE	Experimental	1373.0(42.81)	1490.0(56.20)	116.96	8.52% ↑
	Control	1373.0(39.35)	1374.50(41.92)	1.5	0.10% ↑
EXPLOSIVE STRENGTH	Experimental	0.23(0.02)	0.35(0.01)	0.12	52.17% ↑
	Control	0.24(0.26)	0.23(0.02)	0.01	4.17% ↓

Body Weight levels shows a significant reduction ( $61.00 \pm 5.30$  Vs  $58.80 \pm 58.63$ ;  $p > 0.05$ ) a reduction of 3.60%. Lean body Mass levels shows a significant reduction ( $113.21 \pm 11.66$  Vs  $104.18 \pm 11.75$ ;  $p > 0.05$ ) i.e. a reduction of 7.97%. Percentage of Body Fat shows a significant reduction ( $7.97 \pm 1.70$  Vs  $5.80 \pm 1.28$ ;  $p > 0.05$ ) which shows a reduction of 27.23%. Body Mass Index (BMI) also shows a significant reduction of 0.72%, ( $23.71 \pm 0.64$  Vs  $23.54 \pm 1.17$ ;  $p > 0.05$ ). Cardio-vascular endurance levels shows a significant increase ( $1373.0 \pm 42.81$  Vs  $1490.0 \pm 56.20$ ;  $p > 0.05$ ) i.e. an increase of 8.52%. Explosive strength levels shows a significant increase  $0.23 \pm 0.02$  Vs  $0.35 \pm 0.01$ ;  $p > 0.05$ ) i.e. an increase of 52.17%. From the results of the study it was found that there was a significant improvement in cardio vascular endurance and Explosive strength; significant reduction in body weight, BMI, lean body mass, and percent body fat and among the experimental group when compared with the control group.

### Conclusions

On the basis of the results obtained it was concluded that silambam training resulted in a significant increase in cardio vascular endurance and Explosive strength; a significant reduction in body weight, BMI, lean body mass, and percent body fat among college girls.

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## Role of Yoga in improving Health Related Physical Fitness of School Children

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### Abstract

Today's children are tomorrow's citizens'. Hence it is the duty of everybody concerned to see that our future citizens are strong, healthy and have a perfect personality. Children have to be active everyday. Physical activity stimulates growth and leads to improved physical, mental and emotional health. Medical researches have observed that highly active children are less likely to suffer from high blood pressure, diabetics, obesity and coronary heart diseases later in life. Schools are dynamic settings for promoting health and wellness through various correlated areas such as physical education and sports. There is a growing awareness that the health and psychosocial wellbeing of young children is of paramount importance and schools can provide a strategic means of improving children's health, self-esteem, life skills and behaviour. In general, children need at least 30 minutes of vigorous activity everyday. Yoga helps children in developing fitness. Yoga is one of the ancient heritages of India. It is the greatest contribution of our country to the world. Practice of yoga would directly contribute to human resource development and improvement in the quality of life by developing their fitness (physical, mental, emotional as well as spiritual). Physical fitness may be divided into specific and health related physical fitness. Components of health related physical fitness are muscular strength, muscular endurance, cardiovascular endurance, flexibility and body composition. Yoga goes a long way in improving health related physical fitness. Hence this paper is an attempt to discuss the role of yoga in improving health related physical fitness.

**Keywords :** Yoga, Health, Physical Fitness, School children

**Introduction** Sound Mind in a Sound body' is a very old and a true saying. It means that a healthy body always cultivates healthy feelings. Physical fitness is an important parameter for healthful living. But today most of the people are ignoring it due to which they are succumbing to many hypo-kinetic diseases. Physical fitness plays an important role in building a strong nation as only **"Fit people make fit nation"**. Physical fitness is defined as "The ability to carryout daily tasks with vigour and alertness, without undue fatigue, with ample energy to enjoy leisure time pursuits, and to meet unforeseen emergencies". (Clarke). Physical fitness is classified into Health related and performance related fitness. The important Health related physical fitness components are Muscular strength, Muscular endurance, Cardiovascular endurance, Flexibility and Body composition.

### Muscular Strength

"Muscular Strength may be defined as the maximal Muscular force or tension used in the creation or prevention of the movement in one maximal effort of a Muscle Group" Kansal. Strength is the force that a Muscle or muscle group can exert against resistance in one maximal effort.

### Flexibility

Flexibility is the ability to move the body and its parts through a wide range of motion without undue strain to the articulations and muscle attachments.

"The Range of Motion of a Joint or Group of Joints"



**Cardiovascular Endurance :**

“The Body’s ability to extract and use oxygen in a manner that permits continuous exercise, physical work or physical activities”.

**Body Composition**

Body composition is the percentage of fat, bone, water and muscle in the human body. By improving and maintaining health related physical fitness one can avoid many hypo-kinetic diseases. Regular physical activity helps in improving the physical fitness. Minimum 30 minutes of physical activity is essential for the young children. But unfortunately today’s children are not getting sufficient physical activity may be due to the academic pressure or due to improper and lethargic life style. Yoga helps in improving and maintaining health related physical fitness. The word yoga is derived from the Sanskrit root ‘yuj’ meaning to blend, join, attach and yoke, to direct and concentrate one’s attention on, to use and apply. It also means union communion. Yoga is one of the ancient heritages of India. It is the greatest contribution of our country to the world. Practice of yoga would directly contribute to human resource development and improvement in the quality of life by developing their fitness (physical, mental, emotional as well as spiritual).

Yoga helps in developing all the health related fitness components. Suryanamaskar and yogic asanas help in improving muscular strength and muscular endurance. Pranayama increases vital capacity, helps in absorption of oxygen with increased efficiency of exchange of gasses and improve the cardiovascular efficiency as a whole. Yoga is a passive and static activity. Suryanamaskar and most yogic postures involve bending forward, backward and sideways and holding the position for a while. Yoga postures help in stretching and relaxing the muscles and skeletal system, thus helps in improving flexibility. Yoga helps in reducing the Fat, reduced fat and toned up muscles help in developing proper body composition. There are many research evidences to prove the effect of yoga in improving the health related fitness.

**Conclusion**

Physical fitness is the basis of any human society. Health related fitness goes a long way in improving the quality of youngsters thereby helping them to become able bodied citizens of our country. Hence yoga should be made a way of life in schools and colleges, so that the students can improve and maintain health related fitness.

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## **Attitude Of Veteran Traditional Players Towards Preservation And Promotion Of Traditional Games, Recreation And Leisure Sports Of India**

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### **Introduction:**

It is openly accepted that India, a hotchpotch of different cultures, religions, and beliefs, is home to not just one or two languages but to an uncountable number of different lingual families. It is also believed that India to be the home to approximately 400 languages. India is having a great traditional heritage and numerous Traditional Games and Sports which are nowadays played in their respective areas. The present author has worked a lot of studies pertaining to Traditional Games, Current Recreation and Leisure Sports Culture of India. In many occasions he has also compared the Traditional Games, Current Recreation and Leisure Sports Culture of more than 65 countries. It is interesting to know that the most common game of India i.e. Guli Danda is played in more than 10 countries. There are many other games which are played in different countries with different names and slightly changed rules and regulations. There are active associations which are working in preserving and promoting Traditional Games and Sports around the World. There exist one or more associations in almost all countries. The oldest association founded in 1991 known as Trim And Fitness International Sport for All Association (TAFISA), was officially formed and its statues registered with the law courts of Frankfurt, Germany. "Youth Friendship Association in Japan" organised a series of International Conferences from 1997 to 2006 under the able leadership of Dr. Morita Yuzo. He has edited a book entitled "Traditional Field Play and Games of 71 countries in the World". The present author had the opportunity to contribute some pages pertaining to Indian Traditional Games. European Traditional Sports and Games Association (ETSGA). The first assembly general meeting of the ETSGA was held on August 24th 2002 in Pavullo, Italy. The International Association of Traditional Wrestling Sports (IATWS) since long. World Recreational Educational Association (WREA) with Head Quarter in South Korea was formed in 2004 with Dr. Young Kee Lee as its President. Dr. S.N. Behera is the President of its Chapter in India since 2013. The Nyoongar Sports Association (NSA) was formed in 2006 and doing good work for the preservation and promotion of Traditional Games and Sports in Nyoongar. Apart from different Associations all most all the Federations of different Games and Sports at National and International level also work for the preservation of the Traditional Games and Sports around the World.

### **Significance:**

The study may appraise the Traditional Games Lovers and motivate them to put more efforts in a systematic way to preservation and promotion of Traditional Games and Sports in India.

### **Hypothesis:**

It was hypothesised that the attitudes/opinions of veteran traditional players towards preservation and promotion of traditional games, recreation and Leisure sports of India will differ significantly in the five scales towards the positive side.

### **Method:**

To achieve this objective an Opinionnaire was served to 50 experts including some students who are involved in Traditional Games and Leisure Sports of India and attended the International Conference on Research in Recreational Activities, Leisure and Traditional Sports during 25th – 26th March 2013.

### **Analysis:**

The opinionnaire was having 20 statements and framed with five scales form. One sample opinionnaire is given in Appendix-I. The data collected in Likert form were analysed by using  $\chi^2$  test. The necessary interpretation is made and given below.

Table No. 1 Showing Agreement/Responses In Different Five Categories To Twenty Different Statements Pertaining To Attitude Of Veteran Traditional Players Towards Preservation And Promotion Of Traditional Games, Recreation And Leisure Sports Of India”

	SA	Cell-□□	A	Cell-□□	U	Cell-□□	D	Cell-□□	SD	Cell-□□	Total-□□
Statement-1	18	6.4	22	14.4	4	3.6	4	3.6	2	6.4	34.4
Statement-2	20	10	22	14.4	3	4.9	3	4.9	2	6.4	40.6
Statement-3	18	6.4	20	10	6	1.6	4	3.6	2	6.4	28
Statement-4	19	8.1	21	12.1	4	3.6	4	3.6	2	6.4	33.8
Statement-5	20	10	22	14.4	2	6.4	4	3.6	2	6.4	40.8
Statement-6	21	12.1	22	14.4	4	3.6	2	6.4	1	8.1	44.6
Statement-7	18	6.4	22	14.4	4	3.6	4	3.6	2	6.4	34.4
Statement-8	18	6.4	22	14.4	4	3.6	3	4.9	3	4.9	34.2
Statement-9	22	14.4	18	6.4	4	3.6	5	2.5	1	8.1	35
Statement-10	16	3.6	22	14.4	6	1.6	4	3.6	2	6.4	29.6
Statement-11	18	6.4	20	10	4	3.6	4	3.6	4	3.6	27.2
Statement-12	18	6.4	22	14.4	4	3.6	4	3.6	2	6.4	34.4
Statement-13	20	10	22	14.4	2	6.4	4	3.6	2	6.4	40.8
Statement-14	28	32.4	12	0.4	4	3.6	4	3.6	2	6.4	46.4
Statement-15	21	12.1	18	6.4	5	2.5	4	3.6	2	6.4	31
Statement-16	18	6.4	22	14.4	4	3.6	4	3.6	2	6.4	34.4
Statement-17	20	10	20	10	4	3.6	4	3.6	2	6.4	33.6
Statement-18	21	12.1	19	8.1	4	3.6	4	3.6	2	6.4	33.8
Statement-19	18	6.4	22	14.4	4	3.6	4	3.6	2	6.4	34.4
Statement-20	24	19.6	20	10	2	6.4	2	6.4	2	6.4	48.8

□□ at 4 df and 0.05 level of significance is 9.488.

SA=Strongly Agree, A=Agree, U=Undecided, D=Disagree, SD=Strongly Disagree

From the analysis of the data given in the above table it is crystal clear that the □□ for all the 20 statements is greater than the required value of □□ i.e. 9.488. Hence it is concluded that the agreement of the experts to different five categories differ significantly. The obtained frequencies of the statements are shown graphically in Figure No. 1.

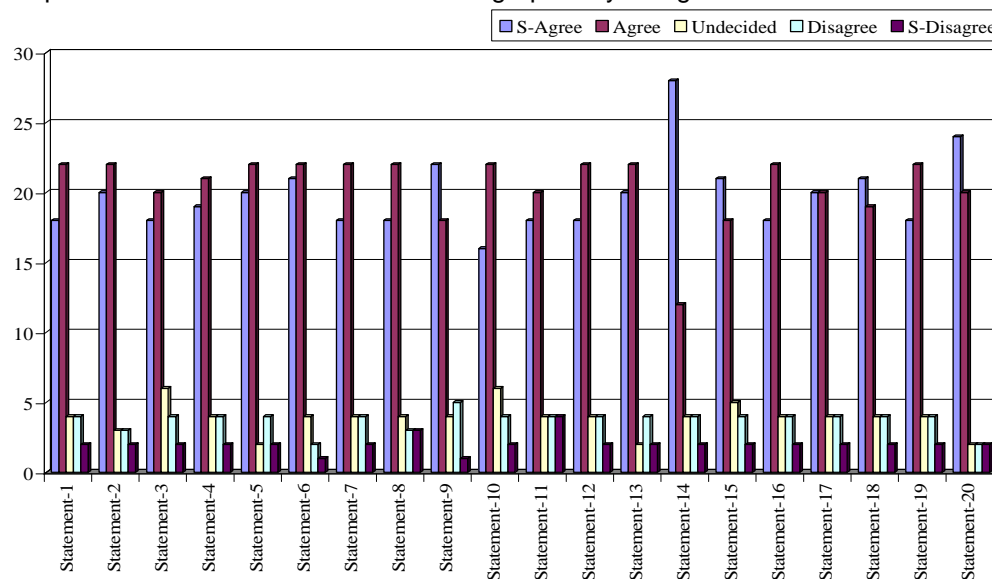


Figure No. 1.

Showing Agreement/Responses In Different Five Categories To Twenty Different Statements Pertaining To Attitude Of Veteran Traditional Players Towards Preservation And Promotion Of Traditional Games, Recreation And Leisure Sports Of India”

**Conclusions:**

After the statistical analysis of the data it was found that All most all subjects agree that traditional games, recreation and leisure sports have a rich culture and heritage value to preserve; they are important for passing on ancestral knowledge to the new generation; they sharpened observational and mathematical skills; and they develop logical thinking. All most all subjects agree that Traditional games, recreation and leisure sports develop concentration of the players; and they act as learning aids and teach us how to learn to win and lose; they develop motor skills. All most all subjects agree that Traditional games, recreation and leisure sports give more fun than other competitive games; they are suitable for all ages, so they increase the interaction between generations; they are most suitable for girls to enhance their over all personality. All most all subjects support that traditional games, recreation and leisure sports improve creativity of youngsters; they improve conflict management, team building and understanding group dynamics; and they are more useful than modern games in developing children's skills.

**Recommendations:**

On the basis of conclusions following recommendations are made:

All most all subjects support that more efforts should be taken to promote and preserve traditional games, recreation and leisure sports; Print media and electronic media should give exclusive more coverage to traditional games, recreation and leisure sports; competitions focusing traditional games should be organized to prevent and popularize traditional games, recreation and leisure sports; The modern generation should take efforts and pain to transfer the traditional games, recreation and leisure sports to its new generation. All most all subjects support that all class people should develop their liking to play traditional games, recreation and leisure sports; Govt. Of India should encourage setting-up organization/institution or provide assistance to maintain and promote traditional games, recreation and leisure sports; and efforts should be made by voluntary organisation to conserve the traditional costumes and equipments required to play the traditional games, recreation and leisure sports.

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## Role Of Physical Education Teacher In Developing Physical Fitness Of Student At School Level

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### **Introduction:**

The Physical Education Teacher has the whole & sole responsibility in building up the physical fitness of the students. There is a triangle relationship of a Teacher (Physical Education Teacher) for molding the students of their body and fitness. In this connection, the teacher should know the latest methods which are developed in Physical fitness arena. To motivate the students the teacher himself should be physically fit and also should have the complete knowledge about the latest developed methods in the field of physical fitness.

The teacher should note the body structure of the student and train him accordingly.

The advantages of Physical fitness are:

Help to relieve pains.

Improve – Strengths, flexibility, cardio – vascular system, appearance of body, concentration of mind, and general health.

Aid weight loss and control.

Readiness of the body mass.

Proportionate development of body.

Aging process and longevity.

Help to relieve pains.

Success in games and control.

There is a keen focus on the teacher in the development of good physical fitness of the student to help the student in the becoming a good healthy, human being, sports person, athlete, and an asset to the Nation. Ultimately, the healthy youth will make an healthy & developed Nation.

Role of Physical Education Teacher in latest methods of Development of Physical Fitness:

Observation towards to the attitude of the student

Motivation–development of the students should be able to concentrate on child behavior.

Perceptual development on the Physical Education Teacher.

Health values and its importance towards the society.

A study of impact of latest method use.

Physical fitness & its nature.

See that the developing physical fitness building should be Universal.

The Physical Education Teacher should be the role model to the student. So that the students may follow – up the Teacher in building his/her latest methods. The triangular relation shows the relation between the student, parent, the society and the Physical Education Teacher student centered education gives the best performance in the overall development of students personality.

### **Methodology of the Study:**

To study the latest methods in physical fitness.

To study about the balanced nutrition.

To understand the body, mass, index measurement..

To Analyze the latest equipments, techniques in physical fitness..

Knowledge about physical mental & social arrangement.

Active Role of a Physical Education Teacher

Sense of appreciation and sense of human.

Should be punctual.

Ability to conduct the fitness classes.

Knowledge about physically, mentally, socially, assessments.

Should be monitored.

### **Discussion and Results:**

The Physical Education Teacher is practically a key person in the character development.

The teacher should note that always he must act as good motivator, and to bring the good discipline among students to develop a Healthy Country.

The Physical Education Teacher should maintain the good relations with the students so that this will help to develop the student's physical fitness.

### **Conclusion:**

The Researcher concludes that there is an urgent need to develop the latest infra structure consisting of latest equipments & techniques. The result of this paper warrants the following:

1. Physical fitness is an important & integral part of the curriculum.
2. The school children or the school level should be introduced with the latest method in physical education.
3. The role of Physical Education Teacher is very important in overall development of the students.
4. The Students at the school - level should be groomed from the early age to give them an wholesome development.

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## Auditory Reaction Time In Basketball Players And Handball Players

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### Abstract

Reaction is purposeful voluntary response to different stimuli as visual or auditory stimuli. Auditory reaction time is time required to response to auditory stimuli. Quickness of response is very important in games like basketball. This study was conducted to compare auditory reaction time of basketball players and handball players. The auditory reaction time was measured by the reaction time instrument in handball and basketball players. Simple reaction time and choice reaction time was taken as the final reaction time for that sensory modality of that subject. The results were statistically analyzed and were recorded as mean  $\pm$  standard deviation and student's unpaired t-test was applied to check the level of significance. The study shows that basketball players have shorter reaction time than handball players. As reaction time gives the information how fast a person gives a response to sensory stimuli, it is a good indicator of performance in reactive sports like basketball. Sportsman should be trained to improve their reaction time to improve their performance.

Keywords: Auditory Reaction Time, Basketball, Handball, Alertness, Response.

### Introduction

Reaction is a purposeful voluntary response to stimulus. There is a certain time period between application of stimulus and appropriate motor response. Auditory reaction time is time required to responses to auditory stimuli. Reaction time is having mainly 2 components. (1) Mental processing time: which is time required for responder to perceive stimulus, identifying and analyzing of stimulus and decide the proper motor response. (2) Movement time: It is time required to perform movement after selection of response. Luce and Welford described three types of reaction time. (1) Simple reaction time: here there is one stimulus and one response. (2) Recognition reaction time: here there are some stimulus that should be responded to and other that should not get response. (3) Choice reaction time: here there are multiple stimulus and multiple responses. Skills like rebounding, shot, block, ball handling, dribbling, shooting and passing are of utmost importance for a player at any level of play. Basketball player has to give proper and quick response during the game. They have to throw ball in proper direction. The study has been undertaken to see the effect of sports training, which involves selecting response, decision making and motor response during game, on speed of mental processes (reaction time) and to compare with control group which is not involved in regular sports activity.

### Material And Methods

After obtaining Approval from institutional review board; present study was conducted in 50 handball and 50 basketball players of Hyderabad district. Personal history and medical history of both groups was collected in pre-designed Performa. Medical history was taken to rule out any medical or surgical disease which would affect reaction time of individual. After Taking consent, Reaction time was measured with multiple choice apparatus 653 MP (reaction time apparatus) with accuracy of  $\pm 0.001$  seconds. Auditory reaction time was measured under two categories. (1) Simple reaction time, where subject has to respond to auditory stimuli by pressing key and (2) choice reaction time; where subject has to respond to different auditory stimulus by pressing respective key. For auditory stimuli low and high frequency pure sounds were given. Subjects were given practice session in which the subject responded to auditory stimuli till near about constant values of reaction time come and then auditory stimuli were given for 3 times and minimum reaction time was taken as a final reaction time for that sensory modality of that subject.

## Statistical Analysis

Data was collected and was statistically analyzed. Reaction time was taken as mean  $\pm$  SD. The level of significance between basketball players and controls was tested by students Unpaired T test. The observation was taken as a significant of P value  $< 0.05$ .

Table 1: Difference in simple Auditory Reaction Time in 50 Handball Players and in 50 Basketball Players

Simple ART* (Handball Players)	Simple ART* (Basketball Players)	P value
0.17196 + 0.003364	0.15468 + 0.03264	Significant

\*ART – Auditory Reaction Time

Auditory reaction time found to be significantly (P value  $< 0.05$ ) less in basketball players as compared to controls in choice reaction time task.

Table 2: Difference in Choice Auditory Reaction Time in 50 Handball Players and in 50 Basketball Players

Choice ART* (Handball Players)	Choice ART* (Basketball Players)	P value
0.40624 + 0.07850	0.37952 + 0.06240	Significant

\*ART – Auditory Reaction Time

**Result** Auditory reaction time found to be significantly (P value  $< 0.05$ ) less in basketball players as compared to controls in simple reaction time task (Table 1)

**Discussion:** Present study indicates difference in performance of two groups of subjects under study; basketball players and handball players. Basketball players were found to have significantly faster reaction time than controls. Reaction time is an important indicator of speed of response to any stimuli. It requires to be as less as possible in case of sports, driving etc. Results from present study parallel which have been found in past literature. Kambe et al. observed in his study that auditory reaction time was significantly less in basketball players than handball players. Kramer ET al. found in his study that participants who completed a six month aerobic exercise program exhibited improvements in reaction time. Nougier, Ripoll and stein suggest that an athlete has better reaction time as compared to control subjects. More et al stated that the reaction time of the successful sportsmen was shorter compared to others. It was reported in another study that the reaction time of the physically healthy individuals was faster. Chandra et al. observed significant decrease in both of the visual and the auditory reaction periods after the exercise. In the study where the effect of the exercise and heat load of the university students on the simple reaction time was investigated, Researchers have also established that exercise and sports improves cognitive function. Wilkinson conducted study of reaction time in group of non-athletes and athletes have significantly faster reaction time than non athletes. Motor response execution is a physical task, so it is logical that people trained in physically reactive sports like basket ball may have superior ability to select a correct motor response. Different direct and indirect mechanisms could explain relationship between exercise and mental processing. Perhaps the most popular mechanism is the idea that exercise at moderate to intense levels improves cerebral blood flow which results in improvements in cognitive functioning due to increased supply of necessary nutrients, such as oxygen and glucose, Research on trained athletes suggest that physical reactive sport players have superior reaction time compared to healthy controls. The quicker reaction time in basketball players compared to handball players is due to improved performance in speed and accuracy task, alertness, better muscular co-ordination and improved concentration.

## conclusion

Our study concluded that persons involved in sports are having good reaction time as compared to controls. Nowadays children's are more involved on videogames like indoor games, while involvement in outdoor games would make them physically healthy as well also improve their alertness, concentration and ultimately reaction time, which would also be helpful them in day to day life as while driving it is more important to take certain decisions as quickly as possible. Besides physical fitness in basketball, mental processing time is also important in game. Coach can also concentrate on factors improving reaction time and train athletes in way for good performance.

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## Traditional Games of India

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### **Introduction:**

Traditional games in India are designed to develop skills like logical thinking, concentration, basic mathematics, improving knowledge etc. Traditional Games act as a learning aids. They Teach us many things while playing like to learn to win and lose, develop sensory skills, count, add, improve motor skills, identify color, improve hand-eye-cordination and finally to have fun, naturally one play or watch a game to have fun.

### **Importance Traditional games of India**

The following are the important Traditional games of India.

#### **Atya Patya:**

Atya patya is a traditional India sport played nine to a side, between two sides. It is more popular in rural areas of India. It is more commonly played in Maharashtra a western Indian state. Atya patya is described as a "game of feints". The playing area comprises nine trenches, coming out of either side of a central trench, points are awarded for blocking progress across the trenches made by one side, other side blocks this progress.<sup>1</sup> It has been described as a game of "militant chase".The sport is played in a relatively small area and requires almost no equipment like other games indigenous to India such as kabaddi, lagori, kho kho, viti-dandu, circle Kho kho and langdi.

#### **Ball badminton:**

Ball Badminton is a sport native to India. It is a racket game, played with a yellow ball made of wool, on a court of fixed dimensions (12 by 24 metres) divided by a net. The game was played as early as 1856 by the royal family in Tanjore, the capital of Thanjavur district in Tamil Nadu, India. It enjoys the greatest popularity in India. Ball badminton is a fast-paced game; it demands skill, quick reflexes, good judgment, agility, and the ability to control the ball with one's wrist. Games are usually played outdoors during the day. As a result weather conditions wield a considerable influence, and ball badminton's rules allow the effects of weather conditions to be distributed more-or-less evenly between both teams

#### **Chaturanga;**

Chaturanga catur, is an ancient Indian strategy game which is the common ancestor of the board games chess, shogi, makruk, xiangqi and janggi.Chaturanga developed in the Gupta Empire, India around the 6th century AD. In the 7th century, it was adopted as shatranj inSassanid Persia, which in turn was the form of chess brought to late-medieval Europe.The exact rules of chaturanga are unknown. Chess historians suppose that the game had similar rules to those of its successorshatranj. In particular, there is uncertainty as to the moves of the *Gaja* (elephant), the precursor of the modern chess bishop.

**Kabaddi**

Kabaddi is a wrestling sport originating from very early Indian civilization. The word Kabaddi is derived from a Tamil word Kai-pidi literally meaning "(let's) Hold Hands", which is indeed the crucial aspect of play. It is the national game of Bangladesh, and the state game of Tamil Nadu, Punjab and Andhra Pradesh in India. India is Asian games Gold Medalist in Kabaddi.

**Kho Kho**

Kho Kho is a tag sport played by teams of twelve players who try to avoid being touched by members of the opposing team, only 9 players of the team enter the field. It is one of the two most popular traditional tag games of South Asia, the other being Kabaddi. Apart from South Asia (mainly Bangladesh, India and Pakistan), it is also played in South Africa

**Mallakhamba**

Mallakhamba is a traditional Indian sport in which a gymnast performs feats and poses in concert with a vertical wooden pole or rope. The word also refers to the pole used in the sport. Mallakhamba derives from the terms *malla* which denotes a wrestler and *khamba* which means a pole. Mallakhamba can therefore be translated to English as "pole gymnastics".

**Tennikoit:**

Tennikoit also called ring tennis, is an outdoor game which was started in the early 1960s. It was played by high school girls in the USA since the 1930s. Four decades since its inception, the game has risen from district levels to international levels with nearly 20 countries all over the world . tennikoit is one of the obscure sports which almost faced extinction. However the sport received timely attention and it survived and flourished. Even though exact records are not available to document the place and date of birth of Tennikoit, it's largely believed that South India is its birthplace.wn.

**Throwball:**

Throw ball is a non-contact ball sport played across a net between two teams of seven players on a rectangular court. Throwball is popular in Asia, especially on the Indian subcontinent, and was first played in India as a women's sport in Chennai during the 1940s. Like volleyball, the game's roots are linked with the YMCA. Both volleyball and newcomb ball, while older games, share many similarities with throwball. Throwball rules were first drafted in 1955 and India's first national level championship was played in 1980.

**Pehlwani**

Pehlwani is a form of wrestling from South Asia. It was developed in the Mughal era by combining native malla-yuddha with influences from Persian koshti pahlavani. The words *pehlwani* and *kusti* derive from the Persian terms *pahlavani* and *koshti* respectively. A practitioner of this sport is referred to as a *pehlwan* while teachers are known either as guru or ustad, depending on their religion. Many southern Indian practitioners of traditional malla-yuddha consider their art to be the more "pure" form of Indian wrestling, but most South Asians do not make this clear distinction and simply view kusti as the direct descendent of ancient malla-yuddha, usually downplaying the foreign influence as inconsequential.

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## Effect of varied packages of yogic practices on white blood cell count among college men students

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### Abstract

The purpose of the present investigation is to find out the effect of varied packages of yogic practices on white blood cell count among college men students. To achieve these purpose 90 men subjects were selected at random from Rajapalayam Raju's College, Rajapalayam, Tamilnadu as subjects. Their age ranged from 18 to 25 years. They were divided into three equal groups of 30 subjects each and assigned to experimental group-I, experimental group-II and control group. In a week the experimental group I underwent Swami Satyananda Saraswati yogic practices, experimental group II underwent Swami Vishnudevananda yogic practices and Control Group was not given any specific training. All the subjects underwent one area of test namely white blood cell count. They assessed before and after the training period of 12 weeks. The analysis of covariance was used to analyze the data. The study revealed that the above said criterion white blood cell count were significantly improved due to the influence of varied packages of yogic practices on white blood cell count among college men students.

**Key words:** Swami Satyananda Saraswati Yogic Practices, Swami Vishnudevananda Yogic Practices etc

### Introduction

Yoga is a self therapy. It is a self therapy in the sense that one can perform this discipline on his own. Yoga involves different breathing techniques and postures which are known as Asanas or postures. Postures, proper breathing, relaxation and meditation are an important part of yoga. Blood cell functions as a defender against bacteria, viruses, fungi, and other foreign invaders. They are a vital component to the immune system. A reduced amount of white blood cells (WBC) in the body makes a person more susceptible to infection. This can be a common side effect of chemotherapy. People who have a low WBC count need to be especially cautious to avoid infection. A high amount of white blood cells in the body can indicate the presence of an infection or also a blood disease, like leukemia. (Lisa Fayed, 2009). The purpose of the study was to find out the effect of varied packages of yogic practices on white blood cell count among college men students.

### Methodology

To achieve the purpose of investigation 90 college men students were randomly selected from Rajapalayam Raju's College, Rajapalayam, Tamilnadu. The subjects age ranged from 18 to 25 years. The selected subjects were randomly divided into three equal groups, namely experimental group I underwent Swami Satyananda Saraswati Yogic Practices, experimental group II underwent Swami Vishnudevananda Yogic Practices and control group was not given any specific training. Each group consisted of 30 subjects. All the subjects underwent one area of test namely white blood cell count. They assessed before and after the training period of 12 weeks. The analysis of covariance was used to analyze the data.

### Results And Discussion

#### Results Of Wbc Count (White Blood Cell Count)

The statistical analysis comparing the initial and final means of WBC Count (White Blood Cell Count) assessed through Blood Test (Lab) due to Swami Satyananda Saraswati Yogic Practice group, and Swami Vishnudevananda Yogic Practice group on College Men Students presented in Table I.

**Table I**

**Computation Of Analysis Of Covariance Of Wbc Count (White Blood Cell Count)  
(Scores in cells/cu mm)**

Test	EXP.GP 1	EXP.GP 2	Control GP	SOV	SS	df	MS	F
Pre test Mean	9555	9441.67	9318.33	B	840666.67	2	420333.33	0.36
				W	100264583.33	87	1152466.48	
Post test Mean	10080	9900.00	9322.00	B	9410480.00	2	4705240.00	4.55*
				W	89947080.00	87	1033874.48	
Adjusted Post test mean	9971.66	9896.90	9433.43	B	5063993.47	2	2531996.74	62.45*
				W	3486890.97	86	40545.24	

\*Significant at 0.05 level of confidence.

(The table value required for 0.05 level of significance with F 2, 87 and 2, 86 are 3.103 and 3.103 respectively)

As shown in table I the obtained F value on the scores of the pretest means 0.36 was lesser than the required F value of 3.103, which proved that the random assignment of the subject were successful and their scores in WBC Count (White Blood Cell Count) before the training were equal and there was no significant differences. The analysis of posttest means proved that the obtained F value 4.55 was greater than the required F value of 3.103 to be significant at 0.05 levels. Taking in to consideration of the pretest and posttest means the adjusted posttest means were done and the obtained F value of 62.45 was greater than the required F value of 3.103 hence it was accepted that the Swami Satyananda Saraswati Yogic Practice group and Swami Vishnudevananda Yogic Practice group significantly increased the WBC Count (White Blood Cell Count).

Since the significant differences were recorded, the result was subjected to post hoc analysis using scheffe's confidence interval test. The results are presented in table II

**Table II**

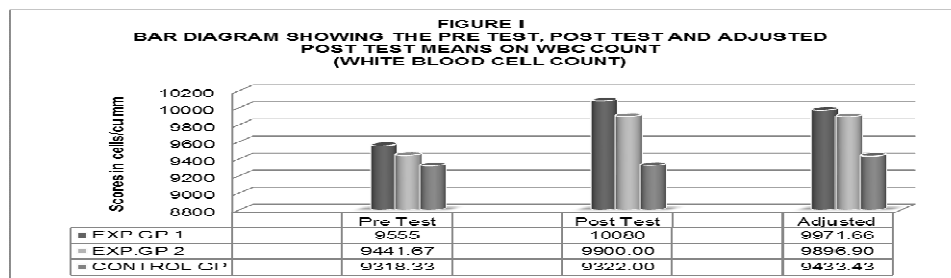
**Scheffe's Confidence Interval Test Scores On White Blood Cell Count**

MEANS			MEAN DIFFERENCE	REQUIRED CI
EXP.GP 1	EXP.GP 2	CONTROL GP		
9971.66	9896.90	-	74.76	129.46
9971.66	-	9433.43	538.23*	129.46
-	9896.90	9433.43	463.47*	129.46

\*significant at .05 level of confidence

Table II shows that the adjusted post-test mean difference in WBC count between EXP.GP 1 and CG and between EXP.GP 2 and CG are 538.23 and 463.47, respectively which were statistically significant at 0.05 level of confidence. The adjusted post-test mean difference in WBC count between EXP GP 1 and Exp GP 2 was 74.76 which was less than the confidence interval value at 0.05 level.

The ordered adjusted means are presented through bar diagram for better understanding of the result of this study in Figure I.



### Discussion On The Findings Of Wbc Count (White Blood Cell Count)

The result of the study on WBC count indicates that all the experimental groups namely EXP GP 1 and EXP GP 2 brought about significant improvement after the training. The analysis of the data indicates that there was no significant difference on WBC count between EXP GP 1 and EXP GP 2. Based on the mean value, the Swami Satyananda Saraswati Yogic Practice group was better in increasing the level of WBC count than the Swami Vishnudevananda Yogic Practice group. Systematic yogic practices training improve the WBC count. The result of this study on WBC Count (White Blood Cell Count) has in line with the study conducted by **Kasundra, Thumar, and Mungra, (2010)**.

### Conclusions:

Two different yogic practice methods (Swami Satyananda Saraswati Yogic Practices and Swami Vishnudevananda Yogic Practices group) helped to increasing the WBC Count (White Blood Cell Count). There was a little improvement difference between the Swami Satyananda Saraswati and Swami Vishnudevananda Yogic Practices on the WBC Count (White Blood Cell Count) but not at the significant level. Based on the mean value was concerned, 12 weeks of Swami Satyananda Saraswati Yogic Practices systems improve the WBC Count (White Blood Cell Count) more than the Swami Vishnudevananda Yogic Practices among college men students.

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## **Changes of physiological and physical fitness of elite Karate athletes after preparative training period**

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### **Introduction**

There is the most popular martial arts in the world is Karate. Practicing karate consists of basic techniques (kihon), kata, and sparring or fighting (kumite) (Imamura, 1998). Nowadays sparring categories in karate tournaments follow the rule of competition of World Karate Federation. Kumite includes the execution of freely chosen defensive and offensive techniques applied against an opponent (Imamura, 2002). It is a style fighting consists of explosive techniques by hands and legs separated by intermittent hopping movements that allow for rapid changes of body position (Iide, 2008). The modality of kumite involves different muscular groups, with combined movements of explosive strength, sudden changes of accelerations and decelerations (Imamura, 1998). The attack and defense short duration techniques are characterized by performance with maximum intensity, interrupted by small intervals (Beneke, 2004) and make the modality comparable to an intermittent exercise (Ravier, 2006). Finding out an available athletes base on professional technical skill, physical fitness and physiological adaptation that have a crucial influence on sport performance, where genetic factors could be of considerable importance (Vaeyens, 2008). Ravier (2004; 2006) identified the effect on some test movement performance and the blood markers of anaerobic metabolism in different categories of kumite athletes so that suggest a valid kumite-specific test battery. The results show that power, speed, as well as the ammonia and lactate accumulation, could be sensitive enough to detect the difference in performance level. Finally, Blazevic (2006) determined the 'motor structures' that are strong relation for successfully in kumite competition and found that the most important abilities were power and speed. There is an apparent lack of data regarding the differences before and after preparative kumite training period in Vietnam's athletes. Therefore, within this investigation we evaluated the fundamental fitness and physiological performance of elite karate athletes. The expected results could be of importance not only for selecting in sport and training in karate, but also for designing discipline specific testing batteries for estimation of kumite athletes.

### **METHODS**

**Subjects:** The research was carried out in a group of 12 elite karate athletes consist of 6 male ( $19.8 \pm 2.2$  yrs,  $19.8 \pm 2.2$ cm height,  $61.8 \pm 6.6$  kg weight) and 6 female ( $19.6 \pm 1.6$  yrs,  $161 \pm 2.3$  cm height,  $54.7 \pm 8.3$  kg weight). Some of them were national athletes and international medalists. All of them had been professional athletes for more than 5 years experience. None of them reported any medical problem or recent injuries. The research was approved by the Ethical Committee of the Hochiminh City University of Sport. Prior to the experiment all participants received a complete explanation regarding the purpose and procedures of the research, as well as the possible risks. They signed an informed consent document according to the Helsinki Declaration.

**Preparative training period:** The preparative training period were 12 weeks including general fitness training and specific fitness training in 2012. Athletes practiced 2 hours in the morning and 2 hours in the afternoon with six days per week. The testing was performed twice before the starting of training program and after completing program. Subjects were relaxed and non physical activity 48 hours prior to the experiment to minimize the possible effect of fatigue. The experiment included outdoor measurements and laboratory medical screening, followed by testing.

Physiology test: Pulmonary volume, Heart work, Anaerobic power (*Wingate test*), VO<sub>2</sub>max (*20m shuttle run test*)

Physical fitness test: Flexibility (*Sit and reach, Hip flexibility test*), Agility (*T-test Illinois agility test*), Power and speed (*Long jump test, 30m sprint test*), Strength (*Arm grip, Leg extension test, Back extension test*), Endurance strength (*Push up in 20 seconds, Sit up in 20 seconds*), Endurance (*1500m*)

Statistics: Standard descriptive statistics (mean and standard deviation) were calculated for each variable. Significant statistical differences between the before and after experiment were tested by means of the two-tailed, independent t-test. Statistical significance was set at  $p = 0.05$ . All statistical tests were performed using SPSS 16.0 (SPSS INC, Chicago, IL).

## Results

Table 1. Physiological and Physical profile before and after preparative training period

	Male athletes (n=6)					Female athletes (n=6)				
	Before		After		W%	Before		After		W%
	Mean	SD	Mean	SD		Mean	SD	Mean	SD	
Pulmonary volume (L)	3.93	0.25	4.50	0.24	6.77	2.77	0.17	3.68	0.16	14.09
Heart work	5.80	0.94	4.66	0.59	10.88	5.70	1.14	4.15	0.29	15.78
Anaerobic power (W)	569.38	21.82	637.14	25.80	5.62	415.90	13.74	463.25	24.76	5.39
VO <sub>2</sub> max (%)	49.20	1.81	52.18	2.06	2.94	40.78	2.93	44.20	2.79	4.02
Sit & reach (cm)	19.97	1.70	20.70	1.84	1.79	18.72	0.92	19.90	1.13	3.06
Hip flexibility (cm)	1.67	0.52	0.50	0.55	53.92	1.17	0.75	0.33	0.52	56.00
T-Test (s)	10.78	0.37	10.25	0.44	2.52	12.73	0.89	11.90	0.31	3.37
Illinois Agility(s)	17.33	0.43	16.75	0.45	1.70	19.67	0.46	18.93	0.41	1.92
Long jump (m)	241.67	9.83	251.67	0.07	2.03	193.17	11.36	205.17	16.68	3.01
30m sprint (s)	4.94	0.18	4.41	0.18	5.67	5.22	0.08	4.60	0.23	6.31

Point	Male Karate Athletes				Female Karate Athletes			
	Pul. Volume	Heart work	Ana power	VO <sub>2</sub> max	Pul. Volume	Heart work	Ana power	VO <sub>2</sub> max
	(L)	(point)	(W)	(ml/kg/min)	(L)	(point)	(W)	(ml/kg/min)
10	>5.17	< 1.11	> 678.48	> 58.24	3.73	<1.21	484.60	35.43
9	4.93 - 5.17	1.11 - 2.04	656.66 - 678.48	56.44 - 58.24	3.45 - 3.73	1.21 - 1.97	470.86 - 484.60	52.50 - 35.43
8	4.68 - 4.92	2.05 - 2.98	634.84 - 656.65	54.63 - 56.43	3.28 - 3.44	1.98 - 2.87	457.12 - 470.85	49.57 - 52.49
7	4.43 - 4.67	2.99 - 3.92	613.02 - 634.83	52.82 - 54.62	3.11 - 3.27	2.88 - 3.77	443.38 - 457.11	46.64 - 49.56
6	4.18 - 4.42	3.93 - 4.86	591.20 - 613.01	51.01 - 52.81	2.94 - 3.10	3.78 - 4.67	429.64 - 443.37	43.71 - 46.63
5	3.93 - 4.17	4.87 - 5.80	569.38 - 591.19	49.20 - 51.00	2.77 - 2.93	4.68 - 5.70	415.90 - 429.63	40.78 - 43.70
4	3.68 - 3.92	5.81 - 6.74	547.56 - 569.37	47.39 - 49.19	2.60 - 2.76	5.71 - 6.84	402.16 - 415.89	37.85 - 40.77
3	3.43 - 3.67	6.75 - 7.68	525.74 - 547.55	45.58 - 47.38	2.43 - 2.59	6.85 - 7.98	388.42 - 402.15	34.92 - 37.84
2	3.18 - 3.42	7.69 - 8.62	503.92 - 525.73	43.77 - 45.57	2.26 - 2.42	7.99 - 9.12	374.68 - 388.41	31.99 - 34.91
1	2.93 - 3.17	8.63 - 9.56	482.10 - 503.91	41.96 - 43.76	2.09 - 2.25	9.13 - 10.26	360.94 - 374.67	29.06 - 31.98
0	< 2.93	>9.56	< 482.10	< 41.96	< 2.20	> 10.26	< 360.94	< 29.06

## Discussion

The results from table 1 showed that the physiological adaptation were increased significantly with  $p < 0.05$  compare to prior training. The pulmonary increased 6.77% in male and 14.09% in female The heart work improved 10.88% in male and improved 15.78% in female. The Aerobic power increased 5.62% in male and increases 5.39% in female. The VO<sub>2</sub> max increased 2.94% from  $49.20 \pm 1.81$  ml/kg/min to  $52.18 \pm 2.06$  ml/kg/min in male and 4.02% from  $40.78 \pm 2.93$  ml/kg/min to  $44.20 \pm 2.79$  ml/kg/min in female. The physiological function reflects the training ability, therefore the results indicated that athletes has been adapted after practice in preparative training period but they were still lower than Tusnia elite karate athletes (Chaabène, 2012, 2014; Tabben, 2013).

It was also found the differences between the before and after preparative training period regarding physical fitness tests. The previous studies explained by similar aerobic demands of the athletes during both training and competition or, alternatively, by a relatively low sensitivity of the applied test (Bangsbo, 1992; Imamura, 1998; Bangsbo, 2008). Thus, we suggested using more specific endurance tests in future investigation, particularly those based on intermittent activity that would correspond to the duration of a typical karate competition (Kustrup, 2006; Bangsbo, 2008).

Table 4. The norm of physical fitness in elite Karate athlete

Male Karate Athlete												
Point	Sit&reach (cm)	Hip flex (cm)	T-Test (s)	Test Illinois Agility (s)	Long jump (cm)	30m sprint (s)	Arm grip (kg)	Leg extension (kg)	Back extension (kg)	Push up 20s/lần	Sit up 20s/lần	1500m run (s)
10	>28.47	<-0.93	< 8.93	< 15.18	> 290.82	< 4.05	> 56.03	> 136.68	> 118.43	> 40.52	> 27.52	< 306.73
9	26.77 - 28.47	-0.41 - -0.93	9.30 - 8.93	15.61 - 15.18	280.99 - 290.82	4.22 - 4.05	54.40 - 56.03	135.51 - 136.68	117.61 - 118.43	38.55 - 40.52	26.15 - 27.52	311.35 - 306.73
8	25.07 - 26.76	0.11 - -0.40	9.67 - 9.31	16.04 - 15.62	271.16 - 280.98	4.40 - 4.23	52.77 - 54.39	134.34 - 135.50	116.79 - 117.60	36.58 - 38.54	24.78 - 26.14	315.97 - 311.36
7	23.37 - 25.06	0.63 - 0.12	10.04 - 9.68	16.47 - 16.05	261.33 - 271.15	4.58 - 4.41	51.14 - 52.76	133.17 - 134.33	115.97 - 116.78	34.61 - 36.57	23.41 - 24.77	320.59 - 315.98
6	21.67 - 23.36	1.15 - 0.64	10.41 - 10.05	16.90 - 16.48	251.50 - 261.32	4.76 - 4.59	49.51 - 51.13	132.00 - 133.16	115.15 - 115.96	32.64 - 34.60	22.04 - 23.40	325.21 - 320.60
5	19.97 - 21.66	1.67 - 1.16	10.78 - 10.42	17.33 - 16.91	241.67 - 251.49	4.94 - 4.77	47.88 - 49.50	130.83 - 131.99	114.33 - 115.14	30.67 - 32.63	20.67 - 22.03	329.83 - 325.22
4	18.27 - 19.96	2.19 - 1.68	11.15 - 10.79	17.76 - 17.34	231.84 - 241.66	5.12 - 4.95	46.25 - 47.87	129.66 - 130.82	113.51 - 114.32	28.70 - 30.66	19.30 - 20.66	334.45 - 329.84
3	16.57 - 18.26	2.71 - 2.20	11.52 - 11.16	18.19 - 17.77	222.01 - 231.83	5.30 - 5.13	44.62 - 46.24	128.49 - 129.65	112.69 - 113.50	26.73 - 28.69	17.93 - 19.29	339.07 - 334.46
2	14.87 - 16.56	3.23 - 2.72	11.89 - 11.53	18.62 - 18.20	212.18 - 222.00	5.48 - 5.31	42.99 - 44.61	127.32 - 128.48	111.87 - 112.68	24.76 - 26.72	16.56 - 17.92	343.69 - 339.08
1	13.17 - 14.86	3.75 - 3.24	12.26 - 11.90	19.05 - 18.63	202.35 - 212.17	5.66 - 5.49	41.36 - 42.98	126.15 - 127.31	111.05 - 111.86	22.79 - 24.75	15.19 - 16.55	348.31 - 343.70
0	< 13.17	> 3.75	> 12.26	> 19.05	< 202.35	> 5.66	< 41.36	< 126.15	< 111.05	< 22.79	< 15.19	> 348.31
Female Karate Athlete												
10	>23.32	<-2.58	< 8.28	< 17.37	> 249.97	< 4.32	> 48.12	> 69.82	> 60.45	> 38.63	> 23.45	< 483.95
9	22.40 - 23.32	-1.83 - -2.58	9.17 - 8.28	17.83 - 17.37	238.61 - 249.97	4.50 - 4.32	44.86 - 48.12	68.49 - 69.82	59.56 - 60.45	36.77 - 38.63	22.56 - 23.45	486.56 - 483.95
8	21.48 - 22.39	-1.08 - -1.82	10.06 - 9.18	18.29 - 17.84	227.25 - 238.60	4.68 - 4.51	41.60 - 44.86	67.16 - 68.48	58.67 - 59.55	34.91 - 36.76	21.67 - 22.55	489.17 - 486.57
7	20.56 - 21.47	-0.33 - -1.07	10.95 - 10.07	18.75 - 18.30	215.89 - 227.24	4.86 - 4.69	38.34 - 41.60	65.83 - 67.15	57.78 - 58.66	33.05 - 34.90	20.78 - 21.66	491.78 - 489.18
6	19.64 - 20.55	0.42 - -0.32	11.84 - 10.96	19.21 - 18.76	204.53 - 215.88	5.04 - 4.87	35.08 - 38.34	64.50 - 65.82	56.89 - 57.77	31.19 - 33.04	19.89 - 20.77	494.39 - 491.79
5	18.72 - 19.63	1.17 - 0.43	12.73 - 11.85	19.67 - 19.22	193.17 - 204.52	5.22 - 5.05	31.82 - 35.08	63.17 - 64.49	56.00 - 56.88	29.33 - 31.18	19.00 - 19.88	497.00 - 494.40
4	17.80 - 18.71	1.92 - 1.18	13.62 - 12.74	20.13 - 19.68	181.81 - 193.16	5.40 - 5.23	28.56 - 31.82	61.84 - 63.16	55.11 - 55.99	27.47 - 29.32	18.11 - 18.99	499.61 - 497.01
3	16.88 - 17.79	2.67 - 1.93	14.51 - 13.63	20.59 - 20.14	170.45 - 181.80	5.58 - 5.41	25.30 - 28.56	60.51 - 61.83	54.22 - 55.10	25.61 - 27.46	17.22 - 18.10	502.22 - 499.62
2	15.96 - 16.87	3.42 - 2.68	15.40 - 14.52	21.05 - 20.60	159.09 - 170.44	5.76 - 5.59	22.04 - 25.30	59.18 - 60.50	53.33 - 54.21	23.75 - 25.60	16.33 - 17.21	504.83 - 502.23
1	15.04 - 15.95	4.17 - 3.43	16.29 - 15.41	21.51 - 21.06	147.73 - 159.08	5.94 - 5.77	18.78 - 22.04	57.85 - 59.17	52.44 - 53.32	21.89 - 23.74	15.44 - 16.32	507.44 - 504.84
0	< 15.04	> 4.17	> 16.29	> 21.51	< 147.73	> 5.94	< 18.78	< 57.85	< 52.44	< 21.89	< 15.44	> 507.44

Regarding the physical fitness test the results showed that the ability training of athletes has been increased. Before taking part the training, some tests showed that the athletes' ability was lower compare to prior investigation in Hochiminh city team in explosive strength (long jump), strength velocity (30m sprint), endurance (1500m run), agility (T test). After preparative training period, the fundamental fitness has been increased. The explosive strength, 30m sprint test and endurance performance were greater than Hochiminh city team but the T test was still lower than them (Hue, 2008).

The study were also established the norm of training ability of Vietnam elite karate athletes in preparative training period with 16 tests. With totally 160 points for 16 tests, it has been identified the scale for fitness assessment: excellence (>144 points), good (112~143 points), average (80~111points), poor (48~79 points), very poor (<48 points). According this scale before taking part the preparative training period there were 6 male athletes in average level (100%) and 4 female athletes in average level (60%) and 2 in poor level (40%). After training period there were 3 male athletes in good level (50%) and 3 athletes in average level (50%), and 4 female athletes in good level (60%) and 2 athletes in average level. In addition, there were 58.3% athletes in good level and 41.7% athletes in average level were found.

It was the first time the results of Vietnam elite karate athletes have been published in international journal. The previous investigations published in local journal only which was written in Vietnamese, therefore it was hard to compare with other findings and limitation to search on internet.

### Conclusion

Finding indicates that during the preparative training period, the fitness was increase significantly but the ratio of average level was still high. Results support the usefulness of biological and physical conditioning evidence during training season so that adjusting training loads.

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## **Effect Of Swiss Ball Training On Performance Of Selected Physical Fitness Components Among Football Players.**

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### **Introduction**

The physical fitness plays a vital role in the performance. An individual physical fitness and performances depend in the co-ordinative functions of the various factors such as physical, physiological abilities, nutrition, technique, tactics, physique, body size and composition. Speed is the ability of an individual to make successive movements of the same kind in the shortest period of time. Agility is the physical ability that enables a person to rapidly change body position and direction in a precise manner. Agility is the ability to change direction quickly and effectively, while moving as early as possible at full speed. Arm strength can be defined and determined in terms of the force that the shoulder, shoulder girdle and the wrist muscles exert in one maximum effort" The purpose of this study was to find out the effect of Swiss ball training on performance of selected physical fitness components among football players.

### **Methodology**

To facilitate the study, 30 male foot ball players from the different colleges of Tirupati were randomly selected as subjects and their age ranged between 19-23 years. They were further divided into two groups namely Swiss ball training group, and control group on random basis.

### **Dependent variables**

1. Strength 2. Speed 3. Agility

### **Independent variables**

1. Swiss ball Training for six weeks

### **Test Administration**

**1. ARM STRENGTH (PUSH UPS)      2.SPEED (50 METERS RUN)      3.AGILITY (SHUTTLE RUN)**

### **PRESENTATION, ANALYSIS AND INTERPREATION OF DATA**

The collected data pertaining to the study has been analysed and presented in this chapter. The purpose of the study, was to find out the effect of swiss ball training on performance of selected physical fitness components among foot ball players. To facilitate the study, 30 male foot ball players from the different colleges of Tirupati were randomly selected as subjects and their age ranged between 19-23 years. They were further divided into two groups namely swiss ball training group, and control group on random basis. Before the commencement of the training, purpose of the study and method of performing swiss ball training was explained to the subjects for their cooperation and to avoid injuries. The variables selected for this study were arm strength, speed, and agility.

### **RESULTS ON ARM STRENGTH**

The statistical analysis comparing the initial and final means of arm strength due to different swiss ball training among foot ball players is presented in Table

**Table I: Computation Of Analysis Of Covariance On Arm Strength**

(In Numbers)

	<b>Core Board Training</b>	<b>Control</b>	<b>Source of Variance</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Squares</b>	<b>Obtained F</b>
Pre Test Mean	11.93	12.53	Between	2.70	1	2.70	0.55
			Within	138.67	28	4.95	
Post Test Mean	14.73	13.33	Between	14.70	1	14.70	2.19
			Within	188.27	28	6.72	
Adjusted Post Test Mean	10.97	8.97	Between	29.35	1	29.35	15.60*
			Within	50.80	27	1.88	
Mean Diff	2.80	0.80					

Table F-ratio at 0.05 level of confidence for 2 and 28 (df) =4.21,  
2 and 27 (df) =4.20. \*Significant

The post test comparisons between the groups proved to be in significant as the obtained F value of 2.19 was lesser than the required F table value of 4.21 to be significant at 0.05 level. The obtained F value on adjusted mean differences was 15.60, which was greater than the required F table value of 4.20 to be significant at 0.05 level. Hence, it was proved that there was significant difference among adjusted post test means.

### RESULTS ON SPEED

The statistical analysis comparing the initial and final means of speed due to different swiss ball training among foot ball players is presented in Table

**Table II :Computation Of Analysis Of Covariance On Speed**

(In Seconds)

	<b>Core Board Training</b>	<b>Control</b>	<b>Source of Variance</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Squares</b>	<b>Obtained F</b>
Pre Test Mean	7.09	7.13	Between	0.01	1	0.01	0.32
			Within	0.82	28	0.03	
Post Test Mean	6.90	7.11	Between	0.32	1	0.32	9.57*
			Within	0.95	28	0.03	
Adjusted Post Test Mean	6.92	7.09	Between	0.22	1	0.22	52.61*
			Within	0.11	27	0.00	
Mean Diff	0.19	0.02					

Table F-ratio at 0.05 level of confidence for 2 and 28 (df) =4.21,  
2 and 27 (df) =4.20. \*Significant

The post test comparisons between the groups proved to be significant as the obtained F value of 9.57 was greater than the required F table value of 4.21 to be significant at 0.05 level. The obtained F value on adjusted mean differences was 52.6, which was greater than the required F table value of 4.20 to be significant at 0.05 level. Hence, it was proved that there was significant difference among adjusted post test means.

## Results On Agility

The statistical analysis comparing the initial and final means of agility due to different swiss ball training among foot ball players is presented in Table

**Table III: Computation Of Analysis Of Covariance On Agility**

	<b>Core Board Training</b>	<b>Control</b>	<b>Source of Variance</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Squares</b>	<b>Obtained F</b>
Pre Test Mean	10.80	10.90	Between	0.08	1	0.08	0.39
			Within	5.46	28	0.19	
Post Test Mean	10.26	10.88	Between	2.91	1	2.91	23.26*
			Within	3.51	28	0.13	
Adjusted Post Test Mean	10.29	10.85	Between	2.31	1	2.31	49.13*
			Within	1.27	27	0.05	
Mean Diff	-0.54	-0.02					

Table F-ratio at 0.05 level of confidence for 2 and 28 (df) =4.21,

2 and 27 (df) =4.20.

\*Significant

The post test comparisons between the groups proved to be significant as the obtained F value of 23.26 was greater than the required F table value of 4.21 to be significant at 0.05 level. The obtained F value on adjusted mean differences was 49.13, which was greater than the required F table value of 4.20 to be significant at 0.05 level. Hence, it was proved that there was significant difference among adjusted post test means.

## Discussions

For the purpose of this research, it was hypothesized that Swiss ball Training would improve arm strength, speed and agility of the foot ball players. The results presented in Table I proved that there was significant improvement in arm strength of the foot ball players as the obtained F value was greater than the required table value to be significant. Hence, the hypothesis was accepted at 0.05 level. The formulated hypothesis No. 2 stated that the Swiss ball training would improve speed of the foot ball players. The results presented in Table II proved that there was significant improvement in speed of the foot ball players as the obtained F value was greater than the required table value to be significant. Hence, the hypothesis was accepted at 0.05 level. The formulated hypothesis No. 3 stated that the Swiss ball training would improve agility of the foot ball players. The results presented in Table III proved that there was significant improvement in of agility the foot ball players as the obtained F value was greater than the required table value to be significant. Hence, the hypothesis was accepted at 0.05 level.

## Conclusions

Within the limitations and delimitations of this study, the following conclusions were drawn: It was concluded that physical fitness variable arm strength speed and agility was significantly influenced by Swiss ball training comparing to control group among foot ball players.

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## Influence Of Yoga Practice On Anxiety Level Of Apparently Healthy Female Subjects Of Guntur A.P.

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### Introduction:

Anxiety is characterized by nervousness, fear, apprehension, and worrying. Several disorders can cause anxiety. In present scenario modernization and competition are among the many causes leading to anxiety in day to day life. Anxiety in its severe form can have impact on physical and mental well being. Yoga has its origin in India. Now all over the world, people are adapting yoga as a simple and cost effective measure of improving the quality of life.

### Material & Methods:

The study was conducted on 50 apparently healthy female subjects who attended the four week yoga camp organized and conducted by an expert instructor. Participants were between the age group 20 to 50 years. All the subjects had never undergone any kind of yogic trainings earlier. Institutional ethical committee clearance was obtained. The informed consent was obtained from all the participants. The yoga camp was conducted between 6pm to 7pm daily for 4 weeks.

### Results:

Table 1: Showing percentage of participants with type of opinion for each of 28 items of HAMA scale before and after yoga camp.

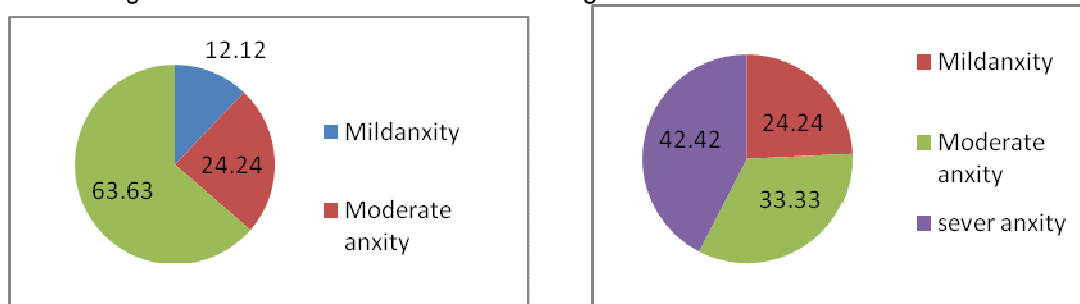
Item no	Never %		Occasionally%		Frequently%		Always%	
	Before	After	Before	After	Before	After	Before	After
01	12	39	06	42	12	06	15	12
02	12	21	39	18	21	15	24	45
03	12	55	45	21	24	15	15	09
04	6	18	48	30	33	12	12	39
05	33	39	33	42	12	06	21	12
06	18	36	42	42	21	06	18	15
07	27	61	48	9	18	09	06	21
08	42	64	39	24	12	03	06	09
09	21	45	48	33	12	03	18	18
10	24	21	33	48	03	03	39	27
11	36	42	12	27	03	03	48	27
12	9	18	36	24	03	00	52	58
13	52	55	24	18	06	03	18	24
14	27	27	36	45	12	06	24	21
15	36	48	36	30	12	03	15	18
16	45	64	33	24	6	00	15	12
17	30	55	36	33	18	06	15	06
18	27	42	42	42	9	03	21	12
19	45	45	39	42	9	12	06	06
20	30	48	42	30	15	03	18	18
21	27	30	30	39	12	06	30	24
22	39	48	27	24	3	00	30	27
23	36	45	15	18	3	03	45	33
24	15	12	21	33	18	00	48	55
25	42	52	24	24	12	12	21	12
26	30	58	58	39	3	00	24	03
27	36	52	36	27	6	00	21	21
28	12	30	39	39	9	03	39	27

Table 2 : Comparison of Mean  $\pm$ SD of total score before and after yoga training (N=50)

Before	After	t value	p value
32.0 $\pm$ 6.10	28.54 $\pm$ 6.0	3.650	0.001***

Mean $\pm$ SD of total score and after yoga training 32.0 $\pm$ 6.10 and 28.54 $\pm$ 6.0 respectively. There was highly significant ( $p=0.001$ ) reduction in the total score after yoga.

Figure 1: Percentage distribution of subjects with mild, moderate and severe anxiety. Before Yoga After Yoga



Before yoga training the percentage of subjects with mild, moderate and severe anxiety were 12.12%, 24.24% and 63.63% respectively. After yoga training the percentage of subjects with mild, moderate and severe anxiety were 24.24%, 33.33% and 42.42% respectively.

#### Discussion:

The results of our study demonstrate the beneficial effects of yoga. There was a significant reduction in the severity of anxiety. The percentage of subjects with severe anxiety was reduced after yoga. Our results are in agreement with several other studies. Shashi and coworkers, Gupta & Gupta, Gupta et al and Jadhav and Havalapanavar who also reported decrease in level of anxiety following yoga. Stress is known to modulate activity of autonomic nervous system as well as central nervous system. Stress may be external (environmental), internal (emotions) or sometimes may be the combination of both interrupting with each other. In stressful states, there will be preponderance of sympathetic activity. Practice of yoga and pranayama can lead to reduction in sympathetic activity with shifting of autonomic balance towards relative parasympathetic dominance. Some mechanisms with shallow breathing which can lead to arousal in the sympathetic nervous system. Yoga breathing exercises decrease arousal, which calms and focuses the mind, relaxes the body, oxygenates the blood, soothes anxiety and stress, and promotes clear thinking. The intense concentration and body control involved in breathing exercises help free the mind from mental distractions, worries, and fatigue. By improving circulation in the endocrine glands, a consistent yoga practice enhances the functions of hormones that play a primary role in the physiology of depression. This results in a reduction in depression and improved overall mood.

#### Conclusion:

We conclude the regular yogic practice and adapting and implementing the principals of yoga in day to day life may decrease the severity of anxiety and improve the subjective feeling of well being.

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## Effect Of Yogic Programme On Flexibility & Balance Among Boxing Players

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### Abstract

India has rich tradition of yogic practices. Yoga is an art of life. It is a science of life. It is a kind of exercise to attain spiritual of growth. It is truly a boon from our ancestors. The ancient practice of postures, breathing and meditaion is gaining a lot of attention and flexibility. Hence the present study was undertaken. The purpose of this study was to find out the effect of yogasana practice on flexibility & balance among college boxing players. For this purpose, 30 subject aged 16 to 22 years were selected from vidya pratishthan college baramati dist pune. The subjects were selected purposely using single group design method. The pre & post test experimental techniques with selected yogic practices were taken for the study . The selected criterion variable namely flexibility was assumed by using sit & reach test & balance is assumed stork balance stand test. The data of study was analysed by using 't-test'. The result of study after 6 weeks were found to be significant at 0.05 level confidanc. The result clearly shows that the yogic practices have impact on balance among boxing players.

**Keywords** :- Yoga, Flexibility, Balance, Suryanamaskar.

### Introduction

“Yoga is not an ancient myth buried in oblivion .It is the most valuable in oblivion .It is the essential need of today and culture of tomorrow”. **Swami Satyananda Saraswati**The importance of flexibility on muscles is still unclear. However two possible explanations have been proposed. The first explanation is that increased flexibility leads to less muscle resistance from contraction & tension which leads to less energy expended during activity (**shier 2005**).Flexibility & Balance is important for everyone & helps to perform better in day today life .

### Methodology

The investigator selected 30 boxing players who were learning senior section in Vidya Pratisthan's Art's Science and Commerce College, Vidyanagari, Baramati. The study was conducted during the year 2013-2014. The age group of subject was ranged between 16 to 22 years. The subjects were selected purposely using single group research design method.The pre & post tests with experimental technique of yogic practices were taken for the study. The yogic practice programme was carried out for 5 days per week during morning session at 7 to 8 am for 6 weeks .The selected criterion variable namely flexibility was assumed by using sit & reach test & balance assumed by strok balance stand test. The experimental treatment analysis of test was to collect data.The significance was fixed at 0.05 level of confidence.

### Analysis Of Data

TABLES :- MEAN,SD,T-Test Shows the statistical information of comparison between effect of yogic programme on balance level in pre-test result of boxing players.

**Table : IIBALANCING RESULT**

Variable	Test	N	Mean	S.D	Df	t-Table value	T-Ratio
Balance	Pre	30	12.76	8.70	54	1.671	3.05
	Post	30	19.46	7.62			

Table show the mean score ,standard Deviation ,Degree of freedom & t-value at 0.05 level of yoga program with respect to balancing of pre & post test ,they have obtained the mean value are 12.76 & 19.46 standard deviation are 8.70 & 7.62 Degree of freedom is 54, t –calculated value is 3.05 & t-Table value is 1.671 Calculated t-value is greater than t-Table value at 0.05 levels .Therefore researcher rejected the null hypothesis & accepted the H1 hypothesis.(see fig.1)

**Balancing pre & Post Test’s Graphical Chart**

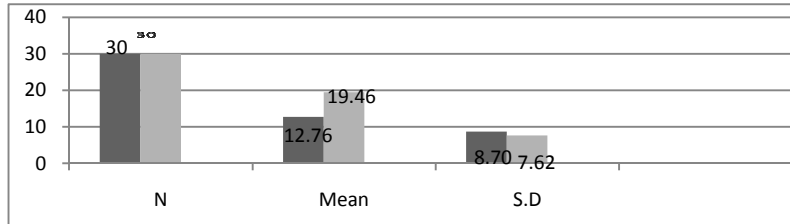


Fig. 1Shows the statistical information of comparison between effect of yogic programme on flexibility level in pre-test & post-Test result of Boxing Players.

**Table : Ill flexibility Result**

Variable	Test	N	Mean	S.D	Df	t-Table value	T-Ratio
Balance	Pre	30	4.64	3.40	54	1.671	0.62
	Post	30	5.23	3.68			

Table shows the mean score ,standard Deviation ,Degree of freedom & t-value at 0.05 level of yoga programme with respect to flexibility of pre & post test, they have obtained the mean value are 4.64 & 5.23 standard deviation are 3.40 & 3.68 Degree of freedom is 54, t –calculated value is 0.62 & t-Table value is 1.671 Calculated t-value is less than t-Table value at 0.05 levels . Therefore researcher accepted the null hypothesis & rejected the H1 hypothesis.

**Flexibility pre & Post Test’s Graphical Chart**

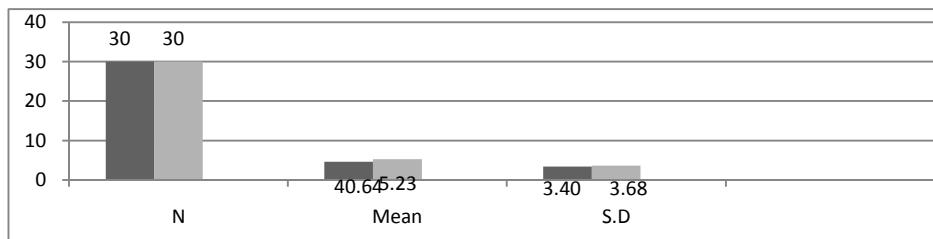


Fig.2

**Conclusion**

After the analysis of collected data by using t. test the following finding for present research study came to existence.This means that is significant difference between effect of yogic programme on Balance level in pre test and post test results of Boxing Players. There is no significant difference between effect of yogic programme on flexibility level.

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## **Comparison of Agility among Soft Ball and Cricketers of P.G.College, Secunderabad**

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**Asst. Professor in Physical Education(contract), P.G.College, OU,Sec-Bad**

### **Introduction:**

In Sports agility is often defined in terms of an individual sport, due to it being an integration of many components each used differently. Agility is the ability to change the body's position efficiently. Softball is a bat-and-ball sport played between two teams of 9 to 14 players. It is a direct descendant of baseball although there are some key differences: softballs are larger than baseballs, and the pitches are thrown underhand rather than overhand. Softball is played on a smaller diamond than in baseball; a softball field's average distances from home plate to the center, left and right field fences are 220 feet (67 meters) for females and 250 feet (75 meters) for males (the corresponding baseball field average distances are 410 and 325 feet [125 and 99 meters]). Despite the game's name, the standard softball is not soft; in fact, it is harder than a baseball.

Cricket is a bat-and-ball game played between two teams of 11 players on a field, at the centre of which is a rectangular 22-yard long pitch. One team bats trying to score as many runs as possible while the other team bowls and fields, trying to dismiss the batsmen and thus limit the runs scored by the batting team. A run is scored by the striking batsman hitting the ball with his bat, running to the opposite end of the pitch and touching the crease there without being dismissed. The teams switch between batting and fielding at the end of an innings.

In professional cricket the length of a game ranges from 20 overs of six bowling deliveries per side to Test cricket played over five days. The Laws of Cricket are maintained by the International Cricket Council. Cricket is the second most popular sport in India—Cricket was first played in southern England in the 16th century. By the end of the 18th century, it had developed into the national sport of England. The expansion of the British Empire led to cricket being played overseas and by the mid-19th century the first international matches were being held.

### **Statement Of Problem:**

To find out the agility among Cricketers and Soft Ball Players of Osmania University.

### **Methodology**

**SAMPLE:** For the present study 20 Male Cricketers and 20 Male Soft Ball Players are taken for the study of P.G.College Secunderabad

#### **TOOL:**

To measure the agility the Shuttle Run is used.

**Delimitations:** The study is delimited to 20 Male Cricketers and 20 Male Soft Ball Players of Osmania University, Hyderabad and Shuttle Run of AAPHER Youth fitness Test are taken for study.

**Procedure of Data Collection:**

#### **SHUTTLE RUN**

**Purpose**

To measure the agility.

**Facilities and Equipment**

Two lines parallel to each other are marked on the floor thirty feet apart. Since the student must over run both of these lines, it is necessary to have several feet more of floor space at either end. A block of wood 2 by 2 by 4 inches and a stopwatch are needed.



### Procedure

The subject stands at one of the lines with the 2 blocks at the other lines. On the signal to start, the student runs to the blocks, takes one and returns to the starting line, and places the block behind that line. He then returns to the second block, which is carried across the starting line on the way back. Two students can run at the same time if 2 timer are available, or if 1 test administrator has a split second timer, and of course, if there are 2 sets of blocks. Two trials are permitted. If the student starts first at one line and then at the other, it is not necessary to return the blocks after each race. Sneakers should be worn or the students may run bare footed.

### Instructions

On the signal "Go" run as fast as you can to the next line and pick up a block. You should return the block over the second line where you place it on the floor. Do not throw it. Return for the second block, and this time you may run across the starting line as fast as you can without placing the blocks on the floor.

### Scoring

The score is the elapsed time recorded in seconds and tenth of seconds for the better of 2 trials.

### Testing Personnel

One trained tester can administer this test and record the score and time. If he has a split-second timer, he may have two students running at the same time. If two regular stop watches are available. Two timers can be used.

### Results and Discussion:

Table – I

Test	GROUP	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Shuttle Run	Cricketers	20	13.30	0.57	0.18	2.54	38.00	0.02
Shuttle Run	Soft Ball Players	20	14.58	1.21	0.38			

Table I found that Cricketers are having good agility compare to Soft Ball Players because the cricketers are involved more in short running to take more runs and also involved in cricket fielding

### Conclusions:

It is concluded that Cricketers are having good agility compare to Soft Ball Players.

### Recommendations:

It is recommended that Cricketers and Soft Ball Players must be given good training for speed and agility for the development of performance in sports. Similar studies can be conducted on different sports and games.

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Wikipaedia, Soft Ball and Cricket

## Influence Of Hot Climate (40 °C) On Performance Of Distance Runners In Mahabubnager

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**M. V. S.Govt. Degree College Mahabubnager**

### **Abstract:**

70% of the energy developed by runners is in the form of heat. Thus a runner only spends 30% of his energy actually in locomotion. Heat can contribute to injuries that can lead to the death of runners. Heat injury is a combination of dehydration and excessive internal temperature elevation, or hyperthermia. A loss in fluid results in a critical loss in circulating blood volume. This study is to determine the influence of hot climate over 40 °C on performance of Long distance runners in Mahabubnager district, Telangana where the temperature would increase up to 46°C in summers, and to take some vital measures to ensure better performance during the hot climate, Temperatures above 40°C are intense scorching heat, this decrease the performance of the athlete. Signs of heat stress, nausea (feeling to vomit), cramps, dizziness, confusion have occurred at many events. Some physiological determinants which affect the performance are taken into account. The loss of electrolytes, the raised core body temperature and inability to cool it down soon limit the performance in the distance runners.

### **Introduction:**

Heat impacts aspects of sports participation example comfort, performance, and health. Most dramatic examples of the detrimental effects of heat stress on performance can be found in the history of the Olympics. Events such as the marathon have high incompleteness rates, due heat stress and dehydration, Pietri Dorando, the Italian favorite to win the 1908 London Olympic marathon, collapsed in front of 100,000 spectators only 100m from the finish line. When exercising, the human body can reach temperatures of 41 °C and it may be difficult for the body to cool itself down in a hot, humid environment. The most common method of cooling when the surrounding temperature is hot is through sweating. One litre sweat evaporation results in 700 kcal heat loss. During exercise, sweat can be produced at a rate of over two litres per hour. Humid weather is especially challenging to the body because water vapour in the atmosphere makes it difficult for evaporation to take place. To study the effects of hot climate in Telangana in summer <40°C and its influence on performance of long distance runners – and to avoid the dangerous effects of heat

### **Methodology :**

15 well trained Long distance runners are selected from district stadium in Mahabubnager and MVS degree college. They are informed about the research, and the procedure. They are to run their usual course in the normal climatic conditions (6 A.M in the morning) and also climatic conditions when temperature is above 40°C (12 P.M) ... the risks are being informed, the consent is taken by the students. Medical officer is available in case of emergency. The heart rate, B.P, core temperature are measured prior and during the performance at specific intervals 5,10,15,20,25 minutes both in the normal climatic condition and in the hot climate. Runners are asked to have a normal diet, no metabolic, physical performance enhancers. Blood is likewise drawn from the cubital vein, sphygmomanometer is used to measure Blood pressure. Blood is stored in cold and sent to the lab for evaluation.

### **Results :**

Body temperature increased significantly higher during warm conditions when measured orally. Sodium concentration increased significantly in the first 15 min of exercise in the warm environment and up to 20 min in the normal temperature. Then, it started to decrease until the end of the method. Sodium concentration was higher in the normal condition than in the warm condition at minutes 20 and 25, No significant differences in sodium concentration after 30 min of exercise for hot and normal climates. Diastolic blood pressure was lower in the warm condition at 5, 10, and 15 min of exercise, then, the differences in Diastolic blood pressure were not significant, although higher than the normal condition.

Systolic blood pressure, on the other hand, was higher throughout the normal condition except after 30 min of exercise. Observed an increase in body temperature  $38.6 \pm 0.15^{\circ}\text{C}$  for warm climate and  $37.5 \pm 0.6^{\circ}\text{C}$  for normal Blood sugar dropped until 10 minutes and later after 10 minutes started increased Blood Glucose (In Mg/Dl)

	NORMAL	HOT CLIMATE
0 min	$89.1 \pm 9.4$	$95.3 \pm 10$
5 min	$82.2 \pm 10.4$	$88.1 \pm 9.7$
10 min	$78.0 \pm 12.0$	$88.5 \pm 14.8$
15 min	$87.9 \pm 11.8$	$100.1 \pm 15.4$
20 min	$93.5 \pm 6.9$	$107.2 \pm 14.3$
25 min	$97.3 \pm 4.7$	$116.5 \pm 11.7$
30 min	$99.6 \pm 3.9$	$124.0 \pm 11.7$

TIME	SYSTOLIC		DIASTOLIC	
	Normal	Hot climate	Normal	Hot climate
0 min	$120.0 \pm 0.0$	$110.5 \pm 1.6$	$80 \pm 0.0$	$77.0 \pm 4.8$
5 min	$154.5 \pm 4.4$	$151.5 \pm 2.4$	$88 \pm 2.6$	$85.5 \pm 4.4$
10 min	$146.5 \pm 2.4$	$124.0 \pm 2.1$	$85.0 \pm 0.0$	$71.0 \pm 5.2$
15 min	$140.0 \pm 0.0$	$134.5 \pm 3.7$	$82.0 \pm 2.6$	$76.0 \pm 2.1$
20 min	$135.0 \pm 0.0$	$144.5 \pm 3.7$	$82.0 \pm 2.6$	$83.5 \pm 2.4$
25 min	$138.0 \pm 2.6$	$154.5 \pm 4.4$	$83.0 \pm 2.6$	$86.0 \pm 2.1$

Blood pressure (mm/hg)

### Conclusion

Heat injury is a combination of dehydration and excessive internal temperature elevation, or hyperthermia. The ideal temperature for prolonged work or distance competition running is between  $10^{\circ}\text{C}$  and  $18.3^{\circ}\text{C}$ . Over all the effects of hot weather decrease the runners' performance, especially the distance runners. The body core temperature is to be cooled; the body manages by precipitation increased amounts of sweat, where by causing rapid dehydration in hot summer. Fatigue ensues early. To prevent the effects of hot climate during performance, warming up in the shade controls the body temperature not to rise too quickly. Wearing minimal, loose fitting clothes to allow heat to dissipate from the body. Body fluids must be replaced frequently, especially in prolonged exercise. Pre-season regimen for distance running and other sports under hot and/or humid conditions should be preceded by one-to-two weeks of conditioning. This means working 1-2 hours per day in the heat, while wearing minimal clothing and drinking liberally. This will help athletes gradually achieve heat acclimatization. Successful heat acclimatization results in lower resting body temperature, lower skin and core temperature during exercise, decreased exercise heart rate and metabolism, increased sweating and evaporative cooling. All of these changes help athletes safely improve their performance in hot weather.

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## A Review Of Artificial Neural Networks In Sports Biomechanics

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### Introduction:

Biomechanics is the study of the structure and function of biological systems by means of the methods of mechanics, which is the branch of physics involving analysis of the actions of forces. Sometimes biomechanics is interchangeably used for kinesiology. While kinesiology deals specifically with structural and functional aspects of the body, biomechanics investigates human movement by means of the concepts of classical physics and their derivatives in the practical arts of engineering. In computer science and related fields, artificial neural networks (ANNs) are computational models inspired by an animal's central nervous system (in particular the brain) which is capable of machine learning as well as pattern recognition. Artificial neural network is a new model of computing to perform pattern recognition tasks, which are inspired by the structural and performance of our biological neural network. In biological neural network, the fundamental unit is called a neuron or a nerve cell. It consists of a cell body or soma, where the cell nucleus is located. Tree like nerve fibres called dendrites are associated with the cell body. These dendrites receive signals from other neurons. Extending from the cell body is a single long fibre called the axon. The transmission of a signal from one cell to another is at a synapse.

Performance comparison of computer and biological neural network:

Speed : Neural networks are slow in processing information than advanced computers.

Processing : Neural network can perform massively parallel operations. The computer perform programmes in a sequential mode one instruction after another.

Size and complexity : the Neural network can perform complex pattern recognition with its size and complexity, which we are unable to realize on a computer.

Storage : In a computer any new information wanted to store in same, where other stored area means it destroys the old and store the new information.

Fault tolerance : Neural network exhibit fault tolerance since the information is distributed in the connections through the network but the information corrupted in the computer memory cannot be retrieved. So, it is inherently not fault tolerant.

Control mechanism : Neural network has no control mechanism, where as computers have the control unit.

An ANN is configured for a specific application, such as pattern recognition or data classification, through a learning process.

Adaptive learning: An ability to learn how to do tasks based on the data given for training or initial experience.

Self- Organization: An ANN can create its own organization or representation of the information it receives during learning time.

Real Time Operation: ANN computations may be carried out in parallel, and special hardware devices are being designed and manufactured which take advantage of this capability.

Fault Tolerance via Redundant Information Coding: Partial destruction of a network leads to the corresponding degradation of performance. However, some network capabilities may be retained even with major network damage.

Artificial Neural Network – Terminology

Processing unit : It consists of summing part and the output part. The summing part receives N input values, weights each value and computes a weighted sum called the activation value. The output part produces signal from the activation value. Interconnections : Several processing units are interconnected to accomplish a pattern recognition tasks. Therefore the inputs to a processing unit may come from the outputs of other processing units and/or from external sources. The state of the network can be described in an N-dimensional space. The output amount received from another unit depends on the strength of connection, reflected in the weight vector.

Operations : The process of adjusting the weights is referred to a learning and the procedure to incrementally update each of the weights is called learning law or learning algorithm.

Update : The units of activation values are computed at the same time and we can view overall output is called synchronously. If each unit is updated sequentially and we can view each and overall output is called asynchronously.

Back propagation law: It is a learning algorithm for a multilayer feed forward neural network, so that the network can be trained to capture the mapping implicit in the given set of input-output pattern pairs. The error is defined as the squared difference between the desired output and the actual output obtained at the output layer of the network due to application of an input pattern from the given input-output pattern pair and their learning law is called generalized delta rule or back propagation law. Every first layer has linear input units and remaining hidden and output layers has non-linear units. The input vector is given at the input layer and the desired output is available only at the output vector, the error between the desired output vector and the actual output vector is available only at the output layer. Using this error it is necessary to adjust the weights from the input units to the hidden units and the weights from the hidden units to the output units.

#### **Discussion:**

An artificial neural network is a computing system that includes both hardware and software. Such a network consists of large quantities of simple artificial neurons that are designed to imitate the bio-computation and information processing of a biological neural network. BPNN is an artificial neural network that has learning and recalling abilities. Thus far, computing with BPNN has been successfully applied in many areas. In the analysis of biomechanics, for example, Barton and Lees conducted a study on human gait patterns, in which they adopted BPNN to analyze leg length. BPNN has also been applied in biomedical signal analysis, such as electrocardiography, electromyography, and electroencephalography.

Providing an exercise prescription is to improve one's physical fitness. Traditionally, PE teachers or coaches are responsible for formulating a prescription. They first assess a student's fitness level by manually referring to the norm-referenced chart, and then formulate a prescription. The process is time consuming and fails to offer students an immediate prescription. Without prompt feedback, students' may lose interest in fitness self-training. Additionally, most PE teachers and coaches receive little formal training in formulating exercise prescriptions; consequently, it is likely that the prescriptions provided are imprecise, which may have a negative influence on student exercise training and hinder the promotion of the fitness passport project. In view of this, it is crucial that a more efficient method for formulating exercise prescriptions.

In one of the research, the artificial neural networks trained to assist in predicting the outcome of multi (mainly three) team tournaments. To train the neural networks we use match results for various matches played by the teams in the past years. This is done keeping in mind that the squads or teams haven't changed much over the past years. Once trained, the current tournament's match information will be run through the neural networks. Possible input variables include, for each team, number of matches played, number of matches won, number of matches lost, recent standings of teams, conditions of locations of matches, number of times a team reached the quarterfinal stages of a tournament, number of times a team reached the semifinal stages of a tournament, number of tournaments a team has won. The domains used for training and testing include overall performance in the tournament and in the final match of the tournament. When it's time to predict a tournament's outcome, we run the data through all the networks and add up the score for each team. The team with the highest score is the winner.

Artificial Neural Networks (ANNs) have had widespread use in sports applications namely predicting the order of finish in horse racing, selecting winning dogs and modeling swimming performance. Where cricket is concerned, work has been done on predicting the match outcome in one day international cricket matches using the Duckworth – Lewis method, while the game is in progress. The use of ANNs in sports has been a topic of intense study with a number of authors highlighting the importance of pattern recognition using ANNs.

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## Effect Of Yoga Practices On Blood Pressure And Blood Glucose Among Male Diabetic Patients

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### Abstract

The purpose of the present study was to find out the effect of yoga practices on blood pressure and blood glucose among male diabetic patients. For this purpose, thirty male diabetic patients around Annamalainagar, Chidambaram, Cuddalore District, Tamilnadu in the age group of 35 – 40 years were selected. They were divided into two equal groups, each group consisted of fifteen subjects, in which group – I underwent yoga practices and group – II acted as control that did not participate in any special activities apart from their regular day-to-day activities. The training period for this study was six days in a week for twelve weeks. Prior to and after the training period the subjects were tested on blood pressure (systolic and diastolic) and blood glucose. Blood pressure was measured by using sphygmomanometer and after taking 5 ml of blood samples by venous puncture method, by using Boehringer Mannheim Kit Method. The Analysis of Covariance (ANCOVA) was used to find out any significant difference between the pre-test mean and post-test means and significant difference that exists between the yoga practice group and control group on selected criterion variables. It was concluded from the results of the study that yoga practice has decreased the blood pressure (both systolic and diastolic) significantly ( $P > .05$ ). The result of the study also shows that there was a significant reduction in blood glucose after the yoga practices ( $P > .05$ ). It was also found that there was a significant difference was occurred between the yoga practice group and control group on blood pressure and blood glucose level.

**Key words:** yoga practice, diabetic patients, blood pressure, blood glucose, ANCOVA

### Introduction

Yoga is one of the most ancient cultural heritage of India. The word *yoga* in Sanskrit means “to unite”, and so *yoga* can be said to connote a unitive discipline. Yoga is a complete science of life that originated in India many thousands of years ago. Yoga is an exact science. It is a perfect, practical system of self-culture. It is the discipline of the mind, senses and the physical body. Diabetes mellitus: Better known just as “diabetes” -- a chronic disease associated with abnormally high levels of the sugar glucose in the blood. Diabetes mellitus is a group of metabolic diseases characterized by high blood sugar (glucose) levels, that result from defects in insulin secretion, or action, or both. Elevated levels of blood glucose (hyperglycemia) lead to spillage of glucose into the urine, hence the term sweet urine. Normally, blood glucose levels are tightly controlled by insulin, a hormone produced by the pancreas. Insulin lowers the blood glucose level. Yoga Asanas for Curing diabetes are Ardha Chandrasana, Bhujangasana, Salabhasana, Poorna Salabhasana, Dhanurasana and Ustrasana. These postures bring stimulation to the pancreas, as they exercise the erector spinae, latissimus dorsi, obliques, deep intertransversarii and posterior abdominal wall. Also, most of these postures cause the internal viscera to stretch, bringing stimulation to the pancreas and other glands and organs that otherwise receive no stimulation. Blood pressure (BP) is a force exerted by circulating blood on the walls of blood vessels, and is one of the principal vital signs. During each heartbeat, BP varies between a maximum (systolic) and a minimum (diastolic) pressure.

### Methods

To achieve the purpose of the study 30 male diabetic patients living around Annamalainagar, Chidambaram, Cuddalore District, Tamilnadu were selected as subjects and their age ranged between 35 and 40 years. They were divided into two equal groups, such as, Group - I underwent yoga practices ( $n = 15$ ) and Group - II acted as control ( $n = 15$ ), which did not undergo any special exercises apart from their day-to-day activities. The yoga practice period for the present study was six days (Monday to Saturday) per week for twelve weeks. Self regulation in diet was followed and a regular interrogation about the subjects' diet was followed.

For every training programme there would be a change in various structure and systems in human body. So, the researcher consulted with the yoga experts, selected the following variables as criterion variables: 1. Blood pressure and 2. Blood glucose. The blood pressure was assessed by administering sphygmomanometer and blood glucose was measured by using the Boehringer Mannheim Kit method.

### Results And Discussion

The data collected prior to and after the yoga practice period on blood pressure and blood glucose on yoga practice group and control group were analysed and presented in the following Table – I

Table – I: Analysis of Covariance and 'F' ratio for Systolic and Diastolic Blood Pressure and Blood Glucose for Yoga Practice Group and Control Group

Variable Name	Group Name	Yoga Practice Group	Control Group	'F' Ratio
Systolic Blood Pressure (mmHg)	Pre-test Mean $\pm$ S.D	136.33 $\pm$ 5.996	136.60 $\pm$ 5.717	0.016
	Post-test Mean $\pm$ S.D.	133.87 $\pm$ 5.975	138.13 $\pm$ 4.853	4.609*
	Adj. Post-test Mean	133.985	138.15	43.836*
Diastolic Blood Pressure (mmHg)	Pre-test Mean $\pm$ S.D	90.60 $\pm$ 3.641	90.53 $\pm$ 3.420	0.003
	Post-test Mean $\pm$ S.D.	88.13 $\pm$ 3.720	91.00 $\pm$ 3.094	5.266*
	Adj. Post-test Mean	88.104	91.029	28.033*
Blood Glucose (in mg/dl)	Pre-test Mean $\pm$ S.D	134.53 $\pm$ 1.685	135.33 $\pm$ 1.633	1.744
	Post-test Mean $\pm$ S.D.	132.87 $\pm$ 1.807	135.47 $\pm$ 1.846	15.188*
	Adj. Post-test Mean	133.239	135.094	24.579*

\* Significant at .05 level of confidence. (The table values required for significance at .05 level of confidence with df 1 and 28 and 1 and 27 were 4.20 and 4.21 respectively).

The analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the experimental group and control group on selected criterion variables separately. In all the cases, .05 level of confidence was fixed to test the significance, which was considered as an appropriate.

After applying the analysis of covariance, the result of this study showed that there was a significant decrease in systolic and diastolic blood pressure for the yoga practice group and also there was a significant decrease in the blood glucose after the experimental period. Further, comparing the adjusted post-test means of the criterion variables, such as the systolic blood pressure (F- ratio – 43.836 p > 0.05) and diastolic blood pressure (F-ratio – 28.033 p > .05) the yoga practice group was significantly decreased and in blood glucose level, there was a significant decrease (F – ratio - 24.579 p > 0.05) after the yoga practices. The results of the study also shown that there was a significant difference in blood pressure (both systolic and diastolic) and blood glucose level between the yoga practice group and control group.

### Conclusions

It was concluded the results of the study that there was a significant decrease in systolic and diastolic blood pressure (Pramanik, March 2009 and Bharshankar et al, 2003 [ and also in blood glucose level (Lorenzo Gordon et al, 2008 Malhotra et al, December 2005 and Amita et al, 2009 among diabetes patients after the twelve weeks of yoga practice. It was also concluded from the results of the present study that there was a significant difference was occurred between the yoga practices group and control group on blood pressure and in the blood glucose level also.

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## Critical Analysis Of Selected Physical Fitness Components Among The Boys & Girls In The North Costal Districts Of Andhra Pradesh

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### Introduction

Regular activity of physical exercise stimulate the growth and development , fitness improves general health and is essential for and vigorous living.Many school mission statements include phrases about enhancing or enriching a child's total well being. This includes the physical well being of young children. In school systems where physical education is offered only one day a week, the physical wellness needs of the children are not being met.This study is not only be useful to the physical education teachers, in evaluating the performance of the school boys scientifically, but also may be helpful for the students to assess their performances in relation to their physical fitness.

### Methodology:

the purpose of this study was to develop norms of physical fitness for high school students in the age eleven to fifteen years of Andhra Pradesh northern coastal districts( i.e Vizianagaram, Visakhapatnam, Srikakulam ) a total of( 2785 )two thousand seven hundred and eighty five high school students were selected at random as subjects for the purpose of the study. Of the students considered in this study, one thousand six hundred and fifty nine of them were boys and the remaining one thousand one hundred and twenty six of them were girls.

. The test was confined to the following fitness items:

Height	Arm explosive power
Weight	Agility
Speed	Flexibility and
Leg explosive power	Aerobic endurance

### Results :

Analysis of Variance on Selected Criterion Variables of School Students among Three Different Districts in Coastal Andhra Pradesh

Variable	District	Mean	Std. Dev.	SOV	Sum of Squares	df	Mean Square	F	Sig.
Speed	Visakhapatnam	5.06	.75	B	49.03	2	24.516	45.480	.000
	Srikakulam	5.42	.78	W	1499.64	2782	.539		
	Vizianagaram	5.33	.69						
Power	Visakhapatnam	1.53	.27	B	1.99	2	.993	12.770	.000
	Srikakulam	1.46	.29	W	216.40	2782	.078		
	Vizianagaram	1.47	.27						
Arm Strength	Visakhapatnam	2.80	.54	B	14.76	2	7.379	27.169	.000
	Srikakulam	2.60	.52	W	755.60	2782	.272		
	Vizianagaram	2.65	.51						
Agility	Visakhapatnam	17.48	1.46	B	113.64	2	56.818	24.786	.000
	Srikakulam	18.04	1.60	W	6377.33	2782	2.292		



Table- shows that the height, speed, explosive power, arm strength endurance, agility and aerobic endurance between high school boys and girls irrespective of different geographical inhabitants and age differences is  $F(1,2783) = 17.23, 2627.13, 1508.98, 1543.68, 1876.23$  and  $1074.30$ , ( $p < 0.05$ ), which indicates existence of significant differences between boys and girls irrespective of different districts and age differences on height, speed, explosive power, arm strength endurance, agility and aerobic endurance.

#### **Conclusions:**

The analysis of data shows that significant differences exist among high school students of different districts irrespective of gender and age difference on body weight, speed, explosive power, arm strength endurance and agility. Likewise, the results of the data analysis confirms the existence of significant differences between boys and girls irrespective of different districts and age differences on height, speed, explosive power, arm strength endurance, agility and aerobic endurance. Though statistically considerable difference persists among different factors chosen in this study, these findings may be owing to the difference age and gender, and thereby its not been considered relatively important as compared to the existence of significant differences among high school students of different ages irrespective of different districts and gender difference on height, weight, speed, explosive power, arm strength endurance, agility, flexibility and aerobic endurance. Thus, this finding is considered vital in preparing age-wise norms on different items of physical fitness.

The findings of the data reveal that on average the boys are slightly taller than girls and without considerable difference in body mass at the age of eleven, but thereafter with the attainment of puberty the girls grown taller and heavier than the boys at the age of twelve and thirteen, and on turn the boys grown-up further taller and heavier than the girls they were fourteen and fifteen years old.

The boys were faster in running 30 metres, powerful in standing broad jumping, stronger in putting the medicine ball, more agile, and more aerobically capable farther than girls in respect to all the corresponding ages.

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## Stress Among Sport Players In India: A Survey

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### Introduction:

Sports participation is a means of bringing people of different culture and creeds together, it serves as an avenue where people of different genders, ages and religious background and political affiliations meet without any rancor. It is a social agent where people of different ages and political backgrounds meet as either producers or consumers (players and spectators). Justifying the importance of sports, Gbadamosi (2000) claimed that sports are one of the unifying instruments that unite human beings irrespective of race, gender, class and others. He assures further that it has emerged as a global, cultural institution that unites the world, which has however become part of human nature and transcends the man made bias and other hindrances placed before the human race.

### Stress Management:

Stress is a part of the normal fabrics of human existence. Every individual regardless of race or cultural background, social and occupational status and even children experience stress in many ways. It is an inevitable part of challenges that prompt mastery of new skills and behaviour pattern. However, when stress becomes excessive, difficulties occur and the sufferer experiences disrupted emotional, cognitive and physiological functioning. Stress is also associated with the development of physical illness including such leading causes of death. Two of such diseases are heart diseases and high blood pressure among many. The cost of stress in terms of human suffering, social and occupational impairment and mental illness is enormous

Selye (1976) defines stress as the rate of wear and tear of the body. Stress is therefore a process in which events or forces threaten the well being of an individual in the society. It is a disruption of the emotional stability of the individual that induces a state of disorganization in personality and behavior (Anthony, 1984).

### Symptoms Of Stress

Stress is associated with physiological symptoms, characteristic of sympathetic nervous system activity. These symptoms relate to the flight response and are summarized below, together with the psychological symptoms of stress, both the subjective (how a person feels) and the behavioral (how a person acts) although there is some overlap in these areas, the symptoms vary among individuals because of the differing sensitivities of organs to the experience of stress.

Physiological Symptoms: Raised heart rate, Increased blood pressure, Sweating, Raised blood coagulation rate, Increased ventilation, Tiredness and/or difficulty in sleeping, Muscle tension particularly in neck and shoulder muscles, Indigestion; constipation' diarrhea.

Measuring Stress: A physiological assessment of stress would include such measurements as heart rate, blood pressure, respiratory rate and skin conductance. Physiological as well as psychological attempts have been made to measure stress.

### Objectives Of The Study:

To know whether sport player's student in college experience stress on a regular sport practices

To know whether stress has an effect on student's sport performance.

### Methodology

*Sample:* A sample of 265 students studying in FY/SY/TY B.A./B. Sc. & B. Com faculty between the ages ranges of 19-23 years was selected randomly from two colleges of Yeola city in Nasik District of Maharashtra. Self -made questionnaire was used to collect data from respondents. 265 questionnaire were distributed to students and finally, 255 questionnaire were collected and hence response rate is 96.22

## Analysis Of Data

Respondents:

Out of total 255 respondents, 112 (43.92%) respondents were from Arts faculty, 96 (37.64%) were from Commerce faculty and 47 (18.43%) respondents were from Science faculty.

Gender of Respondents:

Data shows that from total 255 respondents, 186 (72.94%) were male and 69 (27.05%) respondents were female.

Stress among respondent while sport activity (multiple answer)

Parameters	No.	Percentage
Physical Activity/fitness	94	36.86
During Practice session/Exercise	63	24.70
Actual Playing Game	136	53.33
Team Combination	39	15.29
Trail matches	112	43.92
During main Competition	213	83.52

It was found from the above table that students who involved in sports activity, high stress found during main competition that is 83.52% whereas 53.33% found during playing games. 15.29 % stress found at team combination level.

## Findings Of The Study

The study found that majority of the respondents was male and majority was between 19 to 23 years old.

A large number of the respondents studying in arts faculty It was found that student has stress while playing games or sport activity. Majority of the respondent's has stress during main competition i.e. 83.52 % Physical fitness is major concern among student.

## Conclusion:

From the foregoing, it is evidence that there is relationship between stress and performance among college student. The outcome of this paper indicates that, there is the need to drastically reduce the stress among student for sport activity and employed better management for stress such as arrange Yoga and meditation classes. College authority should appoint the teacher for yoga practice. Based on the findings, it is therefore, suggested that parents should encourage their children by buying sports equipment for them. Governing councils of universities and government should provide standard facilities and equipment in order to encourage student participation in sports. Also, university and college authorities should always designate an evening as lecture free period so that students can participate in sporting programs, to reduce stress. University policies on sports should always be received and updated in order to encourage many sports participants.

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## Athletics Injuries and Prevention

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### **Introduction:**

Running puts excess stresses and strains through the muscles and joints. This excess strain can then lead to aches and pains that need to be treated to ensure they don't develop into complex recurring injuries. Athletics injuries are common to athletes specially due to lack of knowledge it occurs among athletes. Now a days it is burning issues in athletics with hamstring strain.

### **Common causes for athletic injuries**

When rules and regulations of games are not followed .Poor knowledge. The ill-informed athlete does not know that what he does is dangerous, e.g., unscientific weight training. Faulty training techniques or equipment's: though the athlete is aware of the danger yet he must not know how to avoid it, e.g., defending punches in boxing. Lacking of careful attitude – thought the athlete is aware of the danger and knows how to avoid t, yet since he is careless, so fails to take necessary action, e.g., close fielding in cricket, inadequate protective clothing etc...

### *Classification of sports injuries*

The adoption of an etiological classification can be helpful and a consideration of the pathology of some of the commoner sports injuries is based on *Dr William's* classification.

William's classification of sports injures

- |                    |                        |
|--------------------|------------------------|
| 1.a) Consequential | b) non – consequential |
| 2.a) Primary       | b) Secondary           |
| 3.a) Extrinsic     | b) Intrinsic           |
| 4.a) Short term    | b) Long term           |
| 5.a) Acute         | b) Chronic             |

### **Common injuries occurring during sports**

#### *Concussion*

A concussion is typically caused by a severe head trauma and where the brain moves violently which is in the skull so that brain cells fire at once much like a seizure.

#### *Delayed onset muscle soreness*

Muscle pain, stiffness or soreness that occurs 24-48 hours after particularly intense exercises.

#### *Hamstring pull, tear or strain*

Hamstring injuries are common among runners. The hamstring muscles run down the back of the leg from the pelvis to the lower leg bone and an injury can range from minor strain to total rupture of the muscle. *Knee pain*

Knee pain is extremely common in athletes. In order to treat the cause of the pain, it is important to have an evaluation and proper diagnosis. Common reason for knee muscle injury, groin injury, wrist injury.

#### *Abrasions*

Injury that result from a fall leading to skin to rub off.

#### *Ankle sprain*

The most common of all ankle injuries is an ankle strain occurs when there is a stretching and tearing of ligament surrounded the ankle joint

#### *Clavicular fracture*

A shoulder fracture typically refers to a total or partial break to either the clavicle or the neck of humerus

#### *Dislocation of the shoulder:*

A fall on outstretched hand with the shoulder abducted and externally rotated is the common mechanism of injury of anterior dislocation. Occasionally, it result from a direct force pushing the hummers head out of the glenoid cavity.

*Anterior Dislocation* Preglenoid

Subcoracoid

Sub clavicle

*Posterior Dislocation*

In this injury, the head of the humerus comes to lies posteriorly, behind the glenoid.

*Shoulder injury*

Recurrent anterior dislocation of shoulder causes – overuse or defect in humeral head, anterior shoulder pain, supraspinatus or rotator cuff injury.

### **Internal injuries**

There are many organs and structures that can be injured from direct trauma in collision and contact sports. It is not always easy to determine if an internal injury has occurred; therefore the coach or athletic trainer must be educated and knowledgeable about the signs and symptoms of possible injury to internal organs. The discussion here begins with the heart and lungs and continues with the internal viscera.

*Kidneys* ;The kidneys serve to maintain the proper levels of waster, gas, salt, water, and other chemicals in the bloodstream. The kidneys are located posteriorly, and somewhat inferiorly on each side of the abdomen; they can be susceptible to injury from blunt trauma or heart.

*Liver* : The liver aids in the production of a plasma proteins and the detoxification of alcohol and other substances; it also has various digestive functions. It is located in the upper right quadrant of the abdomen and can be susceptible to trauma, especially if the athlete should have hepatitis and the organ is enlarged. The liver may be implicated if a rib fracture occurs in the upper right abdominal quadrant. Otherwise, the liver is fairly safe from injury associated with sports participation. The liver is, however, susceptible to injury by the overuse of alcohol and drugs as well as other internal insults.

*Heart and lungs injuries:*

It has been noted that sudden death among athletes is more often a result of insult to the heart than another factor. This is not a common occurrence, yet youth league baseball players and hockey players have experienced heart contusions.

Anytime the heart is compressed via collision between the sternum and the spinal column by a violent external force – such as might be caused by being hit by a baseball or hockey puck- a cardiac contusion and or chest pain can result. A blunt trauma to the chest may also cause an aortic rupture.

This injury is often fatal and must be given immediate attention if suspected. Watch any athlete with a chest injury for breathing problems, fainting, decreases in heart rate and blood pressure, and complaints of severs chest pains. In addition to a cardiac contusion, and athlete may experience a pulmonary contusion. This injury can be a complication of a rib fracture, contusion, or some other type of pulmonary injury and typically goes undetected. The progress of the athletes should be monitored over a period of days as some injuries have a tendency to exhibit complications later. Signs and symptoms of a cardiac or pulmonary contusion and/or a pneumonthorax include:

The athlete will complain of severe pain in the chest area, sometimes radiating to the thoracic spine.

The athletes will typically experience breathing problems – either shortness of breath of painful breathing exhibited by short, shallow breaths.

First aid care for an athlete with a cardiac or pulmonary contusion and / or a pneumothorax includes:

Treat the athlete for possible shock

Monitor vital signs continuously

Arrange for transport to a medical facility.

More commonly, respiratory problems can lead to chest pain in the athlete. However, whenever a coach or athletic trainer has an athlete who reports chest pain physician. Chest pain and heart conditions in athletes must be reviewed by the proper medical personnel as soon as possible.

### **Reference:**

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Sports Injuries their prevention and treatment written by Sri. Lars Peterson and Sri. Per affRenstrom

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## A Comparative Study of Agility among Tribal Students and Non Tribal Students of Khammam District in Telangana

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### Introduction

A **tribe** is viewed, historically or developmentally, as a social group existing before the development of, or outside of, states. Many people used the term "tribal society" to refer to societies organized largely on the basis of social, especially familial, descent group. A customary tribe in these terms is a face-to-face community, relatively bound by kinship relations, reciprocal exchange, and strong ties to place. The aboriginal tribes of India are the oldest inhabitants of the country.. Today tribal groups, which number more than 40 million, require special attention from the government even though they live largely isolated from the national culture. In the past, many tribal groups were forced to assimilate into the dominant culture of the country. But some groups, such as the Bhils, Gonds, Santals, Oraons, Mundas, Khonds, Mizos, Nagas, and Khasis resisted change and assimilation to maintain their cultural identities and languages. The main question is whether tribal societies can enter the national mainstream while preserving their distinct social, cultural and political beliefs. In sports, agility is often defined in terms of an individual sport, due to it being an integration of many components each used differently (specific to all of sorts of different sports). Sheppard and Young (2006) defined agility as a "rapid whole body movement with change of velocity or direction in response to a stimulus"

### Methodology:

The sample for the present study consists of 30 male Tribal Students and 30 Non Tribal Students between the age group of 14-16 Years of Khammam District in Telangana. To assess the Agility Shuttle Run is conducted with the help of qualified Technical officials of Athletics.

### Results and Discussion:

Table: I Comparison of **Agility** among Tribal Students and Non Tribal Students in Shuttle Run

Agility	N	Mean	Std.Deviation	t	Sig.
Tribal Students	30	12.33	.163	15.45	.000
Non Tribal Students	30	13.66	.541		

In Table –I the Mean Values of Tribal Students in Shuttle Run is 12.33 and Non Tribal Students is 13.66. Hence the Tribal Students are having good Agility compare to Non Tribal Students.

**Conclusion:** It is concluded that Tribal Students are having good agility than non Tribal Students.. Conditioning Program plays a major role for the development of motor qualities and skills among the tribal and non tribal students.

**Recommendations:** Similar studies can be conducted on other students and among females. This study also helps the physical educators and coaches to improve their training regime to excel the tribal students in sports.

### References:

Wikipedia – tribal students, Wikipedia - Agility

## Sports Injuries in Children and Adolescents

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### **Introduction:**

Injuries are very common in sports. In recent years there is a Growth in the participation of children and adolescents. Most of the injuries can be prevented by proper training and guidance to players and coaches. This paper focuses on the modern methods to overcome the common injuries among children and adolescents. Along with this the present paper gave importance to modern findings to prevent injuries in sports. In recent years, we have witnessed both an increase in the participation of children and adolescents in organized sports and an increased emphasis on the fitness and skills of these young athletes. These trends have been paralleled by an increase in the number of sports-related injuries in this patient population. Many of these youngsters train in a single sports discipline, and it are this type of repetitive training which has generated new patterns of injury.

### Types of injury

Muscle sprains and strains, Tears of the ligaments that hold joints together, Tears of the tendons that support joints and allow them to move, Dislocated joints, Fractured bones, including vertebrae. Children and Adolescents Although playing sports can improve children's fitness, self-esteem, coordination, and self-discipline, it can also put them at risk for sports injuries: some minor, some serious, and still others that may result in lifelong medical problems.

Young athletes are not small adults. Their bones, muscles, tendons, and ligaments are still growing and that makes them more prone to injury. Growth plates—the areas of developing cartilage where bone growth occurs in growing children—are weaker than the nearby ligaments and tendons. As a result, what is often a bruise or sprain in an adult can be a potentially serious growth-plate injury in a child. Contact sports have inherent dangers that put young athletes at special risk for severe injuries.

### Adult Athletes

More adults than ever are participating in sports. Many factors contribute to sports injuries as the body grows older. The main one is that adults may not be as agile and resilient as they were when they were younger. It is also possible that some injuries occur when a person tries to move from inactive to a more active lifestyle too quickly.

### Children

Preventing injuries in children is a team effort, requiring the support of parents, coaches, and the kids themselves. Here's what each should do to reduce injury risk.

#### What parents and coaches can do?

Try to group youngsters according to skill level and size, not by chronological age, particularly during contact sports. If this is not practical, modify the sport to accommodate the needs of children with varying skill levels. Match the child to the sport, and don't push the child too hard into an activity that she or he may not like or be physically capable of doing.

.Get the child medical attention if needed. A child who develops any symptom that persists or that affects athletic performance should be examined by a health care professional. Other clues that a child needs to see a health professional include inability to play following a sudden injury, visible abnormality of the arms and legs, and severe pain that prevents the use of an arm or leg.

Provide a safe environment for sports. A poor playing field, unsafe gym sets, unsecured soccer goals, etc., can cause serious injury to children.

#### What children can do?

Be in proper condition to play the sport. Get a preseason physical exam.

Follow the rules of the game. Wear appropriate protective gear. Know how to use athletic equipment.

Avoid playing when very tired or in pain.

Make warm-ups and cool downs part of your routine. Warm-up exercises, such as stretching or light jogging, can help minimize the chances of muscle strain or other soft tissue injury. They also make the body's tissues warmer and more flexible. Cool down exercises loosen the muscles that have tightened during exercise.

#### Tips for Preventing Injury

Whether you've never had a sports injury and you're trying to keep it that way or you've had an injury and don't want another, the following tips can help. Avoid bending knees past 90 degrees when doing half knee bends. Avoid twisting knees by keeping feet as flat as possible during stretches.

When jumping, land with your knees bent. Do warm-up exercises not just before vigorous activities like running, but also before less vigorous ones such as golf. Don't overdo. Do warm-up stretches before activity. Stretch the Achilles tendon, hamstring, and quadriceps areas and hold the positions. Don't bounce. Cool down following vigorous sports. For example, after a race, walk or walk/jog for five minutes so your pulse comes down gradually. Wear properly fitting shoes that provide shock absorption and stability. Remember safety gear. Depending on the sport, this may mean knee or wrist pads or a helmet.

Accept your body's limits. You may not be able to perform at the same level you did 10 or 20 years ago. Modify activities as necessary. Increase your exercise level gradually. Strive for a total body workout of cardiovascular, strength training, and flexibility exercises. Cross-training reduces injury while promoting total fitness.

#### Prevention

Prevention of musculoskeletal injury is based largely on the careful assessment of the aforementioned risk factors. The physical examination and preparticipation evaluation offers the opportunity to intervene in this regard. The overall fitness, flexibility, and medical condition of each sports candidate can be assessed and then measured against the demands of their potential sport. A training regimen can then be prescribed in order to address specific deficiencies in strength and flexibility. The central importance of flexibility must be stressed in the young athlete, especially during periods of rapid growth. Stretching exercises should be performed with the muscles 'warm' to decrease the risk of injury<sup>5</sup>. Strength training also can be helpful in preventing sports injuries in youngsters, provided it is performed under close supervision<sup>15</sup>. Contrary to earlier reports<sup>31</sup>, such training programmes can be quite safe. Emphasis must be placed on proper warm-up, stretching, and high numbers of repetitions with a low weight<sup>32</sup>. Proper instruction and quality coaches must be made available for children in organized sports. Although our own volunteer coaches are well-meaning, most are unaware of the young athlete's particular susceptibility to injury. Hence, our most vulnerable athletes are generally trained by our least experienced coaches. Parents must play an active role by verifying the certification of their children's coaches. They must also ensure that appropriate protective equipment is provided. Though no substitute for proper instruction and supervision, items such as shin guards in football, face masks in hockey, and helmets in cycling have all helped reduce the incidence of injury in young athletes<sup>33</sup>. The upper and lower limits of safe athletic training for children are still unclear. Guidelines for training programmes must emphasize the maintenance of flexibility and the need for slow, progressive increase in training and intensity. The '10% per week' rule for increasing training intensity is now widely accepted and is particularly important in the development of young athletes<sup>32</sup>. Most importantly, children should be allowed to enjoy sports participation, and well intended but misdirected parents and coaches must not pressure a child who is uncomfortable with the rigors of competitive activity.

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## Impacts of weight training with varied intensity on sprint performance

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### Abstract

This study examined the impacts of weight training with varied intensity on sprint performance among fifteen men sprinters from Alagappa University College of Physical Education, karaikudi were selected randomly as subjects. The age of the students ranged from 21 to 24 years. The selected subjects were divided into three groups namely group - I underwent low intensity weight training; Group - II underwent high intensity weight training and group- III acted as control group. The experimental groups were subjected to the training for three days in a week for a period of twelve weeks. The performance variable namely 100M Run was assessed by administering the 100M run test. The Data were collected from each subject before and after the training period and statistically analyzed by using dependent't' test and analysis of covariance (ANCOVA). It was found that there was a significant improvement on sprint performance due to the effects of weight training programmes.

Key Words: Weight Training, Intensity, Speed, and 100Metres Run.

### Introduction

A component of bodybuilding and weight lifting, weight training is a technique for developing muscle strength by progressively lifting increasing amount of weights. However unlike bodybuilding and weight lifting, weight training is not a sport. It is more a type of training method. Weight training follows some simple principles namely overload principle, progressive resistance and principle of specificity. Warming up and stretching before any weight training exercises will help prepare your muscle for work. It will improve our flexibility so we will be able to perform exercises without injuring yourself. A good tip is to do 5 minutes of cardio (running, bike, elliptical) and about 10 minutes of stretching exercises. To get the most out of our weight training exercises you should really focus on the primary muscles you are working on. Concentration on every rep/set of every lift will more effectively build your muscles. You must also make sure you are breathing properly as doing it correctly with allows you to lift more weights. Do not hold your breath! During the most strenuous part of the exercise you should exhale deeply through your mouth and then inhale through the nose.

Strength-training is extremely beneficial for runners. Here are several reasons why: If you've ever had a long run or race when your form fell apart as you get fatigued towards the end, you'll definitely benefit from strength-training. Strengthening can help improve and maintain running form, which translates into greater running efficiency. Strength training is an excellent way to get faster. Runners usually see improvements in their race times fairly soon after they add strength training to their regimens. All it takes is two or three 15- to 20-minute strength-training sessions a week to build more muscle mass. New runners frequently ask, "When will it start to feel easier?" The answer is different for everyone, but adding strength training to your routine can definitely speed up the process. Strengthening your leg muscles will help increase your endurance, meaning you can run longer without feeling fatigued.

### Purpose of the study

The purpose of the study was to find out the effects of weight training with varied intensity on sprint performance among college men sprinters.

### Methodology

To achieve this purpose, fifteen men sprinters were selected from Alagappa University College of Physical Education, Alagappa University, karaikudi as subjects. The selected subjects were participated in inter collegiate level athlete meet for the past three years and their age ranged from 18 to 24 years.

They were randomly assigned into three groups of five each such as two experimental and a control groups namely low intensity weight training group (Group-I), high intensity weight training (Group-II) and control group (Group-III). The experimental group I (n=5) underwent low intensity weight training programme, group II (n=5) underwent high intensity weight training programme for 30 to 45 minutes in three alternate days (Monday, Wednesday and Friday) during evening session for twelve weeks. Group III (n=5) acted as control and they were asked to refrain from any special training except their leisure time pursuit as college students. The performance variable namely 100M Run was assessed by administering 100M Run test in seconds. The data were collected from each subject before and after the training period and statistically analyzed by paired sample 't' test which was used to find out the significant improvement on selected criterion variable and Analysis of Covariance (ANCOVA) was used to find out the significant difference, if any among the adjusted post test means of experimental and control groups on each variables separately. Whenever, the obtained F-ratio for adjusted post test means was found to be significant, the Scheffe's test was applied as post hoc test to determine which of the paired mean differences was significant. All the cases 0.05 level of confidence was fixed as a level of confidence to test the hypotheses.

### Analysis of the data

The influence of varied intensity weight training programmes on 100M Run performance was analyzed and presented in the tables. The mean, standard deviation and dependent 't' test values of 100M Run performance on low intensity weight training group, high intensity weight training group and control group have been analyzed and presented in table I.

The summary of mean standard deviation and dependent 't' test for the pre and post tests of 100m run of two experimental and control groups

Name of the test	Low intensity group	High intensity group	Control group
Pre test mean $\pm$ SD	11.78 $\pm$ 0.19	11.76 $\pm$ 0.21	11.76 $\pm$ 0.11
Post test mean $\pm$ SD	11.24 $\pm$ 0.25	10.88 $\pm$ 0.30	11.78 $\pm$ 0.13
't' test	7.96*	3.96*	0.27*

\*Significant at 0.05 level. (The table value required for significant at .05 level of confidence with df 4 is 2.78).

The Table I show that the pre-test means value of 100M run performance in low intensity weight training, high intensity weight training and control groups are 11.78, 11.76 and 11.76 and the post test means are 11.24, 10.88 and 11.78 respectively. The obtained dependent t-ratio values between the pre and post test means of low intensity weight training, high intensity weight training and control groups are 7.96, 3.96 and 0.27 respectively. The table value required for significant difference with df 4 at 0.05 level is 2.78. Since, the obtained 't' ratio value of experimental groups are greater than the table value, it is understood that low intensity weight training and high intensity weight training groups have significantly improved the 100M run performance. However, the control group has not improved significantly because the obtained 't' value is less than the table value, as they were not subjected to any specific training. The analysis of covariance on performance of 100M run in low intensity weight training group, high intensity weight training group and control group have been analysed and presented in Table II

Analysis of covariance computed for two experimental and control groups on 100m run performance

Variables	Source	SS	Df	MS	F	P	$\omega^2$
Performance of 100M Run	Groups	2.050	2	1.025	16.65*	.000	0.75
	Error	.677	11	0.062			

(The table values required for significance at .05 level of confidence with df 2 and 11 is 3.98)

The table II shows that the obtained 'F' ratio value of 100M Run performance is 16.65 which are higher than the table value of 3.98 with df 2 and 11 required for significance at 0.05 level. Since the value of F-ratio is higher than the table value, it indicates that there is significant difference between the low intensity weight training group, high intensity weight training group and control group on 100M Run performance. However, only 75% ( $\omega^2 = 0.75$ ) of the total variance was accounted by three groups in 100M Run performance.

In order to find out which of the three paired means significantly differ, the Scheffe's post hoc test was applied and presented in the table III.

Scheffe's post hoc paired means comparisons and effect size on 100m run performance of two experimental and control groups

Groups	Adjusted means	Adjusted mean differences (Effect size are indicated in parentheses)		
		1	2	3
Low intensity group	11.24	---		
High intensity group	10.88	0.36	---	
Control group	11.78	0.54* (2.17)	0.90* (3.62)	---

\*Significant at 0.05 level of confidence. Scheffe's C.I value 0.443

Follow-up was conducted to evaluate pair wise differences among the adjusted means for experimental and control groups. The scheffe's procedure was used to control type I error across the three pair-wise comparisons ( $\alpha = .05/3 = 0.443$ ). The results showed that high intensity weight training group ( $M = 10.88$ ) had significantly better than low intensity weight training group ( $M = 11.24$ ) and control group ( $M = 11.78$ ). Low intensity weight training group had better performance over the control group and did not show any significance difference between the experimental groups. The effect size of those significant adjusted mean differences with low intensity weight training group and control group, high intensity weight training group and control groups were 2.17 and 3.62 respectively.

### Results and Discussion

The results of the study show that the selected dependent variable of 100M Run performance has significant difference between the low intensity weight training group and control group, and high intensity weight training group and control group and did not show significance difference between the low intensity weight training group and high intensity weight training group due to the 8 week training programmes. Hence, the researcher's hypothesis was accepted and the null hypothesis was rejected.

### Conclusion:

It was found that there was significant improvement on 100M Run performance due to the effects of low intensity and high intensity weight training programmes among college men sprinters.

There were significance differences between the experimental and control groups but there was not significance difference between the low intensity and high intensity weight training groups on 100M Run performance among college men sprinters.

Finally it was concluded that high intensity weight training group was better than the low intensity weight training group and control group on the performance of 100M Run.

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## **Assessment of Basic Physical Fitness of Boys of Age Groups 18+ to 20+ of Engineering Colleges of Uttar Pradesh, India**

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### **Abstract**

Fitness provides a solid foundation and is one of the most important keys to health and living one's life to the fullest freedom from disease, organic development, efficient movement, alertness of mind and emotional adjustment which provides the frame work of fitness. Fitness is more than a product of exercise, while exercise is necessary to obtain and maintain fitness. To measure the present level of physical fitness of technical colleges going boys of Uttar Pradesh age group +18 to 20+ years. There would be no significance differences in the performances of physical fitness test in respect of their differences in age groups and colleges of their admission for their studies. To measure the present level of physical fitness of college going boys of U.P. of age groups +18 to 20+. The investigator has measured the physical fitness of 1200 boys i.e. 600 urban and 600 rural. HARVARD STEP TEST, ZIG ZAG RUN, STANDING BOARD JUMP, SHOT PUT, and SIT- UPS have been used. The conclusions have been reached that Indian lag behind in physical fitness with the result that they stand nowhere inter-national competitions. Probably this is also true for Uttar Pradesh where the students of this age group are not able to perform the activities satisfactorily. This low level of physical fitness can be attributed to various factors such as lack of well equipped colleges and of physical education teachers in the colleges, the indifferent attitudes of educationists towards physical education and the poor social recognition of physical activity and sports etc.

**KEY WORDS:** Fitness, Rural, Urban Etc.

### **Introduction**

Fitness provides a solid foundation and is one of the most important keys to health and living one's life to the fullest freedom from disease, organic development, efficient movement, alertness of mind and emotional adjustment which provides the frame work of fitness. It has been said that fitness not only adds years to one's life, but life to one's years. Fitness is not confined with a state for young but it is for all ages. Fitness is more than a product of exercise, while exercise is necessary to obtain and maintain fitness. Proper nutrition, adequate rest, relaxation of health appraisal and good health habit are all factors of implementation. The bridge between health and fitness has been a renewed interest in fitness and resurgence of effort towards attaining and maintaining it. Fitness is no doubt a relative matter depending on the individual yet there are commonalities applicable to all, certainly no single set of standards could apply to all people. The investigator has been organising various programmes and meets in games and sports from at least twenty years. He has also been administering the physical efficiency drive programme in college and university. So he feels the need to assess the physical fitness of college boys of age 18+ to 20+.

### **Objective Of The Study**

1. To measure the present level of physical fitness of technical colleges going boys of Uttar Pradesh age group +18 to 20+ years.
2. To establish norms for physical fitness of the same groups.
3. To compare the standard of physical fitness of students belonging to Egg. Colleges and cornering from urban and rural area keeping in view their socio-economic status.

## Research Methodology

To measure the present level of physical fitness of college going boys of U.P. of age groups +18 to 20+ The investigator has measured the physical fitness of 1200 boys i.e. 600 urban and 600 rural besides this, the results of the pilot study underline earlier has been also taken into consideration for the feasibility of this study, based on large population.

### SELECTION OF SUBJECT

The investigator took 1200 male students from thirty engineering college at Uttar Pradesh as subject of the study. They were in the age group of +18 & 20+ years and they were also bonafied students of Central Govt. Aided, State Govt. Aided College and self finance Engineering Colleges of Uttar Pradesh and duly approved by AICTE.

### Design Of The Study

The present study was conducted in two stages i.e. pilot study and final study. To prepare the pilot study was to see the feasibility and possibility of the tests on the population of U.P. and to seek guide lines for final study. The final study was designed to establish norms and standard for the population of Engg. College boys of U.P. The final study was undertaken at two different levels i.e. rural and urban. In order to represent total population of U.P. the norms were also established for total samples taking for the study.

In addition to this, comparison between different sub groups on the basis of area and SES were also studied. Two areas were considered to form two groups i.e. rural and urban and SES consisted of three groups high, middle and low. These categories were made on the basis of .75 SD. In this way, the cutting score for highest SES was 55 and middle was 30 and lower SES was below .20. In order to study interaction between these variables two way factorial design of Anova was applied. This design was taken up on the criterion that one of the main claims of the technique of analysis of variance is that the effect of different levels of one or more than due independent variable on the department variable may be studied simultaneously. So also in the present study the variables of area and SES were differentiated into the two categories and variables of SES was differentiated into three categories, in order the see their effect on physical fitness in one design.

### Data Collection

#### TRAINING OF LEADERS / HELPERS

The study included a wide range of sample of Engg. colleges for the collection of data. It was beyond the capacity of the investigator to collect the data individually, therefore, some helpers were sought to collect data by administering the above mentioned tools. These helpers were qualified physical educationists from the Physical Education Department of Allahabad University. Five helpers were trained to collect the data and administer the tools. They were given training collectively for the one month on the local population of Allahabad. Inter helper reliability at the end of the camp was 98 this High co-efficient was very much needed because the study included physical fitness tests whose were to measure specific fitness, traits and needed objective measurement to establish.

In order to achieve the objectives of the study the following tools were used:

HARVARD STEP TEST,ZIG ZAG RUN,STANDING BOARD JUMP,SHOT PUT And SIT- UPS

### Reliability Of The Test

The investigator has tested 75 students twice with a gap of seven days to know the reliability of these tests and to determine the correct norms.

Table 1: RELIABILITY COEFFICIENTS OF THE TESTS

Sr. No.	Name of the test	N	Reliability test
1	Pulse Rate after exercise (step-up test)	73	.925
2	Zig Zag Run	73	.974
3	Shot Put	73	.953
4	Sit Ups	73	.938
5	Standing board jump	73	.965

### **Implications**

The nation has been raising the slogan "Catch them Young" for a better performance in the field of sports at all levels because what can be attained depends entirely on the fitness of a person starting from early childhood.

Indians are comparatively weaker in fitness as compared to the other nations who have thrown us at the rear in sports competitions because only 5 percent of the total population participate in physical and sports activities. It should not be forgotten that quality always comes out of quantity.

As most of the students were not willing to undergo this test, motivational methods should be devised to persuade them to participate in the competition of the test.

The investigator faced hardship in conducting these tests when colleges were closed due to strikes or some other reasons.

### **Suggestions**

While conducting the present research, the investigator felt that the following type of studies may be conducted to probe further into the field of physical fitness.

Such type of studies may be conducted on a larger scale and in different areas of U.P. as well as in the different regions of the country so that norms may be established for the entire population of the country.

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## Revisiting Traditional Games in the Heart of Filipino in the Province of Cavite “A Community Based Program Intervention”

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### Introduction

#### “Traditional Games a symbol of our national identity and pride”

Cavite, one of the provinces comprising the Southern Tagalog Region, lies immediately at the southwestern entrance of Manila Bay across the Bataan Peninsula. It extends eastward along its shoreline in the north up to the historical Zapote Bridge and the inland terrain in the south up to Carmona. It is bounded on the east by the provinces of Rizal and Laguna, on the south by the province of Batangas, on the west by Philippine Sea and on the north by Manila Bay and the City of Manila. In terms of culture and traditions, Caviteños are very proud of their majestic and interesting culture and traditions. Aside from the celebrations of town fiestas, the province of Cavite celebrates festivals as forms of thanksgiving for a bountiful harvest and in honor of its patron saints. Some of these festivals are also observed in honor of the historical legacies passed from one generation to another generation. In fact, the province fetes the renowned Kalayaan Festival, which is given a great social importance in commemoration of the heroism of its people. The province has very rich culture, traditions and fiesta celebrations such as Mardicas which is a war dance held in Ternate town and Karakol or street dancing with a fluvial procession which is usually held in coastal towns. There is also a pre-colonial ritual called the Sanghiyang as a form of thanks giving and to heal the sick. Another cultural tradition is the Live via Crucis or Kalbaryo ni Hesus which is being done during Holy Week and Maytinis or word prayer that is annually held in Kawit every December 24 just before the beginning of the midnight Mass. Cavite proudly stands as a place with a glorious past. Its warm and friendly people, whose ancestors came down with a noble cause, manifest industry and patience in various skills and professions, openly receptive to the entry and exchange of culture and technology that are of value to the province.



Cavite is also rich in traditional games like object games, fiesta games, hurdle games, foot games, street games, and indoor Games. According to Wikipedia, Traditional Filipino Games or traditional games in the Philippines are games commonly played by children, usually using native materials or instruments. In the Philippines, due to limited resources of toys of Filipino children, they usually come up on inventing games without the need of anything but the players themselves. With the flexibility of a real human to think and act makes the game more interesting and challenging.

Dickie Aguado, Executive Director of Magna Kultura Foundation (a Philippine NGO for Arts and Culture), confirms that the Traditional Filipino Games are very much alive in the Philippines. “It is not true that the Filipino Street Games are no longer played, as some would say that it has vanished in Philippine society in the age of computers and high-tech gadgets. In many urban and rural areas, a great majority of Filipino children still play outdoor street games, as most of them are still unable to own expensive high-tech gadgets. Games like Patintero, Tumbang Preso, Piko, Sipa, Turumpo, and many others, are very much alive and played daily in the neighborhood. One of the main reasons why some children stop playing the Filipino games is because Western sports activities (i.e., basketball or volleyball) are more prominently organized in local Barangays and in schools. With lack of organized sports activities for Filipino street games, children would just move on leaving the games of their childhood in the streets.”

The family, school, and church are the major institutions in Philippine society responsible for the transmission and preservation of traditional custom and lore. They are the most effective guardians of Philippine folk games. If Philippine games are allowed to perform all their potential functions, they will prove their effectiveness in enhancing Filipino national pride and regional unity and at the same time promote international friendships, good will, and understanding.

Source: *Landicho (A Study of Philippine Games)*

UNESCO – United Nations Educational, Scientific and Cultural Organization

Resolution 3 C/R .21

Emphasizing that traditional games and sports form a significant part of the cultural heritage which should be protected and promoted, particularly with a view to improving the quality of physical education and sport in education systems, recognizing that traditional games and sports form a significant part of the intangible cultural heritage of societies.

Source: UNESCO

Sixteenth Congress First Regular Session

House Bill No. 2675 Introduced by Representatives

Diosdado Macapagal Arroyo And Gloria Macapagal Arroyoan Act

To Include Traditional Games and Sports in the Physical Education (P.E) courses in all levels of educational institutions and sport activities of local government units, appropriating funds therefor and for other purposes

Provisions of the 1987 Philippine Constitution

Mandate the State to conserve, promote and popularize the nation's historical and cultural heritage and resources to preserve them for *future generations of Filipinos and ensure continuity of Filipino identity and cultural belongingness*. It is therefore imperative that a deeper appreciation and understanding of our traditional games and sports is established in the minds of all Filipinos *especially the youth*. And what better way to do this by making the study of traditional games and sports as a part and parcel of physical education courses in all levels of educational institutions, both public and private.

The De La Salle University Dasmarinas Cavite, Philippines- Physical Education Department Mission

The *Physical Education Department* aims to revive and preserve the Filipino cultural heritage through *indigenous games, sports, songs, and dances*. For these reasons, the author made a strong commitment as her starting point of realization & reflection to create a community based program intervention where she can witness, and grasp the heartbeat/stories of each generational gap, which composed of Kid's category, Youth category, Adult category and Senior's Citizen category.

#### **Methods:**

The author used the Participatory Action Research (PAR). Participatory action research is an approach to research in communities that emphasizes participation and action. It seeks to understand the world by trying to change it, collaboratively and following reflection. In using PAR it integrate three basic aspects of work: participation (life in society and democracy), action (engagement with experience and history), and research (soundness in thought and the growth of knowledge) (Chevalier and Buckles, 2013, ch. 1). Source: [http://en.wikipedia.org/wiki/Participatory\\_action\\_research](http://en.wikipedia.org/wiki/Participatory_action_research)

#### **Scope of the Study:**

The community based program research was participated by one hundred eleven (111) participants, which composed of Kids category with the total of 57 participants, Youth category with the total of 29 participants, Adult category with the total of 20 participants and Senior's citizen category with the total of 5 participants. Officers and Board of Directors who approved and supported the said research project ran the community. The title of the said project was "St. Joseph Homes 1<sup>st</sup> Katutubong Larong Pinoy Festival, 2014": Games for Unity, Health and Friendship.

#### **Location:**

The venue where the community based program research conducted was in St. Joseph Homes Subdivision, Brgy. Inocencio Trece Martires City. City of Trece Martires, strategically located at the heart of Cavite, the provincial capital where the seat of the Provincial Government is located and the historic place named after the thirteen martyrs of Cavite.

#### **Evaluation/Feedback Process:**

List of Questions:

Question # 1: What did you experienced when you were playing "traditional games"/ Philippine Games?

Question # 2: Do you think that children or youth must give importance to our own traditional games?

Question # 3: Do you still recommend traditional games as part of our yearly community activities?



**List of Feedback or Result of the Interview:**

Name: Glenn Castro, Age: 31 Category: Adult

Question # 1: What did you experienced when you were playing “traditional games”/ Philippine Games?

Answer: I am very happy and enjoyed the traditional games a lot. I have met new friends.

Question # 2: Do you think that children or youth must give importance to our own traditional games?

Answer: Yes, so that our traditional games will not be vanished.

Question # 3: Do you still recommend traditional games as part of our yearly community activities?

Answer: Yes, I want to have more events like this.

Name: Frances Michaela Vicedo Age: 10 years old Category: Kids

Question # 1: What did you experienced when you were playing “traditional games”/ Philippine Games?

Answer: I am very happy because this is my first time to play our own traditional games.

Question # 2: Do you think that children or youth must give importance to our own traditional games?

Answer: Yes, because it reminds us the games of yesterday...

Question # 3: Do you still recommend traditional games as part of our yearly community activities? Yes

Name: Marivic Galarion: Age: 9 years old: Category: Kids

Question # 1: What did you experienced when you were playing “traditional games”/ Philippine Games?

Answer: *I felt tired but I enjoyed a lot.*

Question # 2: Do you think that children or youth must give importance to our own traditional games?

Answer: *Yes, because this is our “traditional games” us Filipinos.*

Question # 3: Do you still recommend traditional games as part of our yearly community activities?

Answer: *Yes, so that it would encourage more young ones to play our traditional games.*

Name: Jane Pasayon: Age: 35: Category: Adult

Question # 1: What did you experienced when you were playing “traditional games”/ Philippine Games?

Answer: *I am one of the volunteers committee. I enjoyed watching and how the participants played and endured all the obstacles just to win.*

Question # 2: Do you think that children or youth must give importance to our own traditional games?

Answer: *Yes, it is necessary that we value our traditional games. Remember that these were the games of our parents. It's really nice to encourage our young generation to play it, too.*

Question # 3: Do you still recommend traditional games as part of our yearly community activities?

Answer: *Yes, not only in our subdivision but in other places also so that more of the young ones would learned and play our traditional games.*

**Top Ten List of General Feedback from the Participants:**

I am happy because I saw the teamwork among my teammates. It is good that the new generation would experience our traditional games. Traditional games give joy to all. I felt tired but I am happy. Because the new generation do not have any idea about our traditional games. I would say our traditional games are better than today's. It was exciting. I felt like I was young again. Yes, of course. We should give importance for the reason that it is our nature games by which it is part of our culture as Filipinos. I am very happy playing traditional games compare to computer games. It is more enjoyable than playing computers.

**Recommendations:**

There should be a yearly activity program for “traditional games” for continuous promotion and propagation in every community setting. There should be a 1-day festivity for “traditional games” outside the community. It is also recommended to have a festivity of Katutubong Larong Pinoy for the entire Trece Martires City Subdivisions or Barangays. The City Mayor of Trece Martires City should collaborate with the kind of activity or project that widens the promotion of our very own “traditional games”.

Parents should encourage their children to play street games or traditional games as much as possible. Allow them to have playtime with their friends instead of keeping their children inside the house and just play computer games.

**References:**

Landicho. A Study of Philippine Games

UNESCO – United Nations Educational, Scientific and Cultural Organization Resolution 3 C/R .21

Sixteenth Congress First Regular Session, House Bill No. 2675

Introduced by Representatives DIOSDADO MACAPAGAL ARROYO AND GLORIA MACAPAGAL

ARROYO Provisions of the 1987 Philippine Constitution

The De La Salle University Dasmarias Cavite, Philippines- Physical Education Department

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## A Study On Handball Players In Relation Of General Conditioning Exercises For Development Of Performance

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**Dr.M.Ravi Kumar**  
**Indian Hand Ball Coach, Telangana Sports Authority**

### **Abstract**

The purpose of the study was to investigate the effect of General Conditioning Exercises For Development of Performance in Handball. The knowledge of General Conditioning Exercises is essential to a coach for effective coaching for betterment of performance. Handball is associated with several other disciplines all the associated disciplines are inter-related and inter-dependent for the top level performance. A number of physical educationalists and coaches are there to study about General Conditioning and Sports activities. Now a days sports is not merely, but a vast reservoir of knowledge but also a source of human development in all its aspects. To withstand in competition to achieved position results he must be a physically fit, mentally alert, intellectual, sharp, emotionally balanced and socially well adjusted.

### **Introduction**

Physical fitness makes you a great team handball player, but without it you cannot achieve your potential. Being physically fit for team handball includes endurance (aerobic and anaerobic), strength, flexibility, and the related skill factors of agility, balance and coordination. Team handball is a 60-minute game of fast, continuous action. Your commitment to being physically fit improves your capacity to practice at a level closer to game like conditions. Although you may run more than 3 miles during a game, short bursts of exertion challenge your anaerobic endurance. Training your aerobic capacity through long distance running prepares you for the short distance speed work that will improve your anaerobic endurance for practices and games. Whenever possible, include team handball in your physical conditioning exercises. Combining skill training and fitness in a single physical maximizes the use of your practice time.

Every practice and game should include 10 to 15 minute warm up period to elevate your heart rate and increase your flexibility. The benefit of flexibility exercises increases when preceded by exercises that allow you to break a sweat. Remember to use a static stretch by assuming the stretch position, holding that position, then relaxing. Warming up decreases the chance of sustaining muscle and joint injury.

### **CONDITIONING TRAINING FOR HANDBALL PLAYERS**

1.	Motor Coordination
2.	Cardiovascular fitness – Aerobic training
3.	Cardiovascular fitness – Anaerobic training
4.	Strength training
5.	Flexibility

### **MOTOR COORDINATION TRAINING FOR HANDBALL PLAYERS**

#### **VARIABLES FOR THROWING**

More variations of throwing to improve specific coordination needed in handball. Determine the way of execution.

<p><b>THE THROWER</b>  <u>Starting position of the thrower</u>          Throwing from static position:          From different standing, sitting, kneeling positions,          From kneeling supports,          Lying (back, from, side)          Throwing from motion          From different walking, running, descending and ascending,          From jumping          Different size balls one after another randomly          Different weight balls one after another from light to heavy          Different weight balls one after another from heavy to light          Different weight balls one after another randomly          The listed variations within time restricted circumstances,          The listed variations within time restricted circumstances,</p>	<p><b>THE THROW</b>  <u>The manner of throwing</u>          One hand, both hands          Upper and under          Rolling, pushing-like  <u>Direction of throwing</u>          Depending on the starting position (facing, side or back to the target) forward, sideward and backward.  <u>Distance of throwing:</u>  <b>THE TARGET</b>          Distance of the target,          Size of the target          Plane of the target,          The order of throwing series          Equal size balls one after another          Equal weight balls one after another          Different size balls one after another from light to heavy          Different size balls one after another from heavy to light</p>
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**Cardiovascular Fitness Training For Handball Players In Aerobics Exercises**

Handball is a game of aerobic and anaerobic. Most of the research says that it's a game of aerobic but it is a contradictory to say which is the most dominant system.

	Threshold of Training	Target Zone
Frequency	Three days a week	At least 3 and no more than 6 days a week.
Intensity	Elevate the heart rate to 60% of its working range	Elevate the heart rate to at least 60% and up to 80% of its working range. For most young adults, the average target zone is between 135 and 170 beats per minute
Time	Exercise at the proper intensity for a minimum of 15 to 30 minutes.. Exercise of the proper intensity and frequency that causes a calorie expenditure of 1,500 to 2000 per week is enough to improve cardiovascular fitness.	Exercise at the proper intensity for 15 to 60 minutes or expend from 1,500 to 3,000 calories per week at the correct intensity and frequency.

**CARDIOVASCULAR FITNESS TRAINING FOR HANDBALL PLAYERS IN ANAEROBIC EXERCISES**

In handball in a match situation the handball players run for the fast breaks to score the goals in the same way the defender fall back with a high intensity to stop the attackers. Sometime the goalkeeper has a lightning reaction to stop the ball in this anaerobic plays a very important role in the game of handball.

	Threshold of Training	Target Zone
Frequency	Three days a week	Three to four days a week.
Intensity	Short Intervals – 10 to 30 seconds. Long Intervals – 90% of maximum speed, running and other exercises of short durations – 30 seconds to 2 minutes.	Short Intervals — 10 to 30 seconds. Long Intervals – 90% of maximum speed, running and other exercises of short durations – 30 seconds to 2 minutes.
Time	Short Intervals – Exercise 10 seconds, rest 10 seconds.Repeat 20 times or exercise 20 seconds, rest 15 seconds, repeat 10 times or Exercise 30 seconds, rest 1 to 2 minutes, repeat 8. Long intervals - Exercise 1 minute, rest 3 to 5 minutes, repeat 5 times or Exercise 2 minutes, rest 5 to 15 minutes, repeat 4 times.	Short Intervals – Same as threshold but repeat up to 30 times.Same as threshold but repeat up to 20 times.Same as threshold but repeat up to 18 times.Long intervals – Same as threshold but repeat up to 15 times.  Same as threshold but repeat up to 10 times.

### Different Types Of Strength For The Handball Players

Strength	Resistance	Number of repetition	Rest between sets
Maximal strength	100 – 85%	1 – 4(5)	3 – 5 min
Explosive strength	85 – 50%	4 – 8 (9 – 10)	3 – 5min
Strength endurance	70 – 20%	10 – 30	30 – 90 sec or Personal Heart Rate recovery to the warm up Heart Rate Zone
Intensive	60 – 70%	10 – 15	
Extensive	20 – 50%	16 – 30	

#### Flexibility

Handball required a lot of flexibility for the attacking techniques and defense techniques and specially for the goalkeepers. It helps for various movements in game situations.

#### STRETCHING CAN SERVE MANY PURPOSES

Reduction of muscle tension, Assist in the coordination of movements, Prevent injuries, Makes strenuous activities less of a shock, provides circulation, Help loosen the mind control of the body.

#### STRETCH - RELAXATION FOR HANDBALL

Stretching – relaxation is more effective than static stretching. This technique very effectively improves flexibility

#### CONDITIONING MOTOR ABILITY TESTING TOOLS FOR HANDBALL PLAYERS

Tests	Physical Parameters	Unit of measurement
Specific Motor Qualities		
NAPFA Test	a) Flexibility (Sit and reach)	Centimetres
AAHPER Test	b) Speed (30 Meters sprint)	Seconds
AAHPER Test	c) Agility (6x10 Meters)	Seconds
	d) Strength	Counts
AAHPER Test	Explosive Strength (Standing Broad Jump)	Meters
AAHPER Test	Strength endurance (push ups 1 minute)	Counts
AAHPER Test	Strength endurance (Bent Knee Sit-ups)	Counts
AAHPER Test	e) Coordination (30 Meters sprint with ball dribbling)	Seconds
NAPFA Test	f) Endurance (2.4 KM)	Minutes

#### CONCLUSION

This study aimed to analyze elite team handball physical and physiological demands during match play. Time-motion and heart rate analyses were performed throughout ten official matches. The defined locomotor categories were: standing still, walking, jogging, fast running, sprinting, backwards movement, sideways medium-intensity movement and sideways high-intensity movement and playing actions studied were jumps, shots, stops when preceded by high-intensity activities, changes of direction and one-on-one situations. The most frequent high-intensity actions were stops, changes of direction and one-on-one situations. In high-intensity activities, frequency of stops, changes of direction, one-on-one situations and most intense periods of the game were higher that primarily utilizes aerobic metabolism, interspersed by high-intensity actions that greatly anaerobic metabolism. Additionally, exercise intensity decreases from the first to the second half of the match, suggesting that neuromuscular fatigue may occur during the game. The training of elite handball players should comprise exercises targeting the ability to perform specific high-intensity actions throughout the game and to rapidly recover during the less intense periods.

## Prevalence of musculoskeletal injuries in lower back and lower extremity in track and field athletes in Sri Lanka

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### Abstract

There is a lack in literature regarding the prevalence of injuries, injury types and also the predisposing factors leading to athletics injuries in Sri Lanka. Aim of this study is to generate information on the prevalence of musculoskeletal injuries in lower extremities and back, in Sri Lankan athletes. A cross sectional study was performed to ascertain current prevalence of injuries and two year retrospective data were studied to find out the 2 year period prevalence of injuries in track and field athletes. Over all 106 athletes who are participating in national level events were included in the study. The 2-year retrospective injury prevalence was 35.85% (95% Confidence Interval (CI), 26.72% - 44.98%); the point prevalence of current injuries was 50.0% (95% CI, 40.48% - 59.52%). The body region showing the highest injury prevalence in point prevalence was the lower back (12.26%; 95% CI, 6.02% - 18.5%) followed by the Knee (11.32%; 95% CI, 5.29% - 17.35%) and Ankle (6.60; 95% CI, 1.87% -11.33%) whereas the highest injury prevalence in 2-year period prevalence was the knee (7.55%; 95% CI, 2.52% - 12.58%), Hamstring (7.55%; 95% CI, 2.52% - 12.58%) and Ankle (7.55%; 95% CI, 2.52% - 12.58%). Highest injury prevalence in both 2-year prevalence and point prevalence was the knee and ankle followed by lower back and Hamstring. Event showing the highest injury prevalence was field athletics (60%) followed by multi events (50%) and track events (47.95%). Higher injury prevalence was found in long distance runners (58.82%) when compare to short distance runners (43.90%). A great proportion of injuries occurred during training (79%) while only 16% of injuries occurred during competition. Results revealed that the injury prevalence is high among Sri Lankan track and field athletes. Most of the injuries affect the Knee, Hamstring, Ankle and lower back and occurred during training.

Key words: athletics, injuries, injury prevalence

### Introduction

Participation and competitiveness in running events, have been increased drastically over the past few decades. However, the potential for injuries such as knee injuries, hamstring injuries, ankle injuries and many other sport injuries also have been well documented in the literatures (Jacobsson et al, 2011). The etiology of running related injuries (RRI) is multifactorial. The factors affecting RRI can be divided basically into intrinsic and extrinsic factors (Neely, 1998). Intrinsic factors can be further categorized into modifiable and non-modifiable factors. Due to the importance of relationship of these factors with RRI, it often leads to research study designs that evaluate individual risk factors. Intrinsic risk factors include age, gender, genetics, bone density, skeletal alignment which are non-modifiable factors. And factors such as body size, composition and physiological factors as, flexibility, muscular strength and endurance and hormonal factors, are mostly modifiable. Extrinsic risk factors include mechanical factors such as surface, footwear, equipment used, and external loading as well as physical training parameters (Bennell, 1999). However in the Sri Lankan context there's insufficient information regarding the prevalence of injuries, injury types and also the predisposing factors leading to RRI. Aim of this study is to generate information on the prevalence of musculoskeletal injuries in lower extremities and back, in Sri Lankan national and provincial level athletes by conducting a cross sectional study.

As the physical structure, physical qualities, environmental factors and training methodologies in Sri Lankan athletes, are unique to our conditions, conducting a study to examine the prevalence of injuries in lower extremities and back of the athletes in Sri Lanka, and to determine the relationship of some predisposing factors with the occurrence of the injuries seems to have an immense value and demand.

### Methodology

This study was conducted as a cross sectional study to measure the prevalence of the musculoskeletal injuries of lower back and the lower extremity, among the provincial and national level running athletes in Sri Lanka. A cross sectional study was performed to ascertain current prevalence of injuries and two year retrospective data were studied to find out the 2 year period prevalence of injuries in track and field athletes. The study included 106 elite national or provincial level male runners who are in the age category of 15-30 years of age who visit Exercise and Sport Sciences Laboratory for routine fitness testing at the Department of Physiology of Faculty of Medicine in University of Peradeniya, Sri Lanka.

Data collection was ensued by using a reliable assessment sheet which consisted with demographic data, anthropometric data, physical fitness assessment, injury specific orthopedic tests, biomechanical assessment and training related information. All the data were entered and analyzed with Minitab statistical software to find out the prevalence of injuries.

### RESULTS AND DISCUSSION

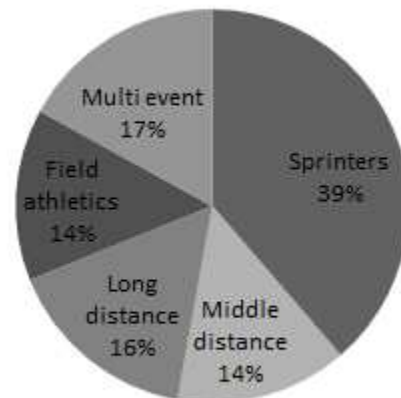
A cross sectional study was performed on 106 athletes to ascertain current prevalence of injuries and two year retrospective data were studied to find out the 2 year period prevalence of injuries in track and field athletes.

Main events of athletes studied were running (short-distance, middle distance and long distance) and field athletics (Throwing and jumping events). The 2-year retrospective injury prevalence was 35.85% (95% Confidence Interval (CI), 26.72% - 44.98%); the point prevalence of current injuries was 50.0% (95% CI, 40.48% - 59.52%).

The body region showing the highest injury prevalence in point prevalence was the lower back (12.26%; 95% CI, 6.02% - 18.5%) followed by the Knee (11.32%; 95% CI, 5.29% - 17.35%) and Ankle (6.60; 95% CI, 1.87% -11.33%) whereas the highest injury prevalence in 2-year period prevalence was the knee (7.55%; 95% CI, 2.52% - 12.58%), Hamstring (7.55%; 95% CI, 2.52% - 12.58%) and Ankle (7.55%; 95% CI, 2.52% - 12.58%). The body region displaying the highest injury prevalence in both 2-year prevalence and point prevalence was the knee and ankle followed by lower back.

**Table. 01. Current injury prevalence by body regions**

<b>Injury site</b>	<b>Prevalence %</b>
Upper back	1.89
Lower back	12.26
Hip	1.89
Groin	0.94
Anterior thigh	1.89
Hamstring	2.83
Knee	11.32
Calf	2.83
Shin	2.83
Ankle	6.60
Foot	2.83



**Fig. 01. Main Events of athletes studied**

Table 02 illustrates the current injury prevalence by side of the body. This study shows no significant relationship between side of the body and injury prevalence. When compared to the studies done in other countries, it is evident that most of the injuries are lower extremity injuries with predominance for the knee joint (Mechelen et al. 1992). But the shin, ankle, and foot are also proven to be common sites that are vulnerable to injury (Wexler, 1995). Ankle and hip injuries are proven to be less common in athletes due to running (Van Gent, 2007).

**Table. 02.**  
**Current injury prevalence by side of the body**

Side of injury	Number	Prevalence%
Left	22	20.75
Right	18	16.98
Both	11	10.38

The event showing the highest injury prevalence was field athletics (60%) followed by multi events (50%) and track events (47.95%). Higher injury prevalence was found in long distance runners (58.82%) when compared to short distance runners (43.90%) within track events. The injured group displayed that a great proportion of injuries occurred during training (79%) while only 16% of injuries occurred during competition. This appears to support that overuse injuries as forming a major contribution to track and field injuries and further enforces the hypothesis that practice of poor technique or training is the most important factor.

**Table.03. Current injury prevalence by events**

Event	No. from study population	No. Injured	Injury prevalence %
Sprinters	41	18	43.90
Middle distance	15	7	46.67
Long distance	17	10	58.82
Field athletics	15	9	60.00
Multi event	18	9	50.00

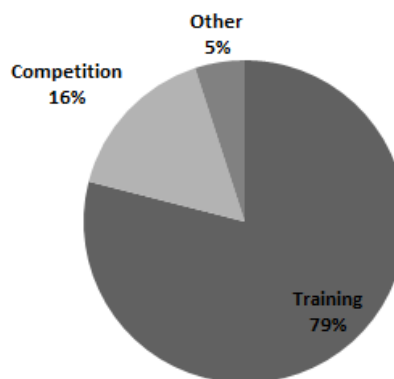


Fig. 02. Time at which injury was occurred

### Conclusion

Results of this study revealed that injury prevalence is high among Sri Lankan track and field athletes. Most of the injuries affect the Knee, Hamstring, Ankle and lower back, and occurred during training. Future studies are needed not only to identify groups of athletes at increased risk but also to identify the predisposing factors for musculoskeletal injuries in athletes.

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## A Study On Shooting Skill And Accuracy Of The Basketball And Korfbal Players Of Hyderabad

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### Abstract

This study aims to know the Shooting efficiency of the Players of the two games i.e.; Basketball and Korfbal. The results of this study might have an idea to the Physical Education teachers and the Coaches. The purpose of the study was to compare the Shooting skills among the University Basketball and Korfbal Players in Hyderabad. The results of the study may throw some light effect on the Shooting skills among the University Basketball and Korfbal Players. Such abilities may further help Physical Education teachers and coaches in assessment of Individual abilities.

**Key words:** Basketball, Korfbal etc.

### Introduction:

#### Korf Ball:

Korfbal (Dutch *Korfbal*) is a mixed gender team sport, with similarities to netball and basketball. A team consists of eight players; four female and four male. A team also includes a coach. It was founded in the Netherlands in 1902 by Nico Broekhuysen. In the Netherlands there are around 580 clubs, and over 100,000 people playing korfbal. The sport is also very popular in Belgium and Taiwan and is played in 54 other countries. Shooting is one of the most important skills for a basketball and Korfbal player. Shooting the basketball and Korfbal from a set position, a running layup or a jump shot, are all crucial skills for a basketball and Korfbal player to master. Developing a good basketball and Korfbal shooting technique will make you a consistent scorer and a threat to the opposition. Shooting a basketball and korfbal isn't as easy as just picking up a ball and lifting it into the air toward the hoop. A good shot has to be practiced and developed. You must always be aware of angles and distance from the hoop. The standard rule for shooting is BEEF, which stands for balance, eyes, elbow, and follow through. The BEEF (Balance, Eyes, Elbow and Follow through) technique is a good way to reinforce the fundamentals when shooting from a set position. Give yourself balance by placing your feet shoulder-width apart, with your shooting foot slightly ahead of your non-shooting foot. Your shoulders and hips should be pointing directly to the basketball hoop and the Front edge of the Korf (Basket). Your eyes should be focused intently on the rim of the basketball hoop and the front edge of the Korf (Basket). When you release the ball, keep your eyes fixed on this target. Hold your elbow at a 90-degree angle with the ball slightly above your eyes. Hold the ball on the fingertips of your shooting hand, with the other hand on the side to support the ball and while shooting in the korfbal the ball should be between both the Palms of the hand. Shoot by straightening your elbow, and follow through by flicking your wrist to put backspin on the ball. While helpful, this only scratches the surface of a good basketball and Korfbal shot. There are far more mechanics and rules involved in making the perfect shot.

### Methodology:

**Aim:**

The Aim of the study was to compare the Shooting skills and Accuracy among the University Basketball and Korfbal Players in Hyderabad.

#### **Sample:**

The sample for present study consists of 20 Male Basketball and Korfbal Players of Osmania University who has taken part in the O.U. Inter College sports and games during the year 2011-12

#### **Tools:**

Comparison of shooting Accuracy among the Basketball and Korfbal Players.



**Procedure of Data Collection:**

**Bounce And Shoot**

**Test Administration**

**Purpose**

TO ASSES THE SHOOTING SKILLS AND ACCURACY

**Materials Required**

Tape ,Chalk Basketball and korfball

**Testing Personal**

Timer ,Scorer and Helper

**Test Administration**

Two balls are to be kept on each side of the chair helper standing close to it. The subject on the command "Start" he has to collect the ball bounce for one time and shoot and collect the ball and throw towards the helper then he goes to another chair and adopts same procedure. At each side he has to exhibit the skill for 5 times so totally 5+5=10 times without rest.

**Scoring**

Time should be recorded. The number of successful baskets is counted. If the ball touches the ring value of one should be given. If it is a basket then 2 points should be given.

**Results and Discussion:**

**Table No.1**

Group	No.	MEAN	STD. DEVIATION	STD. ERROR MEAN
Basketball	20	4	1.05	0.333333333
Korfball	20	5.9	0.99	0.314466038

The Table No.1 showing the shooting Accuracy of the Basketball and Korfball Players. In which the Basketball players have much Shooting Accuracy then the Korfball Players.

**Conclusions**

It is concluded that the Basketball Players are having good Shooting Accuracy among the Korfball Players.

**Recommendations:**

It is recommended that Basketball Players and Korfball Players must be given good training for the improvement of performance in the Shooting. Similar Studies can be conducted on females and also other sports and games.

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## Physical Fitness components as predictors of weight lifting performance

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### Abstract

The purpose of the study is to find out the physical fitness components as predictors of weight lifting performance (clean and jerk of weight lifter). Total 100 students were selected for the study. It is found that the maximum back full squat ( $r = .79$ ), Maximum Military press ( $r = .77$ ), explosive back full squat ( $r = .64$ ), strength endurance back full squat ( $r = .51$ ), strength endurance Military press ( $r = .61$ ), agility ( $r = .52$ ), power ( $r = .30$ ), are significantly related to the clean and jerk in weight lifting performance as the obtained values are more than desired value of .195 required for co-efficient correlation to be significant at .05 level of confidence. Key words – clean and jerk, fitness.

### Introduction: -

Weight lifting is one of the most remarkable types of sport, which helps to develop the strength of muscle, increases their mass separation and develops a beautiful physique. The object of weight lifting is to test the strength of a person and find the one who can lift the highest weight from the ground. This is a sport where competitors state of mind is as important as his physical fitness, technique and strength.

### Methodology: -

The purpose of the study was an investigation of physical fitness components as predictors of weight lifting performance, to achieve the purpose of the study the investigator select 100 male weight lifters of Sri Yogi Vemana University, Kadapa of Andhra Pradesh. Their age of the subjects ranged from 18-25 years. The subjects were selected. By using speed, strength, agility, power and balance. To measure their 50 mtrs, military press, squat thrust test, standing broad jump, strock stand test, respectively, and independence variable was clean and jerk of weight lifting performance.

### Analysis Of Data: -

The Statistical Analysis Of Data Collected On One Hundred Male Weight Lifters Was Presented. The Data On Weight Lifting Performance Along With Physical Fitness Components Were Examined By Pearson's Product Movement Correlation In Order To Find Out The Relationship Of Weight Lifting Clean And Jerk Performance To Each Of The Physical Fitness Components Separately.

Relationship of physical fitness components to the weight lifting performance i.e. (clean and jerk )	
Variables correlated	Coefficient correlation

1. Speed and clean & jerk Acceleration ability.02, Speed of movement .09
2. Strength and clean & jerk  
Maximum Strength :Back full squat \*.79 and Military press \*.77
3. Cardio vascular endurance and clean & jerk.19
4. Statistic balance and clean & jerk.16
5. Flexibility and clean & jerk
  - a. Shoulder.19 and bTrunk .19

The maximum back full squat ( $r = .79$ ), Maximum military press ( $r = .77$ ), agility ( $r = .52$ ), power( $r = .30$ ), are significantly related to the clean and jerk in weight lifting performance as the obtained values are more than desired values of .195 required for coefficient of correlation to be significant at .05 level of confidence with 98 degree of freedom. It is there fore, evident that acceleration ability ( $r = .02$ ), speed of movement ( $r = .19$ ), cardiovascular endurance ( $r = .19$ ), static balance ( $r = .16$ ), trunk flexibility ( $r = .19$ ), shoulder flexibility ( $r = .19$ ) are underlying components of clean and jerk in weight lifting performance.

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## Effect Of Exercise Stress With Aerobic And Anaerobic Training On Stroke Volume Responses Among Untrained Male College Students

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### Introduction

Human beings acclimatize in a variety of ways depending upon the stresses to which it is exposed. Reactions to excessive stresses are modified by the individual attributes of each person. The length of exposure to stresses modifies the nature of changes and the resiliency of those changes. Thus, upon exposure to an active stress, the body undergoes a hierarchy of responsive changes, the physiological and biochemical changes to increase oxygen supply to body tissues are noticeable in those body systems that are directly related to oxygen delivery, but the changes probably occur in all organ systems. In physiological response to acute exercise, there are several components that dictate what will be the magnitude and direction of the physiological response. Relative to duration, typically extending the length of time of an exercise bout at any given intensity tends to amplify the physiological response; that is, as a person exercises longer and longer, one can see a gradual and further increase in the physiological and biochemical levels (Galbo *et al.*, 1977).

### Methods and Procedures

Forty-five untrained male college students, in the age group of twenty to twenty-five years were selected as participants, and they were segregated into three groups namely: control, aerobic and anaerobic training groups. The participants were selected from Visakapattinam of Andhra Pradesh. The aerobic and anaerobic training programs were used as experimental treatment. The duration of experimentation period was restricted to twelve weeks and the frequency of training was thrice a week. The other independent variable confined to this study is aerobic exercise stress testing using Bruce treadmill protocol to evaluate its influence on the stroke volume. The data on stroke volume were measured at rest and after exercise condition during both pretest and posttest. The standardized testing procedures and instruments used to collect the data on stroke volume were as presented in the table-1.

Table – 1: Dependent Variable and their Respective Tests

Variables	Instruments/methods	Unit of Measurement
Stroke volume	Doppler Ultrasound	ml/beat

### Experimental Design and Statistical Techniques

The experimental design used in this study was random group design involving forty-five untrained male college students, who were segregated into three groups of fifteen each. The data thus collected from experimental and control groups at rest and after exercise condition during pre and post test have been analyzed by three-way factorial ANOVA with repeated measures on last two factors. In all the cases level of confidence was fixed at 0.05 for significance.

### Results of the Study

The data on stroke volume have been analyzed by three-way factorial ANOVA (3x2x2) with repeated measures on last two factors and the obtained results are presented in table-2. Table 2 indicates that significant differences exist among groups irrespective of training and exercise conditions on stroke volume, and also between pretest and posttest data on stroke volume irrespective of groups and exercise conditions. Thereby, significant difference exists for the interaction of groups at pre and post tests on stroke volume irrespective of exercise conditions. Table 2 also reveals that significant differences exist between resting and exercise conditions irrespective of groups at pre and post tests on stroke volume, and also for the interaction of groups at rest and after exercise conditions irrespective of pre and post tests on stroke volume.

TABLE – 2: THREE WAY FACTORIAL ANOVA ON STROKE VOLUME

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	OBTAINED "F" RATIO
Groups	4051.744	2	2025.872	185.509*
Error (Group)	458.667	42	10.921	
Training	8120.450	1	8120.450	757.909*
Groups and Training	4003.300	2	2001.650	186.8218*
Error (Training)	450.000	42	10.714	
Exercise	143312.450	1	143312.450	23993.315*
Group and Exercise	138.433	2	69.217	11.588*
Error (Exercise)	250.867	42	5.973	
Training and Exercise	107.339	1	107.339	41.259*
Training, Exercise and Group	49.144	2	24.572	9.445*
Error	109.267	42	2.602	

\*Significant at .05 level of confidence

Furthermore, table 2 shows that significant difference exists on stroke volume among resting and after exercise conditions at pre and post tests irrespective of groups. The result of the study also indicates that stroke volume at rest and in response to exercise of aerobic and anaerobic training groups altered significantly for better as a result of training. However no significant changes on stroke volume were found among tests at resting and in response to exercise condition of control group. Furthermore, the findings indicates that stroke volume of all the three groups elevated significantly in response to exercise during pretest and posttest period.

Table – 3: The Simple Effect Scores on Stroke Volume

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	"F" RATIO
Groups at rest during pre test	3.355344	2	1.677672	0.644763
Groups after exercise during pre test	3.466333	2	1.733167	0.66609
Groups at rest during post test	1464.874	2	732.4372	281.4901*
Groups after exercise during post test	2649.617	2	1324.809	509.1502*
Tests at rest and group I	2881.2	1	2881.2	1107.302*
Tests at rest and group II	1888.141	1	1888.141	725.65*
Tests at rest and group III	0.3	1	0.3	0.115296
Tests after exercise and group I	4368.121	1	4368.121	1678.755*
Tests after exercise and group II	3141.644	1	3141.644	1207.396*
Tests after exercise and group III	0.833167	1	0.833167	0.320202
Tests during pre test and group I	23352.3	1	23352.3	8974.75*
Tests during pre test and group II	22632.51	1	22632.51	8698.119*
Tests during pre test and group III	21816.09	1	21816.09	8384.353*
Tests during post test and group I	27300.8	1	27300.8	10492.24*
Tests during post test and group II	26581.6	1	26581.6	10215.84*
Tests during post test and group III	21924.06	1	21924.06	8425.849*
Error	109.267	42	2.602	

\*Significant at .05 level of confidence

Table - 4: The Scheffè S Test for the Differences between Paired Means on Stroke Volume of Groups at Rest during Post Test

Aerobic Training Group	Anaerobic Training Group	Control Group	Mean Difference	Confidence Interval
84.200	81.067		3.133*	1.497
84.200		65.733	18.467*	1.497
	81.067	65.733	15.334*	1.497

\*Significant at .05 level of confidence

Table 4 shows that significant differences exists between aerobic and anaerobic training groups, aerobic training and control groups and anaerobic training and control groups on stroke volume at resting condition during post test period. It is inferred from the result of the study that the stroke volume at resting

condition of aerobic training group is significantly better than anaerobic training group during post test period.

Table – 5: The Scheffè S Test For The Differences Between Paired Means On Stroke Volume Of Groups After Exercise During Post Test

Aerobic Training Group	Anaerobic Training Group	Control Group	Mean Difference	Confidence Interval
144.533	140.600		3.933*	1.497
144.533		119.800	24.733*	1.497
	140.600	119.800	20.800*	1.497

\*Significant at .05 level of confidence

Table 5 shows that significant differences exists between aerobic and anaerobic training groups, aerobic training and control groups and anaerobic training and control groups on stroke volume after exercise condition during post test period. It is inferred from the result of the study that the stroke volume in response to exercise of aerobic training group is significantly better than anaerobic training group during post test period.

### Discussions on Findings

The results of the present study are in conformity with the findings of the previous research studies. It is fact that numerous physiological variables change as a result of exercise to maintain homeostasis and muscular work. Piira and others (2010) assessed the heart rate (HR) dynamics and found that cardiac vagal outflow is attenuated and vasomotor sympathetic activity elevated during exciting sports events. Left ventricular end-diastolic internal diameter and left ventricular end-diastolic wall thickness increase in parallel so that their ratio is not significantly altered (White, *et al.*, 1987). Stroke volume increases in parallel with the increased end-diastolic volume so that muscle fiber shortening is maintained.

### Conclusions

Based on the findings of the study it was concluded that the stroke volume at rest and after exercise conditions of aerobic and anaerobic training groups altered significantly for better as a result of respective training, where aerobic training has the upper hand as compared to anaerobic training for its effectiveness on stroke volume.

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## Cricket And Technology – A Study

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### Introduction

The increasing use of technology in cricket is inevitable in the modern world, and it must be utilised in a positive way. The primary use of technology in cricket should be to eliminate the obvious blunders made by umpires from time to time, and not to over analyse every marginal decision. Cricket is basically a simple game, a contest between bat and ball, batsman and bowler, with a long history and great traditions. However, it is a game which has evolved over the years, and the introduction of technology is part of that evolution.

### Latest Technology used in cricket matches

IPL season is on. Everyone is busy in cheering their team. While your favorite player play their shot, the technology plays its own shot and give you more precise and accurate watching experience. The biggest emerge in cricket technology was you can watch it from your home on your television set. Since then many latest technology has been added to made cricket more interesting. I think technology has its own part in popularity of cricket. So I thought to introduce you some latest technology that is being used in cricket matches.

### Third Umpire

In international cricket, the third umpire has been used to supplement the role of the two umpires on the ground. The third umpire is equally qualified, and sits off the ground with access to TV replays of certain situations (such as disputed catches and boundaries) to advise the central umpires. The umpires out on the field are in communication via wireless technology with the other umpire. The third umpire is also asked to adjudicate on run out decisions, which he uses video replay and makes a decision without consultation with the two central umpires.

### Cricket Referrals (DRS)

Cricket has joined some other world sports and have included an umpire referral system in some games. It was first trialed in 2008 (in a Test series between Sri Lanka and India). Unlike in tennis where the challenge and referral decision is clear cut using hawk-eye technology, the cricket referral is adjudicated by the third umpire, and is open to further errors. The actual way it works may change and develop, but when it was first brought in this is how it worked.

### TV Technology

Hawkeye - A computer system first used in 2001 for showing the path of a cricket ball. It is a commonly used and indispensable tool for cricket commentators around the world to confirm the umpires decisions.

Snick-o-Meter - a very sensitive microphone located in one of the stumps, which can pick up the sound when the ball nicks the bat. This technology is only used to give television audiences more information and to show if the ball did or did not actually hit the bat.

Ball Spin RPM - Starting during the TV coverage by Sky sports for the 2013 Ashes series, they were able to show a RPM (revolutions per minute) counter, showing how fast the ball was spinning after release. It is not clear how this is measured, though it would need a high speed camera focused on the ball, possibly using the same images that are captured for the Hawkeye system.

Hot Spot - the hot spot technology is usually used to review whether the bat has hit the ball, particularly when there is a small nick. If there is contact, the small amount of heat generated is indicated by a

change to that area of the bat. Hot Spot uses two infra-red cameras positioned at either end of the ground. These cameras sense and measure heat from friction generated by a collision, such as ball on pad, ball on bat, ball on ground or ball on glove. Using a subtraction technique, a series of black-and-white negative frames is generated into a computer, precisely localizing the ball's point of contact.

### **New Technology**

Cricket is a sport steeped in tradition. Making changes to the rules that has been in place for a long time is not taken lightly.

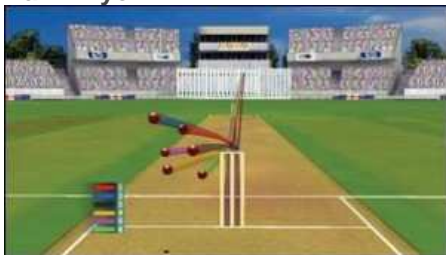
No Balls for chucking - It is difficult to monitor each bowling delivery during a match for bent arm throwing, but new technology is being developed that could possibly be used for such a thing. Previously, any player reported with an illegal bowling action had to undertake 3D biomechanical analysis of their action in a laboratory. New technology using inertial sensors is being developed that could possibly be used to test a bowling action during matches to see if they are bending their arm too much during the bowling delivery. Inertial sensors use similar technology to that used mobile phones. These sensors will be light, cost effective and wearable on the bowler's arm and most importantly will not hinder bowling performance while still allowing information about the bowling action to be assessed in near real time in both match and training environments.

### **HotSpot:-**



Hot Spot is used to determine whether the ball hits the bat or pad of batsman in case of caught out and Leg Before Wicket (LBW). Two infrared camera is placed on the end of ground. These cameras determines the heat fraction when ball struck with bat, pad or with gloves. These collisions are shown as white dots in images. This technology helps to determine whether batsman should be dismissed or not in very critical situation.

### **Hawk-Eye:-**



Hawk Eye is used to generate path of moving ball. It helps to take accurate decision in case of Leg Before Wicket (LBW). Six or more cameras is situated on different ends of cricket ground. These are the high speed cameras which record the motion of ball. These cameras are connected through a computer system which combines all inputs and generate the path of ball

### **StumpCameras:-**

Micro cameras are placed on both ends of stumps to generate clear video. These cameras are used to give viewers different angle and helps to identify run out.

#### **Snickometer:-**



Snickometer detects collisions of ball to edge of bat. The sound frequency is recorded by microphones which are placed near stumps. This technology identify different sound frequencies of the ball hitting the wooden surface of bat.

#### **SpeedGun:-**



Speed gun measures the speed of bowlers ball. It is a small Doppler radar which is used to measure the speed of moving ball. The speed of last ball is displayed on your TV Screen.

#### **Slow Motion:-**

High resolution cameras recording the each movement is used to generate slow motion videos. It is used in almost every decision but mostly it helps to identify run out.

These are the main and important technology which smoothes the decision of third umpire. Enhance the viewer's experiences, mainly TV viewers.

#### **Conclusion:**

In conclusion, cricket has undergone many transformations in its quest to remain a marketable viable sport. It has moved far from the one camera original broadcast in 1938. Kerry Packer innovated the sport hugely in professionalising it through contracts and greater technology through money. This was continued through one day internationals that gradually created a more and more exciting product drawing in a more regular audience and dispelling ideas of cricket being a boring sport. This has ultimately concluded in the spectacularised, intensified version in Twenty20 and the Indian Premier League. This has however not detracted from the longer form of the game. Test cricket has undergone its own spectacularisation in the form of innovations such as the Umpire Decision Review System. As well as this, test cricket has received a push through audiences from Twenty20 displayed in the high television ratings the third test between England and New Zealand received. The extra interest that Twenty20 allows in cricket has also carried over to participation in cricket in school with younger students participating more due to the influence of Twenty20. This overall displays that test cricket does not suffer from the focus onto the shorter forms of the game as it receives a flow through audience from the shorter form and participation increasing, making sure that test cricket will continue to survive the test of time as a marketable sport.



## Impact Of Self Confidence On The Physical Fitness Of Inter Collegiate Volley Ball Players Of Gulbarga District

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### Abstract

In the present study an attempt was made to study the influence of self confidence on physical fitness among inter collegiate Volleyball players. To measure the self confidence the researcher used the Self confidence inventory develop by Basavanna.M Scale and AAHPED fitness test used to measure the fitness level of Volley ball Players these were used as tools in this study, one hundred inter collegiate Volley ball Players of Gulbarga district (Male only) were the sample of the study, statistically mean, SD, t-Value were used to find the influence and analyzed the result of self confidence on physical fitness among inter collegiate Volleyball Players of Gulbarga district. Finally the high SC Volley ball Players were better performed in physical fitness test than low SC Volley ball Players of Gulbarga district.

### Introduction

Self confidence is an attitude, which all individuals have positive yet realistic views of themselves and their situations. Self confidence people trust their own abilities have a general sense of control in their lives and believe that, within reason, they will be able to do what they wish, plan, and expect. Like self esteems, self confidence refers to individual's perceived ability to act effectively in a situation to overcome obstacles and to get things goes all right. Hence self-confidence is believed to increase one's performance. The higher level of confidence generates enthusiasm for the given activity. It is the variation in confidence that makes differences in performance of sports activity. Therefore studying the influence of confidence assumes importance.

Basavanna .M (1975) studied self-confidence in relation with self and ideal self and found that self confidence people particularly who were capable. Successful and adjusted, had significantly higher self ideal and self-congruence than those who were low in their level of self-confidence.

Hence several researchers have made significant attempts to relate motivation with sports and found significant association between the level of motivation and the\* corresponding sports activity. It has been proved empirically that persons with greater amount of motivation are found to be superior to others who are less motivated. This reveals that the motivated groups improve significantly in the given sports activity more than the non-motivated group (Hansen, 1967). However, there is no single motivational technique that is superior to other techniques. This marks very clearly that each motivational technique is, by and large, important depending upon the conditions in which it is presented. Hence motivational techniques produce desirable effects to the extent that a coach or coaches present them wisely. In a similar way, the social factor like social support, SE5, personal factors like self-confidence have significant impact on the performance of persons. Thus present study makes an attempt to assess the influence of all such factors on performance of sportsman selected from the colleges of Gulbarga division. Research Questions

### Methodology

The purpose of the present work is to study the effect of self confidence on the performance of Volleyball players. The investigator has come across one questionnaire that would measure the level of self confidence. After a thorough search and examination of the Self Confidence Inventory (SCI) developed by Basavanna .M

(1975) and physical fitness tests (AAPHER and French Bobbing)

### Hypothesis

There is a significant deference in self confidence among inter collegiate Volleyball players.

There is significant influence of self confidence on the physical fitness of inter collegiate Volleyball player. Sample - Hundred Volley ball Players those had participated in inter-collegiate Volleyball tournament, served as subjects for the present study. These 100 subjects together represented the sample for the present study.

Test Administration and Collection of Data

To collect necessary data pertaining to the present study, all the selected subjects were administered to Self confidence Inventory (SCI) Test during the intercollegiate Volleyball tournament. The data were in the form of answer given by the subjects in response to the various questions of the questionnaire. The subjects completed answering the questionnaire within the stipulated time after which the questionnaires were collected back and the standard scoring manual was used to get the score. After the scoring of the completed questionnaire the subjects were divided into "High" and "Low" groups in both the variables according to the key manual and then the physical fitness tests were conducted for both the groups.

Tools Used The following Motor ability tests have been used in the study.

Motor Ability Tests (AAHPER)

Sl. No.	Motor Ability	Test	Unit of Measurement
1.	Speed	50 yard dash	Time
2.	Endurance	12 min. Run & Walk	Distance
3.	Flexibility	Sit & Reach test	Inches
4.	Agility	Shuttle run 10x4 yards	Time
5.	Strength	Pull Ups	Score

The procedure and scoring of selected physical fitness tests are done as per the norms given in the manual of tests and scales.

Statistical Analysis: To meet the objective of the study mean, standard deviation, t-values were used to calculate and analyze the data.

	SC	MEAN	SD	t – values
SPEED	HIGH	9.48	2.29	3.04**
	LOW	10.37	2.9	
ENDURANCE	HIGH	2419.4	269.2	2.60**
	LOW	2340.2	274.6	
AGILITY	HIGH	10.69	1.4	2.26**
	LOW	11.02	2.06	
FLEXIBILITY	HIGH	4.12	2.81	3.53**
	LOW	3.20	1.77	
STENGTH	HIGH	10.8	6.13	2.26
	LOW	9.02	6.3	

Table.No. 1 presents the mean scores of five physical fitness tests performances of Volley ball Players in two levels of Self confidence. It can be observed that the mean score in high Self confidence group is higher than the low Self confidence group. This shows that the high Self confidence group participants have taken less time to complete the given task (Speed and Agility test) than the low Self confidence group. In endurance test the high Self confidence group participants have covered more distance in the given task than the low Self confidence group. In pull-ups (Strength) test the high Self confidence group participants have scored more in the given task than the low Self confidence group. In flexibility test the high Self confidence group participants have reached more range of motion or scored more in the given task than the low Self confidence group. The t-values were significant at 0.01 level which states that there is a significant difference in the physical fitness tests performances between the two Self confidence level groups. The high Self confidence is facilitated the higher performance of the Volleyball players.

#### Conclusion

1There is a significant difference in level of self confidence among Volleyball players

2There is a significant deference in physical fitness among High SC & Low SC Volleyball players.

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## **Effect Of Transcendental Meditation And Interval Training on Selected Bio-Chemical And Physiological Variables among Inter District Men Athletes**

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### **Introduction:**

Transcendental Meditations is a simple, natural and effortless technique that allows the mind to experience subtler and subtler levels of the thinking process until thinking is transcended and the mind comes into direct contact with the source of thought. Interval Training is a type of physical training that involves bursts of high intensity work. This high intensity work is alternated with periods of rest or low activity (the intervals in interval training). The term can refer to any cardio-vascular workout (eg. Cycling, running, rowing etc) that involves brief bouts at near maximum exertion interspersed with periods of lower intensity activity. Interval training is often practiced by long distance runners (800 mts and above). Sprinters and foot ballers have also been known to use this type of training. The subjects were selected randomly from Inter District Men Athletes from Kurnool District, Andhra Pradesh.

The study was delimited to the age group ranging from 18 to 21 years.

The study was conducted on 90 Men Athletes only.

The following Biochemical and Physiological variables were selected.

### **LIMITATIONS**

The study was limited in the following aspects and these limitations would be taken into consideration in the interpretation of the result during the testing period.

The possible variables such as air, temperature, atmosphere pressure, relative humidity extra during the testing periods, could not be control and their possible influence on the result of the study was not taken into consideration while interpreting the result.

### **BIO-CHEMICAL VARIABLES**

- i. Red Blood Cells
- ii. Hemoglobin Content

### **PHYSIOLOGICAL VARIABLES**

- i. Maximum Oxygen Consumption (VO<sub>2</sub> Max)
- ii. Breath Holding Time

### **STATEMENT OF THE PROBLEM**

The purpose of the study was to find out whether there is any significant improvement of the efficiency of the Bio-chemical and Physiological variables through Transcendental Meditation and Interval Training.

### **OBJECTIVES OF THE STUDY**

To determine the prevalence of ascertain factors related to obese college boys in Kurnool.

To find out the influence of Yogic practices on health related body mass index of obese college boys.

### **SAMPLE AND DESIGN**

The subjects for the study were selected at random and divided into three homo-genic groups based on their initial performance. Among the three groups the control group was strictly under control without undergoing any special activity. The experimental groups were subjected to the experimental treatment.

## **Methodology**

### **EXPERIMENT**

The Transcendental Meditation was given on six days a week except Sunday. The duration of the Transcendental Meditation was ten minutes during the first month, twenty minutes during the next month and thirty minutes during the third month in the morning between 6.30AM to 7.00 AM. The Interval Training programme was scheduled in the evening between 4.30 PM to 5.30 PM five days in a week for three months, it included warm up exercises given for about 30 minutes and prior for regular training for experimental groups.

#### STATISTICAL TECHNIQUE

In this study the Analysis of Co-Variance was used to analyze the results for significance levels by using Turkey's Honestly Significant Different (HSD) Method.

### **Computation Of Analysis Of Co- Variance, Results And Discussions**

#### DISCUSSION ON RED BLOOD CELLS

The interval training and TM impread on the two experimental groups has increased in red blood cells in particular, the interval training group have acquired greater red blood cells than TM group .the reason is that the interval training increased parasymphathetic function.

#### **Discussion**

Hemoglobin is a large protein complex with the red blood cells. It transports oxygen from the lungs to the working muscles. Interval training is associated with the increase of Hemoglobin concentration. The result of this study shown that the interval Training group has acquired greater Hemoglobin concentration than the transcendental meditation group. The reason is that the interval Training increased in the total blood cell count. So the interval Training acquired more Hemoglobin.

#### BREATH – HOLDING TIME RESULTS

#### **Discussion**

The training imparted on the two groups has promoted Breath holding time. In particulars, the transcendental meditation group has acquired greater Breath-holding time than interval Training group. The reason is that the transcendental meditation training is a specific way of inhaling and exhaling. Also the continuous practice of breath-holding pattern during physical activity has also improved the breath-holding capacity

#### **Maximal Oxygen Consumption Results**

The training imparted on the two groups has promoted maximal oxygen consumption. In particulars, the interval training group has acquired greater maximal oxygen consumption that transcendental meditation group. The reason is that the interval training improve the endurance of the subjects. This is due to the fact that the subject after holding out the breath naturally go in for inhaling more air to supply the required oxygen for the muscles.

#### **Conclusions:**

In the present investigation the Interval Training has achieved a favorable result in all above mentioned variables except breath holding time. Breath holding time was favored by transcendental meditation than the interval training.

#### **Recommendations**

Detailed studies to be conducted on the influence of interval training and Yogic breathing practices among the group of players, patients etcetera.

## Effects of Selected Physical Exercises on Speed among Higher Primary School Students

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### Abstract

The purpose of the study was to find out "Effect of Physical exercise on speed and strength." To achieve this purpose 30 students studying in Sri Kumarans Public School, Bengaluru. Were randomly selected as subjects. The following physical exercises were selected for giving three months training for 30 subjects. Criterion variable speed were selected and measured by using 50 Mtr run.. It was used for pre test and post test. The result of all performance components of post test indicates improvement in Speed It shows the effect of three months Physical exercise training. On the basis of the study and with the limitation, the physical exercises training programme develops speed.

"Key Words"- Physical Exercise, physical fitness, Speed.

### Introduction

The expert committee of the World Health Organization described physical fitness as "the ability to undertake muscular work satisfactorily." Physical fitness is the capacity to early out, reasonably well, various forms of physical activities, without being unduly tired and includes qualities important to the individual's health and well-being. Every person has a different level of physical fitness which may change with time, place of work, situation and there is also an interaction between the daily activities, and the fitness of an individual, the point if where to put the level of optimum fitness. From the physiological point of view physical fitness may say to be ability at the body to adopt and recover from strenuous exercise.

Speed like strength and endurance is a conditional ability. Speed abilities are trainable to a very limited extent due to its marked dependence on the functioning of the central nervous system. important to be specific so that the athlete and coach understand which specific aspects of sports performance they are training. The definition of speed from a scientific standpoint is simply distance / time, but this is a rather simplistic view of speed. A more accurate definition of speed is this: speed is the ability of an athlete to move as fast as possible, through the optimal range of motion, in a deliberate and intentional manner, in a particular direction. Speed is not just measured on how fast a person is either; there are several components of measurement that give a complete picture of an athlete's speed.

### Methodology

To find out the Effects of Selected Physical Exercises on Speed among Higher Primary School Students Selection of the subjects.For the present study 30 Male students are taken from Sri Kumarans Public School, Bengaluru.

Selection of the Variables The Physical fitness variable selected for the present study will be speed.

The test items and Measurements

Physical fitness components	Test Items	Measurements
speed	50 Meter Sprint	Record two trials average to the nearest 0.1 and record as the criterion score.

### Sample size of the study

In the present study single group design procedure was followed. A group of 30 students was selected from kumaran's public school bengaluru. The selected subjects were under gone three months physical fitness training. The researcher was adapted Pre-test and Post-test procedure to see the differences. Collection of data To asses Pre-test and Post-test effect of physical exercise Training on speed was assessed by t- test. T-test was applied to assess the significant difference in mean score of Pre- test and Post- test.

### Analysis Of The Data

The purpose of the study was to see the Experimental "Effect of selected physical exercises on speed among higher primary school students". The obtained data was calculated as per the norms using such as Mean, Standard deviation and t value for the obtained pre-test and post-test.

Table no 1 Showing the pre-test and post-test for speed performance.

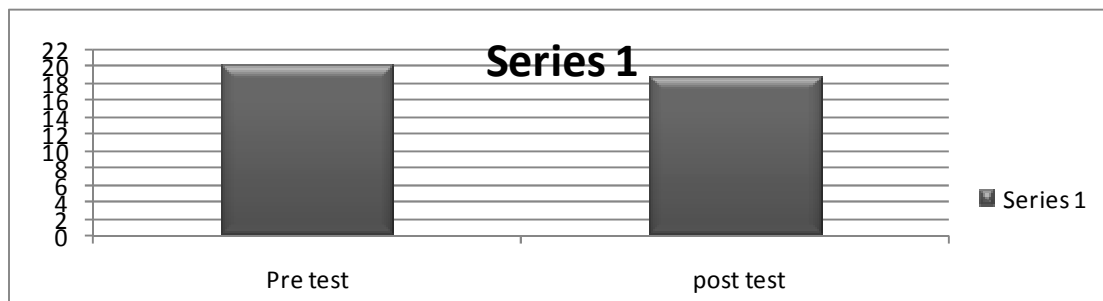
Name of the test	Sample size	Mean	SD	$t_c$	$T_t$
Pre-Test	30	20.23	2.11	3.79	1.96
Post-Test	30	18.79	1.87		

The level of significant 0.05=Table value=1.96

Table no 1 indicates that the t value is more than the table value that is 1.96, hence it is significant.

The pre-test Mean value is 20.23 and the post-test Mean value 18.79. The post-test Mean value is less than pre-test Mean value. It shows significant improvement in the speed performance of male owing to the three months physical fitness training the same as displayed in the figure.1(a)

Figure no.1 (a) showing the pre-test and post-test for speed performance.



The above Figure clearly indicates that the three months physical exercise training is drastically improved the speed in the subjects.

### Summary

The purpose of this study was to examine the effects of physical exercises on speed among post higher primary school students. Pre-test as been conducted then the three months physical exercises training program organized to the higher primary school male students, after the three months training post-test conducted, the researcher found that the effect of physical fitness. The post-test results indicates significant improvement in the speed

### Conclusion

The three months physical exercise training improve the speed.

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## Sports History

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### Introduction

The history of sports probably extends as far back as the existence of people as purposive sportive and active beings. Sport has been a useful way for people to increase their mastery of nature and the environment. The history of sport can teach us a great deal about social changes and about the nature of sport itself. Sport seems to involve basic human skills being developed and exercised for their own sake, in parallel with being exercised for their usefulness. It also shows how society has changed its beliefs and therefore there are changes in the rules. Of course, as we go further back in history the dwindling evidence makes the theories of the origins and purposes of sport difficult to support. Nonetheless, its importance in human history is undeniable..

**Sports in pre history-Vedic Era [2500 BC-600BC]**--The history of sports in India dates back to the Vedic era. Physical culture in ancient India was fuelled by religious rights. The mantra in the Atharvaveda, says, "**Duty is in my right hand and the fruits of victory in my left.**" In terms of an ideal, these words hold the same sentiments as the traditional **Olympic Oath: "For the Honour of my Country and the Glory of Sport."** Games like chess, snakes and ladders, playing cards, and polo originated in India, and it was from here that these games were transmitted to foreign countries, where they were further modernised. The Vedic women received a fair share of masculine attention in physical culture and military training. The **Rig-Veda** tells us that many women joined the army in those days. In India, *dehvada* or the body-way is defined as "**one of the ways to full realisation.**" In the day and age of the **Rig-Veda, Ramayana and Mahabharata** men of stature and circumstance were expected to be competent in chariot-racing, archery, horsemanship, military tactics, wrestling, weight-lifting, swimming and hunting. The **guru-shishya** (teacher-pupil) relationship has always been an integral part of Indian sport from time immemorial. Indian sport reached a peak of excellence when Buddhism held sway here. In Villas Mani Majra, Tiruvedacharya describes many fascinating games, namely, archery, equitation, hammer-throwing and chariot-racing. In Manas Olhas (1135 A.D.), Someshwar writes about **Bhrashram** (weight-lifting), **Bhramanshram** (walking) and also about Mall-Stambha (wrestling). It is more than likely that many of today's Olympic disciplines are sophisticated versions of the games of strength and speed that flourished in ancient India and Greece. Chess, wrestling, polo, archery and hockey (possibly a fall-out from polo) are some of the games believed to have originated in Early Hindu period (600BC-320BC)

**The Ramayana**-- People took much interest in games during this period. Ayodhya, Kiskindha and Lanka the three great places related with this period were centres of many games and sports. Chariot -riding and horse- riding were popular. Hunting was taken as a royal sport. Swimming was also popular and it is learnt that Ravana had a beautiful swimming pool in Asoka Vatika where he used to sport. Gambling with dices was also well known. "**Chaturang**" or chess as we call it today developed during this period and India is proud to be called the homeland of this great sport. Ball games were popular with the women.

**The Mahabharata**--Special mention has been made of games and gymnastics during this period. Jumping, arms contracting, wrestling, playing with balls, hide and seek, chasing animals were some of the games prevalent during this period. Ball games were popular and it is said that Lord Krishna played ball-games with maidens on the banks of the Yamuna." **Iti-Danda** " or "**Gullidanda**" was also one of the games played and it involves one long and one short stick.

**The Puranas**-- The use of Discus was very popular. At times, the attack of sword was also rendered useless by the discus. The Munda monster is said to have used it. Rope fighting or Pasi-Yuddha was also prevalent. The rope was the main weapon of some of the Gods and because of the use of rope, Varuna is called Pasi. The art of using silambu or long sticks, lathi and slings was also taught during this period.

**Buddhist and Jain Literatures**--The game of chess is found mentioned in the canonical texts of Jainism. Chess was found prevalent in the campus of Nalanda. Archaeological excavations have found gambling dice in monasteries and other Buddhist sites. Another item of amusement was swimming. The Viharas offered the pleasure of bathing pools. Boxing was also popular.

**Jataka stories**--Archery is found mentioned in the Jataka stories. The Bhimsena Jataka tells that Boddhisatva learnt archery at Takshila. Wrestling was popular and descriptions of such breath-holding bouts in wrestling are available in the Jataka stories. Two kinds of games called Udyana Krida or garden games and Salila Krida or water sports are also mentioned.

**Ancient Greece**--Depictions of ritual sporting events are seen in the Minoan art of Bronze Age Crete, such as a fresco dating to 1500 BC of gymnastics in the form of religious bull-leaping and possibly bullfighting. The origins of Greek sporting festivals may date to funeral games of the ancient period, between 1600 BC and ca. 1100 BC. In the Iliad there are extensive descriptions of funeral games held in honour of deceased warriors, such as those held for Patroclus by Achilles? Engaging in sport is described as the occupation of the noble and wealthy, who have no need to do manual labour themselves. In the Odyssey, king Odysseus of Ithaca proves his royal status to king Alkinoös of the Phaiakes by showing his proficiency in throwing the javelin. It was predictably in Greece that sports were first instituted formally, with the first Olympic Games recorded in 776 BC in Olympia, where they were celebrated until 393 AD. The games were held every four years, or Olympiad, which became a unit of time in historical chronologies. Initially a single sprinting event, the Olympics gradually expanded to include several footraces, run in the nude or in armour, boxing, wrestling, pankration, chariot racing, long jump, javelin throw, and discus throw. During the celebration of the games, an Olympic Truce was enacted so that athletes could travel from their countries to the games in safety. The prizes for the victors were wreaths of laurel leaves. Other important sporting events in ancient Greece were the isthmian games, the Nemean Games, and the Pythian Games. Together with the Olympics, these were the most prestigious games, and formed the Panhellenic Games. Some games, e.g. the Panathenaia of Athens, included musical, reading and other non-athletic contests in addition to regular sports events. The Heraean Games were the first recorded sporting competition for women, held in Olympia as early as the sixth century BC.

**Later Hindu Period (320AD-1200 AD)**--

Great Universities like Takshila and Nalanda developed during this period. Takshila was famous for military training, wrestling, archery and mountain-climbing. In Nalanda, swimming, breathing exercises and yoga formed an integral part of the curriculum. Harshavardhana, of the Gupta dynasty was a great sportsman and he encouraged his subjects as well. Another great contemporary of Harsha, Narasimhan or Mamallah was also a great wrestler. He belonged to the Pallava dynasty. Archery was also popular among the women during this period, as can be seen from the Ahicchatra images. Hunting, elephant fighting, Ram fighting, and Partridge fighting were the other important games of this period.

**After independence**--After the IX Asian Games in New Delhi in 1982, the capital city now has modern sports facilities. Such facilities are also being developed in other parts of the country. Besides sports and games included in the international sporting agenda, there are many which have developed indigenously. Among these are wrestling and several traditional systems of martial arts. The Ministry of Youth Affairs and Sports was initially set up as the Department of Sports in 1982 at the time of organisation of the IX Asian Games in New Delhi. Its name was changed to the Department of Youth Affairs & Sports during celebration of the International Youth Year in 1985.

**Conclusion**--However, sport was largely underestimated as a major tool in humanitarian programmes and was rarely used in a systematic way. But there has been a fundamental reallocate.

More recently, there has been a fundamental shift. Today, more and more national and international development organisations are using sport to add to their approaches in local, regional and global development and peace promotion programmes. This is done in close cooperation with sports organisations most of the time. Despite recent progress, the systematic use of sport and physical education for development is still in its early stages as many remain unconvinced of the impact sport can have on reaching development and humanitarian objectives.

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## Yoga Curriculum for School Children

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### Introduction:

Yoga, the ancient Indian science, can be a very good positive distraction to school children, if introduced, above the age group of 7-8yrs. The practice of asanas would enhance their physical strength and stamina, apart from improving their attention span and memory. CBSE has acknowledged this and officially incorporated Yoga into their physical education programme since 1988. It provides not only mere physical development of the child but it also has a positive impact on psycho-social and mental development as well. Practicing Yoga in group enhances individual self-esteem, promotes better interaction, imparts values of co-operation & sharing and to deal effectively with success and failure.

The observation of some of Pathanjali Yoga Sutras with particular reference to the Yama and Niyama will definitely improve a child's social and ethical behavior along with physical and mental betterment. This is a training on action, speech and thought in relation to the external world (Yama) and to the self (Niyama). Researchers at California State University recently examined the correlation between **Yoga and academic performance**, discipline, attendance and self-esteem. The study showed a 20% increase in the number of students who felt good about themselves and also recorded a **six percent increase in classroom discipline**, indicating that students who had high participation in Yoga class also had fewer referrals or discipline problems. These research results also showed a statistically significant positive link between **yoga participation and better grades**. Another study compared before-and-after **verbal and related brain activity test** results for three groups of children: those who were attending a fine arts camp, those attending a Yoga camp, and a control group. The **only group that showed any difference** between its before-and-after test results was the Yoga group, which demonstrated a **43% rate of improvement in the brain activity** category. This suggests that yoga practice, which included physical postures, yoga breathing, meditation and guided relaxation in the study, **improved the performance of children's right-hemisphere brain activity**

Although the science of Yoga originated in India, more of its benefits are derived in Western countries, and not much is done in Indian schools' curriculum. On an average, a school going child in India is more burdened with competition-led scholastic achievement in comparison with her/his counterpart in Western countries. This tells us that there is a need to introduce Yoga in Indian school curriculum. A serious discourse is needed to develop useful tools to teach such simple yet complex ideas to students so that they learn and derive all the benefits of the science of Yoga. Some examples are given hereunder that explore possibilities of incorporating these tenets into the work based curriculum of the school education in India:

Yama: Things *not* to do.

1. Practice: To be at peace (Ahimsa-Non harming): To live in a way that is respectful toward all things living on this earth?

*Reflect:* What are some ways we can do so?

2. Practice: To be honest (Satya-Truthfulness): Don't lie; Be truthful with yourself and others. To feel that taking care of our environment (natural and social) is important.

*Reflect:* If so, what are the actions you can incorporate in your routine?

3&4. Practice: To be generous (Asteya-Non stealing / Aparigraha-Non-greed/Letting go of desires): Are you present as you move from one place to another noticing the beauty of the natural world around you and being mindful of the footprint you leave behind? Are you able to appreciate the world around with you without needing to own it.

*Reflect:* What opportunities do you show in appreciation for to give back to the earth that supports and sustains you. Can you watch a butterfly in flight without needing to capture it.

5. Practice: Moderation/Walking in awareness (Brahmacharya): Do you only use what you need?

*Reflect:* Name activities that will avoid wasteful and boatful energies.

Niyama: Things to do.

1. Practice: To be clean (Saucha)

*Reflect:* Methods to clean naturally is not to collect dust. Name some ways to keep oneself clean physically and mentally.

2. Practice: To be happy with oneself and others (Santosh)

*Reflect:* What goes around comes around. Search for ways in which you can make other happy so that you can be happy.

3. Practice: To work hard always (Tapas)

*Reflect:* Hard work means not to lose focus. How to stay focused.

4. Practice: To take time to learn about oneself and the world around (Svadyaya)

*Reflect:* Name the places, meetings, gatherings, programmes you attend to improve your appreciation of the world around you.

5. Practice: To trust the power within (Ishvara pranidhana)

*Reflect:* Be sincere in self assessment and rely upon your own sources in accomplishing goals set by you.

The school curriculum in India should be suitably changed to incorporate the above mentioned aspects of Yoga, which will bring a qualitative improvement in children and improve their overall performance - in addition to asanas, pranayama and guided meditation.

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## **Comparison of Explosive Strength among Soft Ball and Cricketers of Osmania University**

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### **Abstract:**

Cricket is a bat-and-ball game played between two teams of 11 players on a field, at the centre of which is a rectangular 22-yard long pitch. One team bats trying to score as many runs as possible while the other team bowls and fields trying to dismiss the batsmen. Softball is a bat-and-ball sport played between two teams of 10 to 14 players. Softball is played on a smaller diamond than in baseball. The Purpose of the the present study to find out the Agility among Male Soft Ball Players and Cricket Players of Osmania University. The sample for the present study is Male Twenty Cricketers and Male Twenty Soft Ball Players from various colleges of Osmania University in India. The subjects of the study between the age group of 20 Years to 22 Years. The data will be collected separately from Cricketers and Soft Ball Players. The Subjects will be tested in Standing Broad Jump for Explosive Strenght. This study shows that Cricketers are having the good agility compare to the Soft Ball players. It is concluded that Male Cricketers Players are having good Explosive Strength compare to Male Soft Ball Players.

Key Words: explosive strength, cricketers, soft ball etc

### **Introduction:**

Softball is a bat-and-ball sport played between two teams of 9 to 14 players. It is a direct descendant of baseball although there are some key differences: softballs are larger than baseballs, and the pitches are thrown underhand rather than overhand. Softball is played on a smaller diamond than in baseball; a softball field's average distances from home plate to the center, left and right field fences are 220 feet (67 meters) for females and 250 feet (75 meters) for males (the corresponding baseball field average distances are 410 and 325 feet [125 and 99 meters]). Despite the game's name, the standard softball is not soft; in fact, it is harder than a baseball.

Cricket is a bat-and-ball game played between two teams of 11 players on a field, at the centre of which is a rectangular 22-yard long pitch. One team bats trying to score as many runs as possible while the other team bowls and fields, trying to dismiss the batsmen and thus limit the runs scored by the batting team. A run is scored by the striking batsman hitting the ball with his bat, running to the opposite end of the pitch and touching the crease there without being dismissed. The teams switch between batting and fielding at the end of an innings. In professional cricket the length of a game ranges from 20 overs of six bowling deliveries per side to Test cricket played over five days. The Laws of Cricket are maintained by the International Cricket Council. Cricket is the second most popular sport in India. Cricket was first played in southern England in the 16th century. By the end of the 18th century, it had developed into the national sport of England. The expansion of the British Empire led to cricket being played overseas and by the mid-19th century the first international matches were being held.

### **Statement Of Problem:**

To find out the Explosive Strength among Cricketers and Soft Ball Players of Osmania University.  
SAMPLE: For the present study 20 Male Cricketers and 20 Male Soft Ball Players are taken for the study of Osmania University.

**Tool:**

To measure the agility the Standing Broad Jump Test is used.

Delimitations: The study is delimited to 20 Male Cricketers and 20 Male Soft Ball Players of Osmania University, Hyderabad and Shuttle Run of AAPHER Youth fitness Test are taken for study.

Procedure of Data Collection:

**Standing Broad Jump:**

The Standing long jump, also called the Broad Jump, is a common and easy to administer test of explosive leg power.

purpose: to measure the explosive power of the legs

equipment required: tape measure to measure distance jumped, non-slip floor for takeoff, and soft landing area preferred. Commercial Long Jump Landing Mats are also available. The takeoff line should be clearly marked.

procedure: The athlete stands behind a line marked on the ground with feet slightly apart. A two foot take-off and landing is used, with swinging of the arms and bending of the knees to provide forward drive. The subject attempts to jump as far as possible, landing on both feet without falling backwards.

Scoring: The measurement is taken from take-off line to the nearest point of contact on the landing (back of the heels). Record the longest distance jumped, the best of three attempts. attempts

**Results and Discussion:**

**Table I showing the Mean values and Independent Samples Test of Standing Broad Jump between Cricketers and Soft Ball Players**

Variables	Group	Mean $\pm$ SD	t	P - Value
Standing Broad Jump	Cricketers	2.30 $\pm$ 0.157	3.55	0.001
	Soft Ball Players	2.26 $\pm$ 0.159		

\*Significant at 0.05 level

Table I found that Cricketers are having good explosive strength compare to Soft Ball Players because the cricketers are involved more in short running to take more runs and also involved in cricket fielding

**Conclusions:**

It is concluded that Cricketers are having good explosive strength compare to Soft Ball Players.

**Recommendations:**

It is recommended that Cricketers and Soft Ball Players must be given good training for explosive strength, speed and agility for the development of performance in sports. Similar studies can be conducted on different sports and games.

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## **Psychological Identification Profile of Athletes: Basis for Proposed Recruitment Strategy for the National Team**

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### **Abstract:**

To get competitive edge, Philippine athletes devote so much time on the physical aspect, oftentimes ignoring mental skills/ psychological aspects which are equally, if not more important to the athletes' performance. This study analyzed and evaluated the mental/psychological characteristics of Elite and Non-Elite athletes of the Philippines. Employing the descriptive- comparative research design, it investigated the athletes' psychological profiles through a battery of psychological tests covering intelligence, emotional profile, personality, coping, mental toughness and self-perception. Mean analysis and inferential statistics were employed for analyzing data. Findings revealed that non-elite athletes are more intelligent than elite athletes. Their emotional profile revealed that elite athletes are more dyscontrolled, while non-elite athletes are more gregarious. Personality wise, non-elite athletes are higher in neuroticism, but elite athletes are more conscientious. In terms of coping, elite athletes are better in five of its areas namely coping with adversity, confidence and achievement motivation, goal setting and mental preparation, concentration, and freedom from worry. For mental toughness, elite athletes have better confidence, resiliency, handling pressure and concentration. While when it came to self-perception, elite and non-elite athletes do not significantly differ. These findings can serve as a tool or guide for the Philippine Sports Commission in the understanding and recruitment of elite and non-elite athletes.

**Keywords:** Psychological Profiling, Elite Athletes, Non-Elite Athletes, Philippine Athletes

### **Introduction**

Up to two decades ago, athletes have been observed to spend much time on physical preparation to get an edge in competitive sports events (Sugarman, 1998). However, a number of studies have identified predominant characteristics that help athletes, in addition to the physical factor, achieve athletic success (Beilock & McConnell, 2004; Hays & Kenkel, 2006). Discovered as helping athletes achieve peak performance, defined as the "superior use of human potential" (Privette, 1981) and "outstanding accomplishments" (Jackson & Roberts, 1992) are psychological constructs.

Coaches and athletes are becoming aware that given today's tough sports competition to get ahead required an added resource - a trained mind. According to Loehr (Loehr, 1982), every athletic contest consists of delicate mind-body control. Combining mental, physical and technical training gives players an opportunity to establish consistent peak performance. Competitive Sports is 85-90% a mental game. Unfortunately, oftentimes, physical aspect of sports is magnified at the expense of the other. Oftentimes, the difference between the good and the elite is the mental qualities of the athletes. An elite athlete is a rare combination of talent, hard work and right psychological profile. According to Spieler et al. (2007), personality/ psychological attributes and mental skills also contribute to athletic success. Spieler et al (2007) point to mental alertness, emotional competence, psychological moment, jinx, break in the game, and overconfidence as factors contributing to athletic proficiency (citing Griffith (1928). According Humara (2000), vigor, aggression, leadership, ability to cope with stress, coachability, confidence, social support, and positive self-concept are the most likely contributors to high performance), for successful collegiate athletes. Positive self-concept has been related to emotional stability, life satisfaction, social adjustment, independence, adaptability to difficult situations, resilience to stress, internal locus of control and adequate health behavior (Chung 2003). The psychological profile of peak performing athletes include high self-confidence, energy, feelings of control, concentration, positive attitudes, determination, and commitment (Krane & Williams, 2006). In order for any athlete to prepare mentally for competition, a planned program taking into consideration significant variables must be available.

If an athlete is to attain his/her actual potential these characteristics of their training must begin early and continue throughout their careers. This is currently not the situation in the sports world, the Philippines

being one of them. This research is the pioneer in profiling psychological characteristics of elite and non-elite athletes in the Philippines.

**Purpose of the study:** The purpose of the study is to identify the psychological characteristics elite and non-elite athlete, specifically their level of intelligence, emotional profile, personality traits, coping, mental toughness, and personality variables. This will be a guide for the Philippine Sports Commission in the understanding and recruitment of elite and non-elite athletes.

**Methodology :** The researcher employed descriptive, comparative research design. Participants came from the pool of Philippine Sport Commission elite and non-elite athletes from the high school, collegiate and national levels. They were selected based on the following criteria: (1) playing an individual or team event / sport, (2) has been playing sports for minimum of 3 years, and (3) currently training in their respective schools or team. A battery of psychological tests was used to obtain the psychological profile of the athletes in a systematic and accurate manner, and this battery is comprised of:

**Culture Fair Intelligence Test (CFIT).** CFIT measure individual intelligence in a manner designed to reduce as much as possible the influence of the verbal fluency, culture climate and educational level.

**Emotional Profile Index (EPI).** It was developed by Keller man and Plutchik, measures eight emotion dimensions on four bipolar scales: Timid vs. Aggressive, Trustful vs. Distrustful, Controlled vs. Dyscontrolled, and Gregarious vs. Depressed.

**Personality** The NEO PI-R was developed to operationalize the five factor model of personality, Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness. The five factors represent the most basic dimensions underlying the traits identified in both natural languages and psychological questionnaires

**Athletic Coping Skills Inventory.** The ACSI-28 (Smith et al. 1995) is a sport-specific scale consisting of 28 items, measuring the psychological processes of athletes on seven subscales; coping with adversity, peaking under pressure, goal setting/mental preparation, concentration, freedom from worry, confidence and achievement motivation, and coachability.

**Mental Toughness Questionnaire.** It was developed by Dr. Alan Goldberg (1999), a five subscale questionnaire consisting of resiliency, handle pressure, concentration, confidence, and motivation.

**Physical Self-Perception Profile.** Developed by Fox K.R. and Corbin C.B., this was designed to assess self- perceptions in the physical domain containing 30 items. In forced-choice format, it is a 4-point Likert scale of four subscales (sport competence, Physical condition, attractive body and physical strength) and one general scale (physical self-worth).

### **Results and Discussion**

It was revealed in the results that there is a significant difference in intelligence quotient (IQ) of the athletes ( $t=3.891$ ;  $p=.000$ ). Non-elite athletes have higher IQ ( $M=18.642$ ;  $SD= 4.859$ ) compared with elite athletes ( $M=16.441$ ;  $SD=6.073$ ). All non-elite athletes are currently studying or finishing their degree while majority of the elite athletes stopped schooling to focus on their daily training. For the emotional profile of the athletes, it was reflected in the results that they significantly differed in two of its subscales namely dyscontrolled ( $t=-2.437$ ;  $p=.015$ ) and gregarious ( $t=2.341$ ;  $p=0.20$ ). Elite athletes came out to be more dyscontrolled ( $M=11.581$ ;  $SD=3.229$ ), but non-elite athletes are more gregarious ( $M=13.803$ ;  $SD=3.758$ ). These results imply that elite athletes are more impulsive and spontaneous. Likewise, elite athletes are trained to think fast and they have the need for new experiences to feel detached from their routine. On the other hand, non-elite athletes have better sense of joy since they are still new in the sports they are playing. There is a significant difference in the personality of elite and non-elite athletes in terms of neuroticism ( $t=2.038$ ;  $p=.042$ ) and conscientiousness ( $t=-2.066$ ;  $p=.040$ ). Non-elite athletes have higher neuroticism ( $M=93.245$ ;  $SD=11.072$ ) because they still lack the experience and exposure in sports, making them more anxious during their games. While elite athletes being more conscientious ( $M= 112.401$ ;  $SD=15.774$ ), reflecting that they are more focused on their chosen sport since it is already their chosen career and are more diligent and rigorous to keeping it. These differences in neuroticism and conscientiousness can be supported by the study of Ajayi & Fatokun (2008), who discovered the significant influence of emotion on sports performance. Most of the time in sports, commentators, analysts and managers comment on players' display of confidence, determination, resilience or anger and frustration, during and after the games. Since there are these kinds of comments, it can affect the athletes either causing them to be more anxious or more diligent. In general, elite athletes have better coping skills, particularly, in their coping with adversity ( $t=-2.303$ ;  $p=.022$ ), showing that elite athletes remain positive and enthusiastic, as well as calm and controlled, even when things are going badly, and they can quickly bounce back from mistakes and setbacks. In terms of confidence and achievement motivation ( $t=-$

3.258;  $p=.001$ ), elite athletes are confident and positively motivated, consistently giving their best during practices and games, and works hard to improve his or her skills. For goal setting and mental preparation ( $t=-2.806$ ;  $p=.005$ ), elite athletes set and work toward specific performance goals, plan and mentally prepare for games and clearly has a game plan for performing well. On the subscale, peaking under pressure ( $t=-2.525$ ;  $p=.012$ ), elite athletes are challenged rather than threatened by pressure situations and perform well under pressure. On the concentration subscale ( $t=-4.309$ ;  $p=.000$ ), elite athletes are able to focus on the task at hand in both practice and game situations, even when adverse or unexpected situations occur. Finally, with regard to the freedom from worry subscale ( $t=-2.978$ ;  $p=.003$ ), elite athletes do not pressure themselves by worrying about performing poorly or making mistakes. Before the respondents have become elite athletes, they underwent rigorous training and years of practice and they developed a good sense of coping compared to non-elite athletes who are just starting in their chosen sport. However in terms of coachability subscale, elite and non-elite athletes did not show a significant difference ( $t= -.424$ ;  $p=.672$ ). With regard to mental toughness, elite and non-elite athletes differed in four areas, which includes resiliency ( $t=-4.123$ ;  $p=.000$ ), handle pressure ( $t=-2.789$ ;  $p=.006$ ), concentration ( $t=-2.763$ ;  $p=.006$ ), confidence ( $t=-2.425$ ;  $p=.016$ ). Being more resilient than non-elite athletes ( $M=3.330$ ;  $SD=1.674$ ), elite ( $M= 4.017$ ;  $SD= 1.602$ ) athletes possess the ability to mentally bounce back from setbacks and mistakes, and to quickly leave mistakes and failures behind. In terms of their ability to handle pressure, elite athletes ( $M=4.209$ ;  $SD=1.303$ ) can stay calm in the clutch as compared to non-elite athletes ( $M=3.821$ ;  $SD=1.421$ ). Peak performance refers to the demand to stay relaxed once the performance begins, where elite athletes are better than non-elite. For the concentration subscale, elite athletes ( $M=4.284$ ;  $SD=1.416$ ) have the ability to focus on what is important and block out everything else unlike the non-elite athletes ( $M=3.875$ ;  $SD=1.498$ ). Confidence, which speak of being unshaken by setbacks and failures, elite athletes ( $M=4.616$ ;  $SD=1.321$ ) are better in it compared to non-elite athletes ( $M=4.276$ ;  $SD=1.425$ ). The only coping subscale where elite ( $M=4.691$ ;  $SD=.853$ ) and non-elite ( $M=4.540$ ;  $SD=.861$ ) athletes do not have a significant difference was on motivation ( $t=-1.743$ ;  $p=.082$ ), meaning both elite and non-elite athletes have the drive and desire to be successful and accomplishment of their goals. According to Loehr (1986) mental toughness is an important component of success. Both athletes and coaches admitted that at least fifty percent of the success is influenced by psychological factors that are related to mental toughness. The last variable concerns Physical Self-Perception Profile (PSPP), comprised of PSPP and Perceived Importance Profile (PIP), wherein elite and non-elite athletes did not manifest any significant differences in any of these measures. The PIP was constructed to accompany the PSPP and provide a measure of importance attached by individuals to their respective levels of sports competence, attractiveness, and physical strength. In all these PSPP subscales, elite and non-elite athletes are equally high in it. The same goes for all the PIP subscales, where elite and non-elite athletes regard them as important. This follows that if a particular factor of Physical Self-Concept is considered important, then a high score on that factor is most expected to have a positive impact on the total physical self-concept (Fox, 2000). Since elite and non-elite's sports competence, physical condition, body attractiveness and physical strength are regarded important, then high scores on those factors, respectively, is likely to be positively linked with their physical self-concept.

### Conclusion

Elite athletes have better psychological profile, especially when it comes to their coping and mental toughness. Likewise, elite athletes are more dyscontrolled and conscientious. Non-elite athletes are more intelligent, gregarious, but neurotic. In terms of self-perception, elite and non-elite athletes are the same.

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## Effects of selected Asana on motor fitness variables among post graduate female students

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### **Abstract**

For this study 30 female PG students were selected from Karnataka state women's university, Bijapur, six week training was given to assess the pre and post training effect of yoga on female students. Trainees of the experimental group were trained daily for an hour which includes some yogic breathing exercise for five minutes followed by Asanas and Pranayam. The training Schedule included- different Asanas to test the flexibility and agility performance of female students. "t" test was used to find out the significant of mean difference of motor fitness among pretest and post test. The statistical significant level was 0.05. The "t" proved that there is significant effect of six week training on motor fitness of female students.

Key words: yoga and motor fitness

### **Introduction:**

Yoga is universal benefiting all people of all ages, the study of yoga is fascinating to those with a philosophical mind and is defined as the silencing of mind's activities which leads to complete being. Physical fitness is important for all human being irrespective of their age. A given work cannot be carried out if the required physical strength is not available. A body may possess extraordinary skill in football, but if he does not keep himself in the game till the end of the allotted time, he may not find a place in the team. So fitness becomes the first and foremost aspect to enjoy one's life fully. Motor fitness includes speed, flexibility, coordination, agility etcetera. These characters are all equated with the healthy functioning of the body. The various aspects of physical fitness and the skill are interrelated.

Statement of the problem:

The Purpose of the present study is to investigate "Effect of selected Asanas on selected motor Fitness variables among the post graduate students.

Hypothesis:

It is Hypothesized that selected yogasana was significantly improved on the Physical Fitness level among Post Graduate students.

Limitations

The food nutrition and the body types of the students are not taken into consideration.

Age was recorded as found in the college admission register.

Delimitations:

The present study is delimited to 30 students belong to the female Post Graduate Students of Karnataka State Womens University..

Methodology:

The purpose of this study is to find out "Effect of selected yogasanas on selected Physical Fitness among Post Graduate students"

Selection of the subjects:

In the present study single group design procedure was followed. A group of 30 Post graduate students was selected from Karnataka state women's university; the selected subjects were under gone six weeks yogasanas training. The researcher was adapted Pre-test and Post-test procedure to assess the differences.

Selection of the Variables:



The Physical variable selected for the present study is Flexibility, Agility,

Selected Yogasana for Training:

Sitting Asanas: Paschimotansana. Padmasana.

Standing Asanas: Tadasana. Vrukshana. Hanumanasana.

Supine Asanas: Naukasana. Sarvangasana. Halasana. Matsyasana.

Proline Asanas: Salabhasana. Dhanurasana. Bhujangasana. Pranayama. Anuloma-Viloma.

Nadishodhaka. Bramari.

Collection of data:

To asses Pre-test and Post-test effect of Yoga Training on motor fitness variables six week training has imparted to sample group and data was assessed by Appling staffy hoc statistical test.

#### Discussion and Analysis of data:

The purpose of the study was to see the Experimental "Effect of selected yogasana on Physical Fitness and Anxiety level among post graduate students."The obtained data was calculated as per the norms using such as Mean, Standard deviation and t value for the obtained pre-test and post-test

Table no 1 showing the pre-test and post-test for Shoulder flexibility performance.

Shoulder flexibility	Sample size	Mean	SD	Calculated Value	Table-value
Pre-test	30	1.33	0.54	- 4.287	2.045
Post-test	30	1.86	0.34		

The level of significant  $0.05 = \text{Table value} = 2.045$ .

Table no 1- indicates that the t value is more than the table value that is 2.045, hence it is significant. The pre-test mean value is 1.33 and the post-test mean value 1.86. The post-test mean value is greater than pre-test mean value. It shows significant improvement in the shoulder flexibility performance of females owing to the three weeks yogasana training

Table no 2- Showing the pre-test and post-test for Agility performance.

Agility performance.	Sample size	Mean	SD	Calculated Value	Table-value
Pre-test	30	28.66	2.23	3.149	2.045
Post-test	30	27.38	2.34		

The level of significant  $0.05 = \text{Table value} = 2.045$ .

Table no 4.5 indicates that the t value is more than the table value that is 2.045, hence it is significant. The pre-test mean value is 28.66 and the post-test mean value 27.38. The post-test mean value is less than pre-test mean value. It shows significant improvement in the agility performance of females owing to the three weeks yogasana training

#### Discussions of findings:

The result of the study generally supported to the proposed hypothesis the selected yogasana training, should play a vital role in improving the performance of the Effect of selected yogasana on motor among post graduate female students. Performance of flexibility, agility have been influenced by six week training, hence yoga should be the part of curriculum of all the stage.

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## Effect of plyometric training on selected motor fitness components of rowing players”

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### **Abstract:**

The study was conducted to find out the effect of plyometric training on selected motor fitness components of rowing players. For the purpose of the study forty state level participant rowing players selected from K.T.H.M. college boat club in Nasik district. The subjects were aged between eighteen to twenty eight years. They were randomly divided into two groups, viz, experimental and control group, both consisted of 20 subjects each. The motor fitness variables were leg explosive power, cardio-vascular endurance and muscular strength. For the purpose of collection of data on leg explosive power measured by standing board jump (S.B.J.), Cardio-vascular endurance measured by 12 m run/walk test and muscular strength measured by pull ups test. The experimental group underwent plyometric training programmed for three days per week for eight weeks. The data was statistically treated with ANCOVA and the results indicated that the plyometric training significantly helped to improve the explosive power, cardio-vascular endurance and muscular strength.

**Key words:** plyometric training, leg explosive power, cardio-vascular endurance and muscular strength.

### **Introduction**

Sports training are a systematic process extending over a long period. For best results the system of training has to be based and conducted on scientific facts and lines. Sports training are done for improving sports performance. The sports performance is not the product of one single system or aspect of human personality. (Hardayal Singh, 1991)Plyometric exercise is a popular form of training used to improve athletic performance. It involves a stretch of the muscle tendon unit immediately followed by a shortening of the muscle unit. This process of muscle lengthening followed by rapid shortening during the stretch shortening cycle is integral to plyometric exercise. The process significantly enhances the ability of the muscle tendon unit to produce maximal force into the shortest amount of time. These benefits have prompted the use of plyometric exercise as a bridge between pure strength and sport-related power and speed. (Donald A. Chu and Gregory D. Myer, 2013)Rowing is the propulsion of displacement boat, with or without coxswain, by the muscular force of one or more rower, using oar as a simple level of the second order and sitting with their back to the direction of movement or the boat. Rowing on a machine or in tank which simulates the action of rowing in a boat is also considered as rowing.

### **Methodology**

The present study was conducted on forty (N=40) state level participant rowing players of Nasik district were selected as subjects, of which twenty subjects as experimental group and twenty subjects as control group. The subjects were taken in the age group between 18 to 28 years. The selected dependent variables namely leg explosive power, cardio-vascular endurance and muscular strength. The experimental group subjects underwent plyometric training program for three days a week for eight weeks. The experimental group participants performed the following exercises namely squat jump, two foot ankle hop, standing long jump, plyometric sit ups, pike jump, medicine ball sit up, stadium hops and power in the training. Both groups were given daily warm up exercise and rowing practice for pre-test and post-test to find out the effect of plyometric training for development leg explosive power, cardio-vascular endurance and muscular strength.

### Experimental Design And Statistical Procedure

The experimental design used for the present investigation was random group design involving twenty subjects. Analysis of covariance (ANCOVA) was used as a statistical technique to determine the significant difference if any existing between pre-test and post-test data on selected dependent variables. The level of significance was accepted at 0.05 levels.

**DEPENDENT VARIABLES:** Selected motor fitness components were considered as dependent variables.

Sr. No.	Variable	Test	Unit
1	Leg explosive power	S.B.J.	Inch
2	Cardio-vascular endurance	12 m run and walk	Distance
3	Muscular strength	Pull ups	Numbers

### Results And Discussions

The results of the analysis regarding the impact of plyometric training on selected motor fitness components of rowing players and it is presented following table.

**Table – I : The summary of mean and dependent ‘t’ test for the pre and post test on leg explosive power experimental and control groups.**

Summary	Experimental group	Control group
Pre test mean	15.62	15.62
Post test mean	22.4	15.85
T test	1.73*	0.0008

\*significant at 0.05 level of confidence

**Table – II Analysis of covariance on leg explosive power of experimental group and control group**

Adjusted post-test mean		Source variance	Means squares	Degrees of freedom	‘F’ ratio
Experimental group	Control group	Between	3.96	1	1.09*
19.12	15.73	Within	3.63	19	

\*significant at 0.05 level of confidence

**Table – III : The summary of mean and dependent ‘t’ test for the pre and post test on cardio-vascular endurance experimental and control groups.**

Summary	Experimental group	Control group
Pre test mean	2095	2095
Post test mean	2932	2180
T test	9.12	0.007*

\*significant at 0.05 level of confidence

**Table – IV Analysis of covariance on cardio-vascular endurance of experimental group and control group**

Adjusted post-test mean		Source variance	Means squares	Degrees of freedom	‘F’ ratio
Experimental group	Control group	Between	98230	1	3.82
2556	2137	Within	17850	19	

\*significant at 0.05 level of confidence

**Table – V: The summary of mean and dependent ‘t’ test for the pre and post test on muscular strength and control groups.**

Summary	Experimental group	Control group
Pre test mean	11.8	11.8
Post test mean	16.8	12.3
T test	7.72	0.02*

\*significant at 0.05 level of confidence

**Table – VI Analysis of covariance on muscular strength of experimental group and control group**

Adjusted post-test mean		Source variance	Means squares	Degrees of freedom	‘F’ ratio
Experimental group	Control group	Between	2.69	1	1.10
14.55	12.05	Within	2.43	19	

\*significant at 0.05 level of confidence

From the table I the dependent ‘t’ test values between the pre and post means of experimental group and control group were 1.73 and 0.008 respectively. It is concluded that experimental group had significant improvement in the performance of leg explosive power. However, control group has no significant improvement in the performance of leg explosive power. From the table II the adjusted post-test mean values of leg explosive power for experimental group and control group are 19.12 and 15.73 respectively. The obtained F- ratio of 1.09 for adjusted post-test mean in df 1 and 19 required for significance at 0.05 level of confidence. The results of the study indicate that there is significant difference among the post-test means of experimental group on the development of leg explosive power. From the table III the dependent ‘t’ test values between the pre and post test means of experimental group and control group were 9.12 and 0.007 respectively. It is concluded that experimental group had significant improvement in the performance of cardio-vascular endurance. From the table IV, the adjusted post test means of experimental group and control group are 2556 and 2137 sportively. The results of the study indicate there is significant difference among the adjusted post-test means of experimental group and control group on the development of cardio-vascular endurance. From the table V the dependent ‘t’ test values between the pre and post means of experimental group and control group were 11.8 and 16.8 respectively. It is concluded that experimental group had significant improvement in the performance of muscular strength. However, control group had significant improvement in the performance of muscular strength. From the table VI the adjusted post-test mean values of muscular strength for experimental group and control group are 14.55 and 12.05 respectively. The results of the study indicate that there is significant difference among the post-test means of experimental group on the development of muscular strength.

### Conclusion

The results of this study demonstrated that, plyometric training has significant impact on leg explosive power, cardio-vascular endurance and muscular strength of rowing players. It is also concluded that due to the plyometric exercises there is an improvement in the performance of rowers. Hence it is recommended that the plyometric exercises training must be given to the rowers to improve their performance. Similar studies can be conducted on others events in water sports.

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## **Effect of selected physiological adaptations to circuit training among untrained Male University students**

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### **Introduction:**

The effect of resistive type exercise on health status have been largely overlooked. Traditionally, strength training has been as a means of improving muscular strength and endurance (muscle mass) and power , but not as a means for improving health. According to the reports of American College of Sports Medicine there is increasing evidence that strength training plays a significant role in many health factors. To know the efficacy of circuit training and its significant contribution to one's level of fitness, it was decided to take up this study. We hypothesized that significant adaptations on selected physiological variables may subsist as a result of supervised circuit training programme for eight weeks among untrained male university students.

### **Methodology:**

For the purpose of this study, thirty untrained university students from Telangana University, Nizamabad District, Telangana State, in the age group of 20 to 24 years were recruited with their consent. All of them were healthy, nonsmoking and with negative medical history. The selected subjects were randomly assigned to both the circuit training and control groups of 15 each. The selected criterion variables were assessed using standard tests and procedures, before and after the training regimen. The instruments used for testing the dependent variables were standard and reliable as they were purchased from the reputed companies. The variables and tests used are presented in table 1.

Table 1. Criterion Variables and Tests:

Sl No.	Variables	Tests / Instruments	Unit of Measurement
01.	Cardio-Respiratory Endurance	Cooper's 12 minutes Run/walk	Metres
02.	Vital Capacity	Wet Spiro meter	ml
03	Vital Index	Vital Capacity Body Surface Area	ml/m <sup>2</sup>

### **Training Protocol:**

The experimental group underwent the circuit training programme for eight weeks. The training regimen for circuit training group consisted of two to three circuits of 35 to 50 seconds duration of eight exercises a day, three days a week at 60% to 75% of VO<sub>2</sub> max, with three to five minutes recovery between circuits. The control group did not participate in any specialized training during the period of study.

### **Results and Discussions:**

The height and weight of the selected subjects averaged 168.3 +- 4.12 cm, and 63.7 +- 3.52 kg respectively. The descriptive analysis of data collected on selected physiological variables before and after eight weeks of circuit training is presented in table 2.

Table 2.:Computation of Mean and Standard Deviation on Selected Physiological Variables:

Variables	Groups	Pre-Test		Post-Test	
		$\bar{x}$	$\sigma$	$\bar{x}$	$\sigma$
Cardio Respiratory Endurance	Experimental	2429.33	115.17	2861.33	132.93
	Control	2434.65	93.42	2535.33	85.09
Vital Capacity	Experimental	2543.33	57.84	2916.67	77.15
	Control	2540.00	60.36	2526.67	52.16
Vital Index	Experimental	1477.75	98.20	1687.96	83.64
	Control	1459.21	104.31	1445.89	81.25

Analysis of covariance was used to determine the significant impact of circuit training on selected physiological variables and it is presented in table3.

Table 3:Analysis of covariance on selected Physiological Variables of Circuit Training and Control Groups

Variables	Groups	Adjusted Mean	SOV	Sum of Squares	df	Mean Square	'F' ratio
Cardio Respiratory Endurance	Experimental	2863.97	B	822472.58	1	822472.58	459.879*
	Control	2532.70	W	48288.22	27	1788.45	
Vital Capacity	Experimental	2915.94	B	1131323	1	1131323	296.797*
	Control	2527.39	W	102917.9	27	3811.78	
Vital Index	Experimental	1681.29	B	388904.4	1	388904.4	252.735*
	Control	1452.56	W	41547.14	27	1538.78	

Required table value for significance at 0.05 level of confidence for df of 1 and 27 is 4.21

\* Significant at 0.05 level.

The findings of the study shows that significant deference existing between circuit training and control groups on Cardio Respiratory Endurance, Vital Capacity and Vital Index, since the obtained 'F' ratio of 459.879, 296.797 and 252.735 respectively were greater than the required table value of 4.21 for significance at 0.05 level of confidence for df of 1 and 27.It appears that regular participation in physical exercises initiate a disruption in systemic homoeostasis, which is followed by an adaptive phase results in the betterment of Cardio Respiratory Endurance, Vital Capacity and Vital Index, which might be due to the progressive loading of intensity.

#### Conclusions:

The result of this study demonstrated that, circuit training with repeated bouts of a combination of physical exercise has significant impact on Cardio Respiratory Endurance, Vital Capacity and Vital Index.

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## Determine the biomechanical differences of Taekwondo round kick: demonstration athletes and sparring athletes

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### Introduction

Taekwondo is a topic universal interest and it became an official sport in Olympic Games in 2000. Taekwondo is a martial sport which requires competitors to reproduce whole body combine skills in reduced time-frames during bout. It is important to determine whether differences techniques is applied for scoring and how they win in match for ensure training executions adequately and specifically reflect those in competition. The content of taekwondo competition includes two categories, one is sparring and the other is demonstration. The sparring is full contact combat sport wherein the players record points by kicking or punching the opponents, otherwise the demonstration is showing the techniques skill and it was evaluated by using score sheet papers. For scoring in match, the players have to kick or punch as fast as possible that the opponent cannot block or dodge a blow. But most of players use kicking more than punching in match (Kim, 1987), they may using kicking to attack with large space from long distance and can be applied various kicking techniques to the opponent (Falco, Alvarez, Castillo, Estevan, Martos, Mugarra & Iradi, A, 2009; Hermann, Scholz, Vieten, & Kohloeffel, 2008; O'Sullivan, Chung, Lee, Kim.E, Kang, Kim.T, & Shin, 2009) therefore kicking provides more power then punching and the effect of its to the opponents is clearly that help judges to determine points easier. Even though there are various kicking techniques in taekwondo but only some of them were used frequently in match, with over 50% of kicking was round kick (dollyochagi) and it had been performed by male athletes. Statistically points in match was showed 89% by using round kick then it was to be the most popular technique in taekwondo competition. (Kim, 1987; Lee, 1998). Despite of a huge amount of literature in kicking in sparring, a handful were used 3D technique for analysisvelocity, force producing, impulse, inter joint coordination...(Tang et al., 2007; Kim et al., 2008; Kim et al., 2010; Kim et al., 2011); we need more information in elite taekwondo athletes as comparison kinematic round kick between sparring and demonstration athletes and it has not been thoroughly studied.The results will give new knowledge with respect to the efficacy of different types of exercise.

### Methods

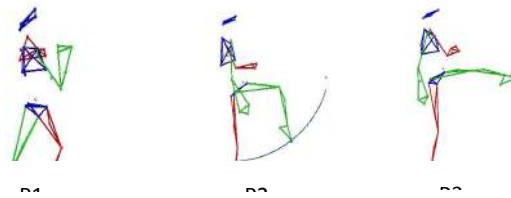
**Subjects:** The volunteer participants in this study are Korean national athletes. They are consists of two groups. The group one (G1) are 6 demonstration athletes (ages of 21 years, 175.5 ± 5.2 cmheight, 68.2 ± 4.2 kgweight). The group two (G2) are 6 sparring athletes (ages of 23 ± 1.6 years, 1.76 ± 0.05 mheight, 72.8 ± 2.8 kg weight). The participants had been explained clearly the objective of study before experiment, they had signed the consent form approved by Korea Institute of Sport Science. This study followed the policy statement with respect to the Declaration of Helsinki.

**Procedure:**For the group 1 in this study, 3D Videography using Direct Linear Transformation (DLT) method and it was set up following Shapiro (1978) and calibration space (Chen, et al., 1994, Wood & Marshall, 1986).Twenty control points were used for direct DLT calibration. Those body landmarks were digitized with the Kwon 3D software version 3.01.019 (Visol Inc, Korea): head, chin, right shoulder, left shoulder, right elbow, left elbow, right wrist, left wrist, right hand, left hand, right hip, left hip, right knee, left knee, right ankle, left ankle, right heel, left heel, right toe, left toe.A whole body kinematic was obtained using 4 digital cameras (Sony model HXR-NX70N, Japan) to record subjects' performance of round kick.In this research the cameras were set for video graphic recording with 120Hz and 250 frames per second. We use the LED light for synchronization 4 cameras by clicking button switch while

Taekwondo player touching the target. The recording data from camera was captured to computer by using PMB software. (Sony Co., Ltd, Japan). All data was cut the video clip by using Vegas pro 10.0

software (Sony Co., Ltd, Japan). For the group two in this study, a 3D motion capture system using passive retro-reflective markers was employed. Twelve cameras VICON 3D motion capture system (Oxford Metrics Ltd., Oxford, England) was use to quantitative determine the whole body kinematic characteristics during each movement. VICON software (Life science software package 2010) was configured to capture motion at a rate of 120 frames per second and reconstruct the capture movement in 3D computer space. Calibration residuals were determined in accordance with VICON's guidelines and yielded positional data accurate within 1mm. This study using visual 3D version 4.91.0 of (C motion Inc, German town MD) and matlab R2009b (math works Inc, natick, MA) for analysis data. A 15-component link-segment model, consisting of 41 reflective markers, was used to quantify the motions of the whole body. Those markers were attached to the following anatomical landmarks of the body: head, shoulder, heel, medial and lateral malleoli, lateral femoral condyle, thigh, shank, anterior superior iliac spine, posterior superior iliac spine, and greater trochanter. The toe and medial femoral condyle markers were removed after static motion capture to facilitate dynamic kicking movement.

**Data analysis:** Kinematic analysis was conducted with 3D Videography and Visual 3D. The execution kicking time was determined when the toe off till target contact. The phase one (P1) was defined as toe off, the phase two (P2) as the period of time from toe off to the highest of knee position, the phase three (P3) as from the knee highest position to target contact. The kicking velocity was measured as the magnitude of the resultant linear velocity of the toe marker of the kicking leg.



**Statistics analysis:** The independent non parameter was conducted on the kinematic variables of the lower extremity ( $\alpha = 0.05$ ) and followed by a Mann Whitney test comparison with if a significant difference was found. SPSS 16.0 software (SPSS Inc, Chicago, IL) was used to statistics.

**RESULTS:** Table 1. The time, time sequence of hip and knee, toe distance

	Group 1 (n=6)		Group 2 (n=6)		Z score	P value
	Mean	SD	Mean	SD		
Time (s)						
P1	0.107	0.021	0.119	0.019	-1.928	0.065
P2	0.112	0.021	0.089	0.013	-2.929	0.002**
Execution	0.230	0.011	0.208	0.020	-2.008	0.065
Time sequence (s)						
x-factor peak 1	0.066	0.017	0.075	0.009	-0.966	0.394
Hip angle velocity	0.138	0.013	0.120	0.049	-1.939	0.065
x-factor peak 2	0.172	0.016	0.195	0.009	-0.809	0.485
Knee angle velocity	0.194	0.026	0.181	0.019	-2.329	0.026*
Toe distance (m)						



	Group 1 (n=6)		Group 2 (n=6)		Z	P value
	Mean	SD	Mean	SD		
Hip angular velocity ( $^{\circ}/s$ )						
P1	50.33	62.86	-41.15	102.01	-1.922	0.065
P2	-310.52	80.80	-262.33	126.88	-0.32	0.818
P3	-20.55	73.61	-17.44	40.06	-0.48	0.699
ROM (P1)-(P2)	360.85	133.16	221.19	210.93	-1.121	0.310
ROM (P2)-(P3)	-289.97	131.48	-244.89	112.89	-0.641	0.589
ROM (P3)-(P1)	-70.88	88.81	23.70	136.92	-1.601	0.132
Knee angular velocity ( $^{\circ}/s$ )						

In this study, Taekwondo athletes showed their round kick skill a little different comparing the results from previous studies. The G1 was 0.23 sec and G2 was 0.208 sec in execution time, both groups were higher than Falco et al. (2009)'s result (0.23 sec to 0.24 sec for athletes) and Falco et al (2011)'s result in Spanish athletes (0.46 sec) and Hermann et al (2008)'s result in German athletes (0.3 sec). These differences might be attributed to different groups of subjects and different experimental conditions. Kim (2010) observed a significant difference in the peak hip joint angle for the roundhouse kicking leg  $35.8 \pm 9.0$  deg, internal rotation range is 33.1 deg. The throwlike movements of the round kick ended with directional mode or "same direction" of hip and knee motions (positive IIC) (Putnam, 1991). There were a limitation to this study, the analysis was limited to only two joint motions and variables of kinematic. The distance of right toe moving base on x-axis and y-axis. Each subject had performing round kick of their individual character as body height, lower limb, foot segment... The changes in distance at the toe for both elevation and horizontal rotation showed the same general trends. Both groups demonstrated a large positive change over P1. When the hip was moving, the toe follows the leading of hip as elevating angular velocity. If it is assumed that there was little rotation occurring at the start of the kick, this means that the thigh was rotating slightly downwards immediately before elevating. The angular kinematics explained the qualitative characteristics of round kick. This kick was a narrow arc and monotonic changes in hip motions (hip flexion, internal rotation, and abduction) with large of knee flexion and extension. A few changes in the hip rotation angle were detected when compare G1 and G2. In table 2, we saw the difference at hip angular velocity between two groups This difference can be explained in terms of different individual characteristics of G2. There were athletes perform direct kicks both with hips rotate first, but the others have done the knee raising and swing the hips to kick guidelines. For the G1, due to competition rule is performing the technically skill, so the consistency and accuracy of the Because of the more complicated 3D nature of the hip joint, the angular velocity data are presented as two components of the resultant velocity vector. The changes in angular velocity at the hip joint are given in table 2. Results are provided for the rate of change in the included angle made between the thigh and the horizontal plane (Hip) and the rate of change of the angle that the projection of the thigh onto the horizontal plane made with the y-axis (Hip) for P1 and P2. In the present study, the large decrease in the angular velocity at the hip corresponded to the large increase in angular velocity at the knee. For horizontal hip angular velocity, there was a net positive change.

## Conclusion

There was not a firm evident to conclude that the angular velocity in demonstration athletes was greater than sparring athletes whereas the angle at hip and knee in sparring athletes was moved wider arc than demonstration athletes significantly different with  $p < 0.05$ .

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## Comparative Analysis Of Agility And Flexibility Among University Kabaddi And Kho-Kho Players

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### Abstract

The present study was undertaken to compare agility and flexibility among university kabaddi and kho-kho players. The investigator has selected 15 kabaddi players and 15 Kho-Kho players were selected as subjects from Pondicherry University age ranged between 18-25 years. To measure the agility (Shuttle run) and flexibility (Sit and reach test) because of their simplicity and availability of necessary facilities, instruments and equipments. The subjects were tested on the agility and flexibility was analyzed statistically by using t-ratio to find out the significant differences. In all cases 0.05 level of confidence was fixed. The result of the study indicated that the Kho-Kho players have better performance than the kabaddi players on flexibility. Therefore it also observed that there was no significant differences between Kho-Kho and Kabaddi players on agility.

Keywords: Flexibility, Agility, Kabaddi and Kho-Kho

### Introduction

The physical fitness is appropriately related to the type of activity being considered. A physical characteristic of weight lifters is wholly different than for long distance runners. Agility in general ability to change the direction quickly and effectively while moving as nearly as possible at full speed. It is depended primarily on strength, reaction time, speed of movement and specific muscle coordination. Flexibility is the range of movement in a joint.

#### Statement of the Problems

The purpose of the study was to compare agility and flexibility among university kabaddi and kho-kho players.

#### Hypotheses

It was hypothesized that kho-kho players may have better agility than kabaddi players.

It was hypothesized that kho-kho players may have better flexibility than kabaddi players.

### Methodology

The purpose of the study was to compare agility and flexibility between kabaddi and kho-kho players. To achieve the purpose of the study 15 kabaddi players and 15 Kho-Kho players were selected as subjects from Pondicherry University age ranged between 18-25 years. To measure the agility (Shuttle run) and flexibility (Sit and reach test) because of their simplicity and availability of necessary facilities, instruments and equipments. The subjects were tested on the agility and flexibility was analyzed statistically by using t-ratio to find out the significant differences. In all cases 0.05 level of confidence was fixed.

Table: 1 The mean, standard deviation and 't' ratio values on agility of kabaddi and kho-kho players

Groups	Mean	SD	't' ratio
KABADDI	9.90	0.35	5.80
KHO-KHO	10.75	0.40	

\*significant at 0.05 level

(Table value required for significance at 0.05 level with df 1 and 28 was at 2.02)

Table : 1 Showed that mean values of Pondicherry University Kabaddi and Kho-Kho players on agility were 9.90 and 10.75 respectively. The obtained 't' ratio value of 5.80 was lesser than required table value 2.02 for significance at 0.05 level of confidence with df 1, 28. The result of the study showed that there were no significant differences between Pondicherry University Kabaddi and Kho-Kho players on agility.

The mean values of Pondicherry University Kabaddi and Kho-Kho players on agility were graphically represented in figure –I.

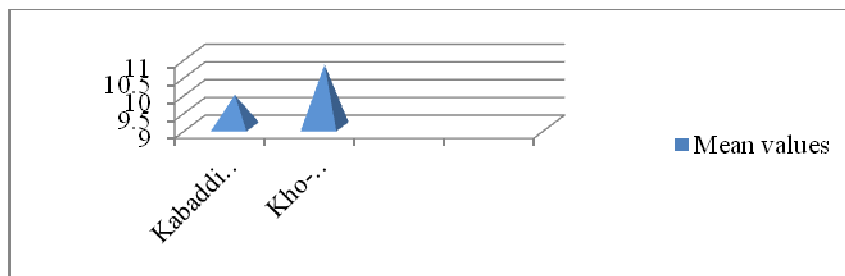


Figure –I: The mean value of Kabaddi and Kho-Kho Players on agility

Table: 2 The mean, standard deviation and 't' ratio values on flexibility of kabaddi and kho-kho players

Groups	Mean	SD	't' ratio
KABADDI	20.90	4.89	4.39*
KHO-KHO	28.18	4.01	

\*significant at 0.05 level

(Table value required for significance at 0.05 level with df 1 and 28 was at 2.02)

Table: 1 showed that mean values of Pondicherry University Kabaddi and Kho-Kho players on agility were 20.90 and 28.18 respectively. The obtained 't' ratio value of 4.39 was higher than required table value 2.02 for significance at 0.05 level of confidence with df 1, 28. The result of the study showed that there was a significant difference between Pondicherry University Kabaddi and Kho-Kho players on flexibility. The mean values of Pondicherry University Kabaddi and Kho-Kho players on flexibility were graphically represented in figure –II.

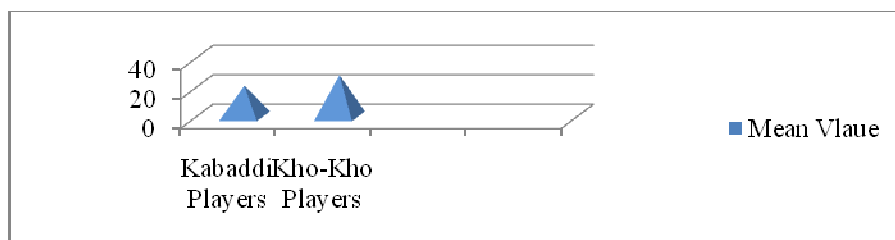


Figure –II: The mean value of Kabaddi and Kho-Kho Players on flexibility

### Conclusions

Kho-Kho players have better performance than the kabaddi players on flexibility. Therefore it also observed that there is no significant difference between Kho-Kho and Kabaddi players on agility.

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## **The Advent of New Era in International Volleyball:Volleyball Information System (VIS)**

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### **Introduction:**

The FIVB has developed the VOLLEYBALL INFORMATION SYSTEM (VIS) over the past seven years. The VIS is used for the result management during FIVB World Competitions. The main purpose of VIS is to inform the national and international media on match result and on team and individual player statistics. For the development of the VIS program, the FIVB has followed the recommendations of the FIVB Mass Media Commission concerning the design of the reports which provide the information requested by the media. For the development of the observation criteria, the recommendations of the FIVB Technical Commission have been integrated. An important consideration for the development of the VIS has been that provided data to the Press on volleyball event and in particular on FIVB events has to be presented in a clear and consistent way. Journalists and press agencies have to become familiar with the provided information and the system in use. The FIVB is aware of the fact that worldwide programs have been developed to provide match result and statistics but we are confident that our sport will only succeed if the press and the public obtain the information they expected and if this is always provided in the same format. If the provided information needs to be analysed to be understood, it means that the statistics and results will not be taken into consideration by the press. Besides presenting press information after a match, the VIS will provide, in the near future data on teams and players before each match. The FIVB develops for this purpose a VIS data base including results and statistics over a period of several years. During the main FIVB competitions at least one FIVB control committee member, normally a member of the FIVB Coaches or Technical Commission, will in charge of the control of the VIS program. The main responsibilities of this control committee member will be:

Preparation and supervision of the VIS clinic. Verification of the quality of the VIS personnel and their understanding and implementation of VIS observation criteria. Verification of the VIS equipment. Verification of the print outs. Verification of the organization for distribution. Verification of fax and modem connections. Instruct Game Jury members how to check the P2 form

#### **Training of VIS Supervisors:**

For each FIVB event a VIS Supervisor has to be appointed by the organizer. The VIS Supervisor has to follow a clinic for VIS Supervisors organized by the FIVB or by another organization authorized by the FIVB. The VIS Supervisor will have to prepare and train the personnel needed for the functioning of the VIS in its own country, be responsible for the VIS personnel during the event and for the preparation of the VIS print-outs and will be the contact person for the FIVB Control committee. The FIVB clinic for VIS Supervisors normally organized in Lausanne, will include the following topics:

#### **Training of VIS Observers and VIS Operators:**

The VIS Supervisor, who has followed a clinic for VIS Supervisors organized by the FIVB, or by another organization authorized by the FIVB, will have to prepare the personnel needed for the functioning of the VIS in its own country. This training program for the National VIS personnel has to be conducted at the latest one month before the competition so that, after the first training, the perfection of the personnel can take place during other matches to be organized before the event. A final clinic will take place 2 and 3 days before the start of the competition, conducted by the VIS Supervisor and under the control of the FIVB Control Committee member responsibility for the VIS.

Program proposed for the training of the VIS personnel by the VIS supervisor

Equipment, material and personnel to be provided for the training of the VIS observers and operators. Training of the VIS observers by using Video. The training of VIS operators by using an audio tape. Quality control of the work of observers and operators. VIS requirements during the competition: The Organising Committee will charge the VIS Supervisor with the preparation and supervision of the teams' and players' individual statistical evaluation by means of the FIVB Volleyball Information System: Personnel required in Each Competition venue. Material and Equipment Required in Each Competition venue. On-line Statistical Information to Press and TV Booth. Statistical Working Room. Criteria to be used for the observation of volleyball skills:

The Volleyball skills observed (6) have been divided into two groups:

1. Scoring Skills:

A. Attack B. Block C. Service

Result: Success (+) Fault (-) Attempt (space/return)

2. Non-scoring Skills:

D. Dig E. Set F. Service Reception

Result: Excellent (+) Fault (-) Attempt (space/return)

The observation criteria used have been defined as described in the following pages. Evaluation of the Attack. Evaluation of the Block. Evaluation of the Service. Evaluation of the Dig. Evaluation of the Set. Evaluation of the Reception.

Overview of the evaluation criteria:

Skills	Evaluation
Attack	- rally continues – evaluation Attempt - rally ends – success (+) or fault (-)
Block	- rally continues – evaluation Attempt - rally ends – success (+) or fault (-)
Service	- rally continues – evaluation Attempt - rally ends – success (+) or fault (-)
Dig	- rally continues – evaluation or success (+) or Attempt - rally ends – fault (-)
Set	- rally continues – evaluation or success (+) or Attempt - rally ends – fault (-)
Service Reception	- rally continues – evaluation or success (+) or Attempt - rally ends – fault (-)

Opponent error ( Op. -) To be used in all cases that the team scores a point but no player action of their teams can be evaluated for this success. The point is due to a mistake by the opponent.

Team fault ( T -)

To be used in all cases that the team loses a point but no player action can be evaluated for this fault.

Breakdown of the VIS System:

In the event of a breakdown of the VIS computer hardware, the statistical observation should continue by using one of the options presented below. Dictaphone/ Recorder Acquisition by Hand You are free to choose one of the two proposed options, but during the training of your statisticians include the training of the system to be used in those situations where the "Volleyball Information System" does not function.

Result Management:

Directly after each match, the P- 2 form must be printed by the VIS Supervisor and approved and signed by the FIVB game Jury and immediately distributed.

Directly after the last match of the day, the VIS Supervisor assures that the P4 form will be printed and approved and signed by the FIVB Technical Delegate or the FIVB Control Committee responsible for this task and immediately distributed. The VIS Supervisor makes sure that the internal distribution in the competition hall and the distribution by fax and modem takes place according to the specific agreements for the distribution of results for each FIVB Competition.

**Reference:**

Www.Fivb.Com,  
FIVB Coaches Manual

**“A comparative study of adjustment and academic achievement of athletic and non athletic college kabbadi student”**

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**Introduction:**

Academic achievement is generally referred to as the attainment in any subject area. Achievement is a very complex phenomenon and is dependent on number of factor. It is affirmed by all type of trains within the individual and the environment. According to Warrens dictionary of psychology (1934) “Achievement is proficiency of performance generally measured by a standard task or test”. The concept of Adjustment is a behavioral process by which a person maintains balance among various needs that one encounters at a given point of time. Each and every situation of life demands that the person concerned should be able to effectively perform in accordance with some guiding principles and should be able to strike a balance among various forces. Adjustment is defined as a process wherein one builds variations in the behavior to achieve harmony with oneself, others or the environment with an aim to maintain the state of equilibrium between the individual and the environment.

**Problem of the Study**

The Study of adjustment and academic achievement of athletic and non **athletic** college kabbadi student.

**Objectives:-**

To understand adjustment factor of athletic and non athletic college student.

To understand academic achievement of athletic and non athletic college student.

**Hypothesis:-**

Subject with athletic students would posses lower adjustment factor home, social, education and emotional than Subject with nonathletic students. Subject with athletic students would posse’s higher health adjustment than Subject with nonathletic students. Subject with athletic students would posse’s lower academic achievement than Subject with nonathletic students.

**Methodology**

**Sample:-**

The sample included in this study was 80 college students from Shri Yoganand Swami Arts College, Basmath 40 college students were athletic student and 40 students were nonathletic students. To decide High achievers and low achievers researcher has collated to total marks obtained by each student in his/her last three examinations 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> classes from student as well as if needed from the offices scored of respective in taxation to total marks scored in trace elapse by each student had been converted in mean on average percentage of marks.

**Design:-**

Single Factor Design

<b>Athletic</b>	<b>Nonathletic</b>
40	40
Total	80

Variable:-

Independent variable Athletic students Nonathletic students

Dependent variable

Adjustment factor

Academic achievement

Research of Tools:-

1. Adjustment Inventory for college Student (AICS)

To assess the Adjustment factors of the subject the Adjustment Inventory for college Student (AICS) constructed by Prof.A.K.P. Sinha and Prof.R.P.Singh, This questionnaire contains 102 statement and good reliability and validity.

### **Result Analysis:-**

Hypothesis No1. Subject with athletic students would possess lower adjustment factor home, social, education and emotional than Subject with nonathletic students.

There are significant a difference between mean score of athletic students on adjustment factor home(19.5),social(18.5),education(20.5) and emotional(20.5) is comparatively lower than the mean score of nonathletic students adjustment factor home(23.5),social(22.5),education(24.5) and emotional(23.5) 't' value significant ( $t=2.98$ ,  $P < 0.001$  &  $0.005$  Level) difference between athletic students and nonathletic students on adjustment factor home, social, education and emotional.

Hypothesis No.2 Subject with athletic students would possess higher health adjustment than Subject with nonathletic students.

There are significant a difference between mean score of athletic students on health adjustment (18.5) is comparatively larger than the mean score of nonathletic students health adjustment (22.5). 't' value significant ( $t=2.90$ ,  $P < 0.001$  &  $0.005$  Level) difference between athletic students and nonathletic students health adjustment.

Hypothesis No.3 Subject with athletic students would possess lower academic achievement than Subject with nonathletic students. There are significant a difference between mean score of athletic students on academic achievement (59.41.) is comparatively lower than the mean score of nonathletic students academic achievement (65.34). 't' value significant ( $t=3.44$ ,  $P < 0.001$  &  $0.005$  Level) difference between athletic students and nonathletic students academic achievement

### **Conclusions:**

On the basis of data and discussion of results, the hypotheses were tested and verified. Some hypotheses were partially retained and some were rejected and following conclusions were drawn. Subject with athletic students tend to show lower adjustment factor home, social, education and emotional than Subject with nonathletic students. Subject with athletic students tend to show higher health adjustment than Subject with nonathletic students. Subject with athletic students tend to show lower academic achievement than Subject with nonathletic students.

### **Limitations and suggestions of the present research:-**

Some limitations inherent in this study are;

The population was limited areas restricted to Basmat Taluka Dist.Hingoli. only. It can be spread into other areas also. The sample of the study was small. The study can also be done by taking large sample size. The tools used in this investigation were self – reporting instrument, it is therefore noted that the accuracy of data reported is limited to the abilities and willingness of the respondents to give truthful responses.

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## Personality Analysis of Men Volleyball Players Participated in State & Inter University Competition 2013: A Comparative Study.

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### **Abstract: -**

*The Purpose of study in Personality Analysis of Men Volleyball Players Participated in State and Inter University Competition. The Study based on the personality traits and the psychological questionnaire. EPI Test i.e., Eysenck Personality Inventory. Test was conducted in State Level Competition in Nagpur and Inter University Level Competition, Nasik in the 2013. We have chosen altogether 100 players from State and 100 from Inter University Players for the test. Each team was presented with questionnaire. We use t-test for our research work.*

*Keywords - Personality, Psychological, Behavior, Analysis of Volley Ball.*

### **Introduction :-**

The Main objective was to study of Personality Analysis of Men Volleyball Players Participated in State & Inter University Competition 2013. Men Volleyball players 18-21 Years Participated in State level competition organization at Nagpur Volleyball Association, held at 06 Nov. to 10 Nov.2013. There is near about 24 district teams had participation in it. Men Volleyball players 22-25 Years Participated in Inter University Competition "Ashvamedh" held at 07 Nov to 01 Des 2013.venue is P.T.C.(Police Training Center) Nasik .there is 18 Universities had take Participation in it. The questionnaire and observation method is both of using help of E.P.I.Test . Eysenck Personality Inventory . We have selected teams for this task.Sport Psychologists have long been characterizing successful Volleyball Player's performance to their personality. Neuroticism and extraversion are the two types of it. Neuroticism is the state of having the disorder. In modern non-medical texts it is often used with the same meaning as neurotic. Extraversion distinguishes people based on how engaged they are with the outside world, as opposed to people who are more contemplative and happy with their own company.

Tools of the study :-

For the present study Eysenck Personality Inventory (1972) was utilized it includes 100 questions of two personality variables.

Sampling :-

The Data is collected individually through a Eysenck Personality inventory from 100 men volleyball players participated in State & Inter University.

Methodology :-

E.P.I. TEST where distributed men volley ball players in State & Inter University Level. Were given to the volleyball players before filling there inventory by the researcher. To analyzed the data mean scores standard deviation and t-test where used to comprise the personality traits with respect to neuroticism, and in extraversion and lie scale between the men volley ball players participated in State & Inter University.

**Result & Discussion :**

Table 1.1 Represents the comparison of mean , standard deviation and Neuroticism , Extroversion and lie scale differences between Men volleyball players Participated in Inter University Competition 2013. Statistically differences for Personality Analysis of Men volley ball players Participated in Inter University Competition 2013. The Second hypotheses of the study that there would be no significant difference of Personality Analysis with respect to Neuroticism between Men volley ball players Participated in Inter University Competition 2013. The results of the study indicated the Existence of Statistically no significant difference of Personality Analysis with respect to extraversion was found between Men volley ball players Participated in Inter University Competition 2013.

**Finding :** The means difference, Neuroticism, and SD comparison of Men Inter University Competition of volley ball players is discussed below:-

Table 1.1:-

Men Volleyball Players	Variable	N	Mean	SD	DF	t
State Level	Neuroticism	100	13.2400	2.57070	198	.317
	Extroversion		11.4700	2.17634	198	-2.513
	Lie Scale		3.2300	1.68088	198	9.074
Inter University Level	Neuroticism	100	13.31700	3.19929	189.226	.317
	Extroversion		12.3500	2.74276	188.275	-2.513
	Lie Scale		5.4800	1.82286	196.712	9.074

The above table represents the results of the study indicated the existence of Statistically significant difference of comparison of personality Analysis with respect to Neuroticism , Extroversion and lie scale differences was not found between Men volley ball players Participated in State and Inter University Competition 2013. Statically no significant differences.

**Conclusion :**

Finally the following conclusion is drawn in the present study.

There was no significant personality differences with respect to Mean was found between men volley ball players Participated in State and Inter University Competition. There was no significant personality difference with respect to Standard Deviation between men volley ball players Participated in State and Inter University Competition. There was no significant personality difference with respect to Lie scale between men volley ball players Participates in State and Inter University Competition. There was no significant personality difference with respect to Neuroticism between men volley ball players Participates in State and Inter University Competition. There was no significant personality difference with respect to Extroversion between men volley ball players Participated in State and Inter University Competition.

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## **A Comparative Study of Personality and Psychological Traits of Individual Sports and Team Game of College Athletes**

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### **Abstract**

Personality is sum total of one's behaviors and plays important role in sports training and competitions. The purpose of the study was to compare the personality traits of individual's game collegiate boys and team game collegiate boys with special reference extroversion and neuroticism. Statistical procedure such as mean, S.D. and 't' test were applied to data available from the test. For this purpose, 40 team game players (Throw Ball and Football) and 40 individuals game players (Athletics and Boxing) were selected from Dr. Babasaheb Ambedkar Marathwada University, Aurangabad and their affiliated Colleges of Physical Education) purposive sampling method was used to select the sample. Eysenck's Personality Inventory was used to assess the two major personality traits viz., extroversion and neuroticism. The result of the study showed that there was significant difference in the extraversion and neuroticism of team game collegiate boys and individual game collegiate boys and team game collegiate boys were more neuroticism than individual game collegiate boys.

### **Introduction:**

The word "personality" has been derived from the Latin word 'persona'. The word 'persona' means 'masks which makes up that the actor put on while he goes to stage to play the role of some individuals or other character (Carver and Scheier, 2000).

#### **Extroversion:**

Most people believe that an extrovert is a person who is friendly and outgoing. While that may be true, that is not the true meaning of extroversion. Basically, an extrovert is a person who is energized by being around other people. This is the opposite of an introvert who is energized by being alone. Extroverts tend to "fade" when alone and can easily become bored without other people around. When given the chance, an extrovert will talk with someone else rather than sit alone and think. In fact, extroverts tend to think as they speak, unlike introverts who are far more likely to think before they speak.

#### **Neuroticism:**

Neuroticism is a fundamental personality trait in the study of psychology. It can be defined as an enduring tendency to experience negative emotional states. Individuals who score high on neuroticism are more likely than the average to experience such feelings as anxiety, anger, guilt and clinical depression. They respond more poorly to environmental stress, and are more likely to interpret ordinary situations as threatening, and minor frustrations as hopelessly difficult.

#### **Objective:**

The aim of the study was to a comparative study of personality and psychological traits individual game and team game of collegiate boys with special reference to extroversion and neuroticism.

## Methodology

A sample of subjects consisting 40 team games collegiate boys (Throw ball and Football) and 40 individual game collegiate boys (Athletics and Boxing) which were selected from Dr. Babasaheb Ambedkar Marathwada University, Aurangabad Maharashtra and their affiliated Colleges of Physical Education purposive sampling method was used to extract this sample (Eysenck and Eysenck, 1975).

Tools: Paper and pencil personality questionnaires were used as a tool to measure selected personality traits. In this study Eysenck's Personality Inventory (E.P.I.) was used to assess the personality traits.

## Observations And Discussion

The data thus collected were given to statistical treatment computing mean, standard deviation and t ratio to find out differences in personality traits between team game Collegiate boys and individuals game Collegiate boys. The obtained results have been presented in following tables.

Table 1 shows that there was a significant difference in the extroversion of team game Collegiate boys and individual game Collegiate boys. The means value for extroversion was greater in individual game Collegiate boys (20.21) whereas it was 17.94 in team game collegiate boys. Therefore, individual's game collegiate boys were more extrovert than team game women players.

Table 1: Comparison of extroversion in team game collegiate boys and individual game collegiate boys

Sr. No.	Variables	Number	Mean	S.D.	't' Ratio
1.	Team Game	40	17.94	4.32	2.73*
	Collegiate boys		16.90	4.30	
2.	Individual game	40	20.21	3.87	
	Collegiate boys		20.12	3.80	

Table 2 shows a significant difference in the neuroticism - of team game collegiate boys and individual game collegiate boys. The means value for neuroticism was less in individuals game Collegiate boys. (17.13) where it was 19.89 in team game collegiate boys. Therefore, team game boy's players were more neuroticism than individual game collegiate boys.

Table 2 : Comparison of neuroticism in team game collegiate boys and individuals game collegiate boys

Sr. No.	Variables	Number	Mean	S.D.	't' Ratio
1.	Team Game Collegiate boys	40	19.89	3.81	2.81*
2.	Individual game Collegiate boys	40	17.13	3.88	

## Conclusion:

Above with the analysis there was significant difference in the extroversion of team game collegiate boys and individuals game collegiate boy. The individual game collegiate boys were more extrovert than the team game collegiate boys. There was significant difference in the neuroticism of team game collegiate boys and individuals game collegiate boys. The team game collegiate boys were more neuroticism than the individual game collegiate boys.

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## **An Exploration of Filipino Traditional games on children survivors of Super Typhoon Yolanda (Haiyan) Towards Therapeutic Physical Education**

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### **Abstract**

Traditional games can be defined as the games that are done by using simple tools or recycled materials. Playing traditional games has effects on the health of many children. It helps children discover their abilities and skills, build confidence, increase cooperation, winning attitude and communication with a variety of people, other studies supports the effectiveness of playing games with children experiencing a wide variety of social, emotional, behavioral, and learning problems, including children whose problems are related to life stressors, such as divorce, death, relocation, hospitalization, chronic illness, assimilate stressful experiences, physical and sexual abuse, domestic violence, and natural disasters (Reddy, et al, 2005) Children experiencing may cause widespread death, massive social disruption and outbreak of diseases and famine; leaving survivors entirely dependent on the outside relief; and suffering pain, loss and disability. These are emerging needs that every school plays an important role in helping the children recover from the trauma they experienced. This study focuses on the therapeutic effect of playing selected traditional Filipino game to the children survivors of the super typhoon Yolanda to. Specifically the study focuses on pre-selected traditional Filipino games to the children survivors of super typhoon Yolanda, determine the positive effects of playing traditional Filipino games among children survivors of super typhoon Yolanda, and explore how traditional games can benefit the individual holistically mentally, physically, socially and emotionally. To fully cover the study, different vignettes and research techniques are utilized, interview with the parents, children, Department of Social Welfare staff and Red Cross Officers. The study present playing traditional Filipino game implies the positive effect holistically to children survivors of typhoon Yolanda. Although, the positive effects would not considered to have a long-term effect, yet somehow did a significant change into the lives of the children survivors of typhoon Yolanda (Haiyan). The study further recommends that traditional Filipino games should be integrated in all aspects of Physical education curriculum and use the therapeutic element for children who are vulnerable and at risk

Keywords; therapeutic physical education, Filipino traditional games, typhoon Yolanda(Haiyan)

### **Introduction**

Traditional games can be defined as the games that are done by using very simple tools even nothing used and usually played by groups of children. There are large numbers of positive values such as socialization, fair competition, communication, and emotional controlling as well as cognitive and health values (Guilford in Nursito, 2000). However, technology has changed everything into modern one, including playing games but not in the Philippines because traditional Filipino games are very much alive in the country. It is not true that the Filipino street games are no longer played, as some would say that is has vanished in Philippine society because games like *Patintero*, *Tumbang Preso*, *Piko*, *Sipa*, *Turumpo*, and many others, are still very much alive and are still played daily in the neighborhood. In many urban and rural areas, a majority of Filipino children still play outdoor games as most of them are still unable to own expensive high-tech gadgets (Aguado, 2013). There are millions of people every year who have been seriously affected by disasters. They may cause widespread death, massive social disruption and outbreak of diseases and famine; leaving survivors entirely dependent on the outside relief and suffering pain, loss and disability. Physical infrastructures are damaged like homes, workplaces, live stocks, equipment and many more. The short-term emotional effects of disasters-fear, acute anxiety, feelings of

emotional numbness and grief-may also be obvious. For many victims, these effects fade in time while others, there may be longer-term emotional effect, both obvious and subtle (Ehrenreich, 2001).

The people that were hit by the super typhoon Yolanda, children were considered as the most affected. Children represented 41% of the total disaster-affected population. Social services that form the cornerstone of their well-being, health and development have taken an enormous hit, putting children at risk of disease and under-nutrition and threatening education and protection (UNICEF Philippines Humanitarian Situation Report, 2013). Some of the specific risks for children that were identified after the rapid assessments done by the government, civil society organizations and child-centered agencies are the following high risk of disease due to a range of factors, including disruption of health treatment, separation of children and youth from parents and families; psychosocial trauma, including traumatic reactions to high winds and from having experienced the storm and witnessed deaths and destruction; and disruption to education in the middle of the school year, including loss of protective daytime environment during the day (Typhoon Haiyan Action Plan as cited in OCHA, 2013). Research supports the effectiveness of playing games with children experiencing a wide variety of social, emotional, behavioral, and learning problems, including: children whose problems are related to life stressors, such as divorce, death, relocation, hospitalization, chronic illness, assimilate stressful experiences, physical and sexual abuse, domestic violence, and natural disasters (Reddy, Files-Hall & Schaefer, 2005). While literature suggests instructional programs, playing games can be proposed as an approach for movement skill instruction; it is the primary mode by which children learn about their bodies and movement capabilities (Fisher, 2005). It also serves as an important facilitator of cognitive and affective growth in young children as well as an important means of developing both fine and gross motor skills (Goodway, 2003).

Traditional Game theory by John von Neumann, (1928) wherein games fall into two basic categories: competitive or cooperative. Competitive games require players to form strategies that directly oppose the other players in the game. The goals of the players are diametrically opposed. Many traditional games such as traditional Filipino games like *Patintero*, *Agawan Base* and *Tumbang Preso*, falls into this category (Jones, 2000). In contrast, a cooperative game models a situation where two or more individuals have interests that are "neither completely opposed nor completely coincident" (Nash, 2002). In cooperative game theory, we abstract from individual players' strategies and instead focus on the coalition players may form

Adventure therapy theory by Ewert, McCormick, & Voight, (2001) talks about experiential education. Adventure therapy approaches psychological treatment through experience and action within cooperative game, Trust activities, Problem Solving Initiatives, High adventure, outdoor pursuits and wilderness expeditions (Ziven, 1988). Some believe that in adventure therapy there must be a real or perceived psychological and or physical risk generating a level of challenge or perceived risk. Challenge can be viewed as significant in eliciting desired behavioral changes. Positive behavior changes, which are synonymous with psychological healing, can occur through a variety of processes. Through the use of vicarious experience, verbal persuasion, and overwhelming mastery experiences, participants efficacy in the adventure activity may be increased (Bandura, 1997). These increases may then be generalized to treatment outcomes within and across life domains (Bandura, 1997; Weitlauf, Cervone, Smith, & Wright, 2001; Cervone, 2005). Social Penetration theory by Altman & Taylor, (1973) proposes that, as relationships develop, interpersonal communication moves from relatively shallow, non-intimate levels to deeper, more intimate ones. This theory explains that this process occurs primarily through self-disclosure and closeness develops if the participants proceed in a gradual and orderly fashion from superficial to intimate levels of exchange as a function of both immediate and forecast outcomes. Altman and Taylor, (1973) believe that only through opening one's self to the main route to social penetration-self-disclosure-by becoming vulnerable to another person can a close relationship develop.

The main purpose of this study is to conduct the pre-selected traditional Filipino games to the children survivors of super typhoon Yolanda, determine the positive effects of playing traditional Filipino games among children survivors of super typhoon Yolanda and explore how traditional games can benefit an individual holistically (mental, physical, social and emotional) towards therapeutic physical education.

#### *The Problem*

This paper analysis Filipino traditional games on children survivors of Super Typhoon Yolanda (Haiyan) towards Therapeutic Physical Education. More concisely, using narrative- descriptive analysis. The study intended to carry out the following ,Conduct selected traditional Filipino games to children survivors of super typhoon (Yolanda) Haiyan. ("*Tagu-taguan*", "*Agawan Base*", "*Agawan Sulok*", "*Tumbang Preso*" and

*"UbusanLahi"*)Determine the positive effects of playing traditional Filipino games among children survivors of super typhoon (Yolanda) Haiyan ;Explore how traditional games can benefit an individual holistically (mental, physical, social and emotional)towards therapeutic physical education.

## **Methodology**

### *Research Environment*

The study was conducted at the Tent City on South Road Properties (SRP). SRP is formerly called the South Reclamation Projects, where the tent city is located and a temporary place of the displaced family victims of typhoon (*Yolanda*) Haiyan from the *Tacloban*, Leyte.

### *Research Respondents*

There are 15 children identified and endorsed by the social worker from DSWS and the Red Cross officer who currently resides at Tent City on South Road Properties (SRP). The children belong to the age bracket of 6-12 years old, who have witnessed the severe effects of the devastation,

### *Research Instruments*

The researcher used three methods in obtaining the data. In vivo observation, interview and active participation with the children .A random interview was conducted among the participants soliciting their perception and experience regarding the traditional games. The selected participant-respondents were taken from the social worker and Red Cross field officer. The researcher analyzed the data obtained through video documentation, interview output and the questionnaire

### *Procedures*

Consent from the Department head of DSWS, Cebu City was obtained to conduct the traditional games. Families are informed by the officer in charge especially the children who's willing to participate in the game. Before the games conducted there warm-up activities was conducted for grounding and self-awareness activities, After each play a random interview was conducted among the participants soliciting their perception and experience regarding the games.

### *Treatment of Data*

The researcher, aside from the tools mentioned in the previous section also utilized a journal to get a finer self report analysis of the different therapeutic potentials of the derived from the observation/interview guide. The observation/interview guide which is the main tool utilized during the investigation which consists of five main items designated to give researcher an idea of the event children's profile, the type of traditional games and its materials used. Each of the major items in the interview guide or the checklist contains specific detail in order to come-up with thematic analysis.

## **Results and Discussion**

### *Playing as a source of full of life*

Positive effects on physical health observed on children as being manifested on their physical features and natural reactions during and after the playing sessions. As one respondent states "*Nindot akong paminaw*"-"I feel good about my body."Kristein, (2012) states that playing traditional Filipino games can give them a sound mind and a sound body because it allows them to move and to keep them alive. Playing traditional games gives them a source of hope, by bringing back their energy as they naturally play with each other.Physical manifestation of the children in playing traditional games was obviously shown aside from they they feel good for their body as one respondent states that "*grabe ako singot ug nka exercise ko balik, pareha sa among school kani-adto, bag-o mi magduwa sa larong pinoy mag stretching sad mi*" I sweat lot and I was able to exercise again, tha same thing in my school before, that before we play traditional games we used to have stretching.

### *Bringing back right perspective and emulates feelings*

Children manifested on the way they think, react and express themselves during and after playing sessions. Jones, (2000) pointed out that competitive games require players to form strategies that directly oppose the other players in the game. This reaction of playing different traditional Filipino games is somehow an indicator that traditional games have really an effect on the mental aspect of the children. When one respondent states "*dapat kay maghuna-huna gyud ka para dili ka masakpan sa imu kontra*" means you have to think so that you would not be caught by the your opponent. Goodway, (2003) emphasized that traditional games also serves as an important facilitator of cognitive and affective growth in young childrenAnother respondent states that "*maski unsa na duwa dapat mag focus gyud ka para dili ka ma abtan sa imu kontra*" In any games you must have focus, so that you will not be caught my your opponent. "*Sa pag duwa namu naka huna-huan ko ug maski unsa ka lisod paningkamut ko na makalusot para muda-ug, mura sa among kinabihu maski, unsa kalisod, ngita gyud mi paagi para dili mi pa pildi sa kalisod sa kinabuhi*" In playing, I was able to think that even how difficult it was, I really make sure that I

can win, the same thing in life that even things are difficult, we will find ways in order not to be defeated life's trials. "*nalinigaw ko sa duwa*. I really enjoyed the games. *Naka syagit-syagit ko balik kay na lingaw man, naka pawala sa kagu-ol sa kinabuhi kadyut*" I was able to shout, cz I enjoyed the game, it was good relieved how difficult our life once in a while. *The sense of belongingness, friendship and discovering oneself* Playing traditional games, develop of positive relationship among children as Altman & Taylor, (1973) state that relationships develop, interpersonal communication moves from relatively shallow, non-intimate levels to deeper, more intimate ones. As respondents states that "*Mas napun-an akong mga amiga*." I gained more friends, "*Sadya kayo ko nga kauban mi*." I'm happy that were playmates. "*Nakat-on ko makig-amigo*. I learned to make friends with others. I gain more friends.

#### *Playing behind the pain*

In many other aspects of therapy play or games are used in order to help the client to decipher a particular issue, In playing traditional games, it brings therapeutic effects to the lives of a children in such away children was able to express their feelings, emotions and even their pain. As one respondent states that "*dili lng nku mu apil sa duwa, nka-himumdum ko sa ako amigo na namatay nadala sa baha, mau man gud ni ang amu giduwa kung walay klase, gimingaw ko niya*" I don't want to join in the game, because I was able to remember my friend who died in the flood, for this is the usual game that we played after our class. Traditional Filipino games serves an intervention for children who are suffering of trauma as emphasized by Goodway, (2003) in his stand point that traditional games also serves as an important facilitator of cognitive and affective growth in young children. Traditional Filipino games had both positive and negative effects on the children but was more on positive results for many and obvious reasons. The most evident effects were manifested on the children's physical and emotional reactions and behaviors. As an analysis of the three different angles from the data gathered in this research, the effects of the therapeutic attributes of playing traditional Filipino games on the children survivors of typhoon Yolanda are considerably positive in almost all aspects as much as holistic development is concerned.

#### **Summary of Findings**

The most evident effects were manifested on the children's physical and emotional reactions and behaviors. The children consistently showed positive approaches towards every playing session through a participative and an energetic body language. Emotionally, the children also responded positively as clearly seen in their faces and the way they respond. Mentally, these children seem to become more alert, more aware, more curious, and more strategic during and after the playing the games.

#### **Conclusion**

Therefore, the effects of the therapeutic attributes of playing traditional Filipino games on the children survivors of typhoon Yolanda are considerably positive in almost all aspects as much as their holistic development is concerned. However, these effects are not considered lasting yet somehow did a significant change into the lives of the typhoon Yolanda children victims.

#### **Recommendations**

Conducting such similar type of research on the future victims, specifically children victims of disasters like super typhoons is best recommended to be started as early as possible to generate pure inputs which are presumably not yet affected by some other interventions done by other concerned bodies of organizations. This is also for the purpose of securing the validity of the inputs by the respondents as to be interpreted during data analysis. Traditional Filipino games should be played in all levels of physical education curriculum as part health related fitness in order to help children who are vulnerable and at risk.

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## **Comparative Study Of Personality Profiles Of Physical Education And Other Teachers Of Aurangabad**

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### **Abstract**

Personality plays an important role in teaching. The impact of professional surroundings, culture and ethics might affect the personality. The purpose of the study was to analyzed personality profiles of physical education teachers and other teachers, and provide them information about how to extraversion and neuroticism influence the performance in their professionals. The subjects were selected form Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, M.S., India.30 physical education teachers and 30 other subject teachers were selected their age ranged from 30 to 50 years. Eysenck personality inventory questionnaire modified by Netaji Subhash National Institute of sports Patiala was administered on all 60 subjects and analyzed according to the manual. Eysenck personality scales were used i.e., Lie-scale, Extraversion and Neuroticism. The subjects were conducted a written (objective) test. According to the manual score were drown and calculated in mean, SD, and t test. Following are the results of the study. The physical education and other subject teachers mean, standard deviation and T-test in Lie-scale are (3.5, 3.25 &1.95, 2.45, T=0.54). The mean, standard deviation and T- test in Extraversion scale are (6.9, 5 &19.25, 17.2, T=1.38) respectively, while in Neuroticism scale, the mean, standard deviation and T-test values are (3.6, 2.3, & 4.3, 3.51 T=2.06\*) respectively. Lie-scale and Extraversion having insignificant difference between physical education and other subject teachers according to table value, while in case of Neuroticism, physical education and other subject teachers shown significant difference. It revealed that physical education teachers having more neuroticism.

Key words: - Personality profile, Extraversion, Neuroticism, Physical Education and Other subject Teachers.

### **Introduction:-**

Each of us has a unique system that determines and reflects our characteristic behaviour and thought. The term personality refers to a peculiar blend of characteristics that make a person unique. We usually think of personality as being made up of certain traits. These traits are outward signs or dynamic forces that act and interact in an infinite number of ways. It is not a mere collection of various traits, but a particular organization of the same. That is why the integration of these traits, or personality, is never the same in any two individuals. Personality is unique. The researcher has noticed it that, there is some difference in thinking, behaving and feeling levels among physical education and other education personals. Therefore the researcher found it necessary to compare personality profiles among physical education and other teachers of Aurangabad city. The purpose of the study was to determined the personality profiles of physical education and other teachers of Aurangabad city.

### **Methodology:-**

In this study only physical education and other teachers of Aurangabad city were considered. The study was delimited only to the professors of physical education college, and other educational subjects of Dr. Babasaheb Ambedkar Marathwada University Aurangabad their aged ranged from 30 to 50 years. Eysenck personality inventory questionnaire modified by Netaji Subhash National Institute of sports Patiala was administered on all 60 subjects and analyzed according to the manual. Eysenck personality scales were used i.e., Lie-scale, Extraversion and Neuroticism. The questionnaire consists of 57 questions regarding how they feel, act, and behave. They were given 10 minutes to write the answers.

**Results:-**

Table no.1 shows the Mean difference of physical education & other teachers in Lie-score

Test	Teachers	Means	S.D.	t- value
Physical Education Teachers	30	3.5	1.95	0.54
Other Teachers	30	3.25	2.45	

Table no.2 shows the Mean difference of physical education & other teachers in Extraversion.

Test	Teachers	Means	S.D.	t- value
Phy.edu Teachers	30	6.9	19.25	1.38
Other Teachers	30	5	17.2	

Table no. 3 shows the Mean difference of physical education & other Teachers in Neuroticism.

Test	Teachers	Means	S.D.	t- value
Phy.Edu. professors	30	3.6	4.3	2.06*
Other Teachers	30	2.3	3.51	

**Discussion:-**

Table -03 reveals that there is significant difference in personality traits of physical education and other professors on neuroticism (at- 0.5 level). The mean and standard deviation of personality traits tests of both physical education professors and other education professors were found out and t – test values were calculated in order to find the significant difference among these groups. The physical education and other professors having average mean in Lie-scale (3.5, 3.25) and standard deviation values in Lie-scale (1.95, & 2.45). The mean and standard deviation in Extraversion scale is (6.9, & 5) and (19.25, & 17.2) respectively while in Neuroticism scale, the mean and standard deviation values are (3.6, 2.3) and (4.3, 3.51) respectively. Physical education and other education professors having insignificant difference in Lie-scale (T=0.54) which is insignificant according to table value. Physical education and other education professors shown insignificant difference in Extraversion scale (T=1.38) which is insignificant according to table value while in case of Neuroticism, the T-Test value of physical education and other education professors is (T=2.06) which is significant according to table value.

**Conclusion:** - Extraversion of physical education and other teachers shown insignificant difference, while in Neuroticism, physical education and other subject teachers shown significant difference. It revealed that physical education teachers having more neuroticism.

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## **Sport Motivation Scale: Analysis of Reliability and Validity**

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### **Abstract**

The purpose of this study was to develop an athletes' sport motivation in Taiwan, and provide the reliability and validity of the inventory. The Chinese-version Sport Motivation Scale(SMS-II) was developed based on Sport Motivation Scale(Pelletier et al. 2013),315 intercollegiate athletes were asked to complete the 18-item Sport Motivation Scale. The confirmatory factor analysis was used to examine the goodness of fit of the measurement model. The results of the confirmatory factor analysis indicated a significant test statistic( $\chi^2(240, N =315)=451.88, p < 0.001$ ). The other indices suggested that the fit of the six-factor model to the data was satisfactory to very good: RMSEA=0.06; RMR=0.06 ; CFI = 0.94; GFI = 0.90).The 18-item Chinese-version Sport Motivation Scale has proved to be a valid and reliable measurement in terms of assessing athletes' motivation.

**Keywords: Sport Motivation Scale**

## Future Trend of Recreational Sport A Perspective from Technology

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### **Abstract:**

Physical Activities and Recreation Related Programs (PARRP) for bachelors and master degrees were dramatically increased in the past two decades. Most of these so-called PARRP were newly-built, developed, transformed, restructured or merely renamed after former Physical Education Disciplines (PED) in more and more Asian universities. Unfortunately, these PARRP degrees meet controversial doubts. It is obvious that currently in highly developed economic regions, human leisure behaviors, physical activities for recreation and sports are changing with times. Many new forms of sports are invented by new technologies which appear for the first time in human history. In correspondent to that, Technology Supported Sports (TSSs) are created in the late 20<sup>th</sup> under a post-modernism trend. TSSs are mostly imitable and synchronously introduced to public by video, internet, TV and various modern media. TSSs, new styles of human leisure behaviors spread around uncontrollably in the world, can be grouped into Aviation Sports (ASs) such as Light Sport Aircraft (LSA), Recreational Aero Helicopters (RAH), and Under Water Sports (UWSs) such as scuba diving, semi-submarine, Aquatic or ocean sports such as jet water ski, sea motorcycle. All these are recognized as Adventure Recreation (AR).

These AR physical activities and new TSSs bring reformation and impact to university curriculums of traditional Physical Education (PE) disciplines and lately developed departments called PARRPs. The current PE and PARRP degree holders no longer serve only for school education. Moreover, they are required to hold much more TSSs certificates than before. Unless the new technology has no intention to impact "play business", human leisure behaviors and recreational activities, otherwise the PE educators have no choice but to be dragged into technology learning business.

## **Brand Management Model in Sport Industry of Iran -Case Study:Professional Football League**

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### **Abstract**

The study aims to examine brand management model in Iran's professional Football League(2011-2012) with emphasis on brand image. The study was descriptive-survey one. A sample of Iranian professional football league fans (N=911) responded 4 items questionnaire. A structural equation model (SEM) test with maximum likelihood estimation was performed to test the relationships among the research variables. The analyses of data showed three dimensions of brand image influenced on fan's brand loyalty of which the attitude was the most important. Benefits and attributes were placed in the second and third rank respectively. According to Results, brand image play a pivotal role between Iranian fans brand loyalty. Create an attractive and desirable brand image in the fans mind increases brand loyalty. And due to, revenue and profits increase through ticket sales and products of club and also attract more sponsors.

**Key words:** Brand management, Sport Industry, Brand image, fans;

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### **Introduction**

Nowadays, Sport managers use marketing strategies and quality management especially through emphasize on new concept of "voice customer" (1). Following such strategies, managers consider brand of teams as the basis of marketing strategies for attracting customer loyalty and fans loyalty in particularly (2). According to these strategies, many professional sport clubs are trying to strengthen their teams' brand and promote them even in the other countries. For example, Manchester United football club set off outlets for selling its' memorabilia and goods in some countries in Asia on the basis of strong brand. Brand is a name, term, expression, sign, mark, symbol, design or combination of them which is used to introduce the products and services to sellers or a group of vendors and distinct them from other competitors. Brand is sellers' commitment to present specific services and advantages to the customers (3). According to Aaker's, a superior brand means better quality of the products for the customers. When a customer buys a product with a superior brand, she/he believes that she/he gains something valuable in return of payment (4). Keller (1993) suggested: "the successful and powerful brand has two human characteristics; heart and mind. There for, powerful and successful brands can affect the people's heart and mind" (5). Construction of a powerful brand is; awareness of brand, brand loyalty and perceived quality lead to creation certain value for a brand which is very important for the companies (6). In addition, having a powerful brand and establishing it in customers' mind is a big reason to select a product or service by customers. Brands create a particular personality for customers through including them in a certain group. For example, wearing a shirt of certain team is a sign that shows a person belongs to the group of respective team's fans. Consumers do not pay attention to whole characteristics of a brand immediately. But, they just regard a part of them before they decide to buy special options (brands) (7). Under such circumstances, customers may have concerns regarding the acquiring company's ability to maintain the quality or image of the superior brand.

### **Brand image**

Definition of brand image refers to the set of associations linked to what brand hold in consumers memory (5). These associations refer to any aspect of brand within the consumer's memory (8).

This definition of brand image is used to show consumers' brand cognition. Brand image could be observed in the variations shapes and characters of a product and service or other aspects of them in the consumers' mind. Basically, brand image describes the consumer's thoughts and feelings towards the brand (9). Brand image includes a consumer's knowledge and beliefs about the brands. And products and services are easy to recognize by the brand image. Brand image represents the personal symbolism that consumers associate with the brand, which comprises of all then descriptive and evaluative brand-related information (10). When consumers have a favorable brand image, the brand's messages have a stronger influence in comparison to competitor brand messages (11). Therefore, brand image make unique opportunities to represent one of the few constants in fans' perceptions. So, brand image is used to present a consistent and stable club appearance to fans and the public by sport marketers.

According to the Keller's customer-based brand equity model consists of two components:

brand awareness and brand image. Brand image is the cumulative product of brand associations in the consumer's mind. Attributes, benefits and attitudes have been considered as the dimensions of brand associations (5). Since brand image contains brand associations (12), in this article, we only measure brand image which consist of three dimensions; Attributes, benefits and attitudes.4

Attributes relate to the intrinsic properties of the brand that characterize a product or service. Attributes show the customers' mind about the product or service. And they are reasons for purchase and consumption of product or service (5). The subscales of attributes that create connection among fans and a particular team are successes, star players, head coach, management, logo design, stadium, regional importance and tradition (13- 2-14- 15). Benefits are personal values that connect customers to brand attributes and provide the main needs and wants of customers (5). Gladden and Funk (2001) suggested benefits as customer's mind concepts and values in relation to products or services (13). Moreover, benefits serve as motivation for fan behavior (16). In sport industry, the subscales of benefits that relate fans to particular team include; escape, fan identification, peer group acceptance and nostalgia (17-18-13-2-19). Attitudes are consistent and positive or negative feelings of consumers about a product or service. Also, attitudes conduct consumer behaviors (20). Attitudes are stable desired or undesired reactions of customers to a brand that are constructed by brand image in customers' mind. Attitudes can also be defining as solely affective constructs that reflect predisposition toward an object, which might lead to overt behavior (21). Gladden and Funk (2002) mentioned that attitudes consist of; importance, knowledge and affective reactions (2). Funk (2001) believed importance, awareness, information, and effective interactions to a team are powerful predictive factors of fans' commitment to the professional baseball teams (20).

Brand image' dimensions are the good descriptive variables of brand loyalty concept (14-22). Moreover, brand image create value for companies and customers (23). Also, in sport industry, it is very important factor for perceiving customers' brand image and attracts customers' loyalty (14).5

Fans Brand loyalty

Loyalty is the result of interactions between outside negative changes in the environment and inside commitment of consumers (24). Oliver (1999) defined brand loyalty as "a deeply held commitment to rebuy or re-patronize a preferred product/service consistently in the future, thereby causing repetitive same brand set purchasing, despite the situational influences and marketing efforts having the potential to cause switching behavior" (25). So, the prominent character of a brand is illustrated by the amount of its customers' loyalty. In sport industry, a sport team can be regarded as a brand and the fans are considered as the customers. So, fans' brand loyalty to sport teams is similar to customers' brand loyalty in the other industries (26). Although most of the other industries in which customers have little loyalty to low quality brand, the fans of professional sport teams are very loyal to their team even if their favorite team doesn't play well (1). Fans' brand loyalty is the fans' positive attitudes to a brand, fans' brand attachment, and his/her purchasing intention in the future. So, if the fans become loyal to a brand, they will pay attention for it and the marketing program will be successful. In addition, fans brand loyalty brings constant competitive advantage (6). According to Pareto's principle, the "20-80" rule, 20 percent of loyal fans provide 80 percent of revenues resources (27). Moreover, loyal fans aren't just customers and supporters, because they are a part of unique product of the club, as if, they are overwhelmed by their teams play. Fans' brand loyalty that forms based on team identification (28) explain special behaviors of fans'. Not only, they wear the color of the team, but also sometimes dye their bodies the same color (29).

Fans brand loyalty facilitates clubs' marketing process, because it plays an important roles; First, brand loyalty ensures a more stable following even when the core product's performance falters (i.e. the team has a losing season). Second, brand loyalty creates good opportunities to have brand extensions beyond

the core product (13). And third; Supporting of teams and clubs by more loyal fans is a guarantee for constant incomes by increasing market share and attracting more sponsorship investment. Thereby, Successful companies prefer to advertise their products through teams which have more fans. Also, they must perceive fans' psychological relationship and involvement with their favorite team (30). Managers should pay more attention to loyal fans and brand to acquire long-term sustainable advantages (31).

In Iranian sport industry, there is a big gap in academic studies about fans' brand loyalty.

Considering the role of fans' brand loyalty, the researchers decided to study fans' brand loyalty in the Iranian professional sports industry. So, researchers surveyed the influence of brand image dimensions on brand loyalty among the fans of Iranian professional football league as the most popular sport league of Iran. Thus, the following hypotheses were drawn; a) Brand image attributes affect fans' brand loyalty in professional football league of Iran, b) Brand image benefits affect fans' brand loyalty in professional football league of Iran, and c) Brand image attitudes affect fans' brand loyalty in professional football league of Iran. The results of this study provided good guidelines for the executives of the clubs to select appropriate strategies to attract fans brand loyalty in order to help the clubs development.

### **Methodology**

This research aims to study brand management based on brand image in professional football league of Iran. This study is a survey- descriptive one. The participants were the fans of professional football league of Iran in the 2011-2012 seasons. The 911 numbers of fans participated at the study by responding the 4 items questionnaire which contains 68 questions by using Likert scale; from completely agree to completely disagree respectively.

For this study, the validity and reliability were examined by the researchers. First, the questionnaire was reviewed by 12 sport marketing experts. And the questions which concerned to subscales of stadium, was omitted. From experts' point of view, measurement of this item is impossible in Iranian football clubs. Because, Iran football clubs don't have own dedicated stadiums. Then, the Cronbach's alpha coefficient was estimated in brand attributes (0.75), brand benefits (0.89), brand attitudes (0.82), and brand loyalty (0.94). Using the obtained questionnaire, data was collected in stadiums before the teams began their matches. Data was analyzed using structural equation model (SEM).

The structural equation model is the most appropriate method to examine the multi-relationships among the dependent and independent variables (32). And it is a good method to examine the effects between observed variables and latent variables (33). So, to analyze the hypotheses of this study which consist of the cause and effect relationships between brand image' dimensions and fans' brand loyalty, structural equation model (SEM) was utilized. Therefore, Amos Graphics software was used to data analysis.

### **Results**

The means and standard deviations of the sample are illustrated in table 1. The standard deviations ranged from 1.34 for attributes to 2.57 for attitudes. Descriptive Statistics showed that correlations between the investigated constructions were moderate. The correlations of all constructions were significant ( $P < 0.001$ ). The correlations among attitudes and loyalty 0.47, benefits and loyalty 0.77, benefits and attributes 0.81, attributes and attitudes 0.34, and benefits and attitudes 0.52 were illustrated. The adequacy of structural equation models were investigated by using goodness of statistics. Some of most applying good of fit statistics were presented in table 5 that verified the adequacy of the hypothesized model. CMIN (chi-square) 38.23, NFI 0.98, RMSEA 0.1, and CFI 0.99 estimated that all indices verified the hypothesized model. Also p-value .28 indicated that the result of model was significant.

### **Conclusion**

The findings of structural equation model for investigating of three hypotheses; a) Brand image' attributes affect fans' brand loyalty in professional football league of Iran, b) Brand image' benefits affect fans' brand loyalty in professional football league of Iran, and c) Brand image' attitudes affect fans' brand loyalty in professional football league of Iran verified the cause and effect relationships between brand image' dimensions (attitudes, benefits, and attributes) and fans' brand loyalty. According to table 3, there were good correlations among variables. So, three dimensions of brand image were capable predictive for fans brand loyalty. Moreover, results of table 4, goodness of fit indices confirmed the adequacy of hypothesized model. So, the influence of brand image' factors on fans' brand loyalty and also the interactional effects of them illustrated on structural model were verified significantly.

Based on the literature, the attributes' subscales were included; successes, star players, headcoach, management, logo design, regional importance and tradition which were examined in the first hypothesis. Findings showed these subscales were influential in creating attractive image and good image of the club

in fans' mind. Therefore, dimension of attributes affected fans' brand loyalty indirectly through attitudes dimension.

According to the first hypothesis, attributes help teams to attract and keep their fans' loyalty. The subscales of famous coaches and managers, design of attractive logo, successes and win championships increase the fans' brand loyalty. Gladden and Funk, 2002; Bauer, Sauer, and Schmitt, 2004; Bauer, Sauer, and Exler, 2005; Bauer, Sauer, and Exler, 2008; Erdener, Gultekin, Ekrem, 2008, showed the same results about attributes.

Although, attributes dimension was highlighted as the most influential factor on fans' brand loyalty in majority studies; Gladden and Funk, 2002; Bauer, Sauer, and Exler, 2008; Erdener, Gultekin, Ekrem, 2008. In this study it is placed in the third rank after attitudes and benefits. It seems likely that this difference refers to weaknesses of teams in Iranian football clubs. Based on the literature, in the second hypothesis benefits dimension was examined through four subscales; escape, fan identification, peer group acceptance and nostalgia. Benefits dimension influenced Iranian fans' brand loyalty. Also, this dimension affected both attributes and attitudes dimensions strongly and directly. The result of the second hypothesis showed that the benefits' subscales affected fans' brand loyalty positively. Also, the other researchers' findings like Gladden and Funk, 2002; Bauer, Sauer, and Schmitt, 2004; Bauer, Sauer, and Exler, 2005; Bauer, Sauer, and Exler, 2008; Lin, 2007; Erdener, Gultekin, Ekrem, 2008, confirmed this relationship, too. Besides, benefits subscales like; nostalgia, escape from daily problems, team identification and acceptance peer groups were elements concerned with fans' brand loyalty. Based on the findings, the benefits dimension had the most effects on the fan's brand loyalty. Because, the other brand image' dimension i.e. attributes and attitudes were affected by benefits, too. Consider to benefits subscales, offering attractive matches and entertainment programs and provide intra-group and inter-groups connections among fans could enhance Iranian fans brand loyalty. In the third hypothesis, the attitudes dimension was divided into subscales of believed importance, awareness, information, and effective interactions to a team. The effects of attitudes dimension on brand loyalty were examined through these subscales. Findings showed it affected fans' brand loyalty in Iranian football league, too. Findings of this study were adapted to studies of Gladden and Funk, 2002; Bauer, Sauer, and Schmitt, P. 2004; Bauer, Sauer, and Exler, 2005; Bauer, Sauer, and Exler, 2008; in which they reported the significant relationship between attitudes' subscales and the degree of fans brand loyalty. Totally, findings of this study verified influencing of brand image' on fans brand loyalty in Iranian football leagues. It is influential to manage the brand club successfully and appropriate to select the best strategies to earn incomes by acquiring their fans' brand loyalty. Therefore, managers and officials are recommended to use this influencing framework to allocate their limited sources and setting optimum strategies of branding in Iranian professional football league. Also, the executives of Iranian clubs should notice these elements, and use them to improve the promotion of their brand for earning advantages like earning more revenue because of attendance of more fans in the stadium, selling more tickets, increasing the purchasers of the club's brand products, absorbing investment, and increasing the price of club's shares.

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## Analysis Of Anxiety, Agression, Achievement Motivation Among Athletes (Girls)

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### **Introduction:**

Athletics is an exclusive collection of sporting events that involve competitive running, jumping, throwing, and walking. The most common types of athletics competitions are track and field, road running, cross country running, and race walking. The simplicity of the competitions, and the lack of a need for expensive equipment, makes athletics one of the most commonly competed sports in the world. Athletics is mostly an individual sport, with the exception of relay races and competitions which combine athletes' performances for a team score, such as cross country. Coming to psychology, psychology is derived from Latin word 'psyche' and 'logos' which means 'soul study'. Today psychology is considered as the science of behavior. This definition has passed through many stages. Earlier psychology was considered as science of soul, later it was believed to be science of consciousness of mind. Now it is recognized as the science of behavior.

### **Methodology:**

The purpose of the study was to examine the anxiety, aggression and achievement motivation among high school girls in Athletes. To achieve this purpose, Athletes from various CBSE school girls who participated in the 16<sup>th</sup> CBSE National Athletic Championship 2011-12 from 04<sup>th</sup> to 07<sup>th</sup> January 2012 at Delhi Public School Meerut (U.P) were selected as subject. 1800 participated in the National meet. Scat anxiety questionnaires, SMITH Aggression questionnaire and Dr.M.L.Kamlesh achievement motivation questionnaires were administered to the players representing the following five schools only. D.P.S Hyderabad, Adithya Birla Public School Bangalore, Sun Beem International School Varanasi, HPS Hyderabad, Sree Vidyanikethan International School Tirupati . For this study from each team five players were selected total number of subjects twenty five.

### **Tools Used:**

To find out the level of anxiety scat sports competition anxiety test questionnaire formulated by Rainer Martin was used. To find out the level of aggression smith's questionnaire was used. The subjects were explained and made to understand the purpose of the study by the researcher. First the investigator explained all the questions and given the instructions to the subjects. Emphasis was made to get their won response. The subjects were constantly motivated throughout the period of this investigation to ensure their willing co-operation. The investigator administered the questionnaire to the subjects of the study by meeting them in person, the purpose of the investigation was clearly explained and necessary instruction regarding the method of answering the statements in the questionnaire was given. The filled questionnaires were collected from the students and using the scoring key the total scores obtained by each subject was tabulated. Anxiety with SCAT questionnaire developed by Rain Martens was measured. The SCAT questionnaire was given to all the subject's fifteen items were noted from SCAT questionnaire for this investigation. Aggression questionnaire containing four statements was administered to find the specific types of aggressive behavior in competitive games and sports. There was no right or wrong answer the subjects circled either strongly disagree 1 point disagree 2 points undecided 3 points agree 4 points strongly agree 5 points. The total value was obtained for the four statements and recorded as the individual score. The standard psychological test designed by Kamlesh was used in achievement motivation. This test consists of partly completed sentences each partly completed sentences have two answers which are equally good to make the incomplete sentences meaningful and complete. Among the two answers the most appropriate one is the correct response. The respondents made a check mark on any one of the answer that fits to them best. The inventory was reevaluated by the investigator by administering in its original form was made use of in this investigation.

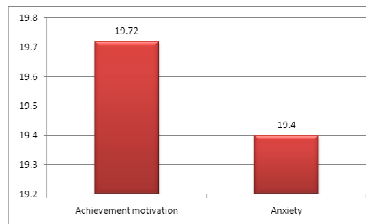
**Presentation And Interpretation Of Data:**

The purpose of the study to find out the different in anxiety, aggression and achievement motivation among Athletes, the anxiety aggression and achievement motivation among runners and throwers were assessed. These three variables were assessed by administering separate questionnaire. The data collected have been put in to statistical analysis. To compare the selected psychological variables, analysis of variance was used the significance was set at 0.05 level of confidence which was considered adequate for the purpose of this study.

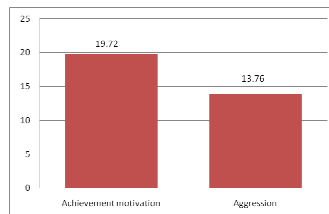
Post Hoc test for anxiety, aggression and achievement motivation among Athletes.

Achievement Motivation	Anxiety	Aggression	M.D	C.I
19.72	19.4		0.32	1.57
19.72		13.76	5.96	1.57
	19.4	13.76	5.64	1.57

The table shows the difference in the means were 0.32, 5.96 for Athletes. Since the mean difference between anxiety, aggression and achievement motivation were greater than the C I value of 1.57. There was significant different between anxiety aggression and achievement motivation among Athletes Bar diagram showing the mean of scores in difference between achievement motivation and anxiety among Athletes.



Bar diagram showing the means of scores in different between anxiety, motivation and aggression among Athletes.



**Conclusion:**

It concluded that there were would not be any significant difference between Achievement motivation and anxiety in Athletes (Girls). Achievement motivation is greater than the aggression in Athletes (Girls). Anxiety is higher than the aggression among Athletes (Girls).

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## Yogic Diet

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### Introduction:

To succeed in health and well-being, one has to establish dietary pattern that will sustain and promote the endeavour. Such a dietary pattern may be termed as Yogic Diet which may be an effective tool to move ahead in that direction. It is indeed an established fact that diet has a profound effect on both body and mind.

### Food:

Eating the right kind of food is important element in achieving a physical, mental and emotional balance. In yogic literature foods that are beneficial to us are said to be sattvic or pure. Impure foods that can upset our physical, emotional or intellectual balance are referred to as being in the categories, Tamasic and Rajasic. In Yoga, it is said that 'what we eat is what we are, meaning the food has direct impact on human mind, personality and behaviour. After all yoga is basically a healthy life for spiritual upliftment, The science of yoga has both, ideology and technology. Yoga suggests and supports vegetarian diet, naturally grown fruits and vegetables, all grains, pulses and dairy products as a health diet. Our great yogis were observers of the nature. They have studied the nature very minutely and precisely. Milk is the first food taken by all babies; human or animal a very natural form of food for any life.

### In the concept of Yogic Diet all food items are classified in three categories

Sattvic Food, Rajasic Food and Tamasic Food

#### Sattvic Food -

Sattvic foods form the ideal diet, being nourishing and easy to digest. They create new energy and a clear, calm mind, enabling us to use all our mental, physical and spiritual talents. Sattvic products include cereals, fresh fruit and vegetable, natural fruit juice, Milk butter, beans honey and water.

#### Rajasic Food -

It feeds the body, but promotes activity and therefore induces restlessness of mind. It disturbs the equilibrium of the mind and is generally to be avoided by yoga practitioners. Rajasic foods include most spicy foods, stimulants like coffee and tea, eggs, garlic, onion, meat, fish and chocolate, as well as most processed food. Eating too fast or with a disturbed mind is also considered rajasic. Rajasic food should be avoided by those whose aim is peace of mind but will benefit people with an active lifestyle.

#### Tamasic Food -

It is stale, tasteless more or less spoiled food and containing foul odour artificial additives, which is not at all useful to nourish either body or mind they make the body well, lazy, drowsy and reduce our immune power, filling the mind with dark emotions such as anger and greed Tamasic food items.

### How to avoid tamasic, Rajasic and Sattvic Food

#### Tamasic Foods-

Foods that are stale, tasteless, unripe, overripe are tamasic. They poison the body, sap our energy and dull the intellect. Tamasic food include meat and fish, mushrooms and foods that have been frozen, preserved, tinned, over-cooked, or re-heated. Foods that have been fermented such as vinegar, are tamasic as are all drugs and alcohol. Eating too much is also considered to be tamasic.

#### Rajasic Food

Chillies and strong spices and foods that are sour, acid or bitter are all rajasic. Eating too fast and eating too many combinations of foods is also Rajasic. A true Yogic diet is rather strict and not everyone wants to or can follow its rules. But even applying a few of the suggestions to diet will enhance well being.

### **Sativic Food**

Try to eat fresh, leaf green in great quantity. These should be included in every meal and are best at the end of the meal. These vegetables contain many essential mineral metabolism such as iron, potassium, magnesium, zinc, calcium and chromium. A yoga diet high in these foods forms a foundation for combating disease. Vegetables that grow beneath the ground should be used sparingly, with exception of carrots. All fruits and vegetables should be taken fresh when ever possible. They are packed with nutrients, providing vitamin C, beta-carotene, riboflavin and other vitamins, iron, calcium and fibre. Use tomatoes and over – ripe bananas sparingly Avoid canned or preserved foods. The yoga diet includes a regularly variety of nuts. These however should be boiled or steamed and not fried or roasted. Drink a lot of water daily. Water may be taken with meals, but in small quantities and should not be used to ‘Wash down’ the food. The yogic diet is said to be lacto-vegetarian, which means that it is made up entirely of non-animal foods with the exceptions of milk, cheese, yoghurt, butter eggs and honey. Evidence suggest that a predominately vegetarian diet is good for our health. Meat proteins takes along time to digest and tends to be difficult for the kidneys and liver to eliminate. Switching to a vegetarian diet is not hard as long as we have tasty alternatives. And we don't have to do it overnight. first cut down on red meat, then gradually eliminate it from diet. As we find other vegetarian foods we enjoy. We can gradually give up poultry, fish, eggs. We will join the ranks of thousands of new vegetarians, many of whom have changed their diets for health reasons now that flesh foods have been linked to cardiovascular disease, colon cancer and so on. Eat as many fresh fruits and vegetables as possible. cooking vegetables destroy vitamins and enzymes content, so we should try to eat some raw vegetables everyday. Whole grain products are a definite must. We can increase overall intake of fluids by drinking herb teas, fruit and vegetable juice, milk and vegetable milk and by eating water-rich foods, such as fruits and vegetables. Avoid processed food, white flour, sugar and convenience or fast foods. Don't rush a meal, take time to enjoy it and chew it.

### **Conclusion:**

‘Eat to live, not live to eat’ it is best if we understand that the purpose of eating is to supply our body with the life force, the vital life energy. So the greatest nutritional plan for the Yoga practitioner is the simple diet of natural fresh foods. However a true yogi has to go a step further He has to be concerned with the subtle effect that food has on his mind and body. He has therefore to avoid foods which are over stimulating and select those foods, which render the mind calm and the intellect sharp. For seriously considering a change towards the yogic diet, the change has to be made gradually. Start by replacing with larger portions of vegetables, grains, seeds and nuts until finally all flesh products have been completely eliminated from the diet. The Yogic diet will help us attain a high standard of health, keen intellect and serenity of mind. Yogis say that a growing liking for pure, wholesome, nourishing food is part of a practitioner's spiritual unfoldment and that progress in yoga and purity of diet together.

### **Reference:**

K.S. Joshi – Yoga in Daily life

Svanad Swami Yoga Diet

[www. Yogic nutrition .com](http://www.Yogic nutrition .com)

Asian Journal of Physical Education & Computer Science in Sports

Dr. M.L.Kamlesh- Sports & Games

[www. Meditation.com](http://www. Meditation.com)

## The Influence of Feedback on Performance of Serving and Reception Skills in Volleyball.

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**Abstract:**

The purpose of this study was to determine the effect of different types of feedback on serving and reception skills. The researchers used an experimental design and data were gathered using valid and reliable tests that were developed internationally. The study sample consisted of 36 male students that were divided into three groups. The first group was comprised of 12 boys utilizing knowledge of results type of feedback, the second group was comprised of 12 boys utilizing knowledge of performance type of feedback, and the third group was comprised of 12 boys utilizing both types of feedback combined. The results indicated that there were statistically significant differences in the serving and reception skills between the experimental groups. The experimental group that utilized both types of feedback showed significantly better performance than either of the other two groups.

**Keywords:** Assessment, Feedback, Knowledge of Result, Knowledge of Performance, volleyball.

**Introduction**

In the past few decades, physical education instructors and sport coaches have been heavily influenced by the opinion that feedback provided to learners is necessary for learning and for the acquisition of motor skills (Bilodeau, 1966; Newell, 1974; Schmidt, 1991). Feedback is considered an essential factor that may influence motor learning because it helps the learner in evaluating his/her performance and in identifying his/her development in achieving the ultimate goal.

Feedback is characterized as sensory information that provides the performer with information about the actual state of his performance. The source of this information is either intrinsic or extrinsic as follows:

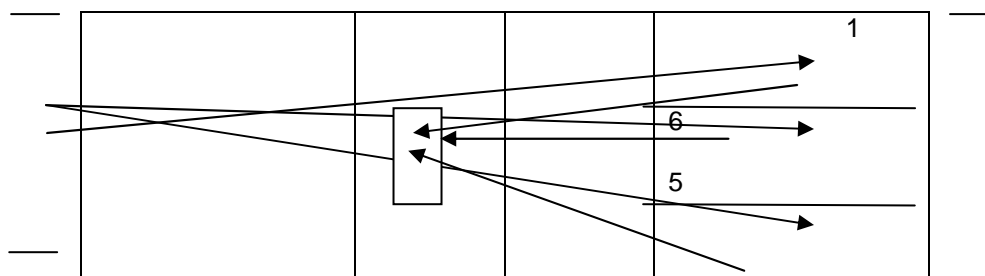
**Population and Sample**

The sample for this study comprised all undergraduate students majoring in physical education who registered for volleyball game for beginners in the Physical Education department of Vivekanand College, Aurangabad during the 2013-2014 academic year. These students participated in State and other competition. The study sample consisted of (36) male students. There were three volleyball groups for beginners with 36 students divided as follows: 12 students in the first group were exposed to knowledge of results type of feedback, 12 students in the second group were exposed to knowledge of performance type of feedback, and 12 students in the third group were exposed to both types of feedback. The students were mostly 17 and 19 years of age.

**Tools:** The skill tests  
Serving test Diagram

		4	3	2
		3	2	2
		4	3	

## Reception test Diagram



### Data Collection

In an effort to review the impact of different types of feedback (knowledge of results, knowledge of performance, and both types combined) on serving and reception skills of students, this study compared three sections of student's enrolled Physical Education department of Vivekanand College, Aurangabad during the 2013.

The process of data collection was as follows: first, the tests of serving and reception skills were given by the instructor during the first week of August 2013 as the pretest for all students in the three experimental groups before the implementation of the intervention. The instructor collected students' surveys and stored them in SPSS database. The survey length was approximately 20 minutes. After the intervention, feedback with the three types for the experimental groups was provided. The same tests were administered during the first week of October 2013 for all groups.

### Data Analysis

The main purpose of this study was to determine the effect of each type of feedback (KR, KP, KR & KP) on serving and reception skills for students at Vivekanand College, Aurangabad. The independent variable is the type of feedback which is (KR, KP, KR & KP), the dependent variable of the study is the posttest scores for each skills, and the pretest is the covariate. Analysis of covariance (ANCOVA) is most suitable to be used when dealing with intact groups or subjects. ANCOVA on the post-semester scores with pre-semester scores as a covariate was used to determine whether there are differences in serving and reception skills between the three experimental groups before and after the intervention. Data analysis was handled by using Statistical Package for Social Science (SPSS 11.5) and a significance level of .05 was adopted.

### Results

The data collected from all participants were coded and analyzed using software package SPSS version 11.5. Descriptive statistics for all variables were examined using SPSS frequencies. The minimum and maximum values for each variable were examined for the accuracy of data entry by inspecting out of range values. An examination of these values showed that no out of range values were detected. Missing subjects were not detected.

Table No. 1 Means and Standard Deviations for the Three Groups on Serve Skill on the Post test

Group	Mean	Std. Deviation	N
Knowledge of result	18.52	2.43	12
Knowledge of performance	19.74	2.77	12
Knowledge of result + knowledge of performance	21.13	2.99	12

Table No. 2 Means and Standard Deviations for the Three Groups on Reception Skill on the Post test

Group	Mean	Std. Deviation	N
Knowledge of result	18.21	2.17	12
Knowledge of performance	21.25	1.84	12
Knowledge of result + knowledge of performance	22.70	3.07	12

Table No. 3 Post Hoc Comparison Test among the Three Groups Dependant

Dependant variable	The groups and the means of groups		Mean difference	Sig.
Serving skill	Both of KR+KP (18.52)	Knowledge of performance (19.74)	4.61*	0.000
	Both of KR+KP (18.52)	Knowledge of result (21.13)	6.10	0.001
	Knowledge of performance (19.74)	Knowledge of result (21.13)	1.43	0.152
Receiving skill	Both of KR+KP (18.21)	Knowledge of performance (21.25)	4.29*	0.000
	Both of KR+KP (18.21)	Knowledge of result (22.70)	7.19*	0.000
	Knowledge of performance (21.25)	Knowledge of result (22.70)	2.73*	0.000

### Discussion and Conclusions

The primary purpose of this study was to investigate the effect of types of feedback on serving and reception skills. Results showed significant differences between the pre and post tests in serving and reception skills among the three groups in favor of the group which utilized both types of feedback. Moreover, student learning was more effective when using two types of feedback knowledge of performance and knowledge of results concurrently than using either one of them. This means that the two types of feedback concurrently is more effective than the use of either separately. These results agreed with that of Husean (2002), Shalash (2007), and Nong (2000). Feedback had an important effect in motor skill acquisition, but the use of both types of feedback (knowledge of result + knowledge of performance) is more effective.

### Suggestions And Recommendation:

1. There is a need for contract studies using other types of feedback.
2. Determine similar studies for all essential skills in volleyball and other games.
3. Determine similar studies using elite players as to determine the effects of feedback.
4. Orient instructors and professional coaches teaching volleyball skills in universities to use the results from this investigation.

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## Historical aspect of women sport in Algeria

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### **Introduction:**

Sport in Algeria used to be limited to privileged women. Women practicing sports is still facing some socio-religious problems. Beside our religion, we have our traditions although, our religion incites us to practise sport, as related in the prophet's Hadith (Peace and Prayer may be upon him : "Teach your children swimming, archery and horse riding." We lack references proving that Algerian women used to practise sport, as they used to live in an Arab Islamic society governed by its severe religious and traditional rules. Their roles used to be limited to run the family affairs, serve their husbands and educate children. Obviously, practicing sport strengthens the body and helps defending ourselves for both women and men. But a woman who is still complying with traditions is not allowed to be gregarious and cannot behave as a man. Therefore, our Algerian history has not shown that women used to practise some sports, because that was regarded as a superstition following ancient traditions. This leads us to say that if there had been a minimum practice of women sport, it was only inside their tribes and this effort was related to their daily life. During the Colonial period, women sport was limited to our colonizers. For the Algerians Law passed in 1901 stipulated that sport must be limited to Algerian Sport Associations, to be practised only by rich and privileged people. This included: football, boxing, cycling and athletics.

### **Discussion**

Women could not practise these sports as they needed strength, so they remained limited to men. This led to the creation of certain institutes as (the Technological Sport Institute of Algiers) and 1400 schools well-equipped. In 1968 The Institute of physical and Sport Education was created in 1971 allowed the various federations and associations to manage the national political aspect of practicing sport. Though the practice was not concrete or fruitful The Algerian woman Sakina Boutamine took part and was honored in the 1978 African Games organized in Algeria. Despite this success, the Algerian women sport remained latent until the late 1980's when the so-called Sport Recovery was introduced which encouraged more and more women to be in the field. Hassiba Boulmarqa was ranked first and honored in the 1991 3<sup>rd</sup> World Games of Tokyo. This women was very successful on many occasions such as the 1992 Barcelona Olympic Games. Many women followed her example and were very successful, such as: Salima Souakri, Nouria Merrah, Yasmina Laazizi, Baya Rahouli..... Some handicapped women also recorded their names, such as: Nadia Medjmedj, Nassima Saifi, Zoubida Bouazzoug..... In the beginning of the 1990's, taking into account the security conditions, there was a lack in practicing sports either at school or at the national level. When stability was restored, people became dynamic and practiced sports again.

#### **The Socio-Algerian view towards women sports:**

According to History, the Algerian woman was not offered the opportunity to impose herself in practising sport, for many socio-cultural considerations. A woman has either to play her role as a female or to be a sport person. Practicing sports used to be devoted for men, the ancient competitive sport and cultural environment required men physical qualifications only. Societies, let alone their traditions and customs, deal with the women as a creature unable to perform acts performed by men. In 1967, in Boston Marathon, a woman was disguised in a man and took part in the competition under a man's name, after running the distance, she revealed herself and the organisers protested against her behaviour instead of encouraging her. Since then, women could take part in these competitions.

### **Physiological, Morphological and Psychological Features of Women:**

During a woman's growth, some changes appear on her body, these are different from that of a man. When becoming elder, functional differences between women and men became more clear.

#### **Physiological Features:**

Saying that a woman can help bearing sport effort depends on her organic differences compared to that of a man. Some of these differences appear in the end of the day-nursery period, the most important are: the changing in the form and the size of the pelvis and the hips; the changing in the form of the lower parts of the body changes the girl's way in walking and running following the form of the pelvis appearance of some features during the adolescence denoting maturity; The rapid growth in size may cause a girl a psychological crisis; after the adolescence, there is an equilibrium in the body's form and size and the changes become slower; between 15 and 18 years the girl takes weight quickly ;at 19, bones, nerves and feelings continue their growth to reach the peak. After this age the muscles become stronger and perform their activities, the body may be slim or fat.

#### **Morphological characteristics:**

The muscles surrounding the spine, and the trunk is more flexible and user-friendly when you women physical effort, but it does not bear a heavy effort. All of these differences affect the susceptibility of women in the kinetic exercise a lot of games compared with men. Since the early stages of the evolution of women's bone growth is faster than a man, and the teen never a difference of two years and women at the age of 17 and 18, the physical growth is balanced between men and women. And ends with physical growth period are shorter in women than men and in adulthood, women are characterized by fast growth in the longitudinal rate of 93% and weight by 81%. This informations clearly shows the differences that exist between men and women in terms of kinetic and physical requirements for the practice of sports. Skeleton - more tolerant and less consistent roughness 4 kg average - less tolerant, more rubber, more consistent 3 kg average Muscles 41.7% of total body weight 35.5in total body weight. The ability of muscle growth - faster and more likely - a slower and less likely Muscle strengt 100%60% of the strength of a man .The proportion of body fat - 13.2% - 27.2% of body weight. The weight and size of the heart - the largest and most smaller - less volume and weight Lung capacity - more extensive rate 4500-5000 cm<sup>3</sup> - less extensive, the rate of 3500-4000 cm<sup>3</sup>. The needfor oxygen - less vulnerable - more vulnerable. The amount of lactic acid in the muscle is growing slowly - growing quickly

#### **The Psychological Features:**

The psychological constitution of a woman generally depends on the emotional aspect. The woman is emotional: she can make sacrifice for her motherhood. She is affectionate and tender; these are prerequisites for motherhood. Sacrifice with women is stronger than with men. A woman is kinder, more active, more attractive and more flexible than a man. Thus, while practicing sport, her movements fit with her psychological abilities. Preparing a girl psychologically must be taken into account during the training classes so that she can be active in competitions.

#### **Conclusion:**

Women sport has undergone many important historical stages with many changing's. Despite the achievements, women sport still faces obstacles to get its rights within the women's rights proclamation in general.

In Algeria, it appeared with Independence though it is still weak compared to other countries. Some reasons lie behind that, i. e social and ideological data and the lack of equipment. Algeria endeavours to improve women sport through recovery programs to be at the same level with other countries. Finally, we must understand that a woman is not less preferment than a man. but they differ with him only must Train in proportion and physiology of her body and usability and not be applied to the same tests that are applied to the opposite sex, note that the susceptibility of women physically can multiply and evolve. So researcher recommends that it is necessary to vary exercise in this time period and that refuses to specialize in a particular game only and that the sensitivity of the body, especially when the girl, because women are more likely to be affected by exercise wrong, especially injuries of the spine, pelvis and back muscles to along with deformities of the feet while doing the sport's exercises.

## Sports at Pharaonic Egypt

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### Introduction

Pharaohs looked after the physical sports as a method of military training. It started since the 1<sup>st</sup> Dynasty which is set by military commander Mena ( who united both countries at 5600 B.C.). Wrestling and fencing were already practiced and do they became the national sports. And for women, dancing has obviously appeared through paintings in graves which show how dancing has a relation with prayers and so it became the national dance, with some musical instruments. Dancing had its influence in physical sports and their rules. The sport had its golden top with the beginning of the old Dynasty 2281-2780 B.C. At this period the public authority cared with transmission of sport in all part of the country and there was specialized trainers. Sports and dancing had their special place in religious and national events . Ancient Pharaohs prepared a big area outside cities for archeries and hunting. It was called Kings sports. The celebrations in feasts and events was filled by sporting games and folkloric games , with dancing and music .Studies mentioned that games ( either sporting and national ) which were performed by Pharaohs were 68 sporting games , also the instruments including balls ,bags, nets ,cycles were 47 units , and the musical instruments were 27 units. The planning for Olympic games and national Olympiads started at the beginning of the Middle Dynasty at king Amenhotep the 1<sup>st</sup> ( 12<sup>th</sup> Dynasty – 2013 B.C.) He supported the social relations between his people through culture ,sport ,and health through different training courses .The King Senosert the 1<sup>st</sup> ( Son of Amenhotep the 1<sup>st</sup> ) father of Amenhotep the 2<sup>nd</sup> looked after providing sports in schools for children and organized the competitions for them. Amenhotep the 2<sup>nd</sup> , 1338 B.C. transferred the valley of Gazzal ( military center ) to sporting training program, it used to be called as Manaat Khofo , this city was put under auspices and supervision of temple and sports were considered as one of subjects that showed be known. “ Ofo- Horus” city has celebrated the 1<sup>st</sup> anniversary of sport 1930 B.C. which is at the same time the spring holiday. The history mentioned that Ahmou the 1<sup>st</sup> at his 10<sup>th</sup> anniversary of his leadership 1568 B.C. was the celebration of public games ,some foreign prisoners participated in this event and many kings from all over the world were invited to it . Amenophis the 4<sup>th</sup> looked after physical sports imitating his grandfather Ahmou , he began the 1<sup>st</sup> public sporting games in south valley in city Akhit-Aton. All nation( young , women, men , and aging .), participated in these games : music, dance , and acrobat .The sport defined at this time as one of the prayer's factors. Sports during the 19<sup>th</sup> Dynasty of Ramses the 2<sup>nd</sup> ,when there was a good relation between sport and military training to build youth's bodies and so a strong army. For the first time , there was a celebration of sports day and Victory day. Ancient Egyptians knew many of sporting games which is now a development of manylike ; Boxing performance was to prepare youth for defense against enemies , it appears in tomb of Khir waf , west of Luxor .( This picture shows a couple of boxers boxing each other in front of Pharaohs ). Ancient Egypt knew boxing before Greek



Boxing



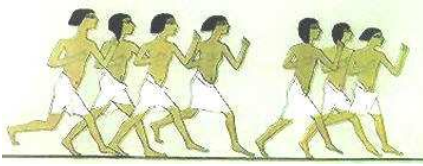
Handball



Hockey

It was discovered by Ancient Egypt. This sport was played by ladies for the first time in history . Picture of handball sport was drawn on walls of tombs in Bani Hasan , Elmenia governorate .

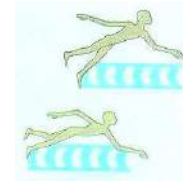
Hockey: Hockey is a sport with Egyptian origin, performed by ancient Egyptians since thousands of years as shown in pictures in tomb of Bani Hasan Elmania governorate.



Running



Wrestling



Swimming

Running sport appeared in Egypt since the Egyptian Pharaohs.

There are many pictures in tomb of Betah- Hotob in Sakkara related to the 5<sup>th</sup> dynasty. There was a condition for theking of pharaohs to have the leadership : he must win a running competition or make a single performance to show that he is healthful ( as shown on old Pharaonic monument . Also it's already drawn in the red part of Hatchebsut temple in Karnak there is its queen who is running.

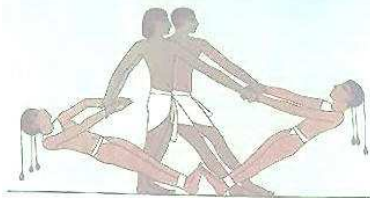
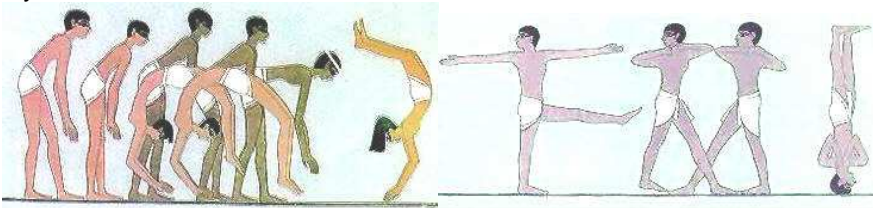
Wrestling:

One of the most popular activity at Pharaonic Egypt. The pictures show how children and youth were wrestling in old, middle and new state of Egypt which is drawn of the walls of Betah-hotob's tomb in Sakkara , ancient state. It is the oldest picture of wrestling sport related to the 5<sup>th</sup> dynasty. Also there are many pictures of wrestling sport of professionals drawn of the walls of prince Baket's tomb in Bani Hasan Elmania.

Swimming :

Pharaohs were interested in swimming. They always go to the Nile to swim as shown.

Gymnastics:



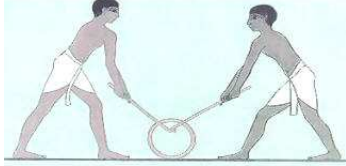
Ancient Egypt was the first to put the base of this sport. It's drawn on the walls of prince Baket's tomb. The pictures show that the old Egyptian women were the first to do gymnastics with music.

Equitation:



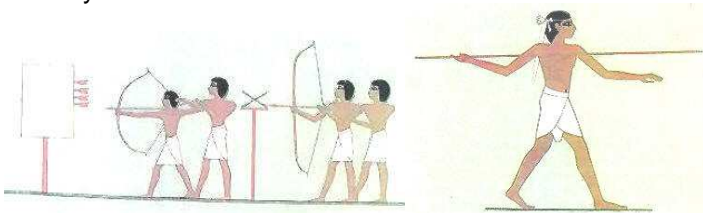
Pictures drawn on the walls of the monuments specially in the temple of Ramsis the 2<sup>nd</sup> , show that equitation was one of the most important sport to the Ancient Egypt.

Fencing :



It's a sport with an Egyptian origin. They made their own equipment to perform the sport like the weapons and protective masks. When Ramsis the 3<sup>rd</sup> was the king of Egypt, was the first time to practice this sport which is drawn on the walls of Habo temple near to Luxor which shows how the competitors perform with their covered weapon's edge and wearing their protective masks which is so alike to the modern masks.

Archery :



It was a sport for defending against enemies and so it became the kings sport which is drawn in the temple of SityBaabidos.

Rowing :



Hunting



Athletics



It was normal to practice this sport for the pharaohs in either the Nile and seas which is shown in the new state of ancient Egypt.

Hunting: It was one of the most important sport to the pharaohs ,they hunt lions , elephants and wild bulls. Also there was many people who go hunting with boats to hunt fish and birds.

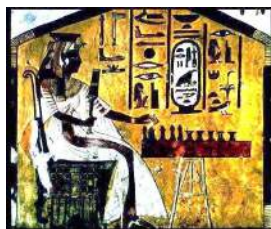
Athletics :

High jumping was known in the ancient Egypt which is shown in the tomb of the minister Betah-Hotob in Sakkara. Pharaonic Egypt was the first in the world to perform" fighting with bulls" which made them interested to include animals in sports.

Dancing :



Mental Sports



Khayraf's tomb in Luxor has many pictures which show how ancient girls were dancing in a harmony with regular moves.

Mental sports :

Beside physical sport there were some mental sport to develop their mentality. Chess was created in the Pharaonic period, and some chess games were found in the tombs.

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## State Anxiety Among Male Inter-University Level Sportspersons Of Different Games

**Dr.Jose Mathew, Asst. Professor,DPE, Pazhassiraja College,Kerala**  
**Dr.R.Srinivasa, Principal and Chairman, UCPE,Bangalore University**

### Abstract

The present study was to analysis the state anxiety among male interuniversity level sportspersons of different games. 448 male players of Basketball, Volleyball, Kabaddi, Kho-Kho and Hockey were randomly selected as subjects. State Anxiety variable namely Cognitive State Anxiety, Somatic State Anxiety, Self Confidence Anxiety, Total State Anxiety assessed by using Questionnaire for Sports Anxiety Test, University of Minnesota, Mories. ANOVA followed by Scheffe's post-hoc test was administrated where ever f- ratio found significant. Among male sports persons, f-ratio found to be significant at 0.05 level of confidence. Post hoc test revels that, in Cognitive State Anxiety the male Basketball players were inferior to other four game players. In Somatic State Anxiety the Kabaddi players found significantly superior to other game players. In Self Confidence Anxiety male Hockey players found to be significantly inferior to rest of the game players. The Total State Anxiety among male interuniversity sportspersons reveals the Basketball players are significantly inferior to rest of the game players.

### Introduction:

The practical sports psychology program is a holistic approach for peak performance. It includes deep relaxation and visualization, techniques for concentration, positive attitude, nutrition, stress management and meditation. Anxiety is one of the most prevalent topics in sports and exercise psychology. It is a state of mind in which the individual responds with discomfort to some events that have occurred or going to occur. The person's worries about event, their occurrences and consequences in general are the sources of anxiety. Anxiety is related to emotional stability, tough mindedness and self-confidence.

### Methodology:

The purpose of the study was to analysis the State Anxiety of interuniversity level male sportspersons. Total 448 male players from Basketball, Volleyball, Kabaddi, Kho-Kho and Hockey game were randomly selected as subjects. State Anxiety was assessed by using Questionnaire for Sports Anxiety Test, University of Minnesota, Mories.

### Findings Of The Study:

**Table – 1 One way ANOVA on variables of state anxiety in inter-university level male sportspersons of selected games.**

Variables	Source	Sum of Squares	df	Mean Square	F
Cognitive State Anxiety	Between Groups	373.631	4	93.408	5.155*
	Within Groups	8027.289	443	18.120	
	Total	8400.920	447		
Somatic State Anxiety	Between Groups	988.872	4	247.218	13.980*
	Within Groups	7834.048	443	17.684	
	Total	8822.920	447		
Self Confidence Anxiety	Between Groups	332.593	4	83.148	3.335*
	Within Groups	11046.262	443	24.935	
	Total	11378.855	447		
Total	Between Groups	1532.673	4	383.168	5.544*
	Within Groups	30614.896	443	69.108	
	Total	32147.569	447		

\*Significant at 0.05 level of confidence.  $F_{0.05}(4,443) = 2.40$

**Table–1** reveals that state anxiety among male sportsperson playing Volleyball, Basketball, Kho-Kho, Kabaddi and Hockey was found to be with significant difference as F-ratio was more than table 'F' value of 2.40 at 0.05 level.

**Table – 2 Post-hoc Analysis of Cognitive State Anxiety of Male University Sportspersons**

Volleyball	Basketball	Kho-Kho	Kabaddi	Hockey	Mean Difference
21.1429	19.8690				1.27381
21.1429		20.6429			0.50000
21.1429			22.7381		1.59524
21.1429				20.9018	0.24107
	19.8690	20.6429			0.77381
	19.8690		22.7381		2.86905*
	19.8690			20.9018	1.03274*
		20.6429	22.7381		2.09524*
		20.6429		20.9018	0.25893
			22.7381	20.9018	1.83631

\*Significant at 0.05 level of confidence.

**Table – 2** Depicts that the post-hoc analysis of Cognitive State Anxiety was with significant difference between the male sportspersons of Basketball and Kabaddi, Kho-Kho and Kabaddi game. There was no significant difference between other game players.

**Table – 3 Post-hoc Analysis of Somatic State Anxiety of Male University Sportspersons**

Volleyball	Basketball	Kho-Kho	Kabaddi	Hockey	Mean Difference
19.7976	17.3929				2.40476*
19.7976		19.4643			0.33333
19.7976			22.2262		2.42857*
19.7976				19.7857	0.01190
	17.3929	19.4643			2.07143*
	17.3929		22.2262		4.83333*
	17.3929			19.7857	2.39286*
		19.4643	22.2262		2.76190*
		19.4643		19.7857	0.32143*
			22.2262	19.7857	2.44048*

\*Significant at 0.05 level of confidence.

**Table – 3** reveals that the post-hoc analysis of Somatic State Anxiety was with significant difference between the male sportspersons of Volleyball and Basketball, Volleyball and Kabaddi, Basketball and Kho-Kho, Basketball and Kabaddi, Basketball and Hockey, Kho-Kho and Kabaddi, Kabaddi and Hockey players. There was no significant difference between other game players.

**Table – 4 Post-hoc Analysis of Self Confidence Anxiety of Male University Sportspersons**

Volleyball	Basketball	Kho-Kho	Kabaddi	Hockey	Mean Difference
24.0595	25.1429				1.08333
24.0595		24.2262			0.16667
24.0595			23.0357		1.02381
24.0595				22.8036	1.25595
	25.1429	24.2262			0.91667
	25.1429		23.0357		2.10714*
	25.1429			22.8036	2.33929*
		24.2262	23.0357		1.19048
		24.2262		22.8036	1.42262
			23.0357	22.8036	0.23214

\*Significant at 0.05 level of confidence.

**Table – 4** reveals that the post-hoc analysis of Self Confidence Anxiety was a significant difference between the male sportspersons of Basketball and Hokey game male players. There was no significant difference between other game players.

**Table – 4 Post-hoc Analysis of Total State Anxiety of Male University Sportspersons**

Volleyball	Basketball	Kho-Kho	Kabaddi	Hockey	Mean Difference
65.0000	62.4048				2.59524
65.0000		64.3333			0.66667
65.0000			68.0000		3.00000
65.0000				63.4911	1.50893
	62.4048	64.3333			1.92857
	62.4048		68.0000		5.59524*
	62.4048			63.4911	1.08631
		64.3333	68.0000		3.66667
		64.3333		63.4911	0.84226
			68.0000	63.4911	4.50893*

\*Significant at 0.05 level of confidence.

**Table – 4** reveals that the post-hoc analysis of Total State Anxiety was a significant difference between the male sportspersons of Basketball and Kabaddi, Kabaddi and Hockey game male players. There was no significant difference between other game players.

### Conclusions

State Anxiety among the male players of different games male interuniversity level differs significantly in all variables. Variations and similarity in the various parameters of state anxiety which was observed in this study can be attributed to the psycho-somatic demand of the game, and pattern, regulations and the strategy of the game. The experiences of the players along with physical potentialities, technical and tactical abilities can also hold its stake in describing the level of various parameter of state anxiety.



## **The Future Trend of Recreational Sport Curriculum: A Perspective from Higher Education**

**Dr. Peter F. Yang,  
(National Taiwan University of Physical Education and Sport)  
Dr. Angel, Hsi-I Chen  
(National Chiayi University)**

### **Abstract:**

Physical Activities and Recreation Related Programs (PARRP) for bachelors and master degrees were dramatically increased in the past two decades. Most of these so-called PARRP were newly-built, developed, transformed, restructured or merely renamed after former Physical Education Disciplines (PED) in more and more Asian universities. Unfortunately, these PARRP degrees meet controversial doubts.

The programs are frequently questioned by the national authorities as the degrees appear to have following weaknesses:

1. Lack of clearly defined PAR curriculum standards;
2. Inefficient accreditation process afflicted with national or regional academic associations;
3. Individualized and dissimilar curricular structures exist not only between departments to departments but also between countries to countries;
4. Such legally and formally approved degrees are not widely accepted by job markets or recognized by the public due to unprofessionalism;
5. A weak connection between professionalism and career competency;
6. PARRP degrees are not compulsory requirement for practitioners of leisure service and recreation management;
7. Many physical education disciplines and degrees were simply renamed without professional curriculum designed and integrated in the reformation.

The phenomena mentioned above could be attributed to the decreasing necessity of traditional PE teachers in K to 12 and universities dropping birth rate in Asia. This study intends to propose suggestions from a global perspective for pan Asian universities educators to promote quality intercontinental-wide recreation and leisure service academic programs for bachelor, master and doctoral degrees in Asian regional higher education.

## Development of Quality Physical Education and Globalization Experiences

Walter HO  
(University of Macau)

### Abstract

The word “quality” may refer to a state of excellence with recognizable features, standards and outcomes that are acknowledged by many as best and in good standing. When this concept applies to physical education, it indicates a state of excellence with recognizable features and standards to achieve the best outcome for students’ learning and social expectations through physical education. The awareness of this purpose motivated educational authorities to introduce reform works to achieve excellence in physical education. It is then the work of Hong Kong SAR government to introduce “Learning to Learn” in 2000 to achieve self motivated person with the capacity for learning. The combination of Health and Physical Education as new key learning area in schools become the dominant interests of curriculum reform in Australia, New Zealand, Canada and even the educational authority of Taiwan government. The use of “Games Approach” turns common in schools; and together with the use of new teaching strategies such as enquiry method, reciprocal learning and self-expectancy model, it indicates the desire to adopt different approach to address the issue in teaching with students center as focus rather restricted teaching on the use of skill or fitness model for physical education. How far the world agrees on the development and what progress has the world achieved of these qualities in physical education are the interest of this sharing. This paper shared the research work conducted by the efforts of four international associations named as International Society for Comparative PE and Sport (ISCPES), International Association of Physical Education and Sport for Girls and Women (IAPESGW), International Federation of Adapted Physical Activity (IFAPA) and Federation Internationale d’ Education Physique (FIEP) on the development of Quality Physical Education in school from 2011 to 2013. Questionnaires survey was conducted in cities from Latin America, Europe, Asia and Africa. Returned data indicated a common acknowledgment of some factors as essential issues for quality development of physical education but these factors were selectively attended due to various economical, social and political reasons. Countries or regions with high income background had better performances in the overall establishment but not places listed at Upper or Lower Middle Income Group. Nevertheless, the study of satisfactory level in different learning perspectives did not indicate the links of quality program with quality learning in physical education. This observation may indicate the attainment of physical education as globalized subject in education. Nevertheless, the presence of the subject in education receives challenge due to its unsteady pattern in reaching the goal of educational improvement in students.

Keywords: Quality Physical Education, Educational Reform, Globalization in Physical Education

## The Effects of Exercise for Chronic Obstructive Pulmonary Disease Patients

**Myung-Wha, Kim**  
(Woosong University, S. Korea)

**Abstract:**

Even though it has been well known that pulmonary rehabilitation (PR) improves exercise capacity and quality of life in patients with chronic obstructive pulmonary diseases(COPD), not many patients can attend hospital based intensive PR in Korea. The purpose of this study was to develop a practical home-based PR program and investigate the effectiveness of it.

Twenty patients with COPD were divided into PR group (10 patients, mean age: 70 years, all male) and a control group (10 patients, mean age: 65 years, all male). PR program(12 weeks) consisted of not only education with nutritional and psychiatric consultation but also enforced aerobic and muscle strengthening exercise guided by exercises specialist.

After PR for 12 weeks, Resting pulmonary function statistically significant( $p<0.05$ ) increased 11.2% and flexibility increased 9.14cm and back muscle strength increased 7kg. 6 mins.walking distance test was statistically significant ( $p<0.01$ )increased 43.5m. In the study group who carried out the pulmonary rehabilitative program have shown enhanced resting pulmonary function and physical fitness, 6mins walking distance, while control group have shown deteriorated physiological function.In the body composition was patients group higher 6.7% body fat than healthy group, at the forced expiratory 1.0 second was healthy group higher 26.7%.

In the physical fitness tests were more average grip strength 15%, back muscle strength 13.4%, flexibility 73.3%, 6 minutes walking test 29.8% than patients group. Therefore it is recommended that the pulmonary rehabilitative exercise for the chronic obstructive pulmonary disease patients were useful.

Key words :Pulmonary Rehabilitation exercise program, Chronic Obstructive Pulmonary Disease.

## **The Relationship between Perception of Service Quality, Satisfaction and the Intent to Return of Sport Tourists**

**1.DrHashemKouzechian, 2. DrAfsharHonarvar, 3. Mehdi Khatibzadeh  
1&3.Tarbiat Modares University 2. K. N. Toosi University of Technology, Iran**

### **Abstract:**

The interaction between service quality, customer satisfaction and loyalty has been always a controversial issue. So, the purpose of this study was to investigate the relationship between service quality, satisfaction and the intention to return of sport tourists.

The research method was descriptive – correlation and the statistical sample consisted of 265 tourists attended to Tehran's Azadi stadium for watching a football game between Esteghlal and Persepolis. The research instrument was a questionnaire that had been used in Shonk's Ph.D dissertation. The validity was approved by doing Exploratory Factor Analysis and opinion of sport management experts. The reliability was verified by Cronbach's alpha method ( $\alpha=0/89$ ). The SPSS19 was used to do descriptive statistics and exploratory factor analysis. Also, Confirmatory Factor Analysis and structural equation modeling (SEM) were done by LISREL. The results showed the coefficient effect of sport tourism quality on tourist's satisfaction and the intent to return was respectively 1/25 and 0/56. Also, the coefficient effect of tourist's satisfaction on the intent to return of sport tourists was 0/35.

According to the results satisfaction didn't mediate the relationship between service quality and the intention to return of sport tourists. Although, satisfaction had a significant effect to sport tourist's intention to return, the service quality had greater effect to sport tourist's intention to return. Also, the influence of service quality on satisfaction was significant. According to the results, it can be concluded that increasing sport tourism service quality and it's related factors increase sport tourist's satisfaction and their intention to return.

Key words: service quality, satisfaction, intent to return

## **The Application of the Field of Consciousness in Physical Education and Sport: The Forgotten Paradigm**

**Raul Calderon, Jr.(USA)**

### **Abstract**

In multiple literary traditions and specifically, in the Vedic literature, there are references to a field of Pure Consciousness/Awareness, which is unbounded and lies at the basis of existence. It is hypothesized that when individual consciousness/awareness (individual psyche) transcends the finest level of subjective experience, the mind experiences the field of Pure Consciousness (the cosmic psyche), which leads to higher levels of human awareness and an integrated life. In ancient India this connection between mind, body, and the field of Pure Consciousness was known and understood. However, over time this holistic view/paradigm was lost and replaced with a fragmented and limited understanding of individual life and its connection to this universal field of creation, Pure Consciousness.

Bringing back this holistic paradigm to our physical education and sport programs can have many positive benefits for our students. One way to do so is to implement into our educational system a simple, natural, and effortless mental technique, Transcendental Meditation™, which facilitates the process of transcending and guides individual consciousness/awareness to the field of Pure Consciousness.

A review of the scientific research on the Transcendental Meditation program and its' many positive health benefits, e.g., improvements in physiological, and psychological functioning, and academic performance will be presented.

## **Addressing the Issue of Physical Abuse for Student-Athletes in Korea**

**Kicheon Lee and Joy Matthew C. Caguicla**  
(School of Global Sport Studies, Korea University, South Korea)

### **Abstract**

Sport has been considered a venue for character development for students. But it also has the potential as a possible breeding ground for student abuse. There are many types of abuse that may occur within the sports environment, but physical abuse is one of them. In most cases, student-athletes are the victims of physical abuse. It attributes with a society that places so much importance on winning in sports that it blatantly neglects the needs and well-being of the student-athletes that it's charged with human rights.

Physical abuse includes any kind of hitting, slapping, pushing, or form of punishment that causes harm of student-athletes. The result indicates that National Human Rights Commission of Korea investigated 79% of the research subjects are experienced any form of abuse from coach or their senior student-athletes. Training camp is account for main place over 95% of physical abuse. Physically abused student-athletes are at risk for later interpersonal problems involving aggressive behavior and substance abuse. Furthermore, symptoms of depression, emotional distress, and suicidal ideation are also common features of student-athletes who have been physically abused.

The Korean famous sport film "Lift-up King-Kong" represents how Korean student-athletes are engaged in physical abuse by aggressive coach. School athletic clubs are storage of evidence that winning-oriented policy justify violence at school sports program in accordance with proliferation of elite sports systems in modern society.

Providing ideal sports activities for student-athletes bring with numerous responsibilities. The development and implementation of policies regarding physical abuse is also likely to decrease likelihood of such abuse. One of responsibility is to protect the safety and welfare of the student-athletes in sports program. It is necessary to enact concrete policies and regulations and making guideline for preventing violence. Leaders of sports governing bodies, such as the Korea Olympic Committee(KOC), educational institutions, and athletic programs are encouraged to formulate, implement and evaluate policies on human rights abuses linked to the student-athletes sports events.

## **The Effect of the Use of Exercises Retina Ropes on Some MotorSkills for Fencing Players**

**Dr. NabhanHameedAhmeed**  
(College of Physical Sport, University of Al-Anbar, Iraq)  
**Dr. Fatima Abdul Malih**  
(College of Physical Sport for Girls, University of Baghdad, Iraq)

### **Abstract:**

The motor skills of the most fundamental pillars underpinning the player fencing, and the player that does not have the motor skills necessary , will not be able to master technical skills as it is one of the factors is very necessary to do all the work and duties of physical and kinetic , which express thus the efficiency of the performance of the basic skills associated with any activity athlete , being linked to the performance of services neuromuscular and functional.

So lies the importance of research in the investment exercises retina ropes , one of the recent trends in training methods , they reflect one of the results of scientific renaissance style training meaningful , spread widely and rapidly all over the world , and has achieved a quantum leap in the field of sports , and so , as it contains elements of totalitarianism and recreation depends interesting movements , which generates an atmosphere of comfort and pleasure to the practitioners , as well as benefits in the development of physical and motor abilities and functional , which is one of the basics of training. The study aimed to identify the effect of exercise retina ropes in the development of some motor skills with the players duel , and use the experimental method to the players Fencing Club Girl Baghdad , and of their number ( 12) for the player , has been divided into two groups ( experimental and control ) and by (6) player in each group , after conducting their homogeneity and parity . Was tested players in some motor skills and of ( agility , compatibility , balance ), and then was applied exercises from within the curriculum and the time of ( 10 minutes) for a period of 2 months and by 3 training units per week, and after the completion of the application of the curriculum has been testing a posteriori , after collecting and processing the results statistically analyzed and the researchers concluded , that the exercises retina chords have a positive impact in the development of some motor skills for players fencing

Therefore, the researchers recommended the use of ropes to the development of the retina of motor skills in other sports.

## **Modern Sports versus Traditional Sports**

**JongYoung Lee (The University of Suwon, South Korea)**

### **Abstract**

Conflicting philosophical questions regarding modern sports can arise. In contrast with modern sports, traditional sports are being explained as endangered animals. Actually the number of modern sports is minimal, compared with the number of diverse traditional sports. But, modern sports of minimal number are big animals, so they eat numerous traditional sports. Modern sports are reformatted forms of certain traditional sports of certain regional area. Understandably, most of modern sports are creation by initiative of the Western nations. The Western nations are leaders in rule-setting or standardization, how to do it in real settings, although modern sports and traditional sports have similarity in the aspects of physical strength and speed. But, the spirituality of modern sports may be different from the implicit spirituality caused by locally diverse traditional sports. Those two have difference in cultural implication. This paper is not talking about the return to the old traditional world. Rather, this is considering on the future direction of modern sports. Peaceful element of sports is being replaced by war-logic elements of sports. Furthermore, market economy stimulates professionalism in sports. Under this situation, traditional local physical activities have begun to disappear. Big animals killed small animals. Small animals with similar identity of body movement are regarded as old-fashioned and are being over-killed as victim and are disappearing drastically.



## Comparative Analysis Of Motor Fitness And Body Composition Among Basket Ball, Foot Ball And Volley Ball Players

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Dr. T. Prabhakar Reddy, Physical Director, KMC, Warangal

### Introduction:

Sports in the present world have become extremely competitive. It is not the mere participation or practice that brings out victory to an individual. Therefore, sports life is affected by various factors like physiology, biomechanics, sports training, sports medicine, sociology and psychology etcetera. Athletic performance has dramatically progressed over the past few years. Performance levels unimaginable before are now common place, and the number of athletes capable of outstanding results is increasing.

In the above context, it is proposed to undertake the research study entitled 'Comparative Analysis of Motor Fitness and Body Composition among Basket Ball, Foot Ball and Volley Ball Players'.

**Objective of the Study:** The objective of the study was to make a status analysis of the selected motor fitness and body composition variables of state level Basketball, Football and Volleyball players. And to analysis they obtained data to find out whether there were any significant differences among the selected players on the variables, speed, flexibility, balance, endurance, body mass index and percent body fat.

**METHODOLOGY:** To achieve the purpose of this study, thirty basketball players, thirty football players and thirty volleyball players who were selected to compete at state level competitions were randomly selected. The subjects were selected during the coaching camps organized by the state. The selected subjects' age group was ranging from nineteen to twenty three years.

The selected subjected were measured of their motor fitness variables, speed, flexibility, balance and cardiovascular endurance; and body composition variables, percent body fat and body mass index using standard tests. The collected data were subjected to statistical treatment using ANCOVA. In all cases 0.05 level was fixed to test the significance of the results.

**RESULTS AND DISCUSSIONS;** The research question for this study was to find out the differences in selected motor fitness and body composition variables among state level football, basketball and volleyball players.

The results presented in this study proved that speed among basketball, football and volleyball players as the obtained F value was significant. The paired mean comparisons proved basketball and football players' were faster than volleyball players. This may be due to the fact that football and basketball players involve themselves in running during their game situations than volleyball players. The study proved that there was no significant differences among football, basketball and volleyball players on flexibility as all these players were involved in active games which resulted in adequate stretch shortening cycles, which in turn provided them equal range of motion and improved flexibility.

The paired mean comparisons proved that basketball players and volleyball players were significantly have better dynamic balance than football players and there was no significant differences between basketball and volleyball players, it is further proved that there was significant difference between basketball, football and volleyball players as the obtained F value was significant. The paired mean comparisons proved that basketball players and football players were significantly have better cardiovascular endurance than volleyball players and there was no significant difference between basketball and football players.

The formulated hypothesis that that there would be significant differences on selected motor fitness variables, speed, balance and endurance among state level basketball, football and volleyball players of Andhra Pradesh was accepted at 0.05 level as there were significant differences among basketball, football and volleyball players.

The obtained F value on flexibility was insignificant and hence, the formulated hypothesis that there would be significant differences on flexibility among state level basketball, football and volleyball players of Andhra Pradesh was rejected at 0.05 level and null hypothesis was accepted.

The results presented in this study gave way for consideration that whether the increase in body size has been the result of an increase in lean body mass or of an increase in body fat. It is logical to assume that an increase in body mass accompanied by an increase in fat-free mass would be particularly important in enhancing the performance of players. However, the different nature of playing situations can give different absorption of body fat was found in this study. It is proved that there was insignificant difference on percent body fat of the basketball, football and volleyball players as the obtained F value was less than the required F value to be significant at 0.05 level. This was due to the fact all the three groups of players were state level players and regularly involved in strenuous coaching and physical activities which kept their percent body fat in optimum required level. It is also proved that there was significant difference among the groups of players on body mass index as the obtained F value was greater than the required table value to be significant at 0.05 level. Even though there was significant difference between basketball players and football players and football players were found to be less BMI, there was no significant difference among the players when their percent body fat was considered. This shows that the enhanced BMI levels of basketball players was absorbed in body while assessing percent body fat.

The formulated hypothesis that there would be significant differences on selected body composition variable body mass index among state level basketball, football and volleyball players of Andhra Pradesh was accepted at 0.05 level as there were significant differences among basketball, football and volleyball players. The obtained F value on percent body fat was insignificant and hence, the formulated hypothesis that there would be significant differences on percent body fat among state level basketball, football and volleyball players of Andhra Pradesh was rejected at 0.05 level and null hypothesis was accepted.

#### **Summary, Conclusions And Recommendations**

The results of this study proved that there were significant differences on selected motor fitness variables, speed, balance and endurance among state level basketball, football and volleyball players of Andhra Pradesh and there was no significant difference on flexibility among state level basketball, football and volleyball players of Andhra Pradesh. On selected body composition variable, the results proved that there was no significant difference on percent body fat and there was significant difference on body mass index among state level basketball, football and volleyball players of Andhra Pradesh.

#### **Conclusions:**

There was significant difference on motor fitness variable, speed, among state level basketball, football and volleyball players. And it was also concluded that football players were significantly better than volleyball players. There was no significant difference on motor fitness variable, flexibility, among state level basketball, football and volleyball players. There was significant difference on motor fitness variable, dynamic balance, among state level basketball, football and volleyball players. And it was also concluded that basketball and volleyball players were significantly better than football players. There was significant difference on motor fitness variable, cardiovascular endurance, among state level basketball, football and volleyball players. And it was also concluded that basketball and football players were significantly better than volleyball players. There was no significant difference on percent body fat among state level basketball, football and volleyball players. There was significant difference on body mass index among state level basketball, football and volleyball players. And it was also concluded that football players were significantly lesser than basketball players.

#### **Recommendations:**

Every player requires optimum level of motor fitness and the findings of this study proved that there were differences in motor fitness variables, speed, dynamic balance and cardiovascular endurance among basketball, football and volleyball players. Hence, it is recommended that players may concentrate more on improving their motor fitness levels.

A separate research may be conducted to assess the relationship between the methods of training and the resultant effects on selected motor fitness components and body composition variables of basketball, football and volleyball players.

The results of this study showed that there existed significant differences in body mass index of the players. Efforts may be made to give adequate care to maintain optimum level of this body composition variable by players.

## Development of Social Value through Sports Participation in College Students

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**GuskaraMahavidyalaya, Burdwan University**  
**Guskara, Burdwan, West Bengal**

### **Abstract**

Background : Value reflects a persons sense of right and wrong. Values tend to influence attitude and behavior. Regular participation in sports may influence the development of values.The aim of this study was to observe the development of social values through sports participation.This observational study was conducted in the Guskara College, Burdwan University, West Bengal, India. The researcher herself graduate in sociology and have many experiences with social organizations, develop one scale to judge students value. It is an initial and pilot study. It was found that those who are participating regularly in various sports and games have develop many positive values which are very important in the human society. In college level students should be encourage for regular participation in exercise and sports for the development of social values.

Keyword :Social value, Sports participation

### **Introduction :**

Value reflects to the norms of a culture where individual develop values which their members broadly share. The sense of right and wrong in the society reflects the values and its modify behavior. Through participation in games and sports a person develops understanding of different values. The importance of life should not be taught but should be trained. Regular participation in sports and games may influence different values in the society. There are many research work in this area. But in India sociological aspects of sports is in there infancy stage. So there are lot of scope to develop this area and established the fact especially in India.

### **Method :**

This study was conducted in the Guskara College, Burdwan University, West Bengal, India. 250 students were observed in this study. The value was judged by a observation scale solely developed by this present researcher. In this scale the following items were observed by this researcher who have a background of sociology. The items were acceptance; affection; acknowledgement; activeness; amusement; appreciation; attentiveness; beauty; bravery; calmness; challenge; cheerfulness; community; confidence; co-operation; competition; creativity; devotion; discipline; encouragement and friendship.

### **Result :**

it was observed that those who are participated irregularly in games and sports they have one type of values whereas those who are participated in very competitive sports the develop different types of values. It was observed that moderate participation in exercise and sports develop all the values in a remarkable manner. It was a pilot project. At first the researcher identified the social values which may develop through the participation of exercise and sports. Initial review was done from the authentic data sources. Due to lack of scale to observe the value development through sports, the researcher as a sports sociologists develop an observational scale.

### **Conclusion :**

After conducting this study it may be concluded that regular participation in sports can develop social values. However there are lot of scope for further research.

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## Improvement of Brain Function through Exercise Understanding the Mechanism

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**Introduction:** The word vyayama or exercise may be first introduced in India in its Ayurvedic text. Ayurveda, the science of long and healthy life mentioned that human is the combination of body, mind and spirit. They prescribed yoga-vyayama for the maintenance and development of good health (Titon, 2008; Mondal, 2013). Exercise is a specific form of physical activity that is structural and repetitive, with the goal of improving or maintaining physical fitness, function or health (Dishman et al. 2006). On the other hand, it is now accepted that the brain controls physiological, mental and behavioral process (Kandel, 1998). Prof. Powell (1975) might be one of the pioneer who started initiative to gather knowledge about the exercise effect on brain. He concluded that the greater tolerance to exercise stress that the trained individual apparently has may reflect : 1) a greater tolerance to cerebral hypoxia, 2) a modified cerebral vascular adjustment of chronic exercise, 3) a lessened dependence upon blood sugar due to increased storage of muscle glycogen and 4) increased ability to tolerate heat. In continuation, Mondal and Banerjee (1992) reviewed research on brain environment and exercise. In their experiment they observed regular exercise influence central sympathetic activity and in the time of exhaustive exercise predominance of left hemisphere (Mandal and Banerjee, 1992; 1994). Recently the area exercise and improvement of brain function gain momentum to increase academic achievement, job performance, aging and illness related decline and sport performance. Chronic physical activity improve brain health. Exercise training can favourably influence brain plasticity by facilitating neurogenerative neuroadaptive and neuroprotective processes (Dishman et al, 2006).

**Aim :** The aim of this project was to review the latest research reports and find out the underlying mechanism which improve brain function through regular exercise.

**Method :** All the review abstracts were searched from Pubmed / Medline data sources and then selected full papers were collected from various journal sources and from the authors.

**Result :** To understand the mechanism there are many research groups working in different ways. They observed the following underlying mechanisms : increase brain blood flow and oxygen supply; improve brain neurotransmitters function; increase level of arousal in brain; up regulate neurotrophin etc. For these changes there are structural improvement such as angiogenesis; synaptogenesis and neurogenesis. Probably that lead to the improvement of cognition, emotion and psychomotor function of brain. (Pontifex et al, 2009; Gligoroska and Manchevska, 2012; Ploughman et al, 2008; Hillman et al, 2008).

**Conclusion :** After reviewing major research in this area, it may be concluded that some underlying mechanism have been identified. In general, exercise may improve brain function and there are many understandable mechanisms.

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## Effect Of Yoga And Pranayama Practice On Respiratory Parameters Among Working Women

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### Abstract

The purpose of this study was to find out the effect of selected yoga and pranayama practice on respiratory parameters among working women. For this purpose twenty working women, aged between 30 and 35 years, were selected as subjects from various departments of Annamalai University, except department of physical education and faculty of fine arts. They were divided into two equal groups in which Group – I (n = 10) underwent yoga and pranayama practice weekly six days per week (i.e. Monday to Saturday), for nine weeks between 6.00 a.m. to 8.00 a.m., and Group – II (n = 10) acted as control, which did not participate any training during the period of study apart from their regular activities. Respiratory parameters such as, tidal volume, inspiratory reserve volume and expiratory reserve volume was measured by using the wetspirometer. The Analysis of Covariance (ANCOVA) was used as statistical tool for the present study. The result of the study indicated that the respiratory parameters such as, tidal volume, inspiratory reserve volume and expiratory reserve volume were significantly increased for the yoga and pranyama practice group. Moreover, the result of the study was also showed that there was a significant difference was occurred between the yoga and pranayama practice group and control group on selected criterion variables. It was concluded from the results of the study that the yoga with pranayama practice is the better tool to alter beneficially on respiratory parameters.

Keywords; *Tidal Volume, Inspiratory Reserve Volume, Expiratory Reserve Volume, Wetspirometer, ANCOVA.*

### Introduction

Yogasanas are Indian's unique contribution to physical education. Yoga and physical education may be compared to two bullocks hitched to shaft as they are for the judicious blending of the education of the body and the mind. Yoga is providing a multidimensional development and it has now become an adjunct to physical education. Vital capacity is the maximum amount of air a person can expel from the lungs after a maximum inspiration. The unit that is used to determine this vital capacity is the millilitre (ml).

### Methods

The study was confined to the working women of various departments, except department of physical education and faculty of fine arts, of Annamalai University during the year 2012 – 2013. Totally 20 subjects were selected and they were not familiar with yoga and pranayama. The subjects selected were in the age group between 30 and 35 years. The subjects were further divided into two equal groups such as yoga and pranayama practice group (n=10) and control group (n=10). The experimental group practiced yogasana and pranayama weekly six days i.e. Monday to Saturday, between 6.00 a.m. and 8.00 a.m., for a period of nine weeks, which was considered adequate to indicate changes on selected criterion variables, if any. The analysis of covariance (ANCOVA) was applied to find out the difference in each criterion variables. The level of significance to test was fixed at .05 level of confidence.

## Results Of The Study

The data on selected criterion variables before and after the yoga and pranayama practice and control groups were analysed and presented in table - I.

Table - I

### ANALYSIS OF COVARIANCE OF YOGA PRACTICE GROUP AND CONTROL GROUP ON SELECTED CRITERION VARIABLES

Variable Name	Group Name	Experimental Group	Control Group	'F' Ratio
Tidal Voume (Ltrs)	Pre-test Mean ± S.D	0.430 ± 0.013	0.432 ± 0.015	0.0015
	Post-test Mean ± S.D.	0.473 ± 0.014	0.440 ± 0.014	12.26*
	Adj. Post-test Mean	0.472	0.441	20.13*
Inspiratory Reserve Volume (Ltrs)	Pre-test Mean ± S.D	2.631 ± 0.031	2.622 ± 0.013	0.584
	Post-test Mean ± S.D.	2.712 ± 0.013	2.624 ± 0.007	24.96*
	Adj. Post-test Mean	2.885	2.632	37.98*
Expiratory Reserve Volume (Ltrs)	Pre-test Mean ± S.D	1.073 ± 0.133	1.071 ± 0.137	0.056
	Post-test Mean ± S.D.	1.369 ± 0.017	1.058 ± 0.0124	22.81*
	Adj. Post-test Mean	1.389	1.052	31.45*

\* Significant at .05 level of confidence. (The value for significance at .05 with df 1 and 18 and 1 and 17 are 4.41 and 4.43 respectively).

## Conclusions

It was concluded from the results of the study, the selected criterion variables such as, tidal volume, inspiratory reserve volume and expiratory reserve volume (D.V. de Godov *et al*, 2006, Rashmi Vyas and Nirupama Dikshit, 2002, and S. Cooper *et al*, 2003) was improved significantly after the yoga and pranayama practice period.

When compared with the control group, the yoga and pranayama practice group has significantly differed in selected criterion variables, such as, tidal volume, inspiratory reserve volume and expiratory reserve volume.

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## A Comparative Study of Speed among Soft Ball Players and Base Ball Players of Hyderabad

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### Abstract:

The purpose of the present study to find out the Speed among Soft Ball Players and Base Ball Players of Hyderabad. The sample for the present study consists of 20 Male Soft Ball Players and 20 Male Base Ball Players of Hyderabad. To assess the Speed the 50 M Run Test Were conducted among Soft Ball Players and Base Ball Players. It was found that Soft Ball Players are having good speed compare to Base Ball Players.

Key Words:Soft Ball, Base Ball, Speed etc.

### Introduction:

Softball is a variant of baseball played with a larger ball on a smaller field. It was invented in 1887 in Chicago as an indoor game. It was at various times called indoor baseball, mush ball, playground, softbund ball, kitten ball, and, because it was also played by women, ladies' baseball. The name *softball* was given to the game in 1926. A tournament held in 1933 at the Chicago World's Fair spurred interest in the game. The Amateur Softball Association of America (founded 1933) governs the game in the United States and sponsors annual sectional and World Series championships. The World Baseball Softball Confederation (WBSC) regulates rules of play in more than 110 countries, including the United States and Canada; before the WBSC was formed in 2013, the International Softball Federation filled this role. Women's fast-pitch softball became a Summer Olympic sport in 1996, but it (and baseball) were dropped in 2005 from the 2012 games.

Baseball is a bat-and-ball game played between two teams of nine players each who take turns batting and fielding. The offense attempts to score runs by hitting a ball thrown by the pitcher with a bat and moving counter-clockwise around a series of four bases: first, second, third, and home plate. A run is scored when a player advances around the bases and returns to home plate.

Players on the batting team take turns hitting against the pitcher of the fielding team, which tries to prevent runs by getting hitters out in any of several ways. A player on the batting team who reaches a base safely can later attempt to advance to subsequent bases during teammates' turns batting, such as on a hit or by other means. The teams switch between batting and fielding whenever the fielding team records three outs. One turn batting for both teams, beginning with the visiting team, constitutes an inning. A game comprises nine innings, and the team with the greater number of runs at the end of the game wins.

**Methodology:**

The sample for the present study consists of 20 Male Soft Ball Players and 20 Male Base Ball Players between the age group of 18-22 Years of Hyderabad District .To assess the speed the 50 M Run were conducted on Soft Ball Players and Base Ball Players

50 M Run:

Sprint or speed tests can be performed over varying distances, depending on the factors being tested and the relevance to the sport.

purpose: The aim of this test is to determine acceleration and speed.

equipment required: measuring tape or marked track, stopwatch, cone markers, flat and clear surface of at least 70 meters.

procedure: The test involves running a single maximum sprint over 50 meters, with the time recorded. A thorough warm up should be given, including some practice starts and accelerations. Start from a stationary standing position (hands cannot touch the ground), with one foot in front of the other. The front foot must be behind the starting line. Once the subject is ready and motionless, the starter gives the instructions "set" then "go.". The tester should provide hints for maximizing speed (such as keeping low, driving hard with the arms and legs) and the participant should be encouraged to not slow down before crossing the finish line.

results: Two trials are allowed, and the best time is recorded to the nearest 2 decimal places. The timing starts from the first movement (if using a stopwatch) or when the timing system is triggered, and finishes when the chest crosses the finish line and/or the finishing timing gate is triggered.

**Results and Discussion:**

This study shows that Soft Ball Players are having better Speed compare to the Base Ball Players

Table-I: Mean values and Independent Samples Test of 50 M Run between Soft Ball Players and Base Ball Players

Variables	Group	Mean	SD	t	P - Value
50 M Run	Soft Ball Players	7.20	0.262	4.58	0.000
	Base Ball Players	7.70	0.408		

\*Significant at 0.05 level

In Table –I the Mean Values of 50 M Run of Soft Ball Players is 7.20 and Base Ball Players is 7.70 The Average Mean of Soft Ball Players in 50 M Run is Faster than the Base Ball Players.

**Conclusion:**

1.It is concluded that Soft Ball Players are having better speed than base Ball players.

2.Conditioning Exercises plays a major role for improvement of speed among Soft Ball and Base Ball Players

**Recommendations:**

1. Similar studies can be conducted on other Events and among females.

2.This study also helps the physical educators and coaches to improve their training regime to excel in Soft Ball and Base Ball

**References:**

Wikipaedia – Soft Ball and Base Ball

www.topendsports.com



## Analyzing, Promoting and Developing Chinese Sports for Overseas Chinese People

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### **Abstract:**

As a special group, Overseas Chinese function as a bridge in the spread of the Chinese and Western sports culture. They have played an important role in raising the international status and level of Chinese Sports, in strengthening the international influence of Chinese national traditional sports, and in raising the competitive level of Chinese Sports. They are an integral part in the sports history of China and even of the world.

Key words:Overseas Chinese; Sport; Promote; Development; Function analysis

### **Introduction:**

Overseas Chinese and ethnic Chinese, now distributed in more than 100 countries and regions in the world, have so many people and can be called the world's largest part. Sports, with its special affinity and influence, have become a kind of need for overseas Chinese survival and consolidation. It is a way for Overseas Chinese self-development and success, a method for Overseas Chinese involvement in the local culture and politics, and a carrier both for Overseas Chinese association with their motherland and promotion of Chinese national culture. It also embodies the strong national cohesion all the time. Either in the past or in the present, overseas Chinese and ethnic Chinese have made outstanding contributions for the sports development of China and even of the world. They always function as a bridge for the sports cultural exchange of eastern and western countries and provide a communication platform for spreading the Chinese national sports and for introducing western modern sports.

I. Actively participate in the international sports organizations exchanges, to improve the international status of Chinese sports:Today, the position and prestige of China and the indispensable part of Chinese sports in the international sports world is closely related to the overseas Chinese and ethnic Chinese efforts. The leap, which from " Sick man of East Asia" to hosting the highest event the Olympics, from having been excluded by the international sports world to having the legitimate seat and serving the important position in the International Olympic Committee(IOC) and other international federations, obviously penetrates the overseas Chinese pure hearts for their motherland: Mr. Fokyingtung of Hong Kong, using his favorable conditions as the vice president of Asian Football of Confederation and FIFA's executive committee, has played a key role in striving for restoring the legitimate seat of Asian Football of Confederation in the 7<sup>th</sup> Asian Games in 1974 and also has prompted for restoring all the legitimate seats in the following single organization conference in Asia. In 1979, with Mr. Fok's great efforts, a major breakthrough, which FIFA restored the legitimate seat of the football association of the People's Republic of China, opens up the channel for Chinese legitimate seat in the International Olympic Committee(IOC) and other international federations comprehensively and lay the foundation for establishing the status of China in the international sports world. In 1988, in the name of Chinese Olympic committee, Mr. Fok donates \$1 million to the international Olympic committee (IOC) museum<sup>[1]</sup>that is the only huge withdrawal for the Olympic committee, which improves the position and prestige of the Chinese Olympic committee in the international Olympic committee(IOC).

II. Actively spread eastern and western sports culture, to enhance the international influence of Chinese SportsFrom the ancient China to today, overseas Chinese have made outstanding contributions to the development of Chinese sports. In modern China, many sports are from overseas Chinese, like running, volleyball, basketball and badminton. These exotic flowers and rare herbs grow in foreign countries. It is the overseas Chinese full of deep feeling that transplant them to ancestors living in homeland, and carefully watering, which makes the hometown of overseas Chinese sports present a riot of color vision. At the beginning of the founding of new period of China, Southeast Asian countries especially in Indonesia, a number of overseas Chinese athletes and coaches go to the north to enhance the Chinese

badminton level rapidly. Tang Xianhu, Wang Wenjiao, Chen Fushou, Houjiachang, Liang Qiuxia, Chen Yuniang all these names have recorded in Chinese sports history forever. In their lead, Guangdong and Fujian emerge a number of sports town: such as Zhongshan Guangdong is known as "the hometown of sports", Taishan is known as "the hometown of volleyball", Meixian is known as "the hometown of football", Dongguan is known as "the hometown of swimming" and "the hometown of weightlifting", Putian Fujian known as "the hometown of track and field", Jinjiang is known as "the hometown of basketball" and so on. With time going by, they are like trickles gradually merging into a river, which achieve today's excellent performance of Chinese athletes in the international arena.

Moreover, overseas Chinese fully embody the national spirit for spreading the Chinese traditional sports culture, which makes Chinese sports join hands with the world and promotes the development of the world sports. With the local influence, they have set up all kinds of sports organizations to carry forward the Chinese traditional sports: modern martial arts are spreading by martial arts association and international martial arts communication in the world. Such as the martial arts association for the advancement of China in Austria and Chinese Martial Arts Association in France, which they take it as their duty to spread the Chinese martial arts, with the purpose of "strengthening the study and research of Chinese martial arts, widely unites Chinese martial arts enthusiasts and promote the prosperity and development of Chinese martial arts"; Brazil's overseas Chinese go association devotes to improving the level of chess through communicating and comparing notes after the match in order to promote the Chinese go culture and active Chinese cultural life; and Chinese chess association of Peru aims at carrying forward the Chinese chess, pursuing and purifying the essence, expanding the influence and spreading Chinese culture. Furthermore, the national sports such as flying kites, kicking shuttlecock, dragon-boat racing, lion dance and dragon dance, are widely popular among the local Chinese community. Dragon-boat racing, lion dance and dragon dance, in particular, have been beyond the Chinese scope of activities and have gradually become the common sports culture among the ethnic Chinese and local people and even the world. For example, the annual Hong Kong international dragon boat race has began since 1976, with its unique competition and entertainment, has become an international sporting event and attracted athletes from all continents to participate the race. Known as the Lion City, Singapore, has been the proof of the widespread of the Chinese Lion dance, whose development has gone beyond China and has become an important part for Singaporeans to welcome and see off guests. Driven by the overseas Chinese and ethnic Chinese, Chinese traditional sports culture has influenced and fit into the local sports culture and spread the sports spirit of Chinese nation with its unique charm.

III. Actively donate sports facilities and sporting events, to promote the progress and development of Chinese sports: Overseas Chinese concern and support the Chinese sports cause, which mainly reflects in donating sports facilities, sporting events and other aspects, such as the 2008 Beijing Olympic stadium National Aquatics Center "Water Cube", which is a "Crystal Palace" cemented with love by overseas Chinese. It has received more than 930 million Yuan donations from 35 hundred thousand overseas Chinese, Hong Kong and Macao compatriots of 102 countries and regions, becoming a landmark building, which is contributed by overseas Chinese for Olympics. However, the worldwide Chinese who love our Chinese sports are praised for overseas Chinese banner by Mao Zedong in modern China. National glorious patriotic overseas Chinese, represented by Tan Kahkee, who invested nearly one hundred million dollars in saving on education and he considered national healthy recovery as precondition to promote education. At the beginning of Jimei and Xiamen University was founded, he invested heavily in sports facilities, for example, successively built sports ground and stadiums in Xiamen University, including athletic field, football field, volleyball court, tennis court, swimming pool, Kung Fu center, ping-pong ball sports hall and so on. Meanwhile, Mr. Chen also strongly support the development of athletic competitions, such as Jimei was built by him. Until its 20th anniversary in 1933, it has held 12 large-scale sports meetings. He himself has long been honorary president of Jimei school sports meeting. In 1920, he sponsored most of funding for the first games in Fujian Province. But now, as representative of the President of the Hongkong Chinese General Chamber of Commerce and vice-chairmen of the CPPCC, Mr. Fok loves athletics and donates sums of money to support the country's sports career in recent years. For instance, in 1978, he donated money to build the first professional sports museum --- China sports museum and it is the second largest sports museum after the Olympic museum; in 1990, he donated HK\$1 billion to Beijing Asian Games, building a 5000-seat Ying Tung Natatorium; in order to improve the international status of Chinese Women's Football, he sponsored international women's invitational tournament and the first World Women's Championship; in 1933, he spent sums of money to

reward Chinese elite athletes, those who achieved excellent successes in Barcelona Olympic Games, and he also supply nearly one million Yuan training funds to the "Ma jiajun" long-distance running team, etc. There are still a few overseas Chinese like Tan and Fok who worry about the development of Chinese sports and Olympic movement and make their contributions. They are Chen Zhange, Hu Wenhui, CengXianzi and so on. The selfless dedication of numerous Chinese write a brilliant booming history to Chinese sports and even the world.

IV. Play an active part in sports events, introduce the concept of fairy competition, as well as enhance the competitiveness of sports: Overseas Chinese vigorously improve the international status of Chinese sports in politics and economy, in the meantime, they actively devoted themselves to sports events and practice, enhancing the ability of sports competition, leaving something legendary to the Chinese sports history. They use their own wealth and influence to invite and finance our domestic sports delegation to take part in the games abroad or go for a visit. They create many tops together with the athletes as well as win the glory of sports and activate the national spirit: The basketball team of Chinese defeat American, which is raised by overseas Chinese Lin Zhuguang and based on the Philippine Chinese team, has invited Shanghai team to participate in. They win five out of eight games against the United States and are praised by the overseas Chinese. Singapore overseas Chinese Hu Wenhui finances Jinan University football team to visit as well take part in the football game [3], in 1932 and 1936, receive and finance the Chinese sports delegation to take part in the Olympic Games [4] and so on, showing a strong patriotic spirit as well as reflecting the glorious national cohesion.

However, as many excellent players return home, to devote to the advantage and characteristic of the project in homeland, they have laid the foundation to improve the competitive level of our country sports as well as shorten the gap with other leading international sports countries. As the excellent swimmer Wu Chuanyu wins the first championship in major international competition; also, RongGuotuan has won Chinese first table tennis men's singles world champion. Furthermore, not only does the weightlifter Huang Qianghui break the world record for the lightweight clean & jerk for many times, but also train a batch of outstanding players as a coach later, 5 of whom 11 times break the world records. He is awarded the national sports medal of honor. Besides, such as Tang Xianhu (badminton, Indonesia), Lin Huiqing (table tennis, Indonesia), RongZhixing (football, India), Liu Tinghuai (gymnastics coach, Indonesia), Lou Dapeng (such as the Chinese Olympic committee, UK), and some of them still play an active way as a coach or sports officials, cultivating a batch of world-class players for our country, making China a leading country of the project all over the world. After that, there are some other Chinese coaches and athletes active all over the world, which can be said to be the country's "sports delegation". They won honor for the country: such as the United States women's figure skater GuanYing, Indonesian badminton player Wang Lianxiang, American tennis player Zhang Depei. The representative figures of Beijing Olympic Games such as American volleyball coach Lang Ping, Canadian fencer Luan Qiuju, they are not only the pride of their countries, but also the pride of the Chinese descendant group.

What is much more important is that they bring in the open and fair competition idea to their homeland[5]. China is a country full of conventions, and it has been in very unequal feudal society for thousands of years. The rigid class system has a great impact on Chinese sports competition. Those who mentioned before have presented an entirely different idea of sports. That is just, fair and open. This idea helps China to get rid of dead wood and brings China to a new period of sport.

Overseas Chinese and ethnic Chinese is a special group of people. They spread both Chinese and western sport culture; they carry forward the traditional sport of China, and they make a great contribution to Chinese sports cause, even the global sports cause and the peace of whole human being.

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## Kriya yoga, on the Art of Breathing that Unifies Soul with Mind through the Sentient Body

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### **Abstract:**

The word *Kriya* is composed of two syllables, *kri* and *ya*. In Sanskrit, *kri* means *karma dhatu*- action of the elements, and *ya* stands for Soul or Atma. Thus the word *Kriya* indicates action of the Soul or prana karma.

Patanjali gives a description of Kriya Yoga in the second chapter of the ancient text on yoga called the Yoga Sutras of Patanjali. According to his interpreters, (of Yogananda, among others) he meant that "Liberation can be attained by that *pranayama* which is accomplished by disjoining the course of inspiration and expiration".

Accordingly, it is inferred that Krishana refers to Kriya Yoga stating in Bhagavad Gita the following: Offering inhaled breath into the outgoing breath, and offering the outgoing breath into the inhaled breath, the yogi neutralizes both these breaths; he thus releases the life force from the heart and brings it under his control. (Bhagavad Gita IV:29).

Firstly my paper is investigating the theoretical and practical ways of how Kriya Yoga consists of body discipline, mental control, and meditating on Aum. Secondly I discuss a general nature and workings of *pranayama* in yoga system as a whole, to proceed to Kriya yoga characteristic way of working with breathing.

This includes referring to chakra system, as the practice of Kriya yoga is based on breath and the spinal cord. In addition the Hindu (meaning The Vedic teaching) concept of man's physical-spiritual structure is presented to get to full understanding of Kriya workings in the human being.

## Harmonious Society under the Perspective of Women and Sports

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**Abstract:**

From the historical process of women participation in the Olympics, this article systematically analyze the impact of sports on women and provides a theoretical basis of the role of women in sports Without men, the world is weak, without women, the world is bleak. This article takes the historical perspective of women participation in Olympics to explore the relationship between women and sport. And it attempts to raise the public attention on the role of women so as to promote the development of women's sport.

Key words: Olympics, Women Sports

**Past, Present, Future of Sports Science in Korea  
-Focusing on Korea Institute of Sport Science (KISS)-**

**Yong-Koo, Noh  
(Korea Institute of Sport Science)**

**Abstract:**

The presentation discusses the role of sport science in the sport society in Korea. As a national organization for sport science, industry, and policy, Korea Institute of Sport Science (KISS) is committed to establish and apply sport science in many areas, including elite sport, sport for all, physical education in schools, and so on. Furthermore, KISS provides supports for the enhancement of international competitiveness of Korean athletes in cooperation with Korean Olympic Committee (KOC), sport federations, universities and sport research institutes.

KISS has been chosen as a UNESCO chair sport institute starting from 2012. The primary purpose of UNESCO chair program of KISS is to develop the sound and healthy youth through sport activities. Under the UNESCO chair program, KISS conducts scientific research in areas, such as exercise physiology, sport psychology, sport sociology, sport pedagogy and so forth, and develops and provides a variety of educational programs. Additionally, KISS builds a global network around the world.

## A Study On Effect Of Aerobic Dance And Plyometric Training On Motor Ability Of Cricket Players

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### **Introduction:**

Aerobic respiration is where energy is made using oxygen. This happens in activities such as running marathon. Anaerobic respiration is where energy is made in the absence of oxygen. It's only a short term way of producing energy quickly i.e. during 10 sec sprint. **Aerobic dance:** since 1970s the practice of aerobics namely aerobic dance workouts have been growing worldwide. Aerobic dance work outs and exercises help to improve cardiovascular capacity by increasing the overall use of oxygen in our body and allowing the heart to work with full efficiency and capacity with less effort. These aerobic workouts that done for exercise not only provide health fitness but provide improved overall level of consciousness and alertness, decreased stress level, increased cardiopulmonary health intolerance against disease and infection. Plyometrics or stretch-shortening cycle exercise became popular during the late 1970s early 1980s primarily for improving jumping ability, proposed to bridge the gap between speed and strength training. Plyometrics use the strength reflex to facilitate recruitment of motor units. It also stores energy in elastic and contractile components of muscle during the eccentric contraction (stretch) that can be recovered during the concentric contraction. As an example to develop knee extensor muscle strength (human kinetics, sports physiology) plyometric consists of a rapid stretching of a muscle (eccentric action) immediately followed by a concentric or shortening action of the same muscle and connective tissue (Baechle&earle, 2000)

### **Objective of the study:**

The main objective of the study was to investigate the “effect of aerobic dance and plyometric training on improving the motor abilities of cricket players”.

### **Methodology:**

Ninety male participants were selected as subjects for the present experiment. Participants were randomly selected from a summer cricket coaching camp at Hyderabad. Their age between 14 to 19 years. Subjects were divided in to three groups for the study, plyometric group, aerobic dance group and control group. Group consists of thirty participants. During the experiment participants were involved in plyometric and aerobic dance training sessions. The experiment consists of two test sessions (pre and posttest). Pre tests were performed two days before the beginning of the training protocol. Eight-week long periodized plyometric training and aerobic dance training was applied, weekly tries alternate days, followed by posttests, two days after the last training session. During the experiments all participants continued their regular cricket training routine that was identical for every participant, except two groups participated in the additional plyometric and aerobic dance training program, and the controls did the pretests posttest .control did not take any training.

Table 1 Demographic data. Data are means ( $\pm$ SD).

	control group	aerobic dance group	plyometric group
age(yrs)	15.13(1.52)	15.23(1.52)	16.8(1.8)
hight(m)	1.49(0.13)	1.59(0.11)	1.59(0.09)
weight	37.40(9.82)	42.17(7.89)	45.93(10.33)

Five motor ability tests were conducted before and after the training protocol. Speed, Strength, Agility, Flexibility and Endurance. Tests were conducted before and after the training sessions.

Motor ability	Test conducted
Speed	50 mts flying start
Explosive Strength	Standing broad jump
Flexibility	Standing bend and reach
Agility	Illinois agility test
Endurance	800 mts

**Discussions:**

In our findings we find that plyometric training effects on the speed, strength (explosive strength), and agility. Plyometric training bring significant improvement(0.01 Level) in these three variables. Plyometric training not bring significant effect on other variables flexibility, endurance. Aerobic dance training bring little bit improvement in all variables. In these eight weeks of training we find that aerobic dance improves the basic fitness of cricket players. Aerobic dance training was not improve the skill related ability. In fact relevant literature show that aerobic dance training improves basic fitness. Compare the difference between both plyometric, aerobic dance training plyometric training bring significant improvement in speed, strength (explosive strength), and agility, both trainings not bring the any significant difference in flexibility, endurance.

**Conclusions:**

The results from our study are very encouraging and demonstrate the benefits of plyometric and aerobic dance training improve the motor abilities of the cricket player. Not only can athletes use plyometric training but also the aerobic dancing to break the monotony of training. Through these training protocols the athletes improves their motor abilities while working to become more agile. The results reveal that the aerobic dance training improves the basic fitness of the participants. Plyometric training improves the motor abilities of the participants.

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Table no. 1.1 summary of the 2x2 ANOVA for Self-confidence

Source	SS	df	MS	F	Sig.
Type of Students	2294.410	1	2294.410	45.156	.000
Sex	28.090	1	28.090	.553	.458
Type of Students * Sex	6955.560	1	6955.560	136.89	.000
Total	241920.0	400			

The table shows that subjects from sports background differ significantly among themselves on the dependant variable achievement motivation. A summary of two way ANOVA shows that main effect area is highly significant ( $F= 172.47$ ,  $df 1$  and  $396$ ,  $p < .01$ ). According to these result hypotheses no.2 there will be significant difference of achievement motivation among students of both engaged in sports and non-sports is accepted.

Table 1.2 summary of the 2x2 ANOVA for Achievement motivation

Source	SS	df	MS	F
Type of Students	58298.102	1	58298.102	172.477
Sex	45432.923	1	45432.923	134.415
Type of students * Sex	208.803	1	208.803	.618
Error	133849.650	396	338.004	
Total	7828641.000	400		

### Conclusion:

The results indicate that sport activity is positively impact on students' self-confidence and achievement motivation.

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## A Study Of Aggression And Mental Health Among College Students

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### Abstract:

Present research to study of Aggression and mental health among sportsman and non-sportsman college students. By employing a sample of 100 subject in which 50 subject were from playing at least district or state level various games. And 50 were selected from those students who was not playing games and only attending classes. All subjects included in the study from Jalna district from various college and various sports groups. The first dependant variable Aggression was measured by standardized test. This questionnaire developed by Dr. G.C.Pati. And second standardized tool was Mental Health Inventory developed by Dr. Jagdish and Dr. Srivastava. After analysis of the data following results was drawn. Subjects from sportsman and non-sportsman differ not significantly among themselves on the dependant variable aggression. A summary of two way ANOVA shows that main effect Type of students is not significant ( $F= 1.70$ , df 1 and 96,). Subjects from male and female college students differ significant among themselves dependent variable aggression. A summary of two way ANOVA shows that main effect gender is differ significant ( $F= 9.73$ , df 1 and 96,). Subjects from sports background differ significantly among themselves on the dependant variable mental health. A summary of two way ANOVA shows that main effect college students is significant ( $F= 4.13$ , df 1 and 96,  $p < .05$ ). Subjects from male and female college students differ not significant among themselves dependent variable mental health. A summary of two way ANOVA shows that main effect gender is not significant ( $F= 1.98$ , df 1 and 96,).

### Introduction:

Team sports are those in which a person does not play alone, but plays as a team. Though many people consider that team sports are better because the whole team has to play and win games as a unit, the other thought is that the individual sports are better. This is mainly because of the fact that the individual sports are those in which the person can play alone and the talent of one person is known to the whole world. On the other hand, in case of a team game, the whole team has to perform well for a positive result. Most recently, the field of Global Mental Health has emerged, which has been defined as 'the area of study, research and practice that places a priority on improving mental health and achieving equity in mental health for all people worldwide'. *The concept of mental health originated early in the presence century. Sports have emerged in modern society as an institution with patterned relationship that disseminate and transmit social values.*

Objective of the study:

To study Aggression among sportsman and non-sportsman college students, among male and female college students, Mental Health among sportsman and non-sportsman college students and Mental Health among male and female college students.

Hypothesis of the study:

There will be no significant difference of aggression between sportsman and non-sportsman college students. There will be no significant difference of aggression between male and female college students. There will be no significant difference of mental health between sportsman and non-sportsman college students. There will be no significant difference of aggression between male and female college students.

### Methodology

Variable: I) Independent variable:

- a) College students:    i) Sportsman    ii) Non-sportsman
- b) Gender:                i) Male                ii) female

II) Dependent variable: a) Aggression    b) Mental Health.

Design: 2 X 2 balance factorial design was used.

According to the purpose of present study 100 samples has selected. Total sample selected random sampling method. There are 50 girls and 50 boys included. All sample selected from various college in Jalna District. The subjects were from age range 18 to 25.

Tools:Aggression Questionnaire. This questionnaire developed by Dr. G.C.Pati. In this questionnaire consist of 16 questions. Mental Health Inventory: This inventory developed by Dr. Jagdish and Dr. A.K. Srivastava.

### Results and Discussion:

Table no 1:Complete Summary of Two Way ANOVA for dependent variable Aggression

Source	Ss	df	Ms	F
College students	28.66	1	28.66	1.70
Gender	163.34	1	163.34	9.73**
A X B	3.33	1	3.34	0.19
Within Error	1611.20	96	16.78	

Significant level (1, 96) at the 0.01level=6.90.

Significant level (1, 96) at the 0.05level=3.80.

The table above shows that is not significant difference in Aggression among college students of sportsman and non-sportsman. Result of the 'F' test comparisons of groups formed on the basis of college students and sex present in the table no.1 when college going students of sportsman and non-sportsman are compared on Aggression 'F' ration of 1.70 where obtained.

Second variable of this study gender shows that F ratio 9.73 is significant at the level of 0.01.there was 2<sup>nd</sup> hypothesis;' There will be no significant difference of aggression between male and female college students was rejected. Table no 2:Complete Summary of Two Way ANOVA for dependent variable Mental Health.

Source	Ss	df	Ms	F
College students	140.22	1	140.22	4.13*
Gender	67.34	1	67.34	1.98
A X B	36.55	1	36.55	1.08
Within Error	3251.32	96	33.87	

The table above shows that is not significant difference in Mental Health among college students of sportsman and non-sportsman. Result of the 'F' test comparisons of groups formed on the basis of college students and sex present in the table no.2 when college students of sportsman and non-sportsman are compared on Mental Health 'F' ration of 4.13 where obtained. There was 3<sup>ed</sup> hypothesis 'There will be no significant difference of mental health between sportsman and non-sportsman college students.' is rejected.Second variable of this study gender shows that F ratio 1.98 not is significant both the level there was 4<sup>th</sup> hypothesis;' There will be no significant difference of Mental health between male and female college students was Accepted. In the summary of ANOVA table no. 2 shows that the interaction effect A x B (F= 1.08, df 1, 96) was not significant.

### Conclusion:

There is no significant difference of aggression between sportsman and non-sportsman college students,significant difference of aggression between male and female college students,significant difference of mental health between sportsman and non-sportsman college students and significant difference of mental health between male and female college students.

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## Impact Of Video Gaming On The Physical And Mental Abilities Of Young Children And Adolescents

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### **Introduction:**

The gaming industry is undeniably the biggest player in world economy today. Thanks to the revolution in communication technology the smart phone has not just made communication easier and simpler like never before but also brought with its loads of enthralling video games like the *Angry Bird*, *Temple Run*, *Kill the Zombies*. Most parents and psychologists have begun to worry about the possible ill-effects such games can have on children and adolescents, especially video games like *Predator*, *Assassins Creed*, *Dead Pool*, etc. that thrill the player with violence and destruction. In fact some experts in child psychology and in the media believe that such violent games corrupt the mind and train the young people to become violent and sometimes even commit extreme anti-social behaviour. However, not all news is bad news. According to psychologist C. Shawn Green at the University of Wisconsin "Video games change your brain." Playing video games change the brain's physical structure the same way as do learning to read, playing the piano, or navigating using a map. Much like exercise can build muscle, the powerful combination of concentration and rewarding surges of neurotransmitters like dopamine strengthen neural circuits that can build the brain. Video gaming can actually be a real workout for the brain because the skills required to win involve abstract and high level thinking; skills that are not taught at school! The following are some of the physical and mental skills enhanced by video games:

#### **Problem Solving and Logic:**

The brain gets trained to solve puzzles and other problems like *The Incredible Machine*, *Angry Birds* or *Cut the Rope*, in creative ways. Children get sense of logic all that do and say.

**Hand-eye coordination, fine motor and spatial skills:** Playing shooting games one needs to have eye-hand coordination. Because players in shooting games will be running and shooting jumping, tucking, sliding, the character may be running and shooting at the same time. The eye-hand coordination plays crucial at times when enemy attacks from all directions. The players need to be alert and active with their hands on the controls for offensive and defensive skills. This will keep the players from being killed or defeated. This process requires a great deal of eye-hand coordination and visual-spatial ability to be successful. Research also suggests that people can learn iconic, spatial, and visual attention skills from video games. There have been even studies with adults showing that experience with video games is related to better surgical skills. Also, a reason given by experts as to why fighter pilots of today are more skilful is that this generation's pilots are being weaned on video games. Driving schools have installed simulation machines where the real life road traffic situations are created for better understanding of the driving skills.

#### **Multitasking, simultaneous tracking of many shifting variables and managing multiple objectives:**

In strategy games, for instance, while developing a city, an unexpected surprise like an enemy might emerge. This forces the player to be flexible and quickly change tactics. For this game developer will give a three dimensional view of the camera, which helps the player estimate and understand the players situation and plan a strategy. Cognitive researcher Daphne Bavalier talks about how video games can help us learn focus and, fascinatingly, multitask.

**Quick thinking, making fast analysis and decisions:** Video games develop fast thinking, analysing the situation, and fast spot decision making. According to researchers at the University of Rochester, led by Daphne Bavelier, a cognitive scientist, games simulating stressful events such as those found in battle or action games could be a training tool for real-world situations. The study suggests that playing action video games trains the brain to make quick decisions and thus video games can be used to train soldiers and surgeons too. Importantly, decisions made by action-packed video game players are no less accurate. According to Bavelier, "Action game players make more correct decisions per unit time. If you are a surgeon or you are in the middle of a battlefield that can make all the difference."

**Accuracy:** the world around us is fast growing and fast changing. You cannot afford to be left behind. So one needs to develop speed and accuracy in everything you do. Action games, according to a study by the University of Rochester, train the brains of players to make faster decisions without losing accuracy

**Strategy and anticipation:** Steven Johnson, author of *Everything Bad is Good For You: How Today's Popular Culture is Actually Making Us Smarter*, calls this "telescoping." Players need to anticipate every move of the opponent and make a new strategy or alter the present one he has in mind.

**Situational awareness:** *Defence News* recently reported that the Army include video games to train soldiers improve their situational awareness in combat. Playing strategy games improve situational awareness and train them to adapt to the environment in which they are placed far more quickly than they would otherwise.

**Developing reading and math skills:** youth who show reluctance in attending maths classes, do a lot of calculations without their knowledge while playing video games. To understand the game and tools and strategies available, they first read the instructions and literature given along with any game and get information from the game texts. Also, using math skills is important to win in many games that involve quantitative analysis like managing resources.

**Perseverance:** Failure in reaching the next level in the game actually creates more interest and determination. So the player keeps trying until he succeeds.

**Inductive reasoning and hypothesis testing:** James Paul Gee, professor of education at the University of Wisconsin-Madison, says that playing a video game is similar to working through a science problem. Like students in a laboratory, gamers must come up with a hypothesis. For example, players in some games constantly try out combinations of weapons and powers to defeat an enemy. If one does not work, they change hypothesis and try the next one. Video games are goal-driven experiences and Therefore fundamental to learning.

**Mapping, Memory and Concentration:** The player starts planning, mapping and memorising the rules of the game. According to a study published in *Psychological Research* playing first person shooter games such as *Call of Duty* and *Battlefield* series enables players to effectively judge what information should be stored in their working memory and what can be discarded considering the task at hand. A study conducted by the Appalachia Educational Laboratory reveals that children with attention-deficit disorder who played *Dance Dance Revolution* improved their reading scores by learning to concentrate.

**Improved ability to rapidly and accurately recognize visual information:** A study conducted at Beth Israel Medical Centre New York found a direct link between skill at video gaming and skill at keyhole, or laparoscopic surgery. Players do not take much time reading and comprehending the information and strategy. They thoroughly understand the game and its techniques with just a glance.

**Teamwork and cooperation when played with others:** Online players who play certain games all around the world are often required to compete with rival teams. Though they belong to different parts of the world and may have different different cultural backgrounds, they demonstrate abilities like teamwork and cooperation. Many multiplayer games such as *Team Fortress 2* involve cooperation with other online players in order to win. These games encourage players to make the most of their individual skills to contribute to the team. According to a survey by Joan Ganz Cooney Centre, teachers report that their students become better collaborators after using digital games in the classroom.

**Simulation, real world skills:** The most well known simulations are flight simulators, which attempt to mimic the reality of flying a plane. All flight controls, including airspeed, wing angles, altimeter, and so on, are displayed for the player including a visual representation of ground below. And most interestingly, all this information is updated in real time.

Video games can improve children's decision making speed. People who played action-based video and computer games made decisions 25% faster than others without sacrificing accuracy, according to a study from the University of Rochester. Other studies suggests that most expert gamers can make choices and act on them up to six times a second—four times faster than most people, and can pay attention to more than six things at once without getting confused, compared to only four by the average person. Surprisingly, according to cognitive neuroscientist Daphne Bavelier, who studies the effect of action games at Switzerland's University of Geneva and the University of Rochester in New York the violent action games that often worry parents most have the strongest beneficial effect on the brain,.

Video games that require children and adolescents to be active, such as *Dance Revolution* and *Nintendo Wii Boxing* give them a good workout. When playing these active games for 10 minutes, children spend energy equal to or exceeding that produced by spending the same amount of time on three miles an hour treadmill walk. Video games help children with dyslexia read faster and with better accuracy, according to a study by the journal *Current Biology*. In addition, Spatial and temporal attention also improved during action video game training. Attention improvement can directly translate into better reading abilities.

A study done by researchers at North Carolina State University, York University and the University Of Ontario Institute Of Technology concluded that playing online games do not replace offline social lives, but is expanding it. Loners are a rarity in gaming, not the norm. A 2013 study by the Berlin's Max Planck Institute for Human Development and St. Hedwig-Hospital found a significant gray matter increase in the right hippocampus, the right prefrontal cortex and the cerebellum of those who played *Super Mario 64* for 30 minutes a day over two months. These regions of the brain are crucial for spatial navigation, strategic planning, working memory and motor performance. Indeed, the increased gray matter in these parts of the brain is positively correlated with better memory. Decreased gray matter is correlated with bipolar disorder and dementia. What's also striking is that those who enjoyed playing the game have a more pronounced gain in gray matter volume. The study suggests that video game training could be used to counteract known risk factors for smaller hippocampus and prefrontal cortex volume in, for example, post-traumatic stress disorder, schizophrenia and neurodegenerative disease.

#### **Conclusion:**

Playing strategic video games improve the gray matter in the brain. They develop strategic and tactical understanding rational thinking of any situation. It improves comprehensive skills, teaches teamwork and fraternity. Playing video games develop analytical skills and ideas that are necessary to overcome the immediate problem as well as distant problems. They provide a lot of recreation to the mind. Playing video games helps develop body reflexes and reaction time. There seems to be convincing evidence that playing games enhances problem-solving skills and improves creativity. "Among a sample of almost 500 12-year-old students, video game playing was positively associated with creativity." The same results were not true when kids interacted with other kinds of technology. Allowing children to play video games is for their own benefit. Restricting children from playing video games may be too simplistic and may actually lead to loneliness and isolation. Studies reveal that 70% of gamers play their games with a friend, either cooperatively or competitively. Therefore its time adults kept their apprehensions about gaming at bay and allowed their young ones to explore the magical world of gaming.

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## **Significance Of Physical Fitness & Physiological Traits Amongranga Reddy & Hyderabad District Foot Ball Players – A Study**

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**Lanka Shailaja**  
**V.Shanta**

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### **Introduction**

Physical fitness refers to the capacity of an athlete to meet the varied physical demands of their sport without reducing the athlete to a fatigued state. Physical fitness has been defined as a set of attributes or characteristics that people have or achieve that relates to the ability to perform physical activity. Cardiovascular function is important in supplying the muscles with fuel and oxygen, the more efficient the cardiovascular function, the longer a person will be able to sustain work. It represents the ability of the circulatory, respiratory, and other system of the body to put forth and extended and persistent effort. Cardio vascular function is regarded as the most important of the basic components of health and performance related physical fitness, the benefits that are derived from improved cardiovascular function, such as the potential it has for preventing circulatory diseases improving work capacity, and providing greater distance from fatigue this component if properly developed can render a major contribution to and individuals health. The study is to determine whether any significance difference between Ranga Reddy District and Hyderabad District foot ball players in relation to their Physical fitness and Physiological traits.

### **Methodology**

The study was formulated based on the simple random sampling. The samples were collected from the 50 Foot ball players in the age group of 18 – 20 years from Ranga Reddy District and Hyderabad District was considered.

### **TOOLS USED:**

The present study under investigation selected the following physical fitness activities and test performed on physiological aspects.

### **Physical Fitness**

Endurance (Cooper Test 12 Minute Run / Walk) and Agility (4x 10Mts Shuttle Run).

### **Physiological Traits**

The Harvard Step test (Pulse Rate – 1 minute), Breath Holding Time (1 minute).

### **Data Collection Procedure**

The subjects of the study were in the age group between 18 to 20 years, 50 football players Of Ranga Reddy District and 50 football players of Hyderabad District players were considered. The study is delimited for the Hyderabad District football & Ranga Reddy District football players. The researcher has collected the data separately for Hyderabad District foot ball players and Ranga Reddy District football players. The subjects were tested in two categories of Physical Fitness i.e. Endurance (Cooper Test 12 Minute Run / Walk) and Agility (4x 10Mts Shuttle Run) and Physiological Traits i.e. The Harvard Step test (Pulse Rate – 1 minute), Breath Holding Time (1 minute).

### **Results And Discussions:**

**Table: 1** showing that the significant difference between Ranga Reddy District and Hyderabad District Foot ball Players in relation to their Cooper Test 12 Minute Run (Endurance) are presented.

Sl. No.	Subjects	N	Mean	SD	df	t-value	p-value
1	Ranga Reddy District	50	1980	288.56	98	4.01	0.001
2	Hyderabad District	50	2195	239.95			



**Discussion:**

Table-1 shows the mean, standard deviation, degrees of freedom, t-value and significance between Ranga Reddy District and Hyderabad District foot ball Players in relation to their **Endurance**. The mean value of Ranga Reddy District was 1980, standard deviation was 288.56 and the mean value of Hyderabad District was 2195 and standard deviation was 239.95. The obtained t-ratio was 4.01, which was found to be significant at 0.001 levels.

**Table: 2** showing that the significant difference between Ranga Reddy District and Hyderabad District Foot ball Players in relation to their 4x 10Mts Shuttle Run Agility is presented.

Sl. No.	Subjects	N	Mean	SD	df	t-value	p-value
1	Ranga Reddy District	50	12.11	0.71	98	5.99	0.001
2	Hyderabad District	50	11.43	0.36			

**Discussion:**

Table-2 shows the mean, standard deviation, degrees of freedom, t-value and significance between Ranga Reddy District and Hyderabad District foot ball Players in relation to their **Agility**. The mean value of Ranga Reddy District was 12.11, standard deviation was 0.71 and the mean value of Hyderabad District was 11.43 and standard deviation was 0.36. The obtained t-ratio was 5.99, which was found to be significant at 0.001 levels.

**Table – 3** Showing the Mean Values, SD, df, ‘t’ value and p-value between Ranga Reddy District and Hyderabad District football players in relation to their pulse rate.

Sl. No.	Subjects	N	Mean	S.D.	df	‘t’ ratio	P value
1.	Ranga Reddy District	50	112.33	1.64	98	2.32	0.00
2.	Hyderabad District	50	134.42	2.86			

**Discussion:**

Table-3 shows the mean, standard deviation, degrees of freedom, t-value and significance between Ranga Reddy District and Hyderabad District foot ball Players in relation to their **pulse rate**. The mean value of Ranga Reddy District was 112.33, standard deviation was 1.64 and the mean value of Hyderabad District was 134.42 and standard deviation was 2.86. The obtained t-ratio was 2.32, which was found to be significant at 0.00 levels.

**Table – 4** showing the Mean Values, SD, df, ‘t’ value and p-value between Ranga Reddy District and Hyderabad District football players in relation to their **Breath Holding**

Sl. No.	Subjects	N	Mean	S.D.	df	‘t’ ratio	P value
1.	Ranga Reddy District	50	37.67	4.52	98	2.76	0.01
2.	Hyderabad District	50	34.52	2.12			

**Discussion:**

Table -4 shows the mean, standard deviation, degrees of freedom, t-value and significance between Ranga Reddy District and Hyderabad District foot ball Players in relation to their **Breath Holding**. The mean value of Ranga Reddy District was 37.67, standard deviation was 4.52 and the mean value of Hyderabad District was 34.52 and standard deviation was 2.52. The obtained t-ratio was 2.76, which was found to be significant at 0.01 levels.

Hence it is concluded that there is a slight significance difference was found between Ranga Reddy District and Hyderabad District foot ball players in relation to the their cooper test (endurance) showed in the table: 1 and there is a sleighing significance difference was found between Ranga Reddy District and Hyderabad District foot ball players in relation to their 4 x 10mts shuttle run (agility) shown in the table 2. It is hypothesized that the Ranga Reddy District and Hyderabad District have shown better impact on physical fitness and physiological traits of foot ball players.

### **Conclusion:**

In this study all physical fitness involve some level of cardiovascular support, cardiovascular endurance typically refers to the ability of a person to perform activities that raise the heart to a training level and maintain that level for a sustained period of time Endurance may also refer to the ability of the muscle to do repeated work without fatigue. It is also one of the five components of physical fitness. They mostly agreed that physical fitness is very important and that you should be **physically active in younger ages**, because it will have a positive influence as you get older. Every source came to a conclusion that age affect fitness, and physical fitness benefits your life. But keep in mind that exercising to build fitness is not the same thing as working out to improve athletic performance. While each element is a part of being fit, the most vital is cardiovascular endurance. Physiologically, cardiovascular endurance is the sustained ability of the heart, blood vessels, and blood to carry oxygen to the cells, the ability of the cells to process oxygen, and the ability of the blood, once again, to carry away waste products. Since every cell in the body requires oxygen to function, there is no more basic element of fitness than this - to see that the heart, lungs, and circulatory system do their job. Regular exercise improves our cardiovascular health and can even improve our mental health and happiness. Physical fitness relieves stress and can serve as an outlet for frustration. The stress of modern times mandates that you develop and maintain a fit, trim and fully functioning body. Being active and physically fit heightens your self-expression and self-esteem. Healthy living is a combination of many things, including good nutrition, regular exercise and a positive attitude. Taking care of your body and feeling pride in your accomplishments can improve both your physical and mental health.

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## The conflict management strategies among wrestling clubs of Golestan province

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### Abstract

The study of conflict management strategies among wrestling clubs of Golestan province was aims of this article. The research methodology was descriptive-correlational and the data was collected via field procedure. The population of the study consisted of all adult wrestlers with four years of experience in wrestling clubs in Golestan province at the time of research (N=190). The participants of the study were 125 wrestlers who were selected from among the population based on cluster random sampling. The sample size was determined using Morgan table. To assess strategies of conflict management, Putnam's questionnaire (1991) was used. The results showed that, the participants' mean score of conflict management strategies was 3.209, out of the total score 5, with the standard deviation of 0.476. Collaborating strategy with average score of 3.590 and a standard deviation of 0.763, maximum and avoidance strategy with mean score 2.918 and standard deviation of 0.641 was the lowest. And there was a significant relationship between conflict management strategies and the selection of the individual characteristics of subjects.

Key Words: Conflict Management Strategies, Wrestling Clubs,

### Introduction

Sport is full of conflict! Whether it is on or off the playing field, effectively dealing with conflict goes a long way in determining success. Internal team conflict can have a major impact on team dynamics and cohesion. As a coach, learning how to deal with these conflicts can become a major part of us everyday job. Therefore, conflict is a phenomenon which has both positive and negative effects on people's and organization' performance. Appropriate and effective use of conflict can improve the performance and raise an organization's level whereas the inappropriate use of conflict may lead to a lower performance, create conflict and chaos in the organization. Effective use of conflict depends on a complete understanding of its nature, its main causes, and obtaining skill in its control and management which is nowadays considered as an important management skill (Rabinz, 1996). Cetin (2004) holds that if conflict can be properly identified and directed, it can be utilized as one of the most important devices for organizational growth.

Therefore, we can say the sport teams are a kind of organization. Unlike the commonly held belief, the result of a game is not determined on the match day because there are numerous factors involved in the final outcome. A close look at the sports matches and competitions reveals that despite having high levels of capability and potentials, some athletes are not able to manifest their potentials fully due to conflicts with others an issue which leads to a decrease in the team's performance. Considering the fact that different individuals of various potentials and goals work in sport teams, therefore, the presence of conflict among them is a natural phenomenon. Based on the above-mentioned points, the researcher decided to study the conflict management strategies among in wrestling clubs of Golestan province.

### Materials And Methods

With regard to the topic and objectives of the study, the research methodology was descriptive correlational and the data was collected via field procedure. The population of the study consisted of all adult wrestlers with four years of experience in wrestling clubs in Golestan province at the time of research (N=190). The participants of the study were 125 wrestlers who were selected from among the population based on cluster random sampling. The sample size was determined using Morgan table. To assess strategies of conflict management, Putnam's questionnaire (1991) was used.

Both descriptive and inferential statistics were used to analyze the data. Qualitative data was described using percentage and frequency counts and quantitative data was illustrated using measures of central tendency and variability. Besides, based on the objectives of the study and data type, Pearson's correlation coefficient was used as inferential statistics.

### Results

The results of the research showed that 3.2% of wrestlers held master's degree, 15.2% with bachelor's degree and 20.8% with associate in arts' degrees (or technicians) and 60.8% with diploma's degree and less. Their average age was 22.17 years and their standard deviation was 5.701 years of which the oldest trainer was 40 years old and their youngest one was 16 years old. 6/13% of them have had experience in the league tournament. And 6/9% had a history of membership in the national team.

As shown in Table 1, the participants' mean score of conflict management strategies was 3.209, out of the total score 5, with the standard deviation of 0.476. Collaborating strategy with average score of 3.590 and a standard deviation of 0.763, maximum and avoidance strategy with mean score 2.918 and standard deviation of 0.641 was the lowest.

Table 1: Descriptive statistics of conflict management strategies

Variable		Mean	Std. Deviation
Conflict management strategies	Collaborating	3.590	0.763
	Compromising	3.451	0.749
	Avoiding	2.918	0.641
	Accommodating	2.953	0.731
	Competing	3.131	0.802
	Total	3.209	0.476

The data in Table 2 show that there was a significant relationship between conflict management strategies and the selection of the individual characteristics of subjects.

Table 2: Correlation between individual's characteristics and Conflict management strategies

Variable	Variables of individual's characteristics			
	Education	Age	Experience in the league	Membership of national team
Collaborating	-0.285**	0.031	0.278**	0.232**
Compromising	-0.232**	0.023	0.334**	0.176*
Avoiding	-0.031	-0.253**	0.111	0.205*
Accommodating	-0.065	-0.025	0.025	0.043
Competing	0.239**	0.261**	0.268**	0.228*

\*\*Correlation is significant at the 0.01 level

\*Correlation is significant at the 0.05 level

### Discussion:

Making use of the two factors suggested by Blake and Mouton (1964) i.e. "concern for people and concern for production", Thomas (1976) provided 5 strategies for conflict management which include: 1. Collaborating, 2. Compromising, 3. Avoiding, 4. Accommodating and 5. Competing. In order to select the most appropriate strategies, it is necessary to know the consequences of different conflict management strategies. The selected strategy for the management of conflict can be destructive or constructive. The most ideal solution for the settling of conflict is when both parties involved in the conflict feel victorious which is possible through collaboration (Rezaiyan, 2003). In collaborating strategy, the manager focuses on the interest of the persons involved in conflict and therefore, he tries to find a solution which meets both parties' interest in the best way possible (Hellriegel, 1998). On the other hand, the strategy of avoiding in the conflict management indicates an aversion to tension, neglecting the disagreements and taking no sides. In this strategy, the manager pays attention to neither party's interests (Sorenson, 1995). In the competing strategy, the manager tries to impose his own interests on the other party (Kreitner, 2004). In accommodating strategy, the manager prefers the other party's interests to his own (Martocchio, 1995). In compromising strategy, the manager looks for a solution in which both parties involved lose a part of their interests (Kreitner, 2004). Rahim (1992) states that collaborating strategy is the constructive use of conflict while avoiding and competing strategies show the non-constructive use of conflict, however, compromising and accommodating have a mixed use of conflict in management.

Knowing the consequences of conflict management strategies, to choosing the best strategy is important. Optional strategies for conflict management can be destructive or constructive; the best way to resolve the conflict is that both sides in the conflict have won (Rezaeian, 2003). Relation to conflict management strategies wrestling coaches, the results showed that the collaborating strategy with mean  $3.590 \pm 0.763$  (maximum 5 points) is first priority. Due to the cooperation strategy marks a constructive and effective use of conflict, Because of this strategy, the interests of both parties involved in the conflict (coaches and players) are fully funded; thus, although the average level of collaborating strategies is high, but it is necessary that optimizes increase.

Avoidance strategy with mean  $2.918 \pm 0.641$  (maximum 5 points) has the lowest priority. Due to the use of avoidance strategy, indications are non-productive and ineffective conflict. Because this strategy does not meet any of the parties involved of interests in the conflict (coaches and players). Thus, although the use of this strategy is moderate to low, but the need is reduced.

In this connection the results Janani (1389) showed that Iran futsal leagues coaches conflict management strategy are such that compromise and cooperation strategy in moderate level and competition strategy in moderate to high level and avoiding strategy in lower of moderate. While Rahim (1992) argues that use of collaborative strategies is signs of a constructive use of conflict and use of competition and avoidance strategies are signs of an inappropriate use of conflict.

Also in this study, it was concluded that demographic characteristics were significantly relationship with conflict management styles. This finding is consistent with the findings of Dilaver (2005). He concluded that Educational level of an organization is a major deterrent to establishing a correct relationship between them. People with higher educational levels than those with low education among professional groups are faced with less conflict.

The results showed that there was no significant correlation between age and conflict management styles. This finding is consistent with the findings of Ootez and colleagues (2005). During their research they found that older people use more than younger people of compromising style in dealing with conflict. In short, it can be concluded that the conflict in sport teams is an inevitable issue which can have positive or negative impacts on the teams' performance. The effective and positive use of the conflicts requires effective management of the players' conflicts.

#### **Acknowledgment**

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## Cultural Dances in India

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### Introduction:

Dance in India comprises the varied styles of dances in the country. As with other aspects of Indian culture, different forms of dances originated in different parts of India, developed according to the local traditions and also imbibed elements from other parts of the country. *Sangeet Natak Akademi*, the national academy for performing arts, recognizes eight distinctive traditional dances as Indian classical dances, which might have origin in religious activities of distant past.

Folk dances are numerous in number and style, and vary according to the local tradition of the respective state, ethnic or geographic regions. Contemporary dances include refined and experimental fusions of classical, folk and Western forms. Dancing traditions of India have influence not only over the dances in the whole of South Asia, but on the dancing forms of South East Asia as well. Dances in Indian films are often noted for their idiosyncrasies, and hold a significant presence in popular culture of the Indian

In Hindu mythology, dance is believed to have been conceived by Brahma. Brahma inspired the sage Bharata Muni to write the *Natyashastra*, a treatise on performing arts, from which a codified practice of dance and drama emerged. He used *pathya* (words) from the *Rigveda*, *abhinaya* (gestures) from the *Yajurveda*, *geet* (music) from the *Samaveda* and *rasa* (emotions) from the *Atharvaveda* to form the *Natyaveda* (body of knowledge about dance). The best-known of Hindu deities—Shiva, Kali and Krishna—are typically represented dancing. Shiva's cosmic dance, *tandava*, Kali's dance of creation and destruction and Krishna's dance with the *gopikas* (cow-herd girls)—*Rasa Lila*—are popular motifs in Hindu mythology.

### Types of Cultural Dances:

Classical dance in India has developed a type of dance-drama that is a form of a total theater. The dancer acts out a story almost exclusively through gestures. Most of the classical dances enact stories from Hindu mythology. Each form represents the culture and ethos of a particular region or a group of people.

The criteria for being considered as classical is the style's adherence to the guidelines laid down in *Natyashastra*, which explains the Indian art of acting. The *Sangeet Natak Akademi* currently confers classical status on eight Indian classical dance styles: Bharatanatyam (Tamil Nadu), Kathak (North India), Kathakali (Kerala), Kuchipudi (Andhra

Pradesh), Manipuri (Manipur), Mohiniyattam (Kerala), Odissi (Odisha), and Sattriya (Assam).

The tradition of dance has been codified in the *Natyashastra* and a performance is considered accomplished if it manages to evoke a *rasa* (emotion) among the audience by invoking a particular *bhava* (gesture or facial expression). Classical dance is distinguished from folk dance because it has been regulated by the rules of the *Natyashastra* and all classical dances are performed only in accordance with them.

### **Bharatanatyam**

Dating back to 1000 BCE, *Bharatanatyam* is a classical dance from the South Indian state of Tamil Nadu, practiced predominantly in modern times by women. The dance is usually accompanied by classical Carnatic music. Its inspirations come from the sculptures of the ancient temple of Chidambaram. It was codified and documented as a performing art in the 19th century by four brothers known as the Thanjavur Quartet whose musical compositions for dance form the bulk of the Bharatanatyam repertoire even today.

### **Kathakali**

Kathakali (*katha*, "story"; *kali*, "performance") is a highly stylized classical dance-drama form which originated from Kerala in the 17th century. This classical dance form is particularly noticed for dancer's elaborate costume, towering head gear, billowing skirts, and long silver nails. Recent developments in Kathakali over the years include improved looks, refined gestures and added themes besides more ornate singing and precise drumming. Kathakali is performed regularly at festivals in temples, at cultural shows for connoisseurs and also at international events, occasionally in fusion dance experiments.

### **Kathak**

Originating from north Indian states, In ancient Indian temples Brahmin priests (pandits) used to narrate the stories of gods and goddesses through dance, they were known as ((kathakar)) and the dance came to be known as "kathak". Kathak traces its origins to the nomadic bards of ancient northern India, known as *Kathaks*, or storytellers.<sup>[24]</sup> Its form today contains traces of temple and ritual dances, and the influence of the bhakti movement.<sup>[24]</sup> From the 16th century onwards it absorbed certain features of Persian dance and Central Asian dance which were imported by the royal courts of the Mughal era. There are three major schools or *gharanas* of Kathak from which performers today generally draw their lineage: the gharanas of Benares, Jaipur and Lucknow.

### **Kuchipudi**

Dating back to 2nd century BCE it is a classical dance from the South Indian state of Andhra Pradesh. Kuchipudi is the name of a village in the Divi Taluka of Krishna district that borders the Bay of Bengal and also the surname of the resident Brahmins practicing this traditional dance form, it acquired the present name. The performance usually begins with some stage rites, after which each of the character comes on to the stage and introduces him/herself with a dharavu (a small composition of both song and dance) to introduce the identity, set the mood, of the character in the drama. The drama then begins. The dance is accompanied by song which is typically Carnatic music. The singer is accompanied by mridangam, violin, flute and the tambura. Ornaments worn by the artists are generally made of a light weight wood called Boorugu.

### **References:**

Wikipedia, Dance in India

## A Comparative Study of Speed among Iraqi Foot Ball and Hyderabad Foot Ball Players

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### **Introduction:**

Speed is the ability to move quickly across the ground or move limbs rapidly to grab or throw. Speed is not just how fast someone can run (or cycle, swim etc.), but is dependent on their acceleration (how quickly they can accelerate from a stationary position), maximal speed of movement, and also speed maintenance (minimizing deceleration). Movement speed requires good strength and power, but also too much body weight and air resistance can act to slow the person down. In addition to a high proportion of fast twitch muscle fibers, it is vital to have efficient mechanics of movement to optimize the muscle power for the most economical movement technique.

**Football** refers to a number of sports that involve, to varying degrees, kicking a ball with the foot to score a goal. The most popular of these sports worldwide is association football, more commonly known as just "football" or "soccer". Unqualified, the word football applies to whichever form of football is the most popular in the regional context in which the word appears, including association football, as well as American football, Australian rules football, Canadian football, Gaelic football, rugby league, rugby union, and other related games.

**Methodology:** The sample for the present study consists of 25 Iraqi Foot Ball Players those who are Studying M.Ped Course in Physical Education at Osmania University, Hyderabad and 25 Hyderabad Foot Ball Players those who are doing daily practice at Osmania University Grounds. To assess the Speed the 30 M Run Test is used.

### **Results and Discussion:**

**Table No.1: Mean Values and Independent Samples Test of 30 M Run Test Between Iraqi Foot Ball Players and Hyderabad Foot Ball Players.**

Results of 30 M Run Test	N	Mean	Std. Deviation	t	df	P-Value
Iraqi Foot Ball Players	25	3.48	0.115	10.62	48	0.000
Hyderabad Foot Ball Players	25	3.57	0.102			

The results of the study shows that the Iraqi Foot Ball Players are having good speed compare to Hyderabad Foot Ball Players. The Mean Score in 30 M Run of Iraqi Foot Ball Player is 3.48 and Hyderabad Foot Ball Player is 3.57.

### **Conclusions:**

It is concluded that Iraqi Foot Ball Players are having the better speed compare to Hyderabad Foot Ball Players.

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www.top end sports, Wikipaedia, Foot Ball



## **Effect of physical activity on executive functions in children with attention deficit hyperactivity disorder (adhd)**

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### **Abstract**

Physical Activity and sports are good for all of us. Not only does it add to our health and well-being, but striving to be physically fit teaches us many other skills as well. For the children with ADHD, exercise and sports can help reinforce teamwork, discipline, cooperation, and work towards a goal. Physical activity often increases self-esteem and satisfaction with life. When kids compete in sports, their own mental and emotional issues can quickly become their fiercest competition. This is especially true of children coping with Attention-Deficit Hyperactivity Disorder (ADHD). Children with attention-deficit hyperactivity disorder (ADHD) consistently perform worse on executive function (EF) tasks relative to those without ADHD. Physical activity and a sport have a small effect on cognition in children and may be particularly beneficial for children with ADHD by impacting fundamental EF deficiencies that characterize this disorder. Thus participation of children with Attention Deficit Hyperactivity Disorder in sports and physical programs promotes better EF performance.

### **Key words**

Attention Deficit Hyperactivity Disorder, Executive functions, Physical activity

### **Introduction**

Attention Deficit/Hyperactivity Disorder (ADHD) is a prevalent, highly impairing, neurodevelopmental disorder defined by developmentally inappropriate symptoms of inattention, impulsiveness and hyperactivity. ADHD typically emerges early in childhood and commonly persists through adolescence and into adulthood, with outcomes characterized by high rates of unstable relationships, academic/occupational failure, criminality and substance use. The inattention and hyperactivity-impulsivity that characterize children with attention-deficit hyperactivity disorder (ADHD) are associated with organisational problems, risk for achievement difficulties, and extensive negative criticism from parents and teachers (Landau, Milich, & Diener, 1998). These children experience negative outcomes in personal, educational, and social domains that might impair their functional adaptation throughout their life (Barkley, Fischer, Smallish, & Fletcher, 2006).

Executive function is a set of mental processes that helps connect past experience with present action such as planning, organizing, strategizing, paying attention to and remembering details, and managing time and space to perform activities. Due to a break down in executive function Children with ADHD have trouble listening to or following instructions, begin tasks and then easily distracted or struggle to wait their turn. Sometimes blurt things out when they know better. Chris Dendy(2002) states that executive function deficits in children with ADHD can create problems in several areas. Children with ADHD consistently perform worse on executive function task relative to those without ADHD.

Physical activity is any body movement that works your muscles and requires more energy than resting. Walking, running, dancing, swimming, yoga, and gardening are a few examples of physical activity.

Some researchers argue that voluntary physical activity can positively alter brain plasticity by neurogenerative, neuroadaptive, and neuroprotective processes (Dishman et al., 2006). Other researchers also add that the potential changes in cognition may be linked to psychological mechanisms such as self-esteem or attitudes following a physical activity program (Etnier et al., 1997). The effect of physical activity on specific domains of child development such as cognitive function has received little attention to date (Hillman et al., 2008).

Claudia Verre et al. (2012) concluded that a structured physical activity program may have clinical relevance in the functional adaptation of children with ADHD. Jennifer Gapin, Jennifer L Etnier (2010) suggested that Physical activity has a small effect on cognition in children and may be particularly beneficial for children with ADHD by impacting fundamental EF deficiencies that characterize this disorder. Olga G. Berwid, Jeffrey M. Halperin (2012) examined a direct impact of exercise on neural functioning and preliminary evidence that exercise may have positive effects on children with ADHD

### **Conclusion**

Physical activity has been linked to improved cognitive functioning, superior overall health, and enhanced emotional well-being in populations ranging from school-age children to older adults. Physical activity may prove to be a viable alternative or supplement to other more invasive therapies. Hence, Physical activity program may be beneficial for children with ADHD. In addition to strength and motor skills, it positively influences behaviors and cognitive functions such as attention in children with ADHD.

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**“Positive Self Evaluation of students studying in training college and Non Training College of Dr.Babasaheb Ambedkar Marathwada University, Aurangabad”**

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**Abstract:**

The purpose of the present study was to compare the positive self evaluation between training and non training college students affiliated to Dr.Babasaheb Ambedkar marathwada University,Aurangabad..The total 500 students (250 from training college and 250 from no training out 500 students) 100 female students were selected for this study. The age of the subject were ranged between 18 to 25 years.The data on Positive self Evaluation were obtained by using a questionnaire developed by Jagdish & Srivastava 2005.The “t” test was used to determine the difference between the mean score of training and non training college students affiliated to Dr.Babasaheb Ambedkar marathwada University,Aurangabad. Result reveled that there was significant difference between training college students and non training college students on the basis of observation of five domains of Positive Self Evaluation. Study showed that training college students have higher level of Positive self evaluation than non training college students.

Keywords: Positive self Evaluation,Dr.B.A.M.U., self-confidence, self-acceptance etc

**Introduction:**

Positive self Evaluation is one of the main component of Mental Health . It includes self-confidence, self-acceptance, self identity, feeling of worth-whileness, realization of one’s potentialities; etc . Self-evaluation is defined as the way a person views him/herself. It is the continuous process of determining personal growth and progress, which can be raised or lowered by the behavior of a close other (a person that is psychologically close). People are more threatened by friends than strangers. students of training and non training college are constantly under stress and anxiety while competing in tournament ;they struggle for each point and often put their efforts to get success . Mental health is a serious issue for children and adolescents, because there are disturbing high rates of depression and suicide in young people. Children and adolescents suffer from a wide range of diagnosable mental and emotional disorders, including anxiety, depression and substance abuse, and it is possible that physical activity could contribute to the prevention of treatment of these disorders. It is also possible that physical activity can improve psychological health in the general population of young people by affecting variables such as mood, perceived stress, self –esteem, self –concept, hostility, and intellectual functioning. Trials of physical activity as a treatment for anxiety and depression have found physical activity to be as effective as antidepressant medication or psychotherapy for mild to moderate anxiety and depression. For instance, a Cochrane review found a moderate to large clinical effect of physical activity for the treatment of depression (Mead et al., 2009) and a randomized controlled trial found that the benefits of physical activity were comparable to those of antidepressant medication (Blumenthal et al., 2007) .

**Material And Methods**

**Subjects**

For this study 500 students from training and non training colleges from Dr. B.A.M.University Aurangabad were randomly selected.

**Tools**

The Mental health questionnaire of Jagdish and Shrivastava was used to measure the Positive Self-Evaluation (PSE), of the selected students.

In this scale 4 alternative responses have been given to each statement i.e. Always, often 4 scores to 'Always', 3, scores to 'Often', 2 scores to 'Rarely', and 1 score to 'Never' marked responses as to be assigned for true keyed (positive) statements where as 1, 2, 3 and 4 scores for 'Always', 'Often', 'Rarely', and 'Never' respectively in case of false keyed (negative) statements.

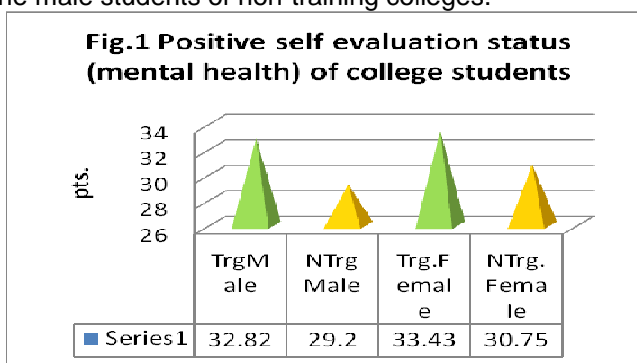
**Procedure**

The questionnaire developed by (Jagdish & Srivastava 2005) was distributed to the subjects and method was explained for responding each item carefully.

Statistical Analysis Scheffe's Post Hoc Test was used to Difference between Pairs of Ordered Means of training college students and non training college students of Dr.B.A.M.University. The level of significance was set at 0.05 level.

**Results**

The result on survey of the status of "Positive self evaluation" (Dimension of Mental Health) has been presented in Table -1. The data presented in Table -1 indicates that the Positive self evaluation (Pts.) for male students of training college and non-training college were 32.44 (2.15) and 29.84 (2.0) respectively. This appears that Positive self evaluation (Dimension of mental health) for male students of training college was higher than the male students of non-training colleges.



**Major Findings**

Results on Positive Self Evaluation of the students of Physical Education Training Colleges and Non-training Colleges Positive Self Evaluation level of the Males of physical education training colleges was significantly superior to the non-training colleges (CD=0.37, p<0.05) Positive Self Evaluation of Females of Physical Education training college Vs Non-training College Positive Self Evaluation level of the Females of physical education training colleges was significantly superior to the non-training colleges (CD=0.33, p<0.05). Positive Self Evaluation of Males and Females of Physical Education training college Positive Self Evaluation level of females was superior to males of physical education training colleges (CD=0.30, p<0.05). Positive Self Evaluation of Males and Females of Non- training college Male students of non-training colleges had significantly lower level of Positive Self Evaluation than Female students of non-training colleges (CD=0.29, p<0.05). Low relationship was found between Physical fitness and Mental Health among the Males of non-training colleges (r=0.32, p<0.05). Similar result was also evident in case of Females of non- training colleges (r=0.39, p<0.05). Overall result revealed a significant relation between physical fitness and mental health among the students (r=0.56, p<0.01).

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## **Effect of Traditional Activity Training on Selected Motor Fitness Components of School Children**

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### **Abstract**

Zanj is the oldest form of a traditional activity, which is usually played in Western Maharashtra region, on the beats of Dhol and Tasha. In Madhya Pradesh a tribal community is also engaged in such type of Zanj activity. The present study was planned to find out the effect of Zanj (A traditional activity of Maharashtra State) training on selected Motor Fitness components. The design of the study was pre-post control group design. This experimental design consist of an experimental group which was compared with a control group for testing the effect of Specific Zanj training programme on selected motor fitness components, The experimental group received Six weeks training programme, while the control group did not receive any specific training. The samples of the present study comprised of 50 girls of aged 12 to 14 years. To compare the effects of Six weeks training programme, the data was analyzed by using 't' test. The findings of the result, which shows the significant improvement in agility and muscular endurance it means that Zanj training helped to improve some motor fitness components of the school girls of aged 12 to 14 years. On the basis of the result, the study was concluded that, the Zanj training programme produced a significant development in agility and muscular endurance of selected motor fitness components of the school girls.

### **Introduction :**

Play and physical activity are the biological need of every human being for the basic survival. This is true that 'Sound mind in sound body' is known by many but practiced in daily life by the few people.

Traditional Games were not just games, they were designed in such a way that one can develop lot of skills like logical thinking, building strategy, concentration, basic mathematics, aiming, and lot more. Nowadays we develop these skills by paying money to centres that conduct personal development courses.

Traditional Games act as learning aids. They teach us many things while playing like to learn to win and lose, develop sensory skills, count, add, improve motor skills, identify colour, improve hand-eye coordination and finally to have fun, naturally one play or watch a game to have fun.

### **Purpose of the Study:**

It was found that the school student especially girls are very much interested in participating the traditional activities like Zanj, Lezium, Dhol. The Maharashtra state School Board had given the importance to the traditional activities of the state, and some of the activities are included in the curriculum of the physical education. By taking part in the traditional activities the students fill themselves refresh from the study burden. But what about their physical fitness or motor fitness, whether this type of traditional activities would help to improve physical fitness or motor fitness of the school children. Hence, the researcher wants to find out whether the traditional activity i.e. Zanj are contribute to improve the motor fitness components of school girls

### **Methodology :**

The design of the research study was experimental group design and it also known as parallel group design. This experimental design consists of an experimental group which was compared with a control group for testing the effect of Zanj training on Selected Motor fitness components of Girls aged 12 to 14 years. The experimental design is parallel group design. Experimental group was received the Zanj training whereas the control group was not. The result was compared after a period of six weeks training. The subject were drawn randomly

The 50 subjects were divided into two groups .i.e. Group A –Experimental Group (n=25) Group B - Control Group (n=25). In the phase the training the Experimental group was Exposed to the daily training of Zanj training as per the planning for 5 day in the morning session except Saturday ,Sunday And holidays.

**Selection Of Variables :**

The following variables were selected as dependent and independent variables.

**Dependent Variables**

The selected motor fitness components were considered as dependent variables for the study.

**INDEPENDENT VARIABLES** The following Zanj exercises were considered as independent variables

Aaghe piche kadam	Aaghe ghutan
Kamar zuk	Baju chal
Tali with aaghe kadam	Kamar lachak

**CRITERION MEASURES :Dependent Variables:**

Variable to be Tested	Test	Unit
Muscular strength	Medicine ball throw	Meters
Agility	4X 10 m shuttle run	Seconds
Muscular Endurance	Bent Knee sit –Ups	Numbers
Flexibility	Site And reach	Centimetres

Results:The group wise comparison of mean gain scores of the experimental group and control group Table-1 shows the summary of comparison of mean scores of Pre and Post Test of the Experimental Group and Control group.

Variable	Experimenta l	Control	Mean Difference	N	t-Value	Sig.
	Mean Gain	Mean Gain				
Flexibility	0.2400	0.2000	0.04000	25	0.104	0.918 P>0.05
Agility	-0.2776	1.5864	-1.86400	25	-3.868	0.000 P<0.05
Muscular Strength	0.1372	-0.1520	-0.28920	25	-1.790	0.080 P>0.05
Muscular Endurance	1.76	1.40	.36	25	4.465	0.000 P<0.05

**Conclusion:**

On the basis if the finding of the present studies it could be concluded that-In case of flexibility, there was no significant different between Experimental and Control group.In case of Agility, there was significant different between Experimental and Control groupIn case of muscular strength, there was no significant difference between Experimental and Control groupIn case of muscular endurance, there was significant difference between Experimental and Control group.

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<http://www.ncbi.nih.gov/sits/entre>  
 Manmeet Gill, Nishan Singh Deol and Ramanjit Kaur (2010) to compare physical fitness components namely speed, strength, endurance, agility and flexibility between female students belonging to rural and urban set-ups

## Yogasana & Folk dance Synergy effect on wellness

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### **Introduction:**

Physical fitness covers organic fitness as an individual. The main components of physical fitness of an individual. The main components of physical education fitness are speed, strength, endurance, flexibility, agility cardio-vascular fitness and co-coordinative ability. In this study the research scholar has considered speed, body coordination, flexibility and Explosive Strength among school Girl's 14 to 16 in Zill Prishad School, Aurangabad.

Yogasanas are the series of carefully designed positions by great yogis. These scientifically designed postures conserve the energies and transform them to subtle forms of mental energies. Yogasana help to bring the whole body to the peak of physical perfection and top efficiency. Body acquires enough strength and tolerance to withstand stresses and strains of all types at every step of our life. At every step, a mental association is established with the physical actions. Yoga is way of life or science of right living and integrated system of education for body, mind and soul. (Kindersey 1974). This art of right living was perfected and practiced in Indian thousand of year ago but, since yoga deals Universal truths It works on all aspects of the person physical mental emotional, and spiritual the aim of this study was to search out the effect of practicing yoga & folk dance on speed, strength, feasibility, agility and endurance, for this study eight subjects was elected with the random boys). It was conducted that yoga proactive helps to improve the physical efficiency of players and thus it help to keep the body fit.

Folk dance -this exercise is a fabulous workout that not only helps. In maintaining someone fitness level, also makes his or her heart stronger. It involves some motor fitness responses such as flexibility and Strength. Folk dance distinct form of like, jogging, jumping, running,. Is a fun way to get fit? Folk dance popular exercise in schoolchildren.

Folk dance is generally described as the traditional recreational dance of an indigenous society. In many instance its specific origin appears to be lost in the pages of antiquity. However, there is reason to believe many folk dances originated from the activities and events that were uppermost in the minds of the people at the time. A careful study of the cultural characteristics of a specific people at a given time and place would tend to substantiate this basic assumption. Many dances reflect the attitudes of the people about war, courtship, weddings, work, occupations, funerals, and celebrations. An accurate description one of the many things missing from the chronicles of man. It is assumed the each generation thought the dances should be performed. Undoubtedly, they added some movements and eliminated others. As society became more sophisticated, so did the movements in the folk dance. Never the less, it is generally believed that the more one understands the cultural characteristics of former civilizations, the more likely one is to capture the authentic moods and attitudes of the people when their dances were first performed. This merits considerable effort for those interested in understanding the true cultural development of man.

### Materials And Method:

The subjects for the study were 32 District level Inter-School Girls who were regular students of Zilla Parishad School, Aurangabad (M.S). The age of the subject ranged from 14-16 years. The subject had every day one morning sessions.

Selections of (yoga asana) Training Exercise

1. Padmasan      2. Paschimottanasan      3. Ustrasana
4. Sarvangasan      5. Halasan      6. Chakkerasana
7. Vrikshasana      8. Gharudasana      9. Makarasana      10. Shavasana

Selections of (Folk Dance) Training Exercise

1. Shetakari Nrutya (Farmer Dance)

The Speed, flexibility, Strength, Body-coordination & agility abilities selected, tests used and the unit of measurements were as follow:

Table No. 1

Flexibility and Strength abilities selected, tests used and the unit of measurements.			
Sr.No	Particular	Test Use	Unit of Measurements
1	Flexibility Ability	Forward Bend & Reach	Centimeter
2	Strength	Standing Broad Jump	Centimeter
3	Vertical Jump	Vertical Jump	Centimeter
4	Speed & agility	30 mtr Run	second

### Results:

The data was Statistical analyzed and presented in selected the Speed, flexibility, Strength, Body-coordination. The using t-test the following manner:

Sr. No.	Test	n (sample)	Pre-Test		Post-Test		t Test
			Mean	SD	Mean	SD	
1	30 Mtr. Run	32	6.452	0.728	5.983	0.734	2.547
2	Forward Bend & Reach	32	1.981	2.404	2.327	2.500	0.314
3	Standing Broad Jump	32	1.177	0.125	1.288	0.165	2.685
4	Vertical Jump	32	0.232	0.076	0.453	0.176	6.536

### Results And Discussion:

The average range in 30 Mtr. Speed Run for speed ability & agility improve as per t-test, Forward Bend & Reach is improve flexibility as per pre-test to post-test differences, & Standing Broad Jump is improve strength, as per t-test, and vertical jump improve body co-ordination as per t-test.

### Conclusion:

As per my research, Yogasan and Folk Dance is beneficial for the schoolchildren and them enjoying activity. The study shows the development of the body coordination, Speed, flexibility, agility & Strength in school Students is increasing while entering in the age of 14 from 16 years.

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## Aggression Among Kho Kho And Kabaddi Players

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### Introduction

Psychology is the science of mind and behavior. Its immediate goal is to understand behavior and mental processes by researching and establishing both general principles and specific cases. For many practitioners, one goal of applied psychology is to benefit society. In this field, a professional practitioner or researcher is called a psychologist, and can be classified as a social scientist, behavioral scientist, or cognitive scientist. Psychologists attempt to understand the role of mental functions in individual and social behavior, while also exploring the physiological and neurobiological processes that underlie certain functions and behaviors. Most of the aggression in sport results from frustration. This frustration is the result of various motives being thwarted or blocked. Those motives, which are predominant in sport and which usually generate aggression when thwarted, revolve around achievement dominance, powers, recognition and prestige and excellence. If a body places high incentive value on one or a combination of these motive-incentive systems and is blocked from attaining or satisfying them, he becomes frustrated. The performance factor is the core of competitive sports. Various qualities are evaluated before undergoing selections to competitive sports in which physical, mental, social, etc. plays a major role. Various physical abilities inherent and can be nurtured after training are considered, but at times the deciding factor of medal is his mental setup. The sound mind and balanced psychological qualities emphasizes on psychological factors in team sports.

### Purpose Of The Study:

The main purpose of the study was to compare the aggression level of kho kho and kabaddi male players.

### Methodology:

To achieve the aim of the study Thirty kho kho players and Thirty kabaddi players were selected during Gulbarga University inter collegiate tournament and aggression questionnaire constructed by Buss and Perry was administered to the subjects selected for this study to know the level of aggression. The data collected was analyzed by using statistical technique 't' test with the help of SPSS package.

### Results:

The data collected from the subjects were treated with statistical technique 't' test and results are presented in the following table.

Table -1 Mean, Standard Deviation and 't' value of physical aggression

Sl. No	Players	Sample Size	Mean	Standard Deviation	't' value
1.	Kho kho	30	25.43	3.88	2.38
2.	kabaddi	30	28.47	5.81	

Significant at 0.05 level.

The above table depicts the mean value, standard deviation and 't' value of physical aggression between kho kho and kabaddi players. The 't' value shows the significant difference between the players selected for this study. kabaddi players are having more physical aggression than kho kho players.

Table-2 Mean, Standard Deviation and 't' value of verbal aggression

Sl. No	Players	Sample Size	Mean	Standard Deviation	't' value
1.	Kho kho	30	8.80	2.70	2.19
2.	Kabaddi	30	10.60	3.11	

Significant at 0.05 level.

The above table reveals the mean value, standard deviation and 't' value of verbal aggression between kho kho and kabaddi players. The 't' value shows the significant difference between the players selected for this study. kabaddi players are having more verbal aggression than kho kho players.

Table-3 Mean, Standard Deviation and t value of anger.

Sl.No	Players	Sample Size	Mean	Standard Deviation	't' value
1.	Kho kho	30	24.10	4.74	0.48
2.	Kabaddi	30	23.50	3.84	

Significant at 0.05 level.

The above table states the mean value, standard deviation and 't' value of anger between kho kho and kabaddi players. The 't' value shows no significant difference between the players selected for this study. when mean scores are compared kho kho players are having more anger than kabaddi players.

Table-4 Mean, Standard Deviation and t value of hostile aggression.

Sl. No	Players	Sample Size	Mean	Standard Deviation	't' Value
1.	Kho kho	30	24.5000	5.04292	0.060
2.	Kabaddi	30	21.7000	5.10003	

Significant at 0.05 level.

The above table reveals the mean value, standard deviation and 't' value of hostile aggression between kho kho and kabaddi players. The t value shows the significant difference between the players selected for this study. Kho kho players are having more hostile aggression than kabaddi players.

### Conclusion;

Sports psychology is the study of people and their behaviors in a sporting arena. Recently interest in sports psychology has increased. Athletes and coaches talk regularly how sports success can be attributed through psychological factors. Sports Psychologists work with coaches, athletes and teams to try to help them to reach the highest levels of health and using a wide application of knowledge and a range of different technique.

In the present study after the interpretation of data the results showed that there is significant difference in the selected psychological variable aggression between kho kho and kabaddi male players. In physical aggression and verbal aggression kabaddi players are more aggressive than the kho kho players. In hostile aggression kho kho players are aggressive than kabaddi players and in anger there is no significant difference found, though there is no significant difference found, when mean value are compared kho kho players more anger than the kabaddi players.

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## **Determinants of Burnout among Tunisian Teachers of Higher Institutes of Sport and Physical Education**

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### **Abstract**

Burnout as it was defined by Freudenberger (1974) as "vacuum state" in which people respond to significant inquiries from their customers in the medical context (Truchot, 2009). Tunisia is a whole new culture so that no search is performed on this phenomenon. Study burnout syndrome is the question of occupational health differently, it is from an axis of psychosocial research focused our research topic The burnout antecedents are the elements predisposing syndrome, present in the organizational context or between workers interpersonal relationships. These can have a marked influence on the development of symptoms associated with burnout. Each individual carries a number of characteristics that influence mental health. In the study of burnout, the contribution of individual characteristics is often less important than the context-related characteristics in which the job runs (Maslach et al., 2001). In this section, a review of the literature specific to the individual variables will be advanced. More specifically, individual factors studied are gender, age, educational grade and marital status.

This study aimed to evaluate the effects of socio-professional triggers on the development of burnout syndrome among the institute's teachers of sports and physical education in Tunisia. The socio-professional triggers such as age, sex, teacher's grade, job seniority and the marital status of professors and the workplace to promote significantly the development of burnout syndrome among teachers at the institutes of sports and physical education in Tunisia. 269 teachers of the high institutes of sport and physical education male and female with mean ages (43, 21 ± 7,704), answered the questionnaire of Maslach et al (1996). Our results of the regression analysis of the three components of burnout syndrome namely: emotional exhaustion, depersonalization and the loss of personal accomplishment are showed that the three models are significant at the same level of probability ( $Pr \leq 0.001$ ). Also the  $R^2$ , which provide information on the share of contribution of predictors in the total variance components related, are respectively 0.67, 0.59 and 0.45.

**Keywords:** Burnout, University Teachers, Physical Education

## A Review on Choukkeh Wrestling as Iranian Traditional Sports

**Gholamreza Jafari (President of Iran Traditional Sports Federation)**

**Abstract:**

The wrestlers wear special dresses which are as follows: Special pants which must not be longer than the wrestlers' knees. If the wrestlers cannot manage to prepare such pants, they wear their local pants by replicate it up to the knees. Wrestlers also should wear an especial jacket named, " Choukkeh" which is longer than an ordinary coat. This jacket is without sleeves. Choukkeh is usually woven from hard cotton or wool. A long tissue, "Shawl" which is applied as a belt should be fastened around the waist of wrestlers. During the competition special musical instruments, Dohol and Sorna, are played to let everyone be aware about the Ba choukkeh competition. This style is the most accredited type of the Iranian traditional wrestling with a very long history dating back to the foundation of the glorious Iranian civilization. On the 14th of Farvardin (the first month of the Iranian solar calendar beginning with spring), the National Championship of Ba choukkeh is organized in Cheshmeh-Zinal Khan of Isfaryen. If the bout is not concluded in the official time (5 minutes, nonstop), after a minute rest, the bout is continued in the extra time (3 minutes). If a wrestler touches the ground with his shoulder or entire back, he will be loser. The elders and veterans usually judge the competition. In accordance with the folks and traditions, a sheep is awarded to the winner.

**Key words:** choukkeh, wrestler

## A Comparative Study of Self Confidence among Boxers and Wrestlers of Hyderabad

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### **Abstract:**

Boxing is a combat sport in which two people engage in a contest of strength, speed, reflexes, endurance, and will by throwing punches with gloved hands against each other. There are four basic punches in boxing: the jab, cross, hook and uppercut. Wrestling is a form of combat sport involving grappling type techniques such as clinch fighting, throws and takedowns, joint locks, pins and other grappling holds. A wrestling bout is a physical competition, between two (occasionally more) competitors or sparring partners, who attempt to gain and maintain a superior position. Self confidence in sports relies primarily on the athletes ability to believe he can win and that can be successful in his efforts. The Purpose of the study is to find out the self confidence among Boxers and Wrestlers of Hyderabad in India. The sample for the present study consists of 50 Male Boxers and 50 Wrestlers of Hyderabad between the age group of 18- 20 Years. Dr.S.J.Quadri Self Confidence Inventory is used to assess the Self Confidence. The Results of the Study shows that Boxers are having more confidence than wrestlers. Boxing can improve your self confidence not only in ring, but in other aspects of your life as well. It's an extremely challenging Sport that tests your limitations and to overcome physical and mental obstacles. It is concluded that Boxers are having more self confidence than Wrestlers. Hence it is recommended that Psychological Training must be included in the Coaching Program in sports for development of Self Confidence among sports persons. Self confidence is the main psychological variable for key to success in sports and games.

Key Words: Self confidence, Psychological Training etc.

### **Introduction:**

Boxing or Pugilism is a combat sport in which two people engage in a contest of strength, speed, reflexes, endurance, and will by throwing punches with gloved hands against each other. Amateur boxing is an Olympic and Commonwealth sport and is a common fixture in most of the major international games—it also has its own World Championships. Boxing is supervised by a referee over a series of one-to three-minute intervals called rounds. The result is decided when an opponent is deemed incapable to continue by a referee, is disqualified for breaking a rule, resigns by throwing in a towel, or is pronounced the winner or loser based on the judges' scorecards at the end of the contest.

Wrestling is a combat sport involving grappling type techniques such as clinch fighting, throws and takedowns, joint locks, pins and other grappling holds. A wrestling bout is a physical competition, between two (occasionally more) competitors or sparring partners, who attempt to gain and maintain a superior position. There are a wide range of styles with varying rules with both traditional historic and modern styles.

The socio-psychological concept of self-confidence relates to self-assurance in one's personal judgment, ability, power, etc. Self-confidence in sports relies primarily on the athlete's ability to believe he can win and that he can be successful in his efforts. Consultants at the United States Tennis Association report that self-confidence is one of the most important attributes an athlete can possess and should be fostered by both athletes and their coaches.

**Method:**

The Purpose of the study is to find out the self confidence among Boxers and Wrestlers of Hyderabad in India. The sample for the present study consists of 50 Male Boxers and 50 Male Wrestlers of Hyderabad between the age group of 18-20 Years. Dr.S.J.Quadri Self Confidence Inventory is used to assess the Self Confidence. This scale was constructed and standardized by Dr. Quadri Syed Javeed. That test consists of 30 items, each item 'YES' 'NO' type alternatives. This Questionnaire were given Boxers and Wrestlers to write separately in different groups.

**Results and Discussion:**

The Results of the Study shows that Boxers are having more confidence than wrestlers. . Boxing can improve your self confidence not only in ring, but in other aspects of your life as well. It's an extremely challenging Sport that tests your limitations and to overcome physical and mental obstacles compare to the Wrestlers.

Table I:

**Self confidence inventory mean values of Boxers and Wrestlers**

Variables	Group	Number of subjects	Mean	Standard deviation	Standard error
Self Confidence Inventory	Boxers	50	25.6	0.88	0.12
	Wrestlers	50	19.32	1.1	0.16

In Table No.1 the Mean of Boxers is 25.6 and Wrestlers 19.32 there is a difference 6.28 between the Boxers and Wrestlers. Boxers are having more confidence than the wrestlers

**Conclusion:**

It is concluded that Boxers are having more self confidence than Wrestlers. Hence it is recommended that Psychological Training must be included in the Coaching Program in sports for development of Self Confidence among sports persons. Self confidence is the main psychological variable for key to success in sports and games.

**Recommendations:**

Similar Studies can be conducted on Women sports persons and other sports and games.

**References:**

Wikipedia, Boxing and Wrestling

## **A prospective study on physical training and its incidence on biochemical profile of Type II Diabetic women.**

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### **Abstract.**

The present study sought to explore the effect of 8 weeks of physical training on treadmill for 30 min among the selected 60 type II diabetic (T2D) women. The subjects falling in the age group of 28-45 years with fasting blood sugar levels above 150mg/dl and elevated lipid values were preferred. Amongst the 60 subjects, 20 were opted as the control group (GP I) and the remaining 40 as experimental Group (GP II). The subjects were recommended to take tailored diet as per their ideal body weight. Results revealed that the experimental group (GP II) showed significant reduction in Body Mass Index (BMI), Fasting Blood Sugar (FBS), Total Cholesterol (TC), Low Density Lipoprotein (LDL) and body fat and significant increase in High Density Lipoprotein(HDL).

**Keywords** : Treadmill, BMI, FBS, Lipid profile.

### **Introduction**

Type II Diabetes is a global public health crisis affecting everyone with no age bar. Physical training is an effective non pharmacological treatment in the prevention of T2D. A large number of studies have shown that habitual physical activity reduces the risk of coronary heart disease, stroke, colon cancer and mortality from all causes(1,2). Intervention trials have demonstrated that in subjects with impaired glucose tolerance, diet plus exercise programs reduces the risk of developing diabetes by 60%(3,4).

Exercise reduces blood glucose through an increase of insulin-dependent and insulin-independent glucose transport to working muscles. Exercise increases the translocation of glucose transporter 4 (GLUT 4) to the surface of muscle cells. In T2D subjects, physical training increases insulin stimulated non-oxidative glucose disposal, presumably activating glycogen synthesis. Thus, the present study emphasizes attention on importance of physical activity and diet in reducing weight, improving blood glucose and lipid profile values in T2D subjects.

### **Materials and Methods**

The study was carried on 60 T2D subjects ranging around 28 to 45 years in age. They were on constant medication with oral hypoglycemic drugs and free from hypertension and other cardiac ailments. Subjects with a BMI (>25), body fat(>30%), disturbed FBG(150 -175mg/dl)and disturbed lipid profile LDL (150 - 170mg/dl), TC (225 -275mg/dl) and HDL(30 - 55mg/dl). The selected subjects were divided into 2 groups. Group I constituted of 20 diabetics as control group and the leftover 40 subjects as experimental group, group II. For a period of 8 weeks both the groups were recommended to take tailored diet as per their ideal body weight. Group II subjects were advised to undergo exercise on treadmill for a duration of 30 mins daily. BMI, FBG, Lipid profile and body fat percentage of all the 60 subjects were measured before and after the study using standard techniques.

## Results and Discussion

Physical training programme strived to be important regimen in treating type II diabetes. It is used safely as an adjunct to diet to achieve weight loss, reduce glucose levels and improve insulin sensitivity in female obese NIDDM subjects.

**Table 1 : Information regarding the subject's age, physical work, and dietary pattern collected.**

Details	% age of respondents (N= 60)
<b>Age wise distribution in years</b>	
28-30	8
31-35	21
36-40	24
41-45	7
<b>Nature of Physical work</b>	
Sedentary	47
Moderate	13
Heavy	Nil
<b>Dietary Pattern</b>	
Non Vegetarian	55
Vegetarian	5

A significant decrease in weight, BMI and body fat values was noticed in group II subjects who followed modified diet and treadmill exercise for 30 min for 2weeks.

<b>Table 2 : Effect of diet control and physical training on weight, BMI and body fat of diabetic patients</b>							
Group	Initial ±SD	Mean (±)	Final ±SD	Mean (±)	Change	t	p
<b>Weight (Kg)</b>							
Group - I	70.06 5.01	(±)	67.31 4.40	(±)	2.75	2.69*	<0.01
Group - II	63.30 6.48	(±)	58.10 5.08	(±)	5.2	3.30*	<0.01
<b>BMI (Kg/M2)</b>							
Group - I	29.94 3.77	(±)	28.78 3.35	(±)	1.16	3.49*	<0.01
Group - II	31.29 3.43	(±)	27.36 3.69	(±)	3.93	5.72*	<0.01
<b>Body Fat %</b>							
Group - I	36.01 2.85	(±)	33.60 2.73	(±)	2.41	11.34*	<0.01
Group - II	40.18 3.41	(±)	32.92 4.52	(±)	7.26	14.82*	<0.01

There was a significant decrease in fasting blood glucose in the experimental group after the study period.



Group	Initial Mean $\pm$ SD	Final Mean $\pm$ SD	Change	t	p
<b>Fasting Blood Glucose (mg/dl)</b>					
Group - I	167.13 $\pm$ 5.06	154.67 $\pm$ 5.53	12.46	8.72*	<0.01
Group - II	163.48 $\pm$ 4.30	113.72 $\pm$ 5.94	49.73	26.31*	<0.01

The total cholesterol and LDL levels also confirmed significant reduction at 1% level in the experimental group. Similarly, HDL levels also showed significant increase at 1% level in the experimental group

Group	Initial Mean $\pm$ SD	Final Mean $\pm$ SD	Change	t	p
<b>Total Cholesterol (mg)</b>					
Group - I	251.44 $\pm$ 4.39	228.99 $\pm$ 4.33	22.45	6.33*	<0.01
Group - II	251.83 $\pm$ 5.32	165.21 $\pm$ 5.31	86.62	21.06*	<0.01
<b>Low Density Lipoprotein</b>					
Group - I	162.54 $\pm$ 4.76	140.97 $\pm$ 4.23	21.57	11.24*	<0.01
Group - II	161.67 $\pm$ 4.87	120.81 $\pm$ 5.40	40.86	27.53*	<0.01
<b>High Density Lipoprotein</b>					
Group - I	41.06 $\pm$ 4.85	52.81 $\pm$ 4.58	11.75	11.05*	<0.01
Group - II	44.27 $\pm$ 4.61	80.14 $\pm$ 5.69	35.87	25.24*	<0.01

The present study concluded that T2D women treated with modified diet and physical training exhibited reduction in weight, BMI, FBG, Lipid profile and body fat. The HDL levels were also increased significantly. Thus, physical training along with diet can be a promising approach to the primary prevention of T2D and must be implicated as a daily ambulatory practice.

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## **Determinants of Burnout among Tunisian Teachers of Higher Institutes of Sport and Physical Education**

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### **Abstract**

Burnout as it was defined by Freudenberger (1974) as "vacuum state" in which people respond to significant inquiries from their customers in the medical context (Truchot, 2009). Tunisia is a whole new culture so that no search is performed on this phenomenon. Study burnout syndrome is the question of occupational health differently, it is from an axis of psychosocial research focused our research topic.

The burnout antecedents are the elements predisposing syndrome, present in the organizational context or between workers interpersonal relationships. These can have a marked influence on the development of symptoms associated with burnout. Each individual carries a number of characteristics that influence mental health. In the study of burnout, the contribution of individual characteristics is often less important than the context-related characteristics in which the job runs (Maslach *et al.*, 2001). In this section, a review of the literature specific to the individual variables will be advanced. More specifically, individual factors studied are gender, age, educational grade and marital status.

This study aimed to evaluate the effects of socio-professional triggers on the development of burnout syndrome among the institute's teachers of sports and physical education in Tunisia. The socio-professional triggers such as age, sex, teacher's grade, job seniority and the marital status of professors and the workplace to promote significantly the development of burnout syndrome among teachers at the institutes of sports and physical education in Tunisia. 269 teachers of the high institutes of sport and physical education male and female with mean ages (43, 21 ± 7,704), answered the questionnaire of Maslach et al (1996). Our results of the regression analysis of the three components of burnout syndrome namely: emotional exhaustion, depersonalization and the loss of personal accomplishment are showed that the three models are significant at the same level of probability ( $Pr \leq 0.001$ ). Also the  $R^2$ , which provide information on the share of contribution of predictors in the total variance components related, are respectively 0.67, 0.59 and 0.45.

**Keywords:** Burnout, University Teachers, Physical Education

## Comparison of Group Cohesion between Sportsmen and Non-Sportsmen

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### **Introduction:**

Competitive Sports in the modern days depends on many dimensions of human endeavors. Psychological preparation is an important issue which makes lot of difference in the performances of the athletes. Psychological preparation of a team plays a prominent role apart from the skills of a game with scientific methods. Most of the coaches agree to the team spirit for competition as a necessary component for success. In order to reach the target and accomplish the social expectations the players also work hard, ignoring their comforts in their daily lives and practice many hours a day. The Psychological and social performance of players cannot be successful unless the players are prepared mentally and psychologically for the contests. There are many challenging situation occurring during a game for which psychological training has to be provided to the players by the coaches to face them with courage. Team games are much different than the individual games to take up the goal. In the individual games one has to prove his potential and ability to beat the opponent, but in team games, he acts only as a unit of the team and has to work for its success. He has to submit his identity for the team. Therefore, each player of the team has to work as coordinated unit of co-players. It is possible if all the members of a team maintain better relations like better personal, social and psychological contacts with adequate communications and fulfillment of goal. Many studies have already confirmed that team cohesion leads to success and enhancement of performance (Seagrave, 1992, Long, 2002). Authors have defined team cohesion as the attraction between team members (Williams, 1998). Slepick (2003) indicated that it is interpersonal behaviours, like interpersonal relations, sympathy, dependence and submission. Nixon (1978) considered it as team's task, commitment, team spirit, attraction and success and Vallcant et al. (1981) considered it as performance satisfaction, self satisfaction and affiliation. It was Bagelow et al. (1988) who observed friendship among children which helps them to play as a team for the success. This idea caught the attention of the researchers to extend the basic psychological notion to sports in adulthood that lead to university, national and international group competitions. Therefore this study was planned to find out friendship among the university team game players.

### **Method:**

A total of 300 male students studying in Osmania University, Hyderabad were selected as subjects from the population of sportsmen and non-sportsmen, 150 for each group equally through random sampling. Dimensions of Friendship Scale of Chandna & Chandha (1986) was administered to measure meaningful dimensions of cohesion, i.e., enjoyment, acceptance, trust, respect, mutual assistance, confiding, understanding and spontaneity. The scoring was done according to the method mentioned in the manual. The 't' test was applied to determine the differences of mean in the scores of each test between sportsmen and non-sportsmen

## Results & Discussion:

The analysis of the data was carried out by applying 't' test which have been presented in table 1.

**Table 1**

Variable	Sportsmen		Non-sportsmen		Diff. of Means	't' value	Level of Sig.
	Mean	S.D.	Mean	S.D.			
Total Score	53.15	5.14	47.94	7.35	5.21	7.11	.01
Enjoyment	5.95	1.08	5.62	1.18	0.33	2.48	.05
Acceptance	7.50	1.22	6.70	1.65	0.80	4.79	.01
Trust	7.51	1.26	6.98	1.68	0.53	3.10	.01
Respect	6.09	0.87	5.37	1.21	0.72	5.98	.01
Mutual Assistance	6.89	0.87	6.29	1.39	0.60	4.52	.01
Confiding	7.15	1.12	6.27	0.62	0.88	5.52	.01
Understanding	6.97	1.14	6.04	1.55	0.93	5.90	.01
Spontaneity	5.35	1.01	4.63	1.36	0.72	5.88	.01

It is evident from the results that the sportsmen develop cohesion from the beginning as a trait which helps them to work for the team. Other University students, although work for a common goal of passing examination, but with personal individual motive to excel or to pass, while sportsman have to work for common goal of doing better in team game. Since the data was collected on the sportsman working in camps, they had congenial environment in which they aimed only for betterment of the game. This helps the notion of Bagelow et al. (1988) to extend the friendship further in common play of team games from childhood to adulthood. It has been founded that most of the time cohesion appears to be positively correlated with team success among team whose members are highly interdependent during competition sports such as Basketball (Arnold & Straub, 1992, Carron & Chelladurai, 1982; Gosset & Widmeyer, 1981) Field Rocking (Hacker & Williams, 1981) and Baseball (Landers & Crum, 1981) have produced data substantiating positive relation between successful performance and scores from tests of cohesion , usually the sports cohesiveness.

### Conclusion:

On the basis of the results and discussion it is concluded that in the present study on the measures of cohesion, sportsmen show higher scores of cohesion than non-sportsman. Sportsmen are higher in cohesion than non-sportsmen on the components like employment, acceptance, trust, respect, mutual assistance, confiding, understanding and spontaneity. It all indicates that cohesiveness in sportsmen is more than the non-sportsmen.

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## **Factors Influencing Participation of Young Women in Physical Activity and its Impact on Health and Fitness.**

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### **Abstract:**

This study was carried out to identify various reasons that are influencing participation of women in sports or regular physical activity and its impact on current nutritional status and aerobic fitness. It is well established that Participation in sports or regular physical activity promotes health and fitness. It was observed that hardly 10-20 percent of Engineering students are participating in sports or regular physical activity. The female participation is much lower than this. Therefore, this study was taken up to identify the barriers to physical activity and its impact on current nutritional status. Six hundred female Engineering students from Hyderabad, South India who were aged between 17-21 years were studied. The current nutritional status of these students was assessed based on Body Mass Index (BMI) using their height and weight data. Current exercise habits and sports participation and barriers for non participation in any regular physical activity were assessed among the subjects using a questionnaire with 12 items representing barriers to physical activity/ sport.. The results of this study indicate that 80% of the students were not at all engaged in any regular physical activity or sport. The BMI data indicates that 25% students were placed in obese/ over weight category. The perceived barriers for physical activity include lack of time due to busy academic schedule, parents pressure on girls not to play, lack of energy and addiction to social net working activities. It can be concluded from this study that there is an urgent need to create awareness and motivate the students to be physically active and support must be extended by college, parents to improve health and fitness of the Engineering students to meet future challenges of the world.

## Cardiovascular Endurance of National Volleyball Players

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### Introduction

Volleyball is a complex game of simple skills. The volleyball court is a rectangular field with the size of 9 × 9 m on each half separated by a net of 2.43 m in height in the middle. Two teams in the match, as opponents, will exercise various skills and tactics to attack and to defend. The ball is served into play. To attack, the players try to make the ball fall down onto the ground of the opposite side. To defend, they try to prevent the ball from falling down onto the ground of their own side. A team can touch the ball three times on its own side. Cardiovascular Endurance (is the heart's/ Cardiac ability to deliver blood to working muscles and their ability to use it (e.g. running long distances).

### Methodology

The 12 Minute Run fitness test was developed by Dr. Ken Cooper in 1968 as an easy way to measure aerobic fitness and provide an estimation of VO<sub>2</sub> max for military personnel. This simple test is still used today as a field test for determining aerobic fitness. To running speed, turning technique and coordination are also significant factors in this test in sports; cardiovascular endurance refers to an athlete's ability to sustain prolonged exercise for minutes, hours, or even days. Endurance testing is a way to measure the efficiency of an athlete's circulatory system and respiratory system in supplying oxygen to the working muscles and support sustained physical activity.

Values of t-calculated further compared with the t-tabulated values and at 1% and 5% the level of significance, from the above statistical inferences, it could be concluded that all the state teams of Senior National Players had certain best ever performance in respect to Endurance 12 Min. Run and Walk. Similar observations found with the junior (Youth) National Players of various States.

Values of t-calculated further compared with the t-tabulated values and at 1% and 5% the level of significance, from the above statistical inferences, it could be concluded that all the state teams of Junior National Players had certain best ever performance in respect to Endurance 12 Min. Run and Walk.

It could be clearer by Mean values which will be stated that the best eight teams of the volleyball national Players were good in Endurance 12 Min. Run and Walk, as compared to the other state national players. This factor Endurance 12 Min. Run and Walk might have a positive effect on the sports performance and could be good in Endurance 12 Min. Run and Walk, might better the achievement in volleyball Players. As it was a proved factor that Endurance 12 Min. Run and Walk betters the players' performance that is good in Endurance 12 Min. Run and Walk directly proportional to the performance of athletes. Thus it could be concluded that Volleyball performance is directly proportional to the Endurance 12 Min. Run and Walk.

**Conclusion :** Values of t-calculated further compared with the t-tabulated values and at 1% and 5% the level of significance, from the above statistical inferences, it could be concluded that all the state teams of Junior National Players had certain best ever performance in respect to Endurance 12 Min. Run and Walk.

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## **The relationship between perception of service quality, satisfaction and the intent to return of sport tourists**

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### **Abstract**

The interaction between service quality, customer satisfaction and loyalty has been always a controversial issue. So, the purpose of this study was to investigate the relationship between service quality, satisfaction and the intent to return of sport tourists. The research method was descriptive – correlation and the statistical sample consisted of 265 tourists attended to Tehran's Azadi stadium for watching a football game between Esteghlal and Persepolis. The research instrument was a questionnaire that had been used in Shonk's Ph.D dissertation. The validity was approved by doing Exploratory Factor Analysis and opinion of sport management experts. The reliability was verified by Cronbach's alpha method ( $\alpha=0.89$ ). The SPSS19 was used to do descriptive statistics and exploratory factor analysis. Also, Confirmatory Factor Analysis and structural equation modeling (SEM) were done by LISREL. The results showed satisfaction didn't mediate the relationship between service quality and the intent to return of sport tourists. Although, satisfaction had a significant effect to sport tourists' intention to return, the service quality had greater effect to sport tourist's intention to return. Also, the influence of service quality on satisfaction was significant. According to the results, it can be concluded that increasing sport tourism service quality and its related factors increase sport tourists' satisfaction and their intention to return.

**Key words:** service quality, satisfaction, intent to return, sport tourists

### **Introduction**

As a high-income industry, the Tourism industry is such a safe and clean industry for the economy of each country. The boom in this industry reflects the stability of political, economic, security, cultural and scientific of all over the world. In other words, the tourism industry has the unique advantages to provide several targets simultaneously in a national environment, but other industries just supply their own targets (Khatibzadeh, 2012). So, it's so important to pay attention to the tourism industry and its various parts specially sport tourism. As the third world's industry (Sedaghati et al, 2011), the sport tourism is a multibillion dollar business that has evolved rapidly in the past years (Heydarzade, 2007).

There are various types and definitions of sport tourism and different experts have different idea about it. One of the experts whose definition is so popular is Gibson. Gibson (2006) defines sport tourism as "leisure-based travel that takes individuals temporarily outside of their home communities to participate in physical activities, to watch physical activities, or to venerate attractions associated with physical activities". Based on Gibson's definition, sport tourism can be categorized into three groups of active sport tourism, event sport tourism and nostalgia sport tourism (Adabi, 2006).

Sport tourism in all its different types, is a service industry and is influenced by services provided. Service quality is a key concept in tourism organizations, because researches have suggested service quality directly is related to repeat vision of tourists and make more benefits for organization (Kouthoris and Konstantinos, 2005). So, it can be said quality management is an important issue in tourism policy that can help tourism and sport tourism development. Service quality is a challenging concept and there are various definitions of it. One of the most widely used definitions of service quality is: "to meet part of the needs and expectations of customers". So, it can be defined as the difference between customer expectations of service quality and services which are received (Azar et al, 2010).

In addition to the service quality, satisfaction is one the most important issues in tourism destinations (Lee et al, 2011). Lee, San & Hsu (2011) have determined six success factors in tourism industry which satisfaction from service quality is a key factor. Also, satisfaction is an important factor for getting to stable profit (Chen et al, 2011). Satisfaction is the customers feeling or attitude after receiving the services. It's the reaction and judgment of the consumers about the quality of products and services (Kouzechian et al, 2012). Although the relationship between service quality and satisfaction has been widely studied and it's accepted that service quality is the Prerequisite of satisfaction, service quality cannot explain the variance of satisfaction completely (Theodorakis et al, 2013). Lee et al (2007) have declared that perceived service quality influences on satisfaction but doesn't explain total variance of satisfactions. In addition, other variables such as weather conditionals and group interactions impact tourists' satisfaction. Besides the service quality and satisfaction, tourists' loyalty is so important; because in the service industry customer retention is more important than attracting new customers (Kim et al, 2011). Satisfied tourists will offer the destination to their friends and relatives. Also, tourists' satisfaction can increase the attraction, retention and loyalty of tourists and have an important role in economic growth of destination (Lee et al, 2011). For instance, satisfaction of spectators in a sporting event is an important factor in fans loyalty and increase of a team income (Theodorakis et al, 2013). Although, it is generally believed that the tourism service quality led to the satisfaction and the intent to return of tourists (Zabkar et al, 2010), there are inconsistent results from different researches in tourism studies. Yuan and Jang (2008) reported service quality directly impacts on satisfaction and indirectly affects on intentional behaviors. Also, satisfaction has a direct effect on behavioral intentions. In addition, Lee et al (2007) declared there is no significant relationship between satisfaction and the intent to return. Although, Cole and Illum (2006) and Chen and Tsai (2007) reported satisfaction completely mediate the relationship between service quality and intentional behavioral, Baker and Crompton (2000) and Chi and Qu (2008) declared satisfaction has a little effect on this relationship. Review of literature shows that the relationship between service quality, satisfaction and the intent to return of tourists has still remained controversial. It seems in different situations the relationship between these variables is different. So, because of the importance of this issue and having high potential of sport tourism in Iran and lack of the research about this field; according to the designed conceptual model (Fig 1) the purpose of this study is to determine the relationship between sport tourism service quality, satisfaction and the intent to return of sport tourism.



Fig1. The conceptual model of the research

#### Research methodology

The research method was descriptive – correlation. Statistical sample consisted of 265 tourist attended to Tehran's Azadi stadium for watching a football game between Esteghlal and Persepolis. The research instrument was Shonk's questionnaire. The content and construct validity were approved by investigating opinions of sport management faculty members and Exploratory Factor Analysis of pilot research data. The reliability was approved by Cronbach's alpha method ( $\alpha=0.892$ ). The SPSS 19 software was used for descriptive statistics and exploratory factor analysis. Also, Confirmatory Factor Analysis and structural equation modeling (SEM) were done by LISREL 8.7 software.

#### Results

Descriptive statistics showed the average of respondents age was 23 years old. 72/8 percent of them were single and 27/2 percents were married. Other descriptive statistics is mentioned in table 1.

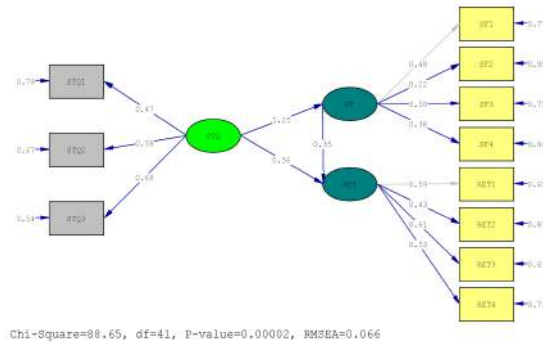


Table1: Descriptive Statistics

Variables	Percentages				
Job status	Clerk: 9/06 %	Labor: 23/77%	Student: 38/86 %	Business: 34/72%	Unemployed: 10/57 %
Income (per month)	<100 \$: 24/53 %	100-200 \$: 27/17 %	200-300 \$: 19/25 %	300-400\$: 13/96 %	400 \$<: 15/09 %
Education	<Diploma: 21/89 %	Diploma: 49/81 %	Technician: 15/47 %	Bachelor: 11/70 %	Master and more: 1/13 %

Confirmatory Factor Analysis (CFA) was used for all variables to re-examine the relationship between the components and related variables. The results of the confirmatory factor analysis confirmed the relationship between factors variables again. After doing confirmatory factor analysis, structural equation modeling (SEM) analysis was done to investigate the relationship between sport tourism service quality, satisfaction and the intent to return of sport tourists (Fig 2).

Fig2. The results of SEM (Standard Coefficients)



As it can be seen in the fig2, the highest standard coefficient (1.25) is the effect of sport tourism service quality on sport tourism satisfaction. Also, The standard coefficients of sport tourism service quality and satisfaction on the intent to return of sport tourists are respectively 0.56 and 0.35. In addition to standard coefficients, T values have been mentioned in the fig3. Amount of T values determine significant relationships. T values should be more than 1.96 and lower than -1.96 (-1.96>t>1.96).

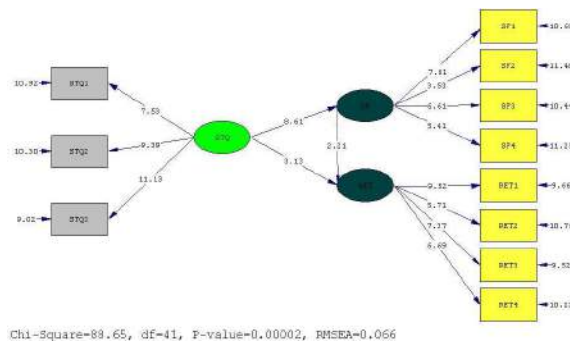


Fig3. The results of SEM (T Values)

As it can be seen all of T values are more than 1.96 and all of the relationships are significant. Moreover, all of the fit indices are acceptable (Table2).

Table2. Fit indices

Fit indices	$\chi^2$	Df	RMSEA	GFI	CFI
Amount	88.65	41	0.066	0.91	0.90

### Discussion

The results showed sport tourism service quality has high and significant effect (1.25) on tourists' satisfaction. So, the factors affecting sport tourism service quality should be noted. Also, since the sport tourists of this study were event sport tourists paying attention to the sporting event and its related factors is necessary. Shonk and Chelladurai (2008) reported contest quality is the most important factor affecting sport tourism service quality. In addition, Ehsani et al (2010) declared "good organized event" is one of the key factors of Iran's sport tourism packages.

Although, in 1970 and 1980 decades obtaining high amount of satisfaction was the final goal of marketing strategies, nowadays intentional behaviors are better predictors of performance. So, the relationship between sport tourism service quality and the intent to return of sport tourists was investigated. The results showed sport tourism service quality has a significant effect (0.56) on the intent to return of sport tourists. Therefore, service quality can be considered as an important factor in predicting the intent to return of sport tourists. The result of this study isn't consistent with the results of Theodorakis et al (2013) study. Their research showed there is a weak and direct relationship between service quality and the intent to return. It shows difference situations may affects on the results and each society has special condition that should be noted.

Customer satisfaction is always an important issue among marketers. In this research satisfaction has significant effect (0.35) on the intent to return of sport tourists. The research literature confirms that satisfaction is a good predictor of the intent to return. For example, Kaplanidou and Gibson (2010) said sport tourists who had a satisfied experience in a sporting event would have the intent to return. However, it's necessary to be noted that satisfaction is one of the predicting factors of the intention to return of sport tourism and maybe the other variables influence on the intent to return.

Previous studies have reported inconsistent results about the relationship between service quality, satisfaction and the intent to return of sport tourism. The results of this study showed although both service quality and satisfaction have significant effect on the intent to return of sport tourists, the influence of service quality is more than satisfaction. Also, because the direct effect coefficient of sport tourism service quality (0.56) is more than the indirect effect coefficient (0.43) it can be concluded that satisfaction doesn't mediate the relationship between sport tourism service quality and the intent to return of sport tourists. In this respect Lee et al (2007) reported satisfaction didn't mediate the relationship between sport tourism service quality and the intent to return of sport tourists. However, Cronin et al (2000), Cole and Illum (2006) and Chen and Tsai (2007) declared satisfaction mediate the relationship between sport tourism service quality and the intent to return. Moreover, Baker and Crompton (2000), Tsuji (2007) and Chi & Qu (2008) said satisfaction have a little effect on this relationship.

According to the results it can be concluded that for increasing the loyalty and the intent to return of sport tourists, service quality is more important than satisfaction. Also, because the tourists who participated in this study were sport fans may return to that sporting event. Finally, it can be noted that for keeping the sport tourists their needs and expectations should be considered.

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