



ISSN 2231-3265
(Online and Print)

Volume - 17 No. 1
Quarterly
January 2015 to March 2015

International Journal of Health, Physical Education & Computer Science in Sports

A Peer Reviewed (Refereed) International Research Journal

Journal Impact Factor 1.937
Index Journal of Directory of Research Journal Indexing

Published by :
Indian Federation of Computer Science in Sports
www.ijhpecss.org & www.ifcss.in
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International Association of Computer Science in Sports



<p>Publisher:</p> <p>Indian Federation of Computer Science in sports</p> <p>www.ijhpecss.org and www.ifcss.in</p> <p>under the auspices of</p> <p>International Association of Computer Science in sports</p> <p>Email:rajesh2sports@yahoo.co.in</p>	<p>International Journal of Health, Physical Education and Computer Science in sports ISSN 2231-3265 (On-line and Print) Journal Impact factor is 1.937.Journal published Quarterly for the months of March, June, September and December. IJHPECSS is refereed Journal.</p> <p>Index Journal of Directory of Research Journal Indexing.</p>
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Students' motivation in Martial Arts Club at University of Social Sciences and Humanities, Hochiminh City National University, Vietnam.

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Abstract

The purposes of this study were to examine the motivation levels of students and evaluate the different in the motivation factors between male and female students toward participating in Martial Arts club at University of Social Science and Humanities – HCMC National University. The sample size in this study, 91 male and 65 female students, was selected. Furthermore, Cronbach alpha and Independent t-test to analysis the data was used in this study.

The results and discussions revealed that there were not significant differences between male and female students in 5 factors: Health and fitness, Recreational amusement, Sense of accomplishment, Social needs (Sig >0.05). But, only significant difference between male and female was found in item MF17 of Psychological needs factor. Especially, both of male and female students had low motivation in item “*can boost my social status*” of Sense of accomplishment factor. Thus, there should have solutions to satisfy students' motivation as well as their needs. For examples, coaches have to be caring, get close as well as encourage their students. In addition, they should praise and commemorate the students who have great effort in practising for them to see that practising Martial Arts in the club could increase their social status, within a narrow range though.

Keywords: motivation, Martial Arts club, male students, female students.

Introduction

It is very interesting to know that motivation is an integral part of students' learning process. It helps to determine the learning purpose and stimulate the learning process. Djigunovie (2001) also stated that motivation was one of the determining factors in foreign language learning. As a result, without motivation, learners will hardly make any attempts to fulfill assignments in the learning process. Furthermore, motivation means a need for fulfillment and success, curiosity, a desire for encouragement and new experiences. That is why, according to Maslow's hierarchy of needs theory, human behaviors derive from human needs that are divided into low and high levels. Lower level basic needs consist of biological and safety ones whilst higher level growth needs include social ones, self-esteem and self-actualization. From March 14th, 2008, the Martial Arts club which is directly under the control of Physical Education Department of University of Social Sciences and Humanities has been officially coming into operation. This has played an important part in fulfilling the target of improving the education quality and in strengthening the trend of doing exercise, and bettering mental and cultural life for students. Especially, in the research of Gao (2002), he said that there had a significant different in motivation between male and female students when they participated in recreational sport. Moreover, Wang and Chiang (2003) also revealed that they were also differed in the mental, social, stimulus – avoidance, and intellectual factors. Thus, this study will help the Department of Physical Education know what gender of students that they teach is in order to make the suitable program to achieve the goals that department and the University were set and help to boost the participation in Martial Arts at HCMC National University in general and University of Social Sciences and Humanities in particular.

The objectives of this study were to examine the motivation levels of students and evaluate the difference in the motivation factors between male and female students toward participating in Martial Arts club. Therefore, this study came along with the hypothesis: There are significant differences in the motivation factors between male and female students toward participating in Martial Arts club at University of Social Sciences and Humanities.

Methods

Sample: 156 students included 91 male and 65 female who participate in Martial Arts club at University of Social Sciences and Humanities, HCMC National University.

Measure

A survey questionnaire was developed base on the studies of Huang (2003), and Sie (2004), however, the researcher changed some parts including 19 items and divided them to five factors (Health and fitness, Recreational amusement, Sense of accomplishment, Social needs, and Psychological needs). Afterward, students answered on 5-Likert scale which includes 5 items: "strongly dissatisfied", "dissatisfied", "neutral", "satisfied" to "strongly satisfied".

Validity and Reliability

The questionnaire was developed in Vietnamese language that including 19 items and the Content Validity Index (CVI) was used to establish validity, three experts were asked to evaluate the questionnaire for clarity, readability, item relevance, discrimination, and inclusiveness of items. CVI of all instruments were 0.97. Then, 30 students were tested those instruments for internal consistency with the same criteria as the subjects at Martial Arts Club – University of Social Sciences and Humanities. Moreover, the coefficient alpha values in the interval of .7264 to .9064 for five subscales which are above the minimum level of 0.7 recommended by Nunnally and Bernstein (1994).

Data Analysis

Mean and standard deviation were used to examine level of students' motivation. Independent t-test was used to evaluate the difference in motivation factors between male and female students toward participating in Martial Arts club.

Results and Discussions

Table 1 Results of Mean, Standard deviation and Independent *t*-test of male and female students' motivation in Martial Arts club (n = 156)

Items	Code	Gender	n	Mean	Students' motivation level	t	Sig
-can help maintain or improve my physical fitness	MF1	Male	91	4.77	Very high	1.275	0.211
		Female	65	4.68	Very high		
- can serve as a good exercise, making me sweat and feel comfortable	MF2	Male	91	4.98	Very high	1.788	0.077
		Female	65	4.91	Very high		
-can help me form the habit of exercise	MF3	Male	91	4.92	Very high	-0.368	0.714
		Female	65	4.94	Very high		
-can enrich my leisure life	MF4	Male	91	4.75	Very high	-0.313	0.754
		Female	65	4.77	Very high		
-can make me relaxed, happy and satisfied afterward	MF5	Male	91	4.88	Very high	1.529	0.129
		Female	65	4.78	Very high		
-can reduce stress and anxiety	MF6	Male	91	4.77	Very high	-0.226	0.822
		Female	65	4.78	Very high		
-can boost my social status	MF7	Male	91	2.52	Low	1.112	0.268
		Female	65	2.38	Low		
-can boost my confidence	MF8	Male	91	4.93	Very high	-0.110	0.913
		Female	65	4.94	Very high		
-give me a sense of accomplishment	MF9	Male	91	4.16	High	2.399	0.018
		Female	65	3.98	High		
-can improve my technique and skill in Martial Arts	MF10	Male	91	4.71	High	-1.691	0.093
		Female	65	4.83	High		
-can enhance the understanding and experience in Martial Art	MF11	Male	91	4.85	High	1.400	0.164
		Female	65	4.75	High		
enhance friendship by inviting friends to participate Martial Arts	MF12	Male	91	4.87	Very high	0.897	0.371
		Female	65	4.82	Very high		
-to be able to make new friends and establish friendship	MF13	Male	91	4.90	Very high	1.843	0.141
		Female	65	4.82	Very high		

-to be influenced by Martial Arts enthusiasm	MF14	Male	91	4.77	Very high	-0.692	0.490
		Female	65	4.82	Very high		
-gain respect from others	MF15	Male	91	4.34	Very high	0.189	0.851
		Female	65	4.32	Very high		
-makes me forgot unpleasant things	MF16	Male	91	4.92	Very high	0.660	0.511
		Female	65	4.89	Very high		
-to satisfy my curiosity on Martial Arts	MF17	Male	91	2.87	Moderate	-28.439	0.000
		Female	65	4.95	Very high		
-to expand my interest	MF18	Male	91	4.75	Very high	-0.313	0.754
		Female	65	4.77	Very high		
-to seek excitement	MF19	Male	91	3.85	High	-0.266	0.791
		Female	65	3.86	High		

p < 0.05

Criteria: Motivation level (1.00 – 1.80: very low; 1.81 – 2.61: low; 2.62 – 3.42: moderate; 3.43 – 4.23: high; 4.24 – 5.00: very high)

The table showed that motivation of both male and female had no differences in Health and fitness, Recreational amusement, Sense of accomplishment and Social needsfactor. Besides that, there also had no differences in items MF18 and MF19 of Psychological needsfactor. These do not support for hypotheses but they can be accepted and understood with those previous reported in the literature, such as in the research of Lai (2000), he said that the essence of recreation is a multi-dimensional and multi-meaningful cultural behavior and human expression and people join recreational sport during their leisure time for fun and fitness. Furthermore, one can control motivation to participate in the sport and enjoy the wonderful experience of sport (Tseng, 2006). Conversely, the results in this study revealed that both male and female had difference in item MF17 of Psychological needsfactor. This is similar with the hypothesis of the study and are consistent with those previous reported in the literature. Such as in the study of Chang (2002), recreation sports are non-job related activity that an individual or group chooses to conduct at one's free time, and satisfy mental and physical needs. Furthermore, it was also supported by Fortier & colleagues (1995), they found that female athletes showed more intrinsic motivation and more identified regulation and less external regulation and motivation than men and women to be more self-determined than men in their activity.

Conclusions

Both of male and female students got very high motivation when they participated in Martial Arts Club at University of Social Sciences and Humanities. And, there was only significant difference between male and female in item MF17 of Psychological needsfactor.

Recommendations for application

The results showed that both of male and female students had low motivation on “MF7; can boost my social status” of factor and male students had moderate motivation on “MF17; to satisfy my curiosity on Martial Arts” of Psychological needs factor. Thus, the Martial Art club should have solutions to satisfy their motivations as well as their needs: Coaches have to be caring, get close as well as encourage their students. In addition, they should praise and commemorate the students who have great effort in practising for them to see that practising Martial Arts in the club could increase their social status, within a narrow range though. Both managers and coaches frequently have to update new techniques and strategies. In addition, they should provide new programs suitable for male students to help them practice enthusiasm and feel that they always discover new things and beneficial from Martial Arts.

Recommendations for future research

This research only indicates the differences in the motivation factors of the male and female students toward participating in Martial Arts club at University of Social Sciences and Humanities, HCMC National University. Therefore, we recommend that future researches should study more deeply different subjects such as among students and other participants, among students of University of Social Sciences and Humanities and ones of other University. Especially, it is suggest that the researches are carried out not only in the Martial Arts club of University of Social Sciences and Humanities but also in other Martial Arts clubs around the country.

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Establish the selection model for karate athletes ages 13- 14 in Tien Giang province in Vietnam

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Abstract

Purpose: the aim of study is to establish the selection model for karate athletes ages 13-14 in Tien Giang province, Vietnam.

Methods: 25 junior karate athletes ages 13-14 participated in this research. Using questionnaires for investigation the opinion of karate experts that to identify the indicators for selection karate athletes. Application the equation C scale to built up the criteria for selection and the multiple regression equation to predict the performance of karate athletes.

Results: the results showed that there were 23 indicators in five components such as morphology, function, general fitness, karate fitness, psychology and to applied for selection male karate athletes ages 13-14 in Tien Giang province. They were body height (cm), difference of maximum and minimum of chest circumference (cm), leg length (cm), achilles tendon length (cm), thigh circumference (cm), arms length (cm), arch foot (cm), signs of puberty, somatotype in morphology; Heart work (points), pulmonary volume (ml) in function; Cooper test, push-up 10s (pcs), maximal trunk extension (kg), arm grip (kg), 30m sprint (s), long jump (cm) in general fitness; Back hand punch 10s (pcs), 180° turn back hand punch 30s (pcs), front kick10s (pcs), round kick 10s (pcs), 180°turn back round kick 30s (pcs), fore hand punch10s (pcs) in karate fitness; Temperament test (808 scale) in psychology. It was also built the selection criteria and classification table of 23 indicators. The research was established the multiple linear regression equation to predict the performance of karate athletes ages 13-14 based on five components: morphology, function, general fitness, karate fitness and psychology:

$$Y = -5.421 + 0.303X_1 - 0.017X_2 + 0.357X_3 + 0.045X_4 + 0.266X_5$$

Conclusion: There were two components such as morphology and psychology that they were an independent factor significantly predicted performance of karate athletes with 62.5%, other components such as function, general fitness, karate fitness have little effect on the performance of karate athletes at the ages 13-14.

Keywords: karate, athlete, selection, criteria

Introduction

Karate is one of the most popular martial arts in the world, and nowadays it was developed extensively in all continents. Practicing karate consists of basic techniques, kata, and sparring or fighting (Imamura, 1998). Karate movements in Vietnam have been developed quite strong compared to other countries in Southeast Asia. Karate also been identified as a key sport of Vietnam at the world championships, asian championships, asian games, seagames. The development of talent is a topic which creates big interest in today's karate federation. The identification and the capacity to promote talent assumes an important and fundamental role in order to achieve significant results in an international event. Regarding talent selection, scientific researches has given only a partial contribute to this complex issue over the year. The concept of talent selection has evolved from the evaluation of youth performance and abilities to a larger and dynamically interpreted evolving process (Abott, 2002). Many children try to reach the excellence in sport. However, talent identification and development programmes have increased popularity in recent decades, there is a lack of consensus in relation to how talent should be defined or identified the model exactly and there is no uniformly to do for all sport or each sport event. The success rates of talent identification and development programmes have rarely been assessed and the validity of the models applied remains highly debated (Roel Vaeyens, 2008).

Tien Giang province is located in the south of Vietnam where the tradition of martial arts movement is popular, however Karate achievements in the arena of national and southern regions are still weak. Currently there is not system of athletes selecting in Karate in this province and the data related to athletes selecting is still lacking. Therefore, to establish the norm of athletes selecting is very important and urgent for the formation the junior team in Tien Giang province. There were several study to establish the criteria for selection karate athletes in Vietnam such as Bao (1998) to research on karate athlete ages 13-14 in Hochiminh city, Nhu (2006) studied on karate athlete ages 12-15 in Dongnai province, Vu (2007) investigated on karate athletes ages 12-13 and 14-15 in Cantho province, Phuong (2011) established the norm of selection in karate athlete ages 13-14 in Hochiminh city, Nu (2012) to investigate on athlete ages 13-14 in Bentre province. But all the studies above had not to create the multiple regression equation to predict the performance of karate athletes and they did not identify the dominant of each factor during built the criteria of selection.

Methods

Subjects: 25 junior karate athletes ages 13-14 from karate clubs in Tien Giang province participated in this study with the agreement of their parents. Parents were explained detail the purpose, procedure of this study and signed in the consent form. Data in this investment was kept secret and using for study only. All of them have health certificates and they were sent to the organizer before taking part the study. The scientific board was approved the proposal of study for both sides of science and ethic. This study followed the policy statement with respect to the declaration of Helsinki.

Procedure:

Questionnaires were sent to specialises, coaches, referees so that choosing the available tests for measurement. It is including anthropometric index, functional test, psychological test, general fitness test and karate fitness test.

Morphology index (9 indexes): body height (cm), difference of maximum and minimum of chest circumference (cm), leg length (cm), achilles tendon length (cm), thigh circumference (cm), arms length (cm), arch foot (cm), signs of puberty, somatotype

Functional test (2 tests): heart work (points), pulmonary volume (ml)

General fitness test (6 tests): Cooper test, push-up 10s (pcs), maximal trunk extension (kg), arm grip (kg), 30m sprint (s), long jump (cm).

Karate fitness test (6 tests): back hand punch 10s (pcs), 180° turn back hand punch 30s (pcs), front kick10s (pcs), round kick 10s (pcs), 180°turn back round kick 30s (pcs), fore hand punch10s (pcs).

Psychological test: temperament test (808 scale)

To apply the chosen tests for measurement and setting the selectional criterias and the multiple linear regression equation to predict the performance of karate athletes ages 13-14

Athletes were measured anthropometric and functional test in the morning and completed the general fitness test in the afternoon in the first day. The psychological test and karate fitness test were done in the morning and afternoon in second day. All subjects were requested to warm up before taking part the functional test and fitness tests. Drinking water and lunch food was served to subjects.

Statistics: Data was collected to calculate mean, standard of deviation. The step wise multiple regression analysis was applied to predict the performance of karate competition at 0.05 level of confidence because the selected test satisfied the normality test.

RESULTS AND DISCUSSION

For the somatotype: the study was used the Carter and Heath (1990) methodology to identify the body structure. Percentage distribution of the somatotype of 25 athletes as follows: there were 10 athletes in the centre of the triangle represents 40%, 9 athletes tend to favor the ectomorphy 36%, and 6 athletes tend to favor the endomorphy 24%.

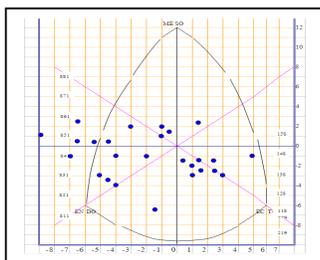


Figure 1: Diagram Somatotype morphological structure of 25 karate athletes ages 13-14 in Tien Giang province, Vietnam

For the assessment of the signs of puberty:the study have been used the Tanner scale for the secondary sex characteristics for male children. The results showed that all subjects have a stage 2: testis long axis 2.5 to 3.2 cm, pubic hairwith minimal coarse, pigmented hair at base of penis.

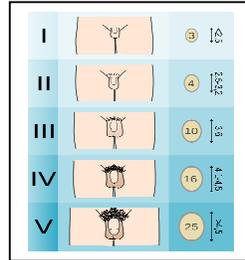


Figure 2: Illustration of the Tanner scale for male

Table 1: Results of measurement on junior karate athletes

Test	Mean	SD	Test	Mean	SD
Push up 10s (pcs)	13.40	6.91	Body height (cm)	1.53	1.84
Trunk extension (kg)	29.92	6.66	Diff chest circumference (cm)	5.60	5.89
Arm grip (kg)	28.22	0.58	Leg length (cm)	71.96	3.14
30m Sprint (s)	5.47	0.30	Achilles length (cm)	25.72	5.05
Long jump (m)	1.79	0.08	Femoris circumference (cm)	42.10	0.41
Gyaku zuki 10s (pcs)	11.56	2.84	Roof of foot (cm)	1.64	0.18
180dec turn back Gyaku zuki 30s (pcs)	16.64	2.56	Arms length (cm)	141.96	36.88
Mae geri 10s (pcs)	10.64	2.59	Pulmonary volume (L)	2.29	0.80
Mawashi geri 10s (pcs)	9.88	2.87	Heart work (point)	2.82	0.80
180dec turn back Mawashi geri 30s (pcs)	17.64	2.03	Cooper test (V02max) (ml/kg/min)	35.84	2.84
Kizami zuki 10s (pcs)	12.16	5.81	Score in sexual secondary puberty (point)	25.12	7.62
			Temperament (point)	22.11	7.62

Calculation point of the test:

The study has built a scale recruitment male karate athletes ages 13-14 according to C scale consists of 23 test items corresponding 5 of the selection process as morphology, function, general fitness, karate fitness and psychology. The expert opinion for the level of importance of the components was considered as a coefficient in the calculation of each component: morphology was 30%, function was 15%, general fitness was 20%, karate fitness was 20%, psychology was 15%.

Equation C scale for each test is as follows:

$$C = 5 \pm 2 \frac{x_i - \bar{x}}{\sigma_x}$$

Where,

- x_i : value of test mesuarment
- \bar{x} : mean
- σ_x : standard of deviation

Table 2: Transcripts classified synthesis in male athletes recruited gifted karate athletes ages 13-14 in Tien Giang province

ID	Morph	Function	Gen.fit	Kar.fit	Psycho	Total score	Classification	Competition Score
	X1	X2	X3	X4	X5			Y
1	11.3	6.8	7.7	9	6	40.7	Mid average	2
2	21	10.5	13.3	21	10.5	76.3	Very good	10
3	14.6	6.8	11	9	4.5	45.9	Mid average	4
4	20.6	7.5	13	19.5	10.5	71.1	Very good	10
5	12.4	6.8	6.7	12	3	40.8	Mid average	4
6	15	8.3	10	15	3	51.3	Average	4
7	12.8	8.3	10.7	15	9	55.7	Average	4
8	18	9.8	10.3	19.5	9	66.6	Good	8
9	18.8	8.3	10.3	19.5	10.5	67.3	Good	8
10	22.5	8.3	8.7	21.5	6	66.9	Good	6
11	12.8	8.3	8.7	12	6	47.7	Mid average	2
12	12.4	5.3	7.7	15	9	49.3	Mid average	6
13	10.1	6	8.7	18	9	51.8	Average	2
14	9.4	5.3	9	15	4.5	43.1	Mid average	4
15	13.5	5.3	8.3	12	7.5	46.6	Mid average	2
16	13.5	6.8	9.3	12	9	50.6	Average	4
17	10.5	5.3	7.3	18	6	47.1	Mid average	2
18	11.3	3.8	7.7	15	7.5	45.2	Mid average	2
19	10.5	6	6	9	9	40.5	Mid average	4
20	19.9	7.5	8.7	19.5	7.5	63	Good	6
21	12	6	6.7	15.5	6	46.2	Mid average	2
22	11.3	5.3	10	12.5	1.5	40.5	Mid average	2
23	10.1	5.3	8.3	13	6	42.7	Mid average	6
24	10.5	6	10	15.5	4.5	46.5	Mid average	4
25	9.8	7.5	10.3	15	4.5	47.1	Mid average	2

Also to verify the fact, we conducted a draw for the 25 athletes and conducting competitions (kumite) following the WKF rules. Conventional score as follows: get 10 points for final, get 8 points for semi-final, get 6 points for quarter-finals, get 4 points for elimination round, get 2 points for pre-elimination round. From the results of this research, the finding is to set out the regression equation to relate multivariate competition achievements with other factors.

Regression Model

$$Y = \alpha + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \beta_5x_5 + \epsilon_i$$

Where,

Y = Kumite competition points (Dependent variables)

α = Constant,

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = Regression coefficient

x1 (morphology factor), x2 (function factor), x3 (general fitness factor), x4 (karate fitness factor), x5 (psychological factor) = Independent variables

ϵ_i = Error Term

Table 3: The coefficient of regression multivariate between competition achievement and the independent variables

<i>Regression Statistics</i>						
Multiple R	0.8387777					
R Square	0.70354803					
Adjusted R Square	0.625534354					
Standard Error	1.540005116					
Observations	25					
ANOVA						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	5	106.9393006	21.38786	9.01826532	0.000159779	
Residual	19	45.06069938	2.371616			
Total	24	152				
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-5.42140981	1.830738529	-2.96132	0.00801896	-9.253189576	-1.58963004
X Variable 1	0.303645183	0.131803948	2.303764	0.03269931	0.02777635	0.579514017
X Variable 2	-0.01773492	0.297580086	-0.0596	0.9530989	-0.640577192	0.60510736
X Variable 3	0.357297494	0.222398563	1.606564	0.12464193	-0.108188047	0.822783036
X Variable 4	0.045661301	0.113514519	0.402251	0.69198884	-0.191927317	0.28324992
X Variable 5	0.266545596	0.139866237	1.905718	0.07193151	-0.026197803	0.559288995

According to the regression equation shows that the variable Y (competition performance point) depends on the variable X consists of 5 components: morphology, function, general fitness, karate fitness, psychology. If all or a portion of the variable X had been changed the variable Y would be changed. For example, if the total score of the test through the measurement of athletes A is rising that the result of regression equation will show greater and it can predict a player's performance will be better. Multiple R = 0.838 shows the relationship between the variables is relatively strong. R Square = 0.703 showed that 100% of the variation in performance of athlete, there is only 70.3% of the examined components affect performance of athletes, and 29.7% are due to other factors affecting the performance of athlete unexplored.

The linear regression equation was established follow:

$$Y = -5.421 + 0.303X_1 - 0.017X_2 + 0.357X_3 + 0.045X_4 + 0.266X_5$$

But looking at the value of p, there are only variable 1 (morphology) and variable 5 (psychology) statistically valid with $p < 0.05$, the other variables are not significantly. Indeed, the highest correlation between the performance of athletes and two components (morphology and psychology) is $R=0.703$ and they explain 62.5% of the change of competition achievements, three remaining components explain only about 7.8% improvement in performance of karate athletes.

Conclusion

The research has identified 23 indicators in five components such as morphology, function, general fitness, karate fitness, psychology and to apply them for selection male karate athletes ages 13-14 in Tien Giang province. It is also built the selection criteria and classification table of 23 indicators. The research is established the multiple linear regression equation to predict the performance of karate athletes ages 13-14 based on five components. There are two components such as morphology and psychology that they are an independent factor significantly predicted performance of karate athletes, other components such as function, general fitness, karate fitness have little effect on the performance of karate athletes at the ages 13-14.

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Effects Of Different Factors Of Running On Maximum Speed

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Abstract

Maximum Speed is mainly depends on stride frequency, stride length, lower limb length, arm length, leg length, build of the body, leg explosive strength etc. The main purpose of the present study was to find out the effects of the stride frequency, stride length and the leg explosive strength on maximum speed. Fifteen college girls of 19 to 25 years of age were considered as the subjects. The stride frequency, stride length, explosive length and the maximum speed performance were measured through standard process. It was observed from the study that the stride length was highly negatively and significantly correlated with maximum speed and the stride frequency was highly positively significantly correlated with the maximum speed but the relation between maximum speed and the explosive strength was very moderate. It were concluded from the study that the sprinting speed was significantly and positively influenced by the stride frequency. The maximum speed depends inversely upon the stride length and the influence of the explosive strength on speed was very moderate.

Key Words: Speed, Stride Frequency, Stride length, Explosive Strength.

Introduction

Running is a fundamental movement of human being. It demands specific co-ordination between upper and lower extremities. When it executed with maximum speed is called sprint and guided by some rules and regulation under an organization may be considered as a competitive event. In different events of Sport and Game sprint plays an important role. It has firm belief with scientific truth that the speed is a hereditary factor composited by White muscle fiber, less muscle myoglobin, quick sending and receiving functioning of nervous system, different biomechanical functioning etc.

These inborn qualities having some specific developmental pattern are not influenced by training system. Speed mainly depends upon the Stride frequency and stride length along with the Lower Limb length, Arm length, Leg Length, Build of the Body, leg explosive strength etc. In sprint the Performer has to cover a specific distance in minimum time. In this case the momentum of the body acted with the co-ordinated effect of the said different factors. There is specific dependence of running upon the said factors. Among the said factors, stride length is thought to be hereditary whereas stride frequency depends upon factors all of which are not hereditary in nature. So, training for sprinters is mainly aimed at improving stride length with maximum possible stride frequency.

Schmolinsky et al (1983) showed that the purpose of sprint training should be to increase leg explosive strength for maximum possible Stride length with increase stride frequency. Rompetti (1957) and Hoffman (1967) analyzed the relation of stride length with body height and leg length and found statistically positive significant correlation. Gundlach (1963) investigated thoroughly regarding stride length during 100m sprint and reported that top sprinters increased their stride length up to 60m whereas poorly trained athletes increased them up to 30m. Saito et. al. (1975) reported that the sprinters exhibited slight decrease in stride length at the extreme velocity. So it is very clear that among different dependent variables of speed the stride frequency, Stride length and the explosive strength are the three major variables and all they are almost trainable factors. Considering the said view the aim of the present study was to find out the relationship among the stride frequency, stride length, leg explosive strength and the performance.

Methodology

Fifteen trainee girls of 19 to 25 years of age of the Government Arts College for Women Ramanathapuram, has been selected as subjects. The subject did not have any earlier experience about organized training except their routine physical education programme in the training college. The stride frequency, stride length, explosive length and speed performance were the measured Variables. For measuring speed, stride length and stride frequency, the subjects were instructed to run 60m sprint. Marble dusts were spreaded on the running surface from 30mt to 60mt of the course to record the foot prints. From the foot print the Stride length and the stride frequency were recorded. Time keepers were posted at the finishing line after 60mt. The speed performance was measured in between 30-60mt. by a manually operated electronic stop watches with 1/100 sec. calibrations.

Results and Discussion

The table no.1 reveals that the mean values of maximum speed as dependent variable and selected mechanical, anthropometric and motor fitness parameters as independent variables in this study. To find out the relationship among stride length, stride frequency, explosive strength and speed the co-efficient of correlation were compute by product–moment method.

Table No.1:Anthropometric and Motor Fitness Parameters

Stat.	Max.Speed (sec)	Stride Length (cm.)	Stride Frequency (No)	Explosive strength (cm.)
Mean	4.65	177.33	17.17	28.53
S.D	0.42	17.56	1.88	4.10

Sources: primary Data

Co-efficient of Correlation between different Speed Variables and Performance

	Co-efficient of Correlation Value		
Variables	Stride Length	Stride frequency	Explosive strength
Speed	-0.76*	0.68*	0.45

Significance level- 0.05

It was observed from the above table that the stride length was highly negatively Correlated with maximum speed and the Stride frequency was highly positively correlated with the maximum speed. Both the relation has significant. So, increase of stride frequency might reduce the stride length and vice versa during maximum speed.

This result explains the findings of Saito et. al. (1975). who noticed small decrease in stride length at maximum speed both in surface running and treadmill running. But as speed is the conjugate effect of said two factors so they must be taken into consideration according to the ability of the respective athlete. The performance was also moderately and negatively correlated with the explosive strength but that was not significant. Schmolinsky et al (1983) showed the same that to increase the maximum speed the leg explosive strength should be increased.

Conclusion

From the results of this study, following conclusions were drawn:During sprinting speed, stride length varies inversely with stride frequency.Maximum speed directly and positively influenced by stride frequency.Maximum speed depends inversely on the stride length if it considers a single variable only.

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A Comparative Study On Strength Endurance & Agility Between Kabaddi And Kho-Kho Players

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Abstract

Kabaddi and Kho-Kho both are Indian traditional game. Both games is played particularly in rural and urban areas. Kabaddi and Kho-Kho game was originated in India and has considerably long tradition. Kabaddi and Kho-Kho game is, at present, becoming the most popular amongst the indigenous activities in Physical Education in India and neighbouring countries in South Asia. Kabaddi and Kho Kho games provided to do mostly same the body activities. PURPOSE: The purpose of the present study was to compare the muscular strength endurance and agility between kabaddi and kho-kho players, who represented inter-university competitions. METHOD; Total 20 (10 kabaddi and 10 kho-kho players) subjects from visva-Bharati in West Bengal, India were selected for this study. Their age ranged between 17-27 years. Chinning-up and shuttle run-10*10yards were considered for this study. It was hypothesized that no significant difference of chinning up & shuttle run between kabaddi and kho-kho players will be present. For analysis of the data mean, standard deviation and students 't' test was applied. Level of significance set was .05 level. FINDINGS; Result shows that there was no significant difference found in chinning up & shuttle run.

Keywords: physical fitness, muscular strength, agility, kabaddi players, kho-kho players.

Introduction

Kabaddi and Kho-Khoboth is Indian traditional game. Both games is played particularly in rural and urban areas. Kabaddi and Kho-Kho game was originated in India and has considerably long tradition. Kabaddi and Kho-Kho game is, at present, becoming the most popular amongst the indigenous activities in Physical Education in India and neighbouring countries in South Asia. Kabaddi and Kho Kho games provided to do mostly same the body activities,

Kho-Kho and Kabaddi are the most popular games in Marathwada region of Maharashtra. The Study of physical fitness and profiles of sports participants is one of the most popular areas in sports physical fitness research. Fitness is the overall pattern of Physiological characteristics that makes person a unique individual. It is well known fact that players, of one game differ from the players of other games in their fitness traits (Carrom 1980). The game of Kabaddi and Kho-Kho are simple in nature, easy to organize, less expensive. Hence they reach to common men. Both games can be played in a small area and practically less equipment is required. Kabaddi is most aggressive and heavy contact game, but Kho-Kho is a semi contact game. Both games differ from each other in their nature, skill, techniques and strategies etc. The complex nature of physical fitness can be best understood in terms of its components such as cardiovascular endurance, strength, flexibility, speed, agility and muscular endurance. In addition to these components of physical fitness there are many other factor which contribute to physical fitness including heredity, living standard, nutrition, hygienic conditions, environmental and climate factors etc. (Sallis. et.al. 1992).

Different games provided to do the body activities, differently. Kabaddi and Kho- Kho players are equally conductive for developing these skills amongst players. The theory of coordinative abilities is though it is rapidly getting recognition in the world of sports. However, there is no general agreement regarding the number of coordinative abilities required for sports.

Purpose of the study

Purpose of this study was to compare the strength endurance & agility between Kabaddi and Kho-Kho players.

Methodology

Selection of subject

For the purpose of the study 10 Kabaddi and 10 Kho-Kho players of the University level players of age ranging between 17-27 years were being selected as subject. The subjects were thoroughly acquainted with the testing procedure as well as the purpose and significance of the study. A thorough orientation of requirements during the testing procedures and physical fitness test were made for successful completion of study.

Collection of data

The data on selected physical fitness variables were collected by employing the standard testing procedures available in the literature. This data was collected in the field of Department of Physical Education, Vinay Bhavana, Visva-Bharati University, Santiniketan, Birbhum, and West Bengal, India.

Selection of variables and their criterion measures

Table 1 represents the chinning up & shuttle run which were selected for this study .

Sl. no	variables	units	Criterion measures
1.	Chinning-ups	Maximum performed	muscle strength
2.	Shuttle run(10*10yard)	seconds	Agility

Statistical procedure

The data was analyzed and compared with the help of descriptive statistics and independent 't' test. The level of significance to the test 't' ratio was fixed at 0.05 levels which was considered to be appropriate for the purpose of the study.

Findings & Discussion

Table 2; Descriptive analysis of muscular strength and agility between Kabaddi and kho-kho players

Kabaddi				Kho-kho	
Sl. no	Variables	Mean	SD	Mean	SD
2.	Chinning-ups	7.8	2.69	6.3	2.05
3.	Shuttle run	25.20	0.98	25.17	0.75

Table3;Comparative analysis of chinning-ups between kabaddi and kho-kho players

Group	Number	Mean	SD	't' Value
Kabaddi	10	7.8	2.69	1.39
Kho-kho	10	6.3	2.05	

t 0.05 (18)=2.10 Not significant at 0.05 level

Table4:Comparison analysis of shuttle run(10*10 yards) between kabaddi and kho-kho players.

Group	Number	Mean	SD	't' Value
Kabaddi	10	25.20	0.98	0.084
Kho-kho	10	25.17	0.75	

t 0.05 (18)=2.10 Not significant at 0.05 level

Table 2 depicts that the mean and standard deviation values of muscular strength and agility of kabaddi and kho kho players. There values were recorded as kabaddi players are muscular strength endurance 7.8 ± 2.69 , agility 25.20 ± 0.98 ,and kho kho players muscular strength. 6.3 ± 2.05 , agility 25.17 ± 0.75 , respectively.

The perusal of table 3 indicates that the mean and standard value for strength endurance of kabaddi and kho kho players were recorded as 7.8 ± 2.69 and 6.3 ± 2.05 respectively. Mean values shows that kabaddi players have performed better than kho kho players.

The perusal of table 4 indicates that the mean and standard value for agility of kabaddi and kho kho players was recorded as 25.20 ± 0.98 and 25.17 ± 0.75 respectively. Mean value shows that kho kho players have performed better than kabaddi players.

The study was aimed to find out comparative relationship of muscular endurance and agility between university level kabaddi and kho kho players. There are various factors influence that the muscular strength & agility such as physical activity, training, nutrient maturation etc. Dhanula et al. (2012) was shown that there were significant differences in body composition; trunk & hip flexibility of Kabaddi & Kho-Kho Players. Furthermore regarding to muscular endurance between both the groups, showed significant difference. Research study was proved that Kho-Kho players are having good speed and agility compare to Kabaddi player.

The present study was indicated that kho kho players are better than kabaddi players of agility and kabaddi players are better than kho kho players of muscular strength. Same result found Mayur M. Patel et al. (2014). investigated that kho kho players are better agile than kabaddi players. Satabdi et al. (2014) was shown that there Kho-kho playing significantly increases the speed, agility and explosive strength. Sing Raspal et al. (2013), there study was shown that kho kho players are better than kabaddi players of agility.

Fig1: Comparison of Mean Difference of Chinning-up between Kabaddi and Kho-Kho players

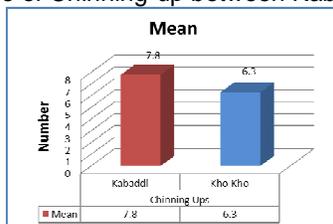
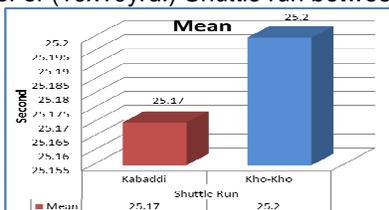


Fig2

Comparison of Mean Difference of (10x10yrd.) Shuttle run between Kabaddi and Kho-Kho players.



Conclusion

On the basis of result and statistical analysis of data within the limitation imposed and the experimental condition, the following conclusions may be drawn:

Kabaddi players were shown that the better muscular strength than kho kho players.

Kho kho players are shown that the better agile than kabaddi players.

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Rejuvenating the life force and mind

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Abstract

Man lives in consonance with self, society and nature. Humans have body, life-force and mind. Till the life force is active and functional, mind functions. When the life-force gets separated from the body, death occurs and mind ceases to exist. We have already learnt about the physical body and its functions. We shall learn more about the 'life force' and the 'mind'.

Yoga is preserving harmony between body and life-force; between life-force and mind; between self and society and between self and nature. To preserve harmony between body and life-force blood circulation, heat circulation and air circulation need to function in a pattern with precision. There are simple exercises which can be learnt from a guru to preserve the harmony between body and life-force.

The next important factor is to learn exercises to rejuvenate the life-force and preserve harmony between the life-force and mind. Let's learn them and live long.

Life-force particles is also called as fundamental energy particles. When these particles rotate in a whirling speed, waves get formed and they spread in the form of bio magnetic waves. These waves give the required energy to the body. The bio magnetic waves are called mind. These waves rotate in whirling motion. Only when we control the whirling waves mind becomes peaceful. Penance and meditation are required to control the mind.

Rejuvenating the Life-force:

The world requires water resources in abundance similarly for better functioning of the body requires the life force particles in abundance. Life force particles are self rotating and hence energy is produced. This energy is called bio-magnetism. They should keep increasing in number to compensate the loss, the loss because of use. When the number gets reduced, the power and force of the life-force particles also gets reduced. Body feels tired, ageing happens and at the end, death occurs. When the body dies the life force particles get out.

Life span spreads over 120 years. But because of the ignorance of the value of the life force it is spent wastefully and the end comes even before 60 or 70 years. Children don't know its importance. Girls begin to feel about it at the age 12 and above boys at the age of 14 and above.

Rejuvenating life force is very important. This is possible by practicing Kayakalpa. This was originally designed by the Siddhas. Kayakalpa exercises rejuvenate the life force particles which in turn keeps the body young. Ageing is slowed down. Longevity is achieved.

Rejuvenating Mind

Mind is the culmination of bio-magnetic waves. Bio-magnetic waves function through the brain. And when it functions through the brain it becomes mind. The function of the mind is common in every one. When a person's activities are imbalanced he is called 'mentally sick person'.

When a person thinks better, speaks good, does good deeds, all these actions get imprinted in the bio magnetic waves and through the waves in to the genetic centre.

There are always good and bad. Something that brings happiness is good and something that brings worries is bad. Good thoughts beget good. So it gets imprinted as good imprint and bad thoughts beget badness. So it gets imprinted as bad imprint. The culminating point of all good imprints is morality. One's thought, words, deeds should not cause worry to (1) self (2) others (3) to body (4) mind (5) immediately (6) or in the future. Then his thoughts, words and deeds are considered to be good and it becomes values in life, in other words morality.

At the end one gets the divine qualities and leads a blissful life in peace and contentedness. And also it leads to the attainment of eternal wisdom and perfection. This eternal wisdom and perfection become point of salvation.

Life-Force:

Living beings :

We see around us a lot of living beings and non-living things. Atom is the finer aspect of inner particle of an object. Scientists have gone up to Holy Grails.

Electron is a very small piece of matter that moves round the nucleus or the central part of an atom. The life force particle-is far smaller than that of electron. When this self rotating energy particles move irregularly in a matter, it is called non living things. When the energy particles are moving in a circuit in a body it is called life force and the body is called living being.

The circuitous movement is something that always ends at the starting point. Human body is made up of solid substance, water, fire, air, and life force particles. All these five elements form proportionately and make a systematic structure, the physical body.

The blood, heat, air, and life force particles circulate through out the body maintaining harmonious relationships.

Individual life-force particles are called 'life energy particles'. Their intensified collection is called "Astral body"

These energy particles are referred to as Akash in Sanskrit. These fundamental energy particles in the universe is called Maha-Akash. When these dense collections go on to form the five elements (Pancha boothas) they are called Bootha — Akash. In living beings these fundamental energy particles become life force and are called Sidh-Akash.

The Volume of the life-force particle:

One cannot see the Life-force, but feel it. The scientists have measured the volume of an electron. They say that it weighs as 9×10^{-28} grams. Philosophers say that fundamental energy particles cannot be weighed or seen. It is far too smaller than the electron. The saint poet Thirumoolar in this Thirumantram (2011) tried to describe the volume of the particle.

"Take a cow's hair of length equal to the thickness and. then cut it into hundred equal pieces. Take one out of the hundred. Again cut the one into one thousand equal pieces. Take one out of those one thousand pieces. That is the size of the life force particle.

Can science determine to the volume of the life force particle? Peter Higgs, an English scientist tried to find out the elusive particle in 1964, but failed. Still it remains a puzzle to the scientists. They could only say that it was elusive but present all over.

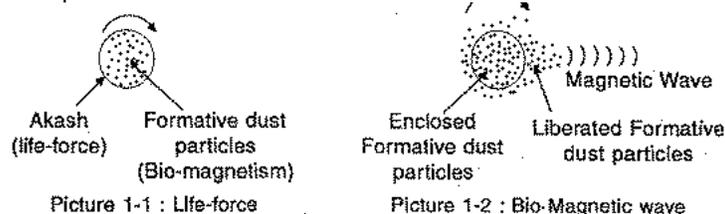
Structure of the life - force particle:

Life force particle (Akash) is a dense collection of thousands of Formative dust particles. Each dust particle has a self rotatory movement. As it is round in shape and revolves in such a great speed, even senses cannot feel it.

The origin of life force particles (Akash):

The Absolute space, through its self compressive surrounding pressure force and kinematic quivering, got crushed into 'Formative Dust'. These formative dust particles are called 'infinitely smaller energy particles', 'ether and dust'. These formative dust particles in dense collection is called life force particle.

This life energy particle is self rotating at a speed of millions of cycles per second. When the speed of rotation is reduced slowly over a period of time, it becomes electron. When the speed gets slowed down further it becomes proton and later neutron. Finally when the rotation completely stops it, becomes the Absolute space and it is called 'Black Hole' which is the 'Static force' or Divine state.



The dense concentration of Akash particles became visible objects. Those particles which move inside the living beings are called Life energy particles or Life force.

Reference:-

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Effects Of Ladder Drills Training On Agility Performance

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Abstract:

As we all know that and previous studies have shown that the implementation of ladder drills on a training program are one of the methods used to improve the agility performance. However, to date, no study was carry out to determine the effectiveness of ladder drills training only in increasing agility performance. Thus, the purpose of this study was to find out the effects of ladder drills training among University of Malaya students. Thirty students of University of Malaya (N = 30) with mean age (M = 21.20 ± 1.16) years, their height (M = 168.13 ± 8.27) cm and weight (M = 61.70 ± 9.55) kg were recruited by using the method of purposive sampling. They were randomly assigned to ladder drills training group (N = 15) and the control group (N = 15). The ladder drills training group underwent 4 weeks of training session (15-50 min/day, 3 days/week). The agility performance was measured with agility t-test where the result were taken and recorded twice. The results had shown that ladder drills training induced significant improvement (t = 15.33, df = 14, p < .05) on agility t-test. There were significant differences of the agility performance between the experimental group and the control group (t = 4.74, df = 28, p < .05) during post-test. The results revealed that the ladder drills training is a feasible method to enhance the agility performance.

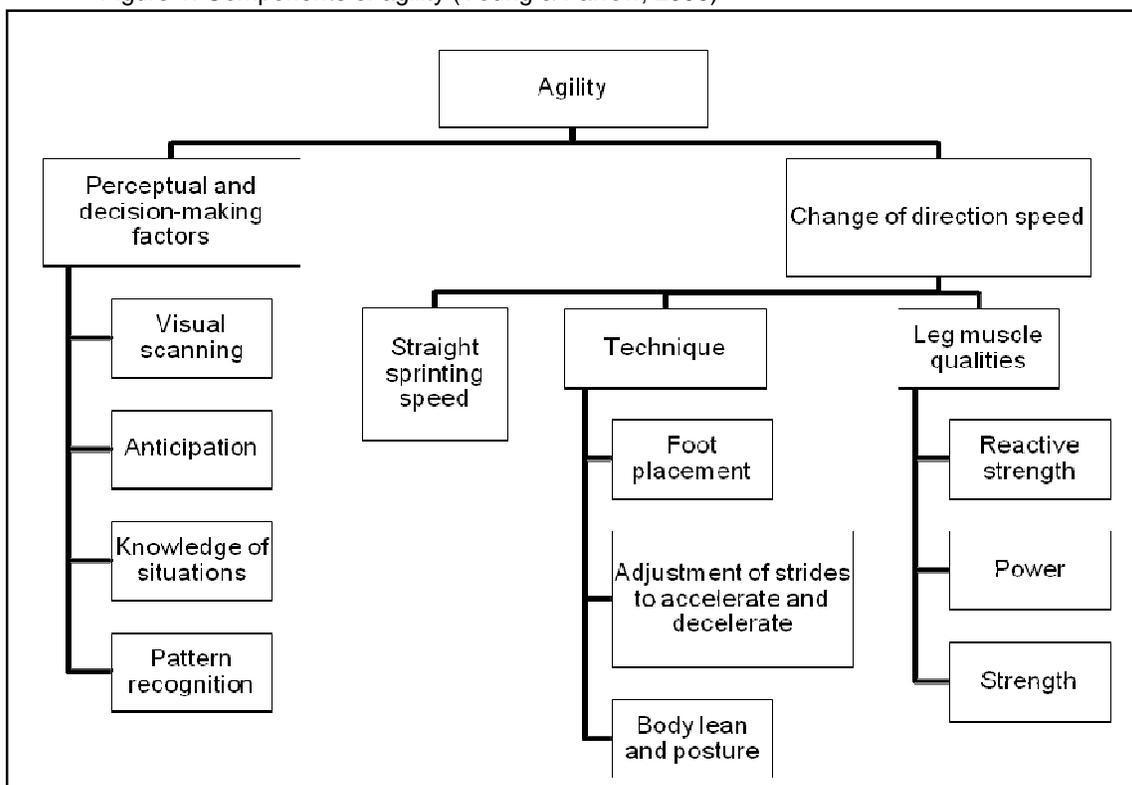
Key words: Ladder Drills Training, Agility Performance

Introduction

Athletic performance is advancing every day. Athletes are continuously searching for new training methods that will enhance their performance and give them an edge in the competition. Many sports performed on a court or on a field require high-speed total body movements. Many of these are in response to the motion of a ball, opposition players, or teammates. This important component of athletic performance may be described as agility, and it is sometimes grouped together with terms such as speed and quickness (Young & Farrow, 2006).

Agility has historically been related to the ability of an athlete to display high levels of speed with the inclusion of directional changes (Holding, Meir, & Shi, 2013). Recently, researchers have noted that movement displayed in sport is primarily governed by stimuli within the environment, and thus an athlete's ability to perceive changes and respond accordingly will greatly impact upon the athlete's movement speed and efficiency (Holding, Meir, & Shi, 2013). As a result, the definition of agility has been updated to "a rapid whole-body movement with change of velocity or direction in response to a stimulus" (Young & Sheppard, 2006). This definition therefore includes both the perceptual and physical components of agility (Figure 1).

Figure 1: Components of agility (Young & Farrow, 2006)



Agility is important in maximize athletic performance. Agility requires the athlete to coordinate several activities including the ability to react and start quickly, accelerate, decelerate, move in the proper direction, and maintain the ability to change direction as rapidly as possible while maintaining balance and postural control. The athlete must adapt to the environment, react quickly, adjust bodily position accordingly, and transition from one skill to another as efficiently (Ratamess, 2012). Moreover, as it strengthens the muscles and tendons of all major joints it will aid in preventing injuries by improving body control through repetition of proper movement mechanics(White, 2007). Also, it will evade other athletes on the field or court, maintain the proper position to catch, strike, and kick a ball, and maintain the proper position to block or tackle an opponent (Ratamess, 2012).

To improve agility, coach often uses the agility ladder to drills the athlete's footwork in enhancing their athlete performances. According to Manfredi (2014), it uses a piece of equipment that resembles a rope ladder that has been placed on the ground and players use it to do drills requiring them to quickly jump into and out of the squares of the ladder. These drills help players work on moving their feet quickly while maintaining their balance, which is critical for fielding and running down the base path. Ladder drills also increase neural connections with foot movements that mimic the quick thinking that players must do when hitting or fielding.

In modern days, we can get the agility ladder from sport manufacturing. Agility ladder is made up of two nylon straps with plastic rungs spaced apart about 15-18 inches, depending upon the training purpose(White, 2007). Also, the agility ladder can be made at home using supplies from your local hardware store (rope and PVC pipe), or simply made by a tape by taping the floor accordingly like an agility ladder.This agility ladder is a very popular piece of equipment for coaches looking for ways of improving their speed, coordination, balance, and agility (White, 2007).

Ladders can be used for variety of purposes. The two most obvious purposes are increased foot speed and coordination. By improving these qualities, your athletes will develop better footwork and improve their overall athleticism. To get the most out of your ladder drills, it is important to progress from easy drills to more advances(White, 2007). Furthermore, compelling different moves through agility ladder simulators the movements required during competition.

Ladder training is active and indispensable to increase foot speed, agility, timing and coordination for the athlete. This training should be specific to game situations (Srinivasan & Saikumar, 2012). For example, badminton players can perform side steps with a speed ladder and come back the shuttlecock. A player can also sprint towards a box, coming back the shuttlecock, backtrack towards another box and return the shuttlecock again. Ladder training allows coaches and players to be imaginative and these drills can also give a lot of pleasure (Srinivasan & Saikumar, 2012).

Objective

1. To measure the agility performance of the subjects
2. To compare the significance level of the agility between the experimental group and control group.

Method

Experimental method was applied in this research. A ladder drills training program was designed to the experimental group (n = 15 subjects) and control group (n = 15 subjects). The ladder drills training program was conducted in a period of 4 weeks, three sessions per week (Monday, Wednesday and Friday), duration training for 15-50 min/d, with a total of 12 sessions of ladder drills training.

Subjects

The subjects of this research were recruited using purposive sampling from the undergraduate students of the University of Malaya. A total of 30 students (n = 30) were recruited to become the subjects of this research. They were randomly divided into two groups, the experimental group (n = 15) and the control group (n = 15) which respectively with a total of 15 subjects (8 males & 7 females) in the experimental group and 15 subjects (9 males & 6 females) in the control group. The subjects (n = 30) with the age ($M = 21.20 \pm 1.16$) years, their height ($M = 168.13 \pm 8.27$) cm and their weight ($M = 61.70 \pm 9.55$) kg.

Measurements

For agility assessment, the agility t-test was used as the instrument of this research to assess the agility of the subjects. The agility t-test is one of the common tests. It is used in many collegiate sport programs, and in laboratory methods classes in exercise science and physical education academic programs in the United States. This test is best suited for athletes in sports that require sprint forward, move laterally, and backpedal. This test has a test-reliability range of .93 to .98 (Miller, 2012).

This test was conducted twice which were pre-test and post-test to compare the agility performance of the experimental group before the ladder drills training and implementation of the ladder drills training and also the agility performance of the control group without any implementation of ladder drills training.

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

After the warm up section, the subject gets ready at the starting point of agility t-test. According to Raya et al. (2013), the T-test was administered using a version standardized from previous literature. The units of measurement were changed from yards to meters, creating a 10 x 10 m course. The course procedure of having the participant touch each cone is not standardized in the literature; therefore, the task was eliminated. The directions adopted for this study were based on Miller et al. (2006). On the "go" command, the participant (1) ran or moved as quickly as possible forward to the center cone, (2) sidestep to the right 5 m to the right cone, (3) sidestepped to the left 10 m to the far left cone, and then (1) sidestepped back to the right to the center cone (Figure 2). The participants then ran or moved backward as quickly as possible to cross the finish line (Miller et al., 2006).

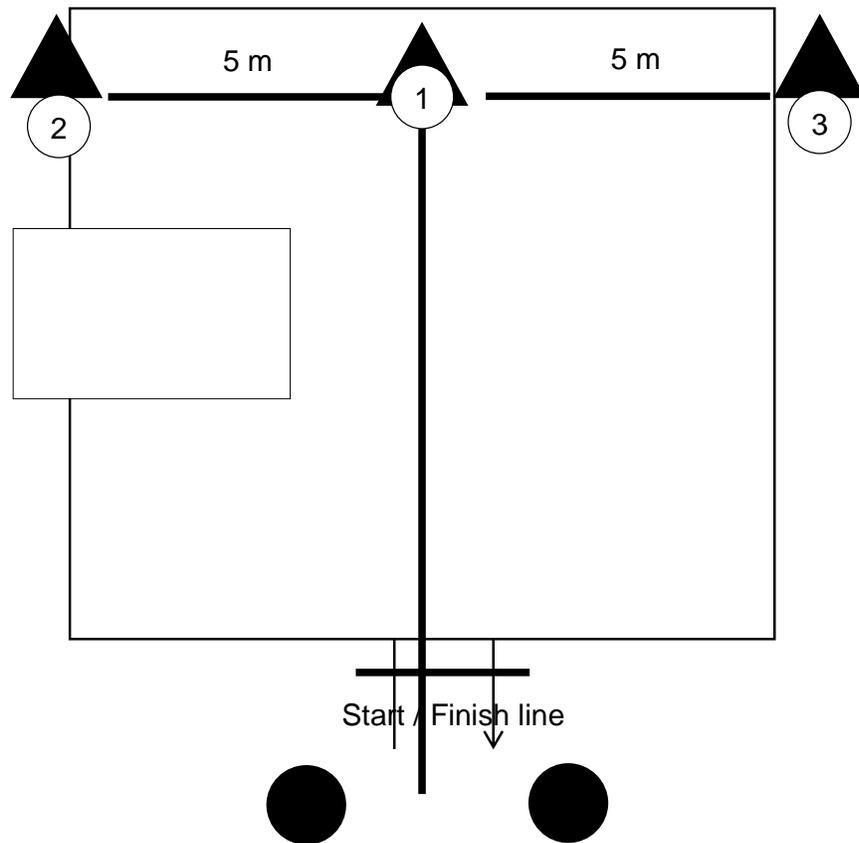


Figure 2: Agility t-test procedures (Raya et al., 2013)

The raters began the stop watch on “go” and stopped when the participant broke the plane of the finish line. The time to complete each trial was recorded in seconds. Disqualification was determined if the participant failed to run the course as instructed, failed to reach the finish line or complete the course, moved any cones, did not keep his trunk and feet pointed forward at all times, or crossed his legs more than once when sidestepping. If a participant did not complete a trial successfully, a score of 0 was given. A digital timing gate (positioned at 0 m) was used to measure performance. The aim was to complete the course in the fastest possible time with the best of 3 trials recorded and used for statistical analysis.

After the test, the subjects required to carry out a cool-down period included stretching activities as was done during the warm up routine. The cool-down period prevents pooling of blood in the arms and legs, thus maintaining blood pressure and enabling the body to cool and return to a resting state (Prentice, 2007). Furthermore, according to Prentice (2007), experience and observation indicate that people who stretch during the cool-down period tend to have fewer problems with muscle soreness after strenuous activity.

Procedure

Purposive sampling of 30 subjects from University of Malaya undergraduate students were chosen became the subjects for this study. The totals of thirty subjects were equally divided into two groups which are control group (without any implementation of ladder drills training) and experimental group (with implementation of ladder drills training). All of the subjects were informed about this study that would be conducted on them entitled “Effect of Ladder Drills Training on Agility Performance”. They were briefed about the whole procedures identified prior to the study carried out.

Additionally, they were informed of the potential risks and benefits and signed an informed consent form. Subjects were assured that individual data were going to be kept confidential. To insure anonymity of subjects and confidentiality of data, subjects were assigned a study number and collected data was entered in a SPSS program.

They were instructed that their participation in the study was voluntary, and they could withdraw from the study at any time with no repercussions. Both experimental group and the control group of this

research were instructed to do a pre-test by using the agility t-test to test their agility before the experimental group started the 12 sessions of ladder drills training intervention.

The ladder drills training intervention was only given to the experimental group of this research, whereas the control group of this research was instructed to continue their normal dietary and physical activity practices throughout the experiment. Subjects were also instructed to refrain from any exercise aside from activities of daily living.

The ladder drills training frequency consisted of 12 sessions of training spread over 4 weeks' time (15-50 min/d, 3d/wk). The subjects underwent a one week testing period at the beginning (pre-test) and at the end (post-test) of the experimental period. This training started after one week of pre-test and consistently training was given to the experimental group throughout the training intervention. Before the implementation of the designed training, subjects of the experimental group were received a walkthrough of the training procedures during the subject orientation period. During the orientation it was determined whether subjects were eligible to participate in the study and find out the baseline of the intensity of the ladder drills training. Intensity refers to the complexity and loading involved in the drill. Drills can be categorized based on intensity. Although all drills are performed with maximal quality of effort, the intensity increases with complexity and external loading.

The experimental group was given 12 sessions of training, each training session consisted of different ladder drills in each phase, follow by 2 minutes rest then end the training session after the subjects had completed 3 sets of each drills in the first week of training sessions. For the first week, the subjects will be given an introduction and easy complexity of drills. The second and third week training, overload is applied on the training session where the intensities of ladder drills training are increase to moderate intensity of drills. Lastly, the fourth week of training intensity also gradually increased to hard intensity which means the complexity of the chosen ladder drills more difficult and required agility in random reaction tasks. The intensity of drills are increasing week by week while the sets of drills are maintained to 3 sets. The following table shows the details of ladder drills training sessions in 4 weeks.

Table 1: 12 Sessions of Ladder Drills Training.

Phase	Sessions	Intensity (complexity drills)	of Sets	Rest between sets (minutes)	Speed of drills
Week 1	1	Easy	3	2	Fast
	2	Easy			
	3	Easy			
Week 2	1	Moderate	3	2	Fast
	2	Moderate			
	3	Moderate			
Week 3	1	Moderate	3	2	Fast
	2	Moderate			
	3	Moderate			
Week 4	1	Hard	3	2	Fast
	2	Hard			
	3	Hard			

Table 2: Objectives and Content of 4 Weeks Ladder Drills Training Programmed Interventions.

Phase	Training Programme (8 m length of agility ladder)	Objectives
Week 1	Walk through One foot runs Two foot runs Miss a square run Lateral Run Bunny hops Hopscotch Backward hopscotch Lateral bunny hops Jump cuts	Introduction: learn and develop basic drills
Week 2	High knee up runs Backward runs Single leg runs Lateral runs Carioca Icky Shuffles Bunny hops X-Country Skier (single step) X-Country Skier (double step) Straddle hops Hopscotch	Develop correct movements mechanics
Week 3	X-Country Skier (double step) Straddle Hops Backwards Straddle hops Icky Shuffle Double step icky shuffle Single Square Buzzsaw Swivel Skips Dead leg skips Hopscotch	Develop drills and increase complexity
Week 4	Backward Icky Shuffles Chimney Jumps Lateral Separation Run Crazy climber Lateral Chimney runs 180° Straddle Hops Partner Races Sensory Commands Audible Commands Crooked Ladder drills	Develop drills and increase complexity

After completion of the 12 sessions of ladder drills training, all subjects from experimental group (n=15) and the control group (n=15) were asked to do the post-test using the same instrument to measure their agility performance.

Results

Table 3: Descriptive Analysis of the Pre-Test and Post-Test on Agility Performance for the Control Group and Experimental Group

Group	Pre-test	Post-test
	Mean & SD	Mean & SD
Control	12.18 ± 0.62	12.38 ± 0.69
Experimental	12.24 ± 0.68	11.19 ± 0.70

Table 4: Paired Samples *t*-test within the Control Group on Agility Performance (pre-test and post-test), $p < .05$.

Control Group	Paired Differences		
	t	df	Sig.2 (2-tailed)
Pre vs. Post	-2.02	14	.063

Table 5: Paired Samples *t*-test within the Experimental Group on Agility Performance (pre-test and post-test), $p < .05$.

Experimental Group	Paired Differences		
	t	df	Sig.2 (2-tailed)
Pre vs. Post	15.33	14	.001

Table 6: Independent Samples *t*-test Between the Experimental Group and the Control Group on Agility Performance (pre-test), $p < .05$.

Group	Paired Differences				
	Mean Diff.	S.E. Diff	t	df	Sig. (2-tailed)
Experimental Group vs. Control Group	-.055	.24	-.23	28	.817

Table 7: Independent Samples *t*-test between the Experimental Group and the Control Group on Agility Performance (post-test), $p < .05$.

Group	Paired Differences				
	Mean Diff.	S.E. Diff	t	df	Sig. (2-tailed)
Experimental Group vs. Control Group	1.20	.25	4.74	28	.001

Discussion

The purpose of this study was to examine the effects of 4 weeks ladder drills training on agility performance. The major finding of this study was that implementation of 4 weeks of ladder drills training program for the experimental group ($n = 15$; male = 9; female = 6) induced a significant differences ($t = 15.33$, $df = 14$, $p < .05$) on their agility performance. The mean of the post test of the agility performance for the experimental group ($M = 11.19 \pm 0.70$) was significantly increased compared to the pre-test ($M = 12.24 \pm 0.68$). The results mean that 4 weeks of ladder drills training program were able to improve the agility performance of the experimental group. Majority of the subjects had experience in sports more than 3 years. There were 19 subjects (63.30%) had experience in sports more than three years, 6 subjects (20.00%) were had one year experience in sports, 3 subjects (10.00%) had experience in sports of three years. These findings indicated that ladder drills training was able to increase the agility performance of the trained individuals. These findings supported the extensive meta-analysis which concluded that progression in agility training can be viewed similarly where the athlete masters basic drills, improves his/ her times in these drills, and progresses to more complex drills (Ratamess, 2012). Upon progression, basic drills can still be used aspart of the program to maintain the athlete's performance level of these drills (Ratamess, 2012). Furthermore, from the results of this study expressed that there were significant differences of the agility performance between the experimental group and the control group during post-test ($t = 4.74$, $df = 28$, $p < .05$). The findings also had shown a significance mean difference between the experimental group and the control group. The results expressed that the post-test result of the experimental group

($M = 11.19 \pm 0.70$) and for the control group ($M = 12.38 \pm 0.69$). Therefore, the results indicated that the agility performance of the experimental group was significantly higher than the agility performance of the control group after four weeks of ladder drills training. The results supported ladder drills can help the athlete to coordinate several activities including the ability to react and start quickly, accelerate, decelerate, move in the proper direction, and maintain the ability to change direction as rapidly as possible while maintaining balance and postural control which required in agility performance (Ratamess, 2012). Moreover, it also proved the ladder is a time-tested and proven effective tool for improving our foot work because of the training effect is similar to jump rope, but with several advantages (Dhanaraj, 2014).

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Effect Of Maximal And Submaximal Resistance Training On Selected Strength Parameters Among Volleyball Players

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Abstract

The aim of this study is to find out the influence of maximal and sub maximal resistance training on spiking and blocking performance among volleyball players. 45 male volleyball players from the different schools located at Andhra Pradesh in the age ranged between 15-17 years were selected. The selected subjects were further divided into three groups namely Maximal Resistance training group (MRTG), Sub maximal resistance training group (SMRTG) and control group (CG), on random basis. Prior to the experimental treatments, all the subjects were measured of their strength parameters, leg strength and abdominal strength using vertical jump test and sit ups respectively. All the subjects were determined their 1 repetition maximum (1RM) of resistance trainings, half squat, biceps, triceps, bench press, and leg press. The submaximal resistance group was asked to perform 50 to 60 % of 1 RM and maximal resistance group was asked to perform 90 to 95% of 1 RM for 8 weeks. After completion of eight weeks experimental period, the subjects were measured of their strength variables selected. The results proved that both maximal and sub maximal resistance training improved leg strength and abdominal strength of volleyball players compared to control group. The results also proved that maximal resistance training was found to be better than sub maximal resistance training in improving the leg strength and abdominal strength. The differences between sub maximal and maximal resistance training in improving the strength parameters were significant. ($P < 0.05$) It was concluded that the maximal and sub maximal resistance training can be included in the training schedule of the school level volleyball players to improve strength parameters.

Key Words: Maximal, Sub Maximal Resistance Training, Leg Strength, Abdominal Strength.

Introduction

The concept of physical fitness is not only freedom from disease, but also to gain enough strength, agility, flexibility, endurance and skills to meet the demands of daily life and to build sufficient reserve energy to withstand stress and strain. Thus, physical fitness is a combination of qualities that enable a person to perform well in vigorous physical activities. These qualities include agility, endurance, flexibility and strength. The wealth of a nation depends entirely upon the health of every citizen of the country. Hence physical fitness of school children is a major important factor to be considered (Govindarajulu, 1991) Strength has been considered as the most important conditional ability. It has been the most significant factor to enhance sports techniques and performance. Since all sports movement are created by the contraction of muscle, therefore, strength is an important component of various conditional abilities skills and tactical actions. (Uppal 2004) Strength helps the muscles to exert force to physical activity can be performed without strength. Strength in hands helps to pull, push and to lift objects. Strength in legs helps to carry body weight and to carry extra burdens.

Volleyball has changed beyond recognition in the past three decades from an unorganized sport into a highly competitive, requiring a high level of physical fitness, mental alertness and mastery over techniques. Volleyball is characterized mainly by its dynamic work of broken intensity. There are periods of significant muscular activity in alteration with periods of relative relaxation intensity of work. During the time of play, the intensity of play oscillates from moderate to maximum. (Sharma, 1986) The game at a high level of competition, requires quicker sudden movements and fast reaction. Volleyball matches have no time limit and matches can last for several hours, if the teams are evenly matched. In every tactical move in volleyball, one depends on team work and the individual skills, good passing, setting, spiking, jumping, controlling the ball, participation and speed to the ball and keeping the eyes on the ball. The execution of these skills effectively depend not only the practices but also the basal strength of these players.

Resistance training is needed to improve strength. Normally better performance is the product primarily of efficient technique, the progression of speed, the maturing competitive attitude, a sound general endurance, all around strength and general mobility. Though development of all round strength is best achieved through different training methods, resistance training is the most widely used and popular method for increasing strength. Harris C, et.al. (2007) assessed the influence of training intensity on strength retention and loss incurred during detraining. Blazevich AJ, et. al. (2003) examined changes in the muscle size, muscle architecture, strength, and sprint/jump performances of concurrently training athletes during 5 wk of "altered" resistance training (RT) and concluded that significant muscle size and architectural adaptations can occur in concurrently training athletes in response to a 5-wk training programme. These adaptations were possibly associated with the force and velocity characteristics of the training exercises but not the movement patterns. Factors other than, or in addition to, muscle architecture must mediate changes in strength, sprint, and jump performance. Falk B, et.al. (2002) documented that resistance training has been shown to be effective in enhancing muscle strength among prepubertal and adolescent boys. Crewther B, et.al. (2005) documented that a great deal of literature has investigated the effects of various resistance training programmes on strength and power changes. However, the effect of different combinations of kinematic and kinetic variables and their contribution to adaptation is unclear. Goto K, et.al. (2004) documented that acute and long-term effects of resistance-training regimens with varied combinations of high- and low-intensity exercises were studied and suggested that a combination of high- and low-intensity regimens is effective for optimizing the strength adaptation of muscle in a periodized training program.

Methodology:

To facilitate the study, 45 male students from the different schools located at Andhra Pradesh in the age ranged between 15-17 years were selected. The subjects were volleyball players who represented their schools in district level sports competitions. The selected subjects were further divided into three groups namely Maximal Resistance training group (MRTG), Sub maximal resistance training group (SMRTG) and control group (CG), on random basis. Prior to the experimental treatments, all the subjects were measured of their leg strength through vertical jump test and abdominal strength through sit ups test. All the subjects were determined their 1 repetition maximum (1RM) of resistance trainings, half squat, biceps, triceps, bench press, and leg press. The submaximal resistance group was asked to perform 50 to 60 % of 1 RM and maximal resistance group was asked to perform 90 to 95% of 1 RM for 8 weeks. After completion of eight weeks experimental period, the subjects were measured of their strength variables selected. The differences between the initial and final scores were considered as effect of respective treatments and statistically analysed using ANCOVA for significance.

Results:

Tab 1: Effect of Maximal and Sub Maximal Resistance Training on Leg Strength of Volleyball Players

	SMRTG	MRTG	CONTROL GROUP	Source of Variance	Sum of Squares	df	Mean Squares	Obtained F
Pre Test Mean	46.07	47.00	45.33	Between	20.93	2	10.47	0.18
				Within	2470.27	42	58.82	
Post Test Mean	51.47	55.13	46.53	Between	558.71	2	279.36	6.23*
				Within	1883.20	42	44.84	
Adjusted Post Test Mean	51.52	54.49	47.13	Between	407.64	2	203.82	16.39*
				Within	509.88	41	12.44	
Mean Diff	5.40	8.13	1.20					

Table F-ratio at 0.05 level of confidence for 2 and 42 (df) =3.22, 2 and 41 (df) =3.23.

*Significant

Tab 2 Multiple Comparisons of Paired Adjusted Means of Sub Maximal, Maximal and Control Groups on Leg Strength

SMRTG	MRTG	Control	MEAN DIFF	Reqd. C. I
51.52	54.49		2.97*	3.33
51.52		47.13	4.39*	3.33
	54.49	47.13	7.36*	3.33

* Significant

Tab 3 Effect of Maximal and Sub Maximal Resistance Training on Abdominal Strength of Volleyball Players

	SMRTG	MRTG	CONTROL GROUP	Source of Variance	Sum of Squares	df	Mean Squares	Obtained F
Pre Test Mean	27.20	27.93	26.93	Between	8.04	2	4.02	0.46
				Within	368.27	42	8.77	
Post Test Mean	30.20	32.80	26.93	Between	259.24	2	129.62	19.05*
				Within	285.73	42	6.80	
Adjusted Post Test Mean	30.31	32.40	27.22	Between	200.05	2	100.03	36.26*
				Within	113.11	41	2.76	
Mean Diff	3.00	4.87	0.00					

Table F-ratio at 0.05 level of confidence for 2 and 42 (df) =3.22, 2 and 41 (df) =3.23.

*Significant

Tab 4 Multiple Comparisons of Paired Adjusted Means of Sub Maximal, Maximal and Control Groups on Abdominal Strength

SMRTG	MRTG	Control	MEAN DIFF	Reqd. C. I
30.31	32.40		2.10*	1.57
30.31		27.22	3.08*	1.57
	32.40	27.22	5.18*	1.57

* Significant

Discussions:

The results presented in table 1 and 3 proved that maximal and sub maximal resistance training significantly improved strength parameters, leg strength and abdominal strength of the school volleyball players as the obtained F values of 16.39 and 36.26 on adjusted means were greater than the required table F value of 3.23 to be significant at 0.05 level. Since significant F values were obtained, the results were subjected to post hoc analysis and the multiple paired adjusted mean comparisons were presented in Tables 2 and 4 on leg strength and abdominal strength of volleyball players. The results proved that both maximal and sub maximal resistance training improved leg strength and abdominal strength of volleyball players compared to control group. The results also proved that maximal resistance training was found to be better than sub maximal resistance training in improving the leg strength and abdominal strength. The differences between sub maximal and maximal resistance training in improving the strength parameters were significant. (P<0.05).

Blazevich AJ, et. al. (2003) examined changes in the muscle size, muscle architecture, strength, and sprint/jump performances of concurrently training athletes during 5 wk of "altered" resistance training (RT). It was found significant muscle size and architectural adaptations can occur in concurrently training athletes in response to a 5-wk training program. And concluded factors other than, or in addition to, muscle architecture must mediate changes in strength, sprint, and jump performance. This study proved that submaximal and maximal resistance significantly contributed for improving in strength variables mainly due to improvement in muscle size and architectural adaptations. And the more intense the subjects trained improved more leg strength and abdominal strength. The findings of this study are in agreement with the findings of Blazevich AJ, et. al. (2003)

Conclusions :

It was concluded that the maximal and sub maximal resistance training can be included in the training schedule of the school level volleyball players as these methods of training improves their strength variables, leg strength and abdominal strength.

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A Study On Psychological Hardiness Among University Level Male Students

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ABSTRACT: The purpose of the present research was to compare the level of psychological hardiness among university level male students. The research is causal-comparative and the sample consists of 90 students (19-25 years of age) who were selected using convenience sampling. For assessing psychological hardiness a standardized questionnaire was used for data collection. The psychological hardiness questionnaire was consisting of three separate components – commitment, control and challenge. Engineering and Physical Education students were better level of commitment as it, not solely in terms of individual, also refers to the sense of community and individual place in that arena and able to cope with stressful events because of the understanding regarding the individuals place within the student community. It was observed that the mean value of commitment of engineering students was little higher than other two groups. They should almost equal in level of control of psychological hardiness. In case of challenge of psychological hardiness engineering and physical education students showed better result than the general students but there were found no significant difference among three groups in respect to challenge score.

Keywords: Psychological Hardiness, Commitment, Control, Challenge

Psychological hardiness

Hardiness: "A constellation of personality characteristics that function as a resistance resource in the encounter with stressful life events" (Kobasa, 1979, p. 414). This construct is composed of three basic, interrelated elements: commitment, control, and challenge (Kobasa, et. al., 1982). Hardiness is the ability to perceive external conditions and desirable decision making quality about self. Kobasa defines hardiness as a complex personal characteristic which has been formed by three constituents, challenge, control and commitment. Commitment, control and challenge are assumed as a set that mediates the stress effects by changing situation perception and reducing the pressure of stressful life events. Hardiness is merely adjustment and constitutive correlation encountering difficulties. Researchers consider hardiness and vulnerability as two opposite poles of a continuum.

Psychological hardiness definition is a tendency that allows an characteristic to accept the encounters and variations in life with good humor and flexibility, which in turn influences behavior that prevents illness. The key to psychological hardiness is not luck and is not genetic, but is a learned approach to stress. The learning involves understanding or observing stressful events in an adaptive way. Psychological hardiness is a multi-component structure that is possessed by all people to varying degrees and includes three components: commitment, control, and challenge . Hardy students have understood the meaning, value, importance, and purpose of themselves, their job, their family, and their life in general. They give more credence to effort and action than chance and believe they can manipulate life events. They possess an internal resistance resource and consider the positive and negative events life as the consequence of their actions. Further, for hardy students change and transformation is a fixed law of life and changes are opportunities for learning and growth rather than a threat to their safety (1995). Hardy individuals do not appraise events as risky, but positive and controllable.

Psychological hardiness can be expressed as a mental skill that can play a significant role in the performance of students. The effects of psychological hardiness and its components and skill on competitive anxiety and self-confidence.

Psychological hardiness protects the individual against the unremitting effects of stress, especially in highly stressful situations. Hardiness is a better predictor of mental health than physical health. Therefore, the purpose of the present research is to examine the psychological hardiness in General, Physical Education and engineering students.

Students identified as hardy are believed to have a greater capacity for dealing effectively with life's challenges that pertain to responsibility, isolation and death - cornerstones of existential philosophy. Maddi and Kobasa (1981) refer to 'intrinsic motivation' and 'existential courage' (Maddi, 1990, 1998) as byproducts of hardiness, strengthening the support for existential psychology's underpinnings of this construct. Kobasa, Maddi, and Kahn (1982) further refined the definition of this construct as a "constellation of personality characteristics that function as a resistance resource in the encounter with stressful life events" (p.169). Building on this accumulation of research, Kobasa (1982) stresses the inclusion of active participation between events, the environment and individuals, and the three interrelated variables taken from existential theory that form its basic foundation -- commitment, control, and challenge.

Commitment

The first is commitment to those life values and activities that are unique to each as individuals, allowing them to engage themselves fully in the variety of situations that comprise their existences. Commitment, not solely in terms of the individual, also refers to the sense of community and the individual's place in that arena described Antonovsky (1979), he also revealed commitment as essential for coping with stressful events because of the understanding and security regarding the individual's place in the community that contributes a source of support in stressful situations.

Control

Control the second component, is the belief that individuals are not powerless in their interactions with life events and have choices about the appraisal of and approach to each situation. Control involves a search for meaning, as well as ownership of responsibility for outcomes, including the acknowledgement of how behaviors have contributed to the achievement of goals or resolution of problems. A sense of hopefulness prevails – a component significantly absent from those in a state of depression.

Challenge

The third component is challenge, which involves a propensity to view problems not as threats or insurmountable obstacles, but as opportunities for growth and achievement. Challenge entails a way of viewing the world that allows for exploration and the pursuit of new experiences that are perceived not as daunting but rather as possible avenues for broadening horizons relationship between social behavior and physical health and the impact of stress on illness and immunity, views this quality as a strength that allows individuals to handle stress with a more flexible cognitive style, contributing to their ability to appraise stress with more objectivity and understanding of the totality of its impact (positive and/or negative).

Statement of the problem

Research has been carried out relating to Psychological Hardiness in University level students by considering three groups namely General, Physical Education and Engineering students. Therefore the study has been entitled as- A STUDY ON PSYCHOLOGICAL HARDINESS AMONG UNIVERSITY LEVEL MALE STUDENTS.

Purpose of the study

This investigation is aimed to identify causes and frequency of Psychological Hardiness amongst General, Physical Education and Engineering students.

To describe perceived Psychological Hardiness among General, Physical Education and Engineering students;

To determine the degree of Psychological Hardiness among General, Physical Education and Engineering students;

To describe Psychological Hardiness of student in managing educational pressure;

To determine the extent to which specific and basic and advanced degrees in higher education are associated with hardiness in managing perceived stress among General, Physical Education and Engineering students.

The subject

Purposive subjects were obtained from three difference streams (General, Physical Education and Engineering students) of University of Kalyani. The samples of this study consisted of ninety (90) students. They belong to the age group of 18 to 25 years. They were randomly selected from their respective department or hostel. It has computed the necessary sample sizes involving statistical power analysis and effect size. In the present study the investigator followed the random sampling procedure for selecting the sample.

The investigator conducted his thesis work on students of three main streams namely general, physical education and engineering of Kalyani University. Thirty students for each group were tested for the present study.

3.2 Criterion measure

Psychological hardiness was measured with the help of questionnaire. The psychological hardiness questionnaire was consisting of three separate components – commitment, control and challenge.

3.3 Tools used

For understanding of psychological hardiness among general, physical education and engineering students' questionnaire method was followed. For this purpose the - psychological hardiness questionnaires were adopted. For the purpose of measuring psychological hardiness a questionnaire formed by Prof. Arun Kumar Singh was used. The questionnaire contained variety of questions related to psychological hardiness . So tools used for collection of data for the study were as follows- Psychological hardiness questionnaire.

Scoring keys.

Psychological hardiness test

Psychological hardiness is a tendency that allows accepting the encounters and variations in life, which influence the behavior that prevent illness. The key to psychological hardiness is to learned approach to stress. The accurate assessments of psychological hardiness have been done with using questionnaire.

The test consist of 30 questions, the total questionnaire had three factors- Commitment, Control and Challenge. Each question in this test has five possible answers.

Subject to put a tick mark against appropriate answer to each question.

Scoring

The scoring of this questionnaire was simple. All the point value against the answered totaled. There were 30 items. Maximum point score for each question was 5; so for each factor which consists of 10 questions, 50 marks were maximum possible score.

Results

The results and discussion on the findings of the psychological hardiness measured on the subjects of the study are presented below.

Mean and standard deviation of the scores of the students in psychological hardiness and its subscales are presented in table 1.

Table - 1:
Descriptive statistics of different components of Psychological Hardiness

Groups →	General		Physical Education		Engineering	
	Mean	SD	Mean	SD	Mean	SD
↓ COMMITMENT	38.50	±5.79	39.20	±4.93	39.63	±6.0
CONTROL	37.40	±4.68	37.40	±5.34	37.53	±4.97
CHALLENGE	35.93	±4.08	37.43	±5.15	37.60	±4.68

ANOVA was applied to compare general, physical education and engineering students in terms of hardiness measures and its subscales. The results are presented below

Table - 2

ANOVA TABLE					
Component	Df Between groups	Df Within groups	'F' value	Sig.	CD at 5% level
COMMITMENT	2	87	0.3111	0.733	-
CONTROL	2	87	0.006	0.994	-
CHALLENGE	2	87	1.16	0.317	-

**ANOVA is significant at 0.01 level.

As can be seen in table 2, F value were found not significant in case of commitment, control, challenge component at 0.05 and 0.01 level.

Concluding discussion

On the basis of the results indicated factor wise (psychological hardiness- commitment, control, challenge) to those educational values and activities that is unique to each as individual, allowing them to engage themselves fully in the variety of situations that comprises their existences in which engineering students showed better result than others two groups. Physical education students were also higher level of commitment. Engineering and Physical Education students were better level of commitment as it, not solely in terms of individual, also refers to the sense of community and individual place in that arena and able to cope with stressful events because of the understanding regarding the individuals place within the student community. It was observed that the mean value of commitment of engineering students was little higher than other two groups.

Present study revealed that the students of each group showed ownership of responsibility for outcomes, including the acknowledgement of how behaviors have contributed to the achievement of goals . They should almost equal in level of control of psychological hardiness. In case of challenge of psychological hardiness engineering and physical education students showed better result than the general students but there were found no significant difference among three groups in respect to challenge score.

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Acute Effect Of Proprioceptive Neuromuscular Facilitation (Pnf) Stretching On Flexibility Of Hamstring Muscles

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Abstract

This study was carried out to identify the acute effect of proprioceptive neuromuscular facilitation (PNF) stretching on the flexibility of hamstring muscles. Thirty under-graduate students from University of Malaya (n = 30) were recruited to participate in this research. All 30 male subjects with mean age = 20.90 ± 1.03 ; mean height = 173.07 ± 6.73 ; mean weight = 65.33 ± 13.27 . The experimental group went through a single session of PNF stretching. The flexibility of hamstring muscles were measured twice, pre-test and post-test using the sit and reach test. Results of current study revealed that a single session of PNF stretching induced significant improvement ($t = -6.01$, $df = 29$, $p < .05$) on flexibility of hamstring muscles. From the results of this study it revealed that a single session of PNF stretching on hamstring muscle is an effective and suitable method to improve the flexibility of hamstring muscles.

Introduction

Flexibility is one of the components of health related fitness. Flexibility can be defined as the range of motion at our joint or the ability of our joint to move freely without restriction. Having good flexibility doesn't only insure efficient yet functional life (Law, Harvey, Nicholas, Tonkin, De Sousa, & Finnis, 2009). Furthermore, it can also help enhance sports performance and rehabilitation, especially patient with musculoskeletal pain (Decoster, Scanlon, Horn, & Cleland, 2004). Stretching meanwhile is one of the most effective ways of increasing flexibility. There are a few more popular stretching methods out there, including static stretching, ballistic stretching, dynamic stretching and proprioceptive neuromuscular facilitation (PNF) stretching (Sharman, Cresswell & Riek, 2006). Multiple studies have been carried and showed mixed results. Though, PNF are more often found to be the most effective way of increasing our range of motion. (Etnyre & Lee, 1988; Bradley, Olsen & Portas, 2007; Marek, Cramer, Fincher, Massey, Dangelmaier, Purkayastha, Fitz & Culbertson, 2005).

PNF stretching is a technique combining passive stretching and isometric stretching. Passive stretching is also referred as relaxed stretching where the target muscle do not contract but external effort, like from body weight, gravity or a person is exert upon it. Isometric stretching meanwhile is stretching with muscle contraction involved but without lengthening or shortening of the muscle. PNF stretching have been proven to increase range of motion at joint (Funk, Swank, Mikla, Fagen & Farr, 2003). Some of the more popular methods for PNF stretching are contract-relax method (CR) and contract-relax-agonist-contract method (CRAC). Procedure for contract-relax methodis start by performing isometric contraction for an allotted amount of time, followed by a few seconds of relaxation. Then, the target muscle is subjected to a passive stretch, usually by another person (Etnyre & Abraham, 1986). Contract-relax-agonist-contract method meanwhile starts with the same procedure as contract-relax method, and then followed by the subject contracting the antagonist muscle to the target muscle for another allotted amount of time.

Hamstring flexibility will also be measure using the traditional measuring protocol, which is the sit and reach method. The participant will be in a sitting position with both the legs flexed fully anterior to the trunk. Then the participant will bent over and try to reach out on the sit and reach box as far as they can without any jerky movement (Andrew, Mike, Aaron & Stephanie, 2006). The purpose of the current study is to see what the acute effect of proprioceptive neuromuscular facilitation (PNF) stretching on flexibility of hamstring.

While most of the previous studies showed that PNF are more effective when is compared with other stretching methods (Etnyre& Lee, 1988; Bradley, Olsen & Portas, 2007; Marek *et al.*, 2005), but these are not immediate result. Furthermore, a study has shown no acute significance difference for flexibility by doing PNF stretching (Ercoleet *al.*, 2011). All the research that we mention was carried out only on female ballet dancers. Therefore, this study is to justify all the result gained previously. Also, it is to find out what is the result when the subjects are Malaysian university students.

Objective

1. To measure the hamstring flexibility of the subjects
2. To compare the hamstring flexibility of the subjects between pre and post PNF stretching

Method

Experimental method was applied for this research. A PNF stretching for hamstring muscle was designed for the experimental group (n = 30 subjects). This is research was conducted in one session to determine the acute effect of PNF stretching on hamstring flexibility.

Subjects

A total of 30 subjects (n=30) where recruited from the undergraduate students, University of Malaya with purposive sampling. All subjects were fully informed of the requirements of their participation and of the potential benefits.

Measurements

Sit and reach flexibility test was chosen to assess the flexibility of hamstring muscle, and the sit and reach box is the instrument of measurement for this research. This test was first described by Wells & Dillion (1952). This test is currently used all around the globe as a general test of flexibility. The sit and reach test is also performed using the procedures outlined in the ACSM manual (1998). Subjects were required to perform the test twice (pre-test and post-test). Before the pre-test begins, all subjects were asked to follow a gentle warm up lead by the researchers for 5 minutes. According to Prentice (2007), warm up routine can increase our body core temperature which is crucial in reducing injury and muscle soreness. Plus, stretching without prior warm up where the muscles are cold are more prone to injury.

After the warm up session, subjects were requested to carry out the sit and reach test. The test starts with the subject in sit position. Take note that all subjects were bared footed. Subjects were required to extend the knee with legs close together, and soles of their feet place against the edge of the box. Then, the subjects need to extend their arms forward, usually with a hand atop of the other. The hand should be in a prone position. Subjects will try to reach as far as possible by sliding the indicator across the sit and reach box. During the test, the knee of the subjects should always be in an extended without bending (Castro-Piñero, Chillon, Ortega, Montesinos, Sjöström, & Ruiz, 2009) and no jerky actions are allowed. The same procedure for sit and reach test were carried out for the post-test which is after the PNF stretching session. After the post-test, all subjects were required to carry out a cool down session. Cooling down, (Prentice, 2007) can help reduce the frequency of blood pooling at the limbs, especially. Cool down can help maintain blood pressure and enable the body to return to a resting state.

Procedure

All the subjects were informed and explained regarding their involvement in the study. Subjects were fully informed of identifying protocols prior to the study. In addition, all subjects were informed the potential benefits and risks they might face following this study. A consent form is also signed by the subjects as a sign of acknowledgement. Subjects were assured that their data will be kept confidential. Protocol of the PNF stretching requires the subject to start while lying on a supine position. Then, starting with the right leg of the subject, a partner assisted the subject to find their primary range of motion. This is achieved through raise the right leg of the subject, going till the degree where there is a strong but tolerable stretch. Then the subject have their foot against the shoulder of the partner with the partner's hand making sure that the knee of the subject is locked straight. The subject then push their leg against the partner fairly hard for 10 seconds. This is isometric contract by the subject. After that, subject was asked to relax and the partner is now required to gently push the subject's leg forward to a new range of motion where a strong but tolerable stretch as report by the subject for another 10 seconds. Then, the subject repeated the first step again which is contract against the partner's resistance for 10 seconds, relax and being stretch by the partner again for another 10 seconds. These steps are repeated 4 times.

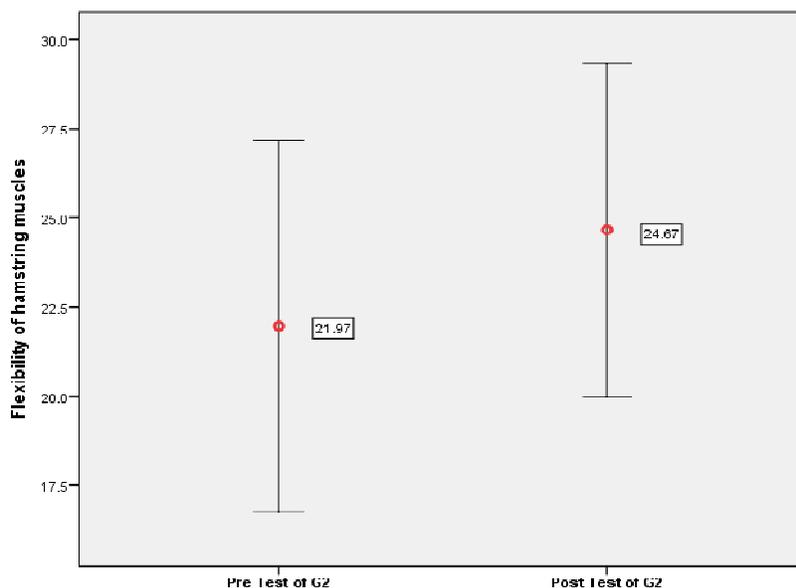
The partner moved to the left leg of the subject and carry out the same protocol. Immediately after the stretching session, another sit and reach test was carried out.

Statistical Analysis

The Statistical Packages for Social Science (SPSS) was used for statistical analysis. SPSS version 22 is used in this study. All data collected were analyzed using SPSS v22. Descriptive statistics, mean and standard deviation were calculated for the entire group.

Paired samples t-tests method were used to compare the differences between the pre-test and post-test results. These is to find the significance difference of the hamstring flexibility between pre-test and post-test which will indicate the acute effect of PNF stretching on hamstring flexibility. The significant (2-tailed) score for both groups was calculated as well. Statistical significance was set at $p < 0.5$.

Results



Graph 1: Comparison of the Experimental Group on the flexibility of hamstring muscles (pre and post-test).

Graph 1 shows the comparison of the Experimental Group on the flexibility of hamstring muscles (pre and post-test). The mean value of the pre-test is ($M = 21.97 \pm 9.42$) and the post-test is ($M = 24.67 \pm 8.46$).

Table 1: Paired sample t – test within the Experimental Group on the flexibility of hamstring muscles (pre-test and post-test), $p < .05$.

Experimental Group	t	df	Sig. (2-tailed)
Pre-test vs Post-test	-6.009	29	0.001

Table 1 shows the paired sample t – test within the Experimental Group on the flexibility of hamstring muscles (pre-test and post-test), $p < .05$. There was a significance difference of the flexibility of hamstring muscles between the pre and post-test for the Experimental Group ($t = -6.01$, $df = 29$, $p < .05$).

Discussion

The purpose of this study was to determine the acute effect of proprioceptive neuromuscular facilitation (PNF) stretching on the flexibility of hamstring muscles. This is a study carried out in the University of Malaya aims to improve the flexibility of hamstring muscles of the experimental subjects in short period of time. The hamstring flexibility determined by sit and reach test was compared before and after the intervention program. The results were used to calculate the parameters relatives to hamstring flexibility, stretching effects and the effectiveness of PNF stretching. The major finding of this study was that one session of PNF stretching induced significant difference ($t = -6.009$, $df = 29$, $p < .05$) on flexibility of hamstring muscles. The mean of post-test ($M = 24.67 \pm 8.46$) significantly increased compared to the pre-test ($M = 21.97 \pm 9.42$). The results mean that one single session of PNF stretching can improve the flexibility of hamstring muscles. The results of this research supported that PNF stretching can improve the muscle flexibility in a short period of time if uses the proper training program (Ercoleet *al.*, 2011). In addition, some research has shown that the hamstring muscles have high potential to increase in flexibility with stretching. Thus, the proper PNF stretching can improves as well as help to maximize flexibility of hamstring muscles.

Suggestions

For future studies, it is recommended that females are also included in the research. There are currently no findings of acute effect of PNF on females. So it is uncertain that females react the same way as male on PNF stretching. The researchers also suggested that more PNF stretching for hamstring muscles can be added to see the difference. Furthermore, the researchers also suggest that future study can research on effect of few weeks long PNF stretching session on the flexibility of hamstring muscles. The researchers also suggested that the subjects should also be solely chosen from inactive people who participated in less exercise activities.

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Effects Of Aerobic Exercise Programme On Different Terrains On Blood Pressure And Self-Concept

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Abstract

The purpose of the present study was to find out the effect of aerobic exercise programme on different terrains on blood pressure and self-concept among middle aged women. For this purpose, thirty middle aged women residing at various places around Chennai city, Tamilnadu, were selected as subjects. The age of the subjects were ranged from 35 to 45 years. They were divided into three equal groups, each group consisted of ten subjects, in which experimental group - I underwent aerobic exercise as brisk walking on beach sand, experimental group - II underwent aerobic exercise as brisk walking on grass and group - III acted as control that did not participate in any special activities apart from their regular day-to-day activities. The training period for the study was five days (Monday to Friday) in a week for twelve weeks. Prior and after the experimental period, the subjects were tested on systolic and diastolic blood pressure and self-concept. Systolic and diastolic blood pressure was assessed by using sphygmomanometer. Self-concept was tested by Mukta Rani Rastogi Self-Concept Inventory. The Analysis of Covariance (ANCOVA) was applied to find out any significant difference between the experimental groups and control group on selected criterion variables. The result of the study shows that the brisk walking on beach sand group and brisk walking on grass group were decreased the blood pressure and self-concept significantly. It was concluded from the results of the study that brisk walking on beach sand and brisk walking on grass has bring positive changes in systolic and diastolic blood pressure and self-concept as compare to the control group. Moreover it was also concluded that there was no significant difference was found between the experimental groups in all criterion variables.

Key words: Brisk walking on beach sand, Brisk walking on grass, blood pressure etc

Introduction

Aerobic exercise is a kind of physical exercise which improves the efficiency of the cardiovascular system in absorbing and transporting oxygen. Aerobic means, relating to, involving or requiring free oxygen [Cooper, Kenneth H. (1997)] and it also refers the use of oxygen to adequately meet energy demands during exercise through aerobic metabolism.[McArdle; Katch and Katch (2006)].

The most available and simplest aerobic exercise is walking. Everyone can walk almost anywhere such as outdoors or indoors like malls, treadmill etc. This makes walking easy to continue throughout the year. The first and good choice for starting any exercise programme is walking.

Walking is good for the muscles because all the muscles in our body contract at the time of walking. We might feel a little pain when we start off because our body is not in the habit of exercising.[Meghna Mukerjee, "The Many Benefits of Walking", [2014]] Regular walking of a moderate to vigorous intensity has been shown to benefit both cardiovascular and psychological health.[Morgan A, Tobar D and Snyder L, (2010)] Psychological benefits include improved sense of well-being, more positive (i.e., vigor) and less negative (i.e., tension, depression) feelings and mood states and enhanced self-esteem.[Barton J, Hine R and Pretty J, (2009), Biddle S and Mutrie N, (2008)].

Hypertension is a major health problem. Elevated systolic and diastolic blood pressure levels are associated with a higher risk of developing coronary heart disease (CHD), congestive heart failure, stroke and kidney failure. There is a one-fold increase in developing these diseases when blood pressure is 140/90 millimeters of mercury (mm Hg).[Bouchard C and Despres JP, [1995]]

Regular physical activity can help keep thinking, learning, and judgment skills sharp. It can also reduce the risk of depression and may help one to sleep better. [Retrieved from http://www.cdc.gov/physicalactivity/everyone/health/index.html?s_cid=cs_284]

Methodology

Thirty middle aged women from various places around Chennai city, Tamilnadu were selected as subjects. The age of the subjects were ranged from 35 to 45 years.

The selected subjects were divided into three equal groups, each group consisted of ten subjects, in which group - I (n = 10) underwent brisk walking on beach sand, experimental group - II (n = 10) underwent brisk walking on grass and group - III (n = 10) acted as control, which did not participate in any special activities apart from their regular curricular activities. The two different training programmes were conducted five days (Monday to Friday) per week for twelve weeks. The researcher consulted with the yoga experts and selected the following variables as criterion variables: 1. Systolic blood pressure, 2. Diastolic blood pressure and 3. Self-concept. Systolic and diastolic blood pressure was assessed by using sphygmomanometer and self-concept was assessed by using Mukta Rani Rastogi Self-Concept Inventory. For the purpose of collection of data, the subjects were asked to report at early morning, one day prior and one day after experimental period, in fasting condition.

Analysis of covariance (ANCOVA) was applied 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 appropriate.

Results

The data collected on systolic blood pressure and self-concept among experimental and control groups were analyses and the results were presented in Table – I.

Table – I: Analysis Of Covariance On Selected Criterion Variabl Among Exercise And Control Group

Variable Name	Group Name	Brisk Walking on Beach Sand Group	Brisk Walking on Grass Group	Control Group	'F' Ratio
Systolic Blood Pressure (mmHg)	Pre-test Mean ± S.D	89.2 ± 3.994	88.9 ± 4.99	87.9 ± 4.41	0.230
	Post-test Mean ± S.D.	86.8 ± 4.32	87.8 ± 5.03	89.5 ± 3.54	0.991
	Adj. Post-test Mean	86.33	87.594	90.175	11.42*
Diastolic Blood Pressure (mmHg)	Pre-test Mean ± S.D	218.3 ± 7.21	219.1 ± 6.19	219.8 ± 9.55	0.093
	Post-test Mean ± S.D.	215.8 ± 6.62	215.5 ± 6.99	222.9 ± 8.77	3.102
	Adj. Post-test Mean	216.508	215.469	222.224	24.538*
Self-concept (Points)	Pre-test Mean ± S.D	136.2 ± 4.32	136.9 ± 3.843	134.6 ± 3.502	0.913
	Post-test Mean ± S.D.	144.4 ± 2.95	146.2 ± 2.486	133.6 ± 2.591	64.50*
	Adj. Post-test Mean	144.27	145.77	134.156	81.742*

*Significant .05 level of confidence. (The table values required for significance at .05 level of confidence with df 2 and 42 and 2 and 41 were 3.22 and 3.21 respectively).

Table – I shows that pre and post test means 'f' ratio of brisk walking on beach sand group, brisk walking on grass group and control group on systolic blood pressure were 0.315 and 0.107, which were insignificant at 0.05 level of confidence. The adjusted post test mean 'f' ratio value of experimental groups and control group was 12.71, which was significant at 0.05 level of confidence. The pre and post test means 'f' ratio of brisk walking on beach sand group, brisk walking on grass group and control group on diastolic blood pressure were 0.230 and 0.991, which were insignificant at 0.05 level of confidence. The adjusted post-test mean 'f' ratio value of experimental group and control group was 11.42, which was significant at 0.05 level of confidence

The pre and post test means 'f' ratio of brisk walking on beach sand group, brisk walking on grass group and control group on self-concepts were 0.913 which was not significant and 64.50 which was significant at 0.05 level of confidence. The adjusted post test mean 'f' ratio value of experimental groups and control group was 81.742, which was also significant at 0.05 level of confidence.

Further which of the paired Further to determine which of the paired means has a significant difference among the groups, the Scheffé S test was applied.

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

Adjusted Post-test Mean on Systolic Blood Pressure				
Brisk Walking on Beach Sand Group	Brisk Walking on Grass Group	Control Group	Mean Difference	Confidence interval at .05 level
131.062		134.338	3.276*	1.733405
131.062	131.90		0.838	1.733405
	131.90	134.338	2.438*	1.733405
Adjusted Post-test Mean on Diastolic Blood Pressure				
Brisk Walking on Beach Sand Group	Brisk Walking on Grass Group	Control Group	Mean Difference	Confidence interval at .05 level
86.330		90.175	3.845*	2.111678
86.330	87.594		1.264	2.111678
	87.594	90.175	2.581*	2.111678
Adjusted Post-test Mean on Self-concept				
Brisk Walking on Beach Sand Group	Brisk Walking on Grass Group	Control Group	Mean Difference	Confidence interval at .05 level
144.272		134.156	10.116*	2.485806
144.272	145.772		1.50	2.485806
	145.772	134.156	11.616*	2.485806

* Significant at .05 level of confidence.

Table – II shows that the Scheffé S Test for the difference between adjusted post-test mean on systolic blood pressure of brisk walking on beach sand group and control group (3.276) and brisk walking on grass group and control group (2.438), which were significant at .05 level of confidence. There was a significant difference on diastolic blood pressure between brisk walking on beach sand group and control group (3.845) and brisk walking on grass group and control group (2.581) and also there was a significant difference on self-concept between brisk walking on beach sand group and control group (10.116) and brisk walking on grass group and control group (11.616) which was significant at 0.05 level of confidence after the respective training programme. Moreover the result of the study shows that there was no significant difference between the training groups on selected criterion variables.

Conclusions

There was a significant reduction in blood pressure for walking on sand group and walking on grass group when compared with the control group. The result of the study also shows that there was no significant difference between the training groups on blood pressure. Sohn, Hasnain and Sinacore (2007) found that walking with extra 30 minutes has reduced the blood pressure in hypertension patients after six months of trial. Stewart, *et al* (2006) found that there was a significant decrease in SBP and DBP after the aerobic exercise and resistance training. The result of the present study shows that there was a significant increase in self-concept for both the experimental groups when compared with the control group. Eyyiip Yildirim (2012) also found that there was a significant improvement in self-concept after the aerobic exercise.

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Study On Selected Physical Fitness Components Of Badminton & Volleyball Players

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Abstract

The purpose of the study was to compare the physical fitness components among the badminton and volleyball players. 20(10badminton & 10 volleyball) players were selected as subjects. They were represented Visva-Bharati in the East Zone Inter University Tournament. The age of the subjects was 19 to 28 years. Age, Height and Weight were taken as personal data. Selected physical fitness components were measured as criterion by standard tests. The subject was taken randomly. Data were collected in the afternoon (3-4:30 p.m.) consecutively four days. Mean, Standard Deviation and independent t-test was used. Significant level was set at 0.05 levels. Badminton players were better than volleyball players on pull ups, sit ups & standing broad jump and volleyball players were better than badminton players on speed, agility & endurance. But there were insignificant difference between badminton and volleyball players on selected physical fitness components.

Key words: Physical Fitness, AAHPER test, Badminton & Volleyball players.

Introduction

Badminton: First to understand various game that were played long before badminton let me bring you back to centuries ago were it all began. In the 5th century BC, the people in china then played a game called ti jillian a direct translation from these word. ti jianzi is kicking the shuttle. As the name suggest the objective of the game is a keep the shuttle from hitting the ground without using hand. Whether these sport has anything to do with the history of badminton his up for debate. It was however the first game use a shuttle .

Volley Ball: IN 1895 William G. Morgan a YMCA physical education director. Holyoke, Massachusetts, USA created a new game to be played preferably in indoors and by any number of players. The game took same of its characterized from tennis and handball. As able have been volleyed by the hand ,the name volley ball coined in the sporting arena .In 1924 summer Olympic time in parish where volley ball was playe4d first time and this sport was officially .Include in the programmed from the 1964 in toke o summer Olympic .The federation international volley ball(FIBA) was established in the year of 1947 and the first world championship were held in 1949 from men and 1952 for women and they considered as highest official body of volley ball in the world.

Physical Fitness: Every person has a different level of physical fitness which may time, place of work and situation. In the field of game and sport , physical fitness varied on sports man in different sports. Actually physical fitness depend upon there movement in limbs which involve in sport and games. In the present study badminton player is a individual sport and volley ball is a team game. So there nature of skill are different Badminton is endurance type sport where it place by hand volley ball is same team game Physical fitness asset of attributes that are either health or skill related. The degree to which people have these attributes can be measured with specific tests. These definition are offered as an interpretation from work for comparing studies that relate .physical activity exercise and physical fitness to health. According to roger banister -physical fitness a state of mental and physical harmony which enable same one to carry on his occupation to the best of his ability with greatest happiness.

Objectives: The main object of the proposed study is to find out the “comparative study of physical fitness among badminton players and volley ball players.”

Methodology: In methodology involves selection of the subject; criterion measures and statistical techniques.

Selection of the subject: The subjects were selected from Birbhum district of West Bengal, India. 20 (10 Badminton and 10 Volleyball) male university level players, age ranged 19-28 years were selected randomly as subjects. All subjects were participated East Zone Inter University Tournament. Data were collected in the afternoon (3-4:30 p.m.) consecutively four days.

Criterion Measures: Speed, shoulder strength, leg strength, abdominal strength endurance, agility and endurance were considered as selected physical fitness components. All the components were measured by standard tests.

Statistical techniques: To compute mean difference between badminton players and volley ball players in relation to selected physical fitness components mean, standard deviation and independent t-test was used (Statistical Package for the Social Sciences, version 17.0, SPSS Inc, Chicago, IL, USA). Significant level was set at 0.05 levels.

Results & Discussions: In order to find out the significance difference of pull ups, 50yard dash, 600yard run, standing broad jump, sit-ups and Shuttle Run of Badminton and volley ball groups by subjecting the difference between means scores without any training, statistical significance calculating 't' ratio using the formula.

Result Of Aahper Test Between Badminton And Volley Ball Players.

There are two physical fitness are not significant pull up and 4x10 miter shuttle run an other variables Significant.

There was no significant difference between badminton and volleyball Players on pull up.

There was no significant difference between badminton and volleyball players on 4x10Mshuttle run.

There was significant difference between badminton and volley ball players on 50 yard dash .001 level

There was significant difference between badminton and volley ball players on standing broad jump at .02 level

There was significant difference between badminton and volley ball players on sit up .001 level

There was significant difference between badminton and volley ball players on 600yard run .001 level

Comparative Study Among Physical Fitness Badminton Player And Volley Ball Player Pull-Ups:

	MEAN	S.D	MEAN DEAVATION	G.S.D	SED	t value
BADMINTON	12.1	2.49	0.8	2.273	0.984	0.813
VOLLEY BALL	11.3	2.60				

Comparative Study Among Physical Fitness Badminton Player And Volley Ball Player Sit-Ups.

	MEAN	S.D	MEAN DEAVATION	G.S.D	SED	t value
BADMINTON	58.2	3.89	10.6	5.62	2.51	4.223
VOLLEY BALL	47.6	6.46				

Comparative Study Among Physical Fitness Badminton Player And Volley Ball Player Standing Broad Jump-

	MEAN	SD	MEAN DEAVATION	G.SD	SED	t value
BADMINTON PLAYERS	2.47	0.129	0.15	0.122	0.054	2.77
VOLLEY BALL PLAYERS	2.32	0.224				

Comparative Study Among Physical Fitness Badminton Player And Volley Ball Player **50 Yard Dash-**

	MEAN	SD	MEAN DEVIATION	G.SD	SED	t value
BADMINTON PLAYERS	6.66	0.0915	-1.03	0.354	0.155	6.516
VOLLEY BALL PLAYERS	7.69	0.37				

Comparative Study Among Physical Fitness Badminton Player And Volley Ball Player **4x10MSR**

	MEAN	SD	MEAN DEVIATION	G.SD	SED	t value
BADMINTON PLAYERS	9.07	0.174	-0.14	0.227	0.099	1.414
VOLLEY BALL PLAYERS	9.21	0.250				

Comparative Study Among Physical Fitness Badminton Player And Volley Ball Player **600yard Run-**

	MEAN	SD	MEAN DEVIATION	G.SD	SED	t value
BADMINTON PLAYERS	1.45	0.052	-0.76	0.154	0.067	11.343
VOLLEY BALL PLAYERS	2.21	0.2006				

Conclusion

On the basis of result and statistical analysis of data within the limitation imposed and the experimental condition, the following conclusions may be drawn: Badminton and Volleyball students indicated no real difference in relation physical fitness under taken in the presents study. Badminton and Volleyball player the “t” scale constructed as a result of the study will be applicable to all the professional students in Physical Education Institutions. There was no significant in pull up of badminton and volleyball players. Badminton players are better arm muscle strength than the Volleyball Players. There are significant in 50 yard run Badminton and Volleyball Players. Volleyball players are batter speed from the Badminton player. In Explosive lag muscle power Badminton players are better then Volleyball players. In Endurance Volleyball players are batter then badminton players. There are significant relation in physical fitness between Badminton and Volleyball players of university level male students.

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A Study On Role Of Psychology In Sports

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Introduction

Sport psychology deals with the mental aspects of sport. It aims to improve both the sports performance and general well-being of the athlete, through the application of psychological principles and techniques. It has been defined as the science of psychology applied to sport. However, as dealing effectively with athletes in an applied setting, still probably remains more of an art than a science. The past few decades has seen the steady gathering of quite a significant body of scientific research documenting the positive effects of many sport psychology interventions. Interestingly enough, scientists such as Prof. Tim Noakes, who have traditionally focused on the physiological aspect of sports performance, are now also starting to prove the assumptions upon which the entire discipline of sport psychology has been based. Areas covered by sport psychology, range from confidence to conflict resolution, from motivation to performing under pressure, and everything in between. Additionally, sports performance is affected by, and in turn affects all other life areas. Hence when traveling with teams, one in fact also quite often ends up dealing with totally non sport-related concerns (such as relationship issues), which are amplified when the athlete is away from home.

Role of Psychology in Sports

Sports performance is determined by a combination of physiological factors, technical skill, tactical insight and state of mind. All four factors are critical to peak performance. The last of these is the executive function, as it is the mind which determines whether or not what you have trained in over the past few years, is brought out on the day – at that moment when it matters most. It is this aspect of sports performance which has traditionally been paid the least attention in preparation for competition. Hence, in a world where many athletes are physically, technically and tactically increasingly similar, it is the mind which offers perhaps the greatest scope for a competitive advantage. The role of mind has become even more important with the rapidly increasing commercialization of sport, which has presented new pressures for athletes across many levels and ages. Fortunately, like the other three factors, the mind can be improved through training. The more the mental skills are learned and practiced, the better and the more consistent the performances become. Proper mental preparation will become as routinely integrated into training and competition as the other factors already are.

Roles of a Sports Psychologist

Today, a sports psychologist's role is more accepted as a part of the regular coaching staff for teams and for individual athletes. The roles of sports psychologists are numerous, but they primarily teach athletes mental game skills to improve their performance and learning. The areas sports psychologists teach vary from one person to another depending on their experience and qualifications. Below are the roles of an applied sports psychologist, a person who helps athletes improve performance via mental training.

Athletes Cope with Performance Fears

Sports psychologist can help athletes overcome fears, such as fear of failure, fear of embarrassment, and general performance anxiety. This is common among athletes who are perfectionists or highly dedicated athletes that worry too much about what other people think about their performance.

Athletes Improve Mental Skills for Performance

The most common role for a sports psychologist is to teach mental skills for enhanced performance. A mental game expert can help you improve confidence, focus, composure, intensity, and trust in athletic performance. These mental skills help athletes improve performance and can help in other areas of an athlete's life.

Athlete Mentally Prepare for Competition

Another common role of a sports psychologist is to help athletes mentally prepare for competition and practice. This includes many of the mental skills mentioned above, but applied to specific situations on the athletic field.

Athletes Return after Injury

Returning to play after an injury can sometimes be difficult for many athletes depending on the nature of the injury. Athletes are often left with “mental scars” long after an injury is physically healed. A sports psychologist can help injured athletes cope better with the pressures associated with returning to a prior level of performance—pre-injury.

Athlete Develop Pregame Routine

As part of mental preparation, the role of a sports psychologist includes helping athletes develop mental skills used during pregame or prerace routines. Athletes learn how to focus on the process instead of results and be more proactive with their confidence prior to competition.

Athletes Develop Pre-shot Routines

Pre-shot routines are another common role of a sports psychologist. Here, athletes learn how to use mental skills to prepare for a specific motor skill, such as a golf shot, free throw, or field goal kick.

Athletes Improve Practice Efficiency

Another common role of a sports psychologist is to help athletes improve the quality or efficiency of their practice. Many athletes, such as collegiate athletes, have limited practice time. Coaches want to help these athletes get the most out of their practice time by understanding principles of motor learning and performance.

Important Characteristics of Sports Psychologists

Sports psychologist should be able to educate and athletes in effort to enhance the athlete's psychological skills. Most sports psychologists educated in exercise science are only trained to deal performance enhancing issues rather than more problematic personal issues. Examples of problems in performance that a sports psychologist would assist might include: competition anxiety, poor self-talk, motivation issues, and burnout (Heyman, 1993). The sports psychologist may work directly with the athletes, one-on-one or in a group, or with the coach. Generally, it is not appropriate for sports psychologists to engage in the areas of clinical psychology and coaching without further credentials. Sports psychologists who spent more one-on-one time with higher ranked athletes were perceived to have a greater applied impact than those athletes who were lesser ranked and spent minimal time with the sports psychologist. The best sports psychologists were perceived to have the following characteristics:

Sports Psychology Today

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 psychology can even help people off the playing field. The same strategies that sport psychologists teach athletes — relaxation techniques, mental rehearsals and cognitive restructuring, for example — are also useful in the workplace and other settings.

Conclusion

Sport psychology plays a critical role not only in the enhancement of performance for athletes, but in the development and maintenance of psychological wellbeing within the competition environment. There is increasing recognition in the sport community that supporting athlete mental health is a vital aspect of competition performance, and is as integral to success as the competition skills to perform. The profession of sport psychology provided a very meaningful contribution to sports science to facilitate athlete wellbeing and maximise the psychological skills required to compete at the highest level of international competition. Sport psychology needs to continue to develop as a profession to ensure comprehensive, holistic and evidence-based psychology services are available for athletes and teams, providing the range of services required to achieve peak performance. Equipping athletes with an understanding of their psychological functioning, and building the ability to implement a range of psychological strategies in competition, enables athletes to both execute their skills and thrive under pressure as they strive to reach their performance potential.

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Research On The Effects Of Individual Physical Exercise Education Programme To Motor Skills Of Autistic Students

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Summary

The aim of this reasearch is to study on the effects of individual physical exercise education programme on motor skills of the autistic students. There are 12 autistic students participated to the study of this research who are the students of a private education and rehabilitation center. Age interval of these students is 8 to 14. Necessary permissions for the research are taken from Directorate of Education and students' parents. The research is planned as 2 months, 8 weeks and 2 days in a week (45 to 60 minutes). The education programme is prepared especially according to less competent/ weak physical properties of the participant students (motor skills and object control skills). Each week studies are visually recorded to monitor the progress. The observation forms and parent interview forms are prepared as they are done before and after the studies Research data is analyzed on SSPS 16.00 programme and it is assessed/evaluated/discussed by its frequency, percentage distribution, observation and interview values. By the research results there is profound progress observed on students' motor skills and especially on their object control skills. Also there are positive results/assessments realized by the reports from parents interviews and participant students' observation reports.

Key Words: Autistic, individual physical exercise education programme, motor skills.

INTRODUCTION

Autism can be defined as a disorder defined by behavioral symptoms related to cortical functions affecting lifelong socialization, language, communication and many other activities and fields of interest. Behavioral traits ranging from the mildest disabilities to the most serious ones can be observed in autistic spectrum because of the variance of clinical symptoms severity from individual to individual (Fazlıoğlu, Yurdakul, 2005).

Autism is a very common form of development disorder. This means neurologic disorder and this disorder affects individual's communication ability, language comprehension, plays and his other relations. Presumably, autism and developmental disorder prevalence is at one child in 150 children and is four times more common among boys than girls (Robertson, T. Long, T. (2008).

As a result of early surveys, autism prevalence rate has been determined as 5 per 10.000. Besides, prevalence rate agreed by Lorna Wing and National Autistic (Children and Adolescent) Society has been determined 15 per 10. 000. This threefold increase in estimated prevalence rate mainly causes from extending the definition criteria of Kanner and new advances of perception of autism. Autism prevalence rate varies between 4-5 and 17 per 10.000 for classical cases. These figures are higher than quotations from literature and previous estimates. Some researchers, on the other hand, have found out 23 per 10.000 as prevalence rate for autism spectrum disorders. Recent studies show that this rate is likely to be much higher (Fazlıoğlu, Yurdakul, 2005).

Autism is related to some developmental disorders and intellectual disability is observed in three out of four of these people. Very serious mental disorders are observed in half of them and epileptic attack is seen in 25% - %35 of them. 6 or 12 symptoms in 3 big areas in one person are diagnosed as autism. These areas are social communication, communication and behavioral ones (Robertson, T. Long, T. (2008).

The specific traits of autism are the lack of emotional and social response or the repetitive behaviors and the lack of spontaneous plays. A non-specific diagnosis is given when children display less similar behaviors. Social deficits including non-verbal communication abilities and observed in

autism are listed as lack of eye contact, facial expressions, gestures and mimics, lack of sharing interest/success or some activities with others (showing, bringing and pointing objects they are interested in), weak central coherence, lack of joint attention, differences in imitation and plays (Quill, 2000).

Autism is defined as social deficit, communication disorder in speaking before 3 age by IDEA (Individuals With Disabilities Education Act) in 1990 and this affects education performance of the child (Robertson, T. Long, T. (2008).

The characteristics of autism have been listed below. These are:

- Delay in speaking development-Stereotyped games
- Lack of imagination- Insistence on similarity

Some or all of the characteristics below can be observed:

Communication deficits (comprehension and use of language etc)

Difficult relations with objects and people,

Strange relations with toys and other objects,

Difficulties in responses to similar or routine changes

Repetitive body movements or stereotyped behaviors (Winnick, J. P. (2011).

Children with autism display, to a large extent, cognitive abilities and behaviors. Some of them have no or little language ability. Others are highly intelligent. Unusual sensory responses in noise, light, food or touching fabrics are common in some of them (Robertson, T. Long, T. (2008).

Sensory deficits are one of the most important problems students with autistic disorder experience. These students can experience different problems related to tactual, balance, visual, audial, taste and smell (Friend, 2006. cited by Diken, H. İ. (2011).

Inclusive education can be provided to students with autism. This can be attractive and a beneficial experience. Trainer should struggle in the fields of socialization, communication and perception. You should take it as a first step in your studies. Most autistic children benefit from the use of written language and visual learning. They need a designed play field. These strategies prepared by multi-disciplines can be modified. Another important point is closeness to security and environment in motor skills and special behaviors. This is also important for physical education activities (Rouse, P. 2010.)

For autistic children, sport is an important way to be together with people they don't know before in an unfamiliar environment different from the restricted and known family environment. As a result, they communicate with different people and participate in exercise activities by obeying some rules (Özer, D. 2010).

Development of motor skills and elimination of deficiencies of both normal and autistic children is possible with sport therapies. Systemizing movements is aimed through basic imitation skills. Imitation of others has been observed in autistic children as they have little self-confidence (Short, FX.1995).

MATERIAL AND METHOD

An individual movement training program to be adapted to the students for research was formed. A training schedule was prepared according to the students' weak physical features (gross motor skills and object control abilities). The research was planned 2 months, 8 weeks and 2 days a week (45-60 minutes). Children went through a test in adaptation field one by one before organizing this program. Notes related to motor skills were taken. Individual movement training was prepared in accordance with these notes. Daily programs were prepared by the researcher academic member. During the adaptation phase, the academic member was accompanied by students of volunteer recreation department. Necessary exercise materials were located in the research area and special adaptation area was formed.

In the research, materials below were used as exercise material:

Portable basketball hoop: its height can be adjusted 125-175 cm.

Mini trampoline: its width is 100 cm- 125 cm.

Portable movable chinning bar (pull up) : mountable and dismountable, made by a trainer

Miniature football goal posts: its length is 100 cm and height is 75 cm

Barriers at different heights: their heights vary between 10cm-15cm-20cm-30cm-40cm

Hoop: its width varies between 40cm-50cm-60cm-75cm

Exercise balls in different weights: their weights vary between 1 kg.-1,5 kg.-2 kg.-2.5 kg.-3kg

Skipping rope: its length varies between 100cm-125cm-150cm.

Pulling ropes in different lengths: its length is 3m-5m and made by trainer

Balls in different branches: consist of football, volleyball, handball, pouf balls, basketball balls and sponge balls in different sizes.

Trainings were videotaped and developments were monitored. Observation forms and parent interview forms were analyzed and explicated before training and at the end of training phase. Individual movement training program was organized by special trainers, academic members of recreation department and volunteer students.

Chart 1: specially prepared individual movement training program

SPECIALLY PREPARED INDIVIDUAL MOVEMENT TRAINING PROGRAM			
WEEKS	GOAL	MOVEMENT TRAINING	GAINS
1.Week	Preparation for training and adaptation	Walking, running, collective training	Flat Walking, Balanced Running And Being Capable of Controlling The Ball
	Preparation for training and adaptation	Walking, running, collective training	Flat Walking, Balanced Running And Being Capable of Controlling The Ball
2.Week	Walking and running towards different directions	Flat walking and running,, running, walking between barriers and over barrier, controlling ball by hand, dribbling	The ability of balanced walking and running, and ball control by stopping and moving.
	Walking and running towards different directions	Flat walking and running,, running, walking between barriers and over barrier, controlling ball by hand, dribbling	The ability of balanced walking and running, and ball control by stopping and moving.
3.Week	Ball control and throwing ball to the target	Target shooting with balls of different sizes	Being able to grasp balls of different sizes
	Ball control and throwing ball to the target	Target shooting with balls of different sizes	Being able to grasp balls of different sizes
4.week	Strength and balance training	Gymnastics exercises, pull up, trampoline etc.	Being able to use gymnastics materials
	Strength and balance training	Gymnastics exercises, pull up, trampoline etc.	Being able to use gymnastics materials
5.week	Coordination and ball control	Different circuit training (dribbling, shot, take off)	Being able to do different exercises coordinately
	Coordination and ball control	Different circuit training (dribbling, shot, take off)	Being able to do different exercises coordinately
6.week	Balance, flexibility and coordination	Gymnastics exercises, pull up, trampoline, circuit training etc.	Being able to use gymnastics materials
	Balance, flexibility and coordination	Gymnastics exercises, pull up, trampoline, circuit training etc..	Being able to use gymnastics materials
7.week	Participation in group training	Training with different handicapped groups (hearing, vision)	Being able to gain group dynamism
	Participation in group training	Training with different handicapped groups (hearing, vision)	Being able to gain group dynamism
8.week	sport festival for handicapped	Ability and coordination competition for the aim of festival	Being able to gain sport festival and competition feeling
	sport festival for handicapped	Ability and coordination competition for the aim of festival	Being able to gain sport festival and competition feeling

Specially prepared individual movement training program in chart 1 prepared by special trainers, academic members of recreation department and implementer volunteer students. Special training trainers determined time of training by taking into account individual developments of children. Academic members of recreation department prepared an exercise program by taking into account motor developments of children. Implementer students carried out first trials of exercises to make sure that trainings are efficient. Sport festival for handicapped in 8th week was organized by volunteer academic members and students.

Chart 2: Parent Interview Form

Questions	Family opinion	Assessment
1 .Did you observe development in your child's walking?		
2. Did you observe development in your child's running?		
3. Did you observe development in your child's jumping?		
4. Did you observe development in your child's ability of throwing football ball?		
5. Did you observe development in your child's ability of throwing tennis ball?		
6. Did you observe positive development in relations with your child's school friends?		
7. Did you observe positive development in relations with your child's trainers?		
8. Did you observe positive development in your child's individual behaviors?		
9. Did you observe positive development in relations with your child's siblings?		
10. Did you observe difference in attitudes towards his parents?		

Parent interviews in Chart 2 were carried out by academic members. Pre- interviews and post-interviews were compared by interviewing each parent one by one before the research and at the end of the research. Obtained data was assessed by comparing it.

Chart 3: Researcher Observation Form

Questions	1 st observation	2 nd observation	Assessment
1. student's walking condition			
2. student's running condition			
3. student's jumping condition			
4. student's condition of shooting football ball			
5. student's condition of throwing tennis ball			
6. student's condition of relationship with his school mates			
7. student's condition of relationship with his trainers			
8. student's condition of individual behaviors			
9. student's condition of relationship with his siblings			
10. student's condition of attitudes towards his parents			

The researcher observation form in the chart 3 was carried out by 2 academic members. Observation was realized through video recording of the trainings. Video recording was done as gross motor skills and object control skills. Joint observations were determined by comparing observations of each academic member.

Analysis And Findings

Research data was assessed by analyzing the questions in observation and interview forms. According to these results; While significant development was observed in gross motor development and especially object control tests of students at the end of the research, positive results were obtained in parent interview reports and observation reports of implementer students.

According to the study, positive responses were generally obtained for all questions in the interview with parents of students participating in the research. Out of these questions, for the 1st question, parents told that they observed positive development in their child's walking, for the 2nd question; they told that their children who couldn't run started to run in mild tempo and were able to pass the barriers of 10-15 cm. They stated that while they weren't able to play with the ball and shoot the ball in the 4th and 5th questions, after trainings, they were able to shoot balls with different sizes and shoot it to the target by grasping them.

They stated that they didn't have any difficulties in behaviors such as obedience in relationships with friends and trainers, being adaptable in 6th and 7th questions.

They stated that positive development was observed in behaviors related to family relations in 8th, 9th and 10th questions.

When observation results of trainers in the training were analyzed;

Observation results carried out in the first week (both visual and video recording) and other ones made in the last two weeks were assessed by comparing them. When these comparisons were looked at;

It was determined that the students weren't able to walk in a balanced way at the beginning of the training, but they were able to walk in a balanced way for 10-15 m over a straight line and a rope in the last weeks.

It was determined that the students had little running ability at the beginning, but they were able to run along 50-60 m in a normal tempo in the last weeks.

The student who wasn't able to pass the barriers of 10-20 cm in the pre-observation about jumping was able to pass them by running in mild tempo towards the end of the training.

At first, a lot of incoordination was observed in object control abilities but they were able to show the ability of shooting objects with different sizes to the target by controlling them.

At the beginning of the training, they experienced adjustment problems with trainers and other friends participating in the training but these negative behaviors turned into positive ones.

Positive behaviors were observed in family relations (obedience, participating in training with his brother, appearance etc).

Result And Evaluation

Most of the expected results were obtained in the trainings carried out during the research. Programs organized for autistic children and aiming to develop their motoric characteristics are often successful. In this issue, it was observed in Sarol and Karaküçük's studies that autistic children's participation in sport programs provided physical, mental and social gains and their awareness increased as a result of this.

In another study carried out by Sarol et al (2011), it was found out that autistic children participating in sport and exercise programs became aware of their bodies, made friendships with their peers, communicated with volunteer university students, gained physically new skills and became happy as a result of these factors.

Atalay and Karadağ (2011) emphasized in their studies related to the importance of sport therapies during rehabilitation process of autistic patients that exercise programs with the aim of therapeutic recreation, contributed to strengthening of autistic children's muscles, increase in balance and coordination of eye and hand and especially development of social interaction problem of autistic children.

In Fernhall's research (1993), it was pointed out that autistic children were accepted by society as a result of their parents' acceptance of the situation and giving importance to sports exercises to cope with it and also they showed development physically and mentally.

Apart from common benefits of sport, the research showed that taking part in regular sport activities provided autistic individuals with positive changes. While some of them were permanent, and the others were positive changes disappearing after giving up sport. To give an example, improvements in their speaking skills were observed in children doing swimming sport due to the sound they made naturally in the water.

Swimming is a crucial sport in terms of sound making. In addition, therapy characteristics of water are emphasized for autistic children in various studies. In the studies themed autism and sport, importance of bicycle is great in the sense of some physical improvements such as eye-hand coordination, balance, making decision and reflex development. Meanwhile, riding bike in natural environment results in instant decision making skills of them (www.destekegitimi.com2013).

At the end of the research, it was shown that individual movement training programme adapted to autistic children developed strength, speed, skill, balance, coordination, social friendship, group adaptation, communication in family and peer communication of all the participant children.

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Comparative Study Of Anxiety Test Between College Level Badminton And Volleyball Players

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Abstract

The purpose of this study was to compare the sports competition anxiety test between college level Badminton and Volleyball players. For the purpose of the study, thirty (30) players each of Volleyball and Badminton were randomly selected irrespective of gender as subjects for this study. The subject's age ranged between 19 to 27 years. For this study sports competition anxiety test (SCAT, Martens et al., 1990) questionnaire was used to measure sports competition anxiety. SCAT questionnaire was distributed between the subjects 30 minutes before the competition. The hypothesis selected for this study was that there would be no significant difference between Badminton and Volleyball players. For analysis of the data independent 't' test was used. The level of significance was set at 0.05. The mean score of Badminton players was 19.50 and Volleyball players was 22.50. The calculated 't' value was 3.95 which showed that significant difference was found between Badminton players and Volleyball players (calculated 't' 3.95 > tabulated 't' 1.675).

Keywords: Sports Competition Anxiety Test (SCAT), Anxiety.

Introduction

Precompetitive anxiety [PCA] is a state of arousal that is unpleasant or negative & occurs during last 24 hour span prior to competition. The worry which is associated with PCA is not just experienced with our heads, but with our entire body. Our thoughts become self- focused, self - defeating and negative. Most of us may have a combination of these responses during the pre-competitive period. However, the degree to which they influence our performance is largely dependent upon the interaction of our own uniqueness and the competitive situation. Sports psychology is a science in which the principles of psychology are applied in a sport or exercise setting. These principles are often applied to enhance performance. Sport psychologists are interested in helping every sport participant reach their higher potential. Sport psychology is the study of the effect of psychological and emotional factors on performance. Anxiety has been a central concept for sport psychology and has received a huge amount of investigation because of its influence on performance. Anxiety plays a paramount role in sports. It is the challenge in sports participation, which produces anxiety. It is generally defined as a negative emotion characterized by feelings of apprehension and tension. Unlike arousal it is not emotionally neutral, but rather is at the unpleasant end of the affect continuum. Anxiety is an emotion that is difficult to define and even more difficult to reliably detect in performers. "Nervousness" is often used synonymously with anxiety. It can be experienced at various levels of intensity. "Tension" is the term used to describe chronic, usually low level anxiety to which we all seem to be sensitive. Panic is the most serious level of anxiety. Anxiety plays an important role in the acquisition of motor skills as well as in player's performance. Anxiety can either enhance or inhibit performance of the players.

Trait anxiety is a relatively enduring disposition, i.e. it is a personality dimension that predisposes people at the high end of the continuum to view a wide range of non-dangerous circumstances as threatening. In contrast, state anxiety is the negative emotion of apprehensiveness and tension experienced in threatening situations. In the sporting domain much more research has been carried out on state anxiety than trait anxiety. This is probably because the performance enhancement applications that might come out of the study of sports anxiety are potentially much greater for state than trait anxiety. Changing athlete's personalities is not really an option since there is much evidence from psychology that tells us that it is very difficult to do. In contrast, it is relatively easy to imagine ways in which we might be able to control state anxiety to improve performance. Indeed much of the focus of applied sport psychology does exactly this.

Methodology :

Selection Of Subjects:

For This Study, Thirty (30) Badminton Players And Thirty (30) Volleyball Players were randomly selected irrespective of genders as the subjects for this study. The subject age was ranged between 19 to 27 years.

Collection of Data:

The data was collected by administering sports competition anxiety test questionnaire. The Sports Competitive Anxiety Test (SCAT) questionnaire prepared by RAINER MARTENS has fifteen items out of which five were spurious questions, which have been added to the questionnaire to diminish response bias towards the actual test teams. These five questions were not being scored. The subjects were instructed to respond to each item according to how they generally felt before the competitive sports situation. Players were required to respond the questionnaire 30 minutes before their matches. However, no time limit was set for filling up the questionnaire. The subjects were asked to respond as quickly as possible without brooding over any question/statement once the instruction were understood clearly beforehand.

Statistical Technique:

For the purpose of analysis of data descriptive statistics (mean and standard deviation) and independent 't' test was applied to compare the sports competition anxiety between Badminton and Volleyball players. The level of significance was set at 0.05.

Results of the Study:

The scores were obtained by using the key as suggested by Martens et al., 1990. All the individual sports competition anxiety test score was used to judge the level of anxiety.

Table No.1 Significance of Differences of Mean, Standard Deviation and 'T' Value on Sports Competition Anxiety Test between Badminton players and Volleyball players.

Group	Sample	Mean	Standard Deviation	't' Value
Badminton players	30	19.50	2.62	3.59
Volleyball players	30	22.50	3.75	

*Significant at 0.05 level tab 't' (.05)(58) = 1.675

Table no.1 indicates that there was a significant difference between the means of Badminton players and Volleyball players on scores of sports competition anxiety test score since the obtained value of 'T' 3.59 was higher than the tabulated value of 'T' 1.675 which was required to be significant at 58 degree of freedom with 0.05 level of significance.

Discussion Of Findings

The statistical findings of the present study revealed that the mean value of Volleyball players (22.50) on sports competition anxiety was higher than Badminton players (19.50), which indicate that Volleyball players are more prone to sports competition anxiety in comparison to Badminton players. The reason behind this state of condition may be the different nature of these sports activities. Badminton is the individual sports activity while Volleyball is a team sport activity. Generally, during Badminton competition number of spectators is less rather than the number of spectators in a Volleyball competition watching these sports activities. Hence, it is concluded that Volleyball competition is more effective than Badminton from spectator's point of view. These may be some reasons why the Volleyball players are more sports competition anxiety prone than the Badminton players.

Conclusions

Within the limitations of the present study following conclusion was drawn:

There was a significant difference found on sports competition anxiety between Badminton players and Volleyball players. Volleyball players are more prone to sports competition anxiety compared to Badminton players.

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Comparison Of Somatic Characteristics And Fitness Of U-19 Years State Level Male Volleyball And Handball Players

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Abstract:

Somatotyping and fitness are the most important factor for any type of performance. The purpose of the study was to find out the somatic characteristics and fitness of under-19 year state level male volleyball and handball players. Total sixty (60) district level male Volleyball (30) and Handball (30) players were selected at random from Nadia, Hooghly, South & North 24 Parganas, Kolkata and Howrah. All the subjects were assessed for height, weight, BMI, breaths, girths, skinfold thickness, vertical jump, flexibility and reaction time. Analyzing the data it was found that 1. The volleyball players were significantly taller than handball players. 2. The biceps and triceps skin folds of volleyball players were significantly higher than handball players. 3. The volleyball players had greater thigh circumference than handball players. 4. The significant difference was observed between Volleyball and Handball players in Ectomorphic and Mesomorphy components. The volleyball players had greater Ectomorphy component than the handball players and handball players had greater Mesomorphy components than volleyball players. 5. The significant difference was observed between Volleyball and Handball players in vertical jump and flexibility. The volleyball players had higher vertical jump than the handball players and handball players had better flexibility than volleyball players. 6. The body types of volleyball group was Mesomorphic Ectomorph (2.31, 3.37, 3.67), total percentage 66.66% and Handball group was Ectomorphic mesomorph (1.84, 4.19, 2.72), total percentage 56.66%.

Key words: Somatotyping, Volleyball, Handball, Flexibility, Reaction time,

Introduction

Now a day sports has become an interesting subject not only to sports person, organizations and coaches but also to the academicians. Sports science has emerged as a new branch of scientific endeavor. With the help of science and technology human performance has achieved a distinctive mark which was beyond imagination even 60 years back. The selection of appropriate athletic, with a comparatively higher structure, modern training methods highly developed gadget and equipment considered to be the factors responsible for such higher level of performance. The physique definitely plays the crucial part in that regard and is a factor in the success. "Structure determines functions and functions determine structure." Successful participation in these sports requires from each player a high level of technical and tactical skills and suitable anthropometric characteristics. All ball games require comprehensive abilities including physical, technical, mental and tactical abilities. Among them, physical abilities of players are more important as these have marked effects on the skill of players and the tactic of the teams because ball games require repeated maximum exertion such as dashing and jumping (Tsunawake, 2013). Such physical abilities are important for volleyball, handball and basketball players to achieve higher levels of performance. To evaluate these physical abilities, the anthropometric measurements, parameters of body composition such as the percent body fat (% Fat) fat free mass (FFM) and somatotype components are often use. Studies on the physical characteristics of the human body to date indicate that the morphological characteristics of athletes successful in a specific sport differ in somatic characteristics from the general population. Basketball and volleyball require handling the ball above the head; therefore, having a greater height is an advantage in these sports (Kansas et.al. 1986). Higher body mass however, is a hurdle for handball and volleyball players in achieving good jumping height (Bandyopadhyay, 2007). Various researchers suggested that different body size shape and proportions are beneficial in different physical activities (Malhotra et al, 1972; Kansal et al, 1986; Sidhd et al, 1996).

Purpose of the study

The purpose, of the study were as follows –

To find out the somatic characteristics of U-19 year state level male volley ball players and Hand ball players.

To compare somatic characteristics of U-19 year state level male volleyball and Hand ball players.

To find out the significant difference, if any, between under-19 years state level male Volleyball and Handball players in respect to vertical jump, flexibility and reaction time.

To find out the percentage of players under – 19 years state level male Volleyball and Handball players, whose were belonged in various components of somatotypes.

Methodology

For the present study sixty (60) male subjects were randomly selected from Nadia, Hooghly, North & South 24 Parganas, Kolkata and Howrah Districts; among them, thirty (30) subjects for U-19 years state level male volleyball players and thirty (30) for Handball players.

To conduct the present study the following measurement were taken –

A. Personal parameters- Age, Height, Weight and BMI, B. vertical jump, C. flexibility, D. Reaction time, E. skin fold thickness, F. circumference, G. width, H. length . To collect relevant data for this study, following instruments were used – Weighing Machine, Flexometer, Measuring tape, Stadiometer, skin-fold caliper, sliding-caliper and Reaction timer.

Results & Discussion

Table – 1. Personal parameters of volleyball and handball players.

Variable	Volleyball players		Handball players		't' value
	Mean	SD	Mean	SD	
Age	17.87	± .61	17.70	± .65	1.04
Height (cm)	173.08	± 8.08	166.03	± 6.15	3.80*
Weight (kg)	61.22	± 6.60	59.28	± 7.69	1.04
BMI (kg/m ²)	20.49	± 2.41	21.46	± 2.08	-1.68

* Significant at 0.01 level $t_{0.05, 58} = 2.00$

Table -1 shows the descriptive statistics of personal parameters of volleyball and handball players. The table represented that the height of volleyball players were 173.08 ± 8.08 cm (mean \pm SD) and for handball players it was 166.03 ± 6.15 cm. Mean body height of volleyball players was significantly higher than those of handball players ($P < 0.05$). No statistically significant difference was observed between the volleyball and the handball players in relation to body weight and BMI.

Table-2. Statistics on skin fold of groups (Volleyball and Handball)

Parameter	Volleyball		Handball		't' value
	Mean	SD	Mean	SD	
Biceps (mm)	3.68	± 2.10	2.67	± 1.30	2.26*
Triceps (mm)	7.97	± 4.59	5.98	± 2.62	2.06*
Sub scapula (mm)	9.43	± 4.15	8.22	± 3.67	1.20
Suprailliac (mm)	7.05	± 5.22	5.05	± 3.16	1.80
Thigh (mm)	11.65	± 6.25	9.33	± 5.20	1.56
Calf (mm)	7.68	± 3.65	6.77	± 4.00	.93
Abdomen (mm)	14.90	± 9.83	11.20	± 7.45	1.64

* Significant at 0.05 level $t_{0.05, 58} = 2.00$

In table 2 descriptive statistics for skin fold measurement values were depicted. Both biceps ($P > 0.05$) and triceps skin folds ($P > 0.05$) measurements were significantly higher for volleyball players than handball players. There were no significant differences observed between two groups for sub scapula, suprailliac, thigh, abdomen and calf skin fold measurement.

Table-3. Statistics on circumference / Girth of two groups (volleyball and handball)

Variable	Volleyball		Handball		't' value
	Mean	SD	Mean	SD	
Waist (cm)	71.38	± 6.12	69.12	± 5.40	1.52
Abdomen (cm)	73.79	± 6.56	71.30	± 7.15	1.41
Gluteus (cm)	87.28	± 6.75	84.37	± 4.57	1.92

Wrist (cm)	15.79	± .89	16.15	± 1.42	- 1.33
Thigh (cm)	50.20	± 5.14	47.50	± 4.26	2.22*
Calf (cm)	33.34	± 2.93	32.55	± 2.59	1.11
Biceps (cm)	24.37	± 2.48	24.33	± 1.92	.076

* Significant at 0.05 level $t_{0.05, 58} = 2.00$

Table -3 representing the statistics of circumference /girth of two groups (Volleyball and Handball). There was no significant difference between volleyball and handball players in Biceps, waist, abdomen, glutens, wrist and calf circumference between the two groups, but thigh circumference ($p>0.05$) was significantly higher for volleyball players than handball players.

Table-4. Statistics on length of two groups (Volleyball and Handball)

Variable	Volleyball		Handball		't' value
	Mean	SD	Mean	SD	
Upper Ex. (cm)	74.81	± 4.79	76.25	± 4.21	1.29
Lower Ex (cm)	91.09	± 5.19	88.46	± 4.98	1.993
Thigh (cm)	43.62	± 2.99	42.36	± 4.59	1.26
Hand (cm)	55.22	± 4.51	56.60	± 3.61	-1.30
Plan (cm)	19.15	± .75	19.15	± 1.57	.00
Fore arm (cm)	27.02	± 1.63	27.27	± 1.48	-.63

Table -4 shows the descriptive statistics for length of body segment of volleyball and handball players. There was no significant difference between volleyball and handball players in relation to upper extremity, lower extremity, thigh, hand, palm and fore arm length.

Table-5. Statistics on width of two groups (Volleyball and Handball)

Variable	Volleyball		Handball		't' value
	Mean	SD	Mean	SD	
Hummers (cm)	6.62	± .50	6.52	± .43	.79
Femur (cm)	9.47	± .74	9.48	± .48	-.10

Table -5 shows statistics of width of the body segment of volleyball and handball players. No significant difference was observed in hummers and femur width between the volleyball and handball players.

Table-6. Statistics on somatotyping of two groups (Volleyball and Handball)

Type	Volleyball		Handball		't' value
	Mean	SD	Mean	SD	
Endomorphy	2.31	± 1.41	1.84	± .98	1.52
MEsomorphy	3.37	± 1.17	4.19	± .98	-2.94*
Ectomorphy	3.69	± 1.41	2.72	± 1.01	3.07*

* Significant at 0.05 level $t_{0.05, 58} = 2.00$

Table - 6 summarizes the descriptive statistics of the somatotyping components. Ectomorphic values of volleyball players were significantly higher ($P>0.05$) than those of handball players and mesomorphic values of handball players were significantly higher ($P>0.05$) than the volleyball players. In relation to endomorphic components, no significant difference observed between two groups.

Table -7. Statistics on percentage of players whose were belong in various classes of bodytype.

Somatotyping Classes	Handball Players		Volleyball Players	
	No. of players (30)	%	No. of players (30)	%
Mesomorphic Endomorph	2	6.66	7	23.33
Endomorphic Mesomorph	1	3.33	1	3.33
Ectomorphic Mesomorph	17	56.66	1	3.33
Mesomorphic Ectomorph	5	16.66	20	66.66
Ectomorphic Endomorph	5	16.66	1	3.33

Table-2. Shows that percentage players whose were belonged in various components of somatotyping. Most of Volleyball players were belonged in mesomorphic Ectomorph (66.66%) bodytype and Handball players were belonged in Ectomorphic Mesomorph (56.66%) bodytype. Total subjects of volleyball and Handball were belonged in Mesomorphic Endomorph, Endomorphic Mesomorph, Ectomorphic Mesomorph, Mesomorphic Ectomorph and Ectomorphic Endomorph classes of somatotyping.

Table – 8. Statistics of vertical jump, flexibility and reaction time of two groups.

Variables	Handball players		volleyball players		't' value
	Mean	SD	Mean	SD	
Vertical jump	40.78	5.64	48.72	5.39	5.57*
Flexibility	12.03	4.85	9.50	4.92	-2.00*
Reaction time	12.86	2.14	13.96	3.83	1.37

* Significant at 0.01 level $t_{0.05, 58} = 2.00$

Table 2 representing the statistics of vertical jump, flexibility and Reaction time of U-19 years state level male volleyball and handball players in the form of means, SD and 't' values. The table revealed that the jumping ability of volleyball players were significantly higher ($p > 0.05$) than handball players and other side flexibility of handball players were significantly better ($p > 0.05$) than volleyball players. In relation to reaction time, there was no significant difference observed between two groups.

Discussion

Present study showed that volleyball players were significantly taller than handball players (Rahmawati et al, 2007; Kansas et.al. 1986). Both biceps and triceps skin folds measurements were observed to be significantly higher for volleyball players than handball players. Volleyball players had greater thigh circumference than handball players and there were no significant difference between volleyball and handball players in relation to length and width of the body. In respect to somatotyping, Ectomorphic values of volleyball players were significantly higher than those of handball players and mesomorphic values of handball players were significantly higher than the volleyball players. In relation to endomorphic components, no significant difference observed between two groups. Most of Volleyball players were belonged in mesomorphic Ectomorph (66.66%) bodytype and Handball players were belonged in Ectomorphic Mesomorph (56.66%) bodytype. Total subjects of volleyball and Handball were belonged in Mesomorphic Endomorph, Endomorphic Mesomorph, Ectomorphic Mesomorph, Mesomorphic Ectomorph and Ectomorphic Endomorph classes of somatotyping. The jumping ability of volleyball players were significantly higher than handball players, in case of flexibility handball players were significantly better than volleyball players. In relation to reaction time, there was no significant difference observed between two groups.

Conclusion

The volleyball players were significantly taller than handball players.

The biceps and triceps skin folds of volleyball players were significantly higher than handball players.

The volleyball players had greater thigh circumference than handball players.

The significant difference was observed between Volleyball and Handball players in Ectomorphic and Mesomorphy components. The volleyball players had greater Ectomorphy component than the handball players and handball players had greater Mesomorphy components than volleyball players.

The body type of volleyball group was Mesomorphic Ectomorph (2.31, 3.37, 3.67), total percentage 66.66% and Handball group was Ectomorphic mesomorph (1.84, 4.19, 2.72), total percentage 56.66%.

The significant difference was observed between Volleyball and Handball players in vertical jump and flexibility. The volleyball players had higher vertical jump than the handball players and handball players had better flexibility than volleyball players.

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Differences In Nutritional Awareness Among Urban, Semi Urban And Rural Women Players Of Andhra Pradesh

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Abstract

The foremost aim of physical education has been to inculcate a healthy mind in a healthy body. The aim of this study was to find out the differences in nutritional awareness among urban, semi urban and rural women players in Andhra Pradesh. The investigator administered a nutritional awareness questionnaire consisting of 25 statements among 50 rural women players; 50 semi urban women players and 50 urban women players of different disciplines. The filled up questionnaire were scored and the total scores for all the twenty five statements were considered as the nutritional awareness level of the subjects. The differences on nutritional awareness among urban, semi urban and rural women players were tested for statistical significance using ANOVA. In all cases 0.05 level was fixed to test the significance. The results proved that there were significant differences on nutritional awareness among urban, semi urban and rural women players ($P < 0.05$). The paired mean comparisons proved that urban women players were having highest nutritional awareness (M: 86.86), followed by semi urban women players (M: 81.86) and then by rural women players (M: 79.48). The differences between urban and semi urban players and urban and rural women players were significant and there was no significant differences between semi urban and rural women players. The findings of this study proved that rural women players were significantly having lesser nutritional awareness and hence the study recommends the strong need of nutritional education for women players in the rural area.

Key Words: Nutrition, Awareness, Women Players

Introduction

Adolescence is the transitional period between childhood and adulthood. During this period individual move towards physical and psychological maturity, and economic independence and acquire their adult identity. Demographically, India is a young country today as more than 70% of the population is under the age of 35. According to census 2001, there are 225 million adolescents in the age group of 10 to 19 years. Adolescence is an intense anabolic period when requirements for all nutrients increases. This period is very crucial since these are formative years in the life of an individual when major physical, psychological and behavioural changes take place (Patil SN, Wasnik V, Wadke R, 2009). Adolescent girls, constituting nearly one tenth of Indian population, form a crucial segment of the society. The girls constitute a more vulnerable group especially in the developing countries where they are traditionally married at an early age and are exposed to greater risk of reproductive morbidity and mortality. In general adolescent girls are the worst sufferers of the ravages of various forms of malnutrition because of their increased nutritional needs and low social power (Choudhary S, Mishra CP, Shukla KP, 2003). Nutritional deficiencies has far reaching consequences, especially in adolescent girls. If their nutritional needs are not met, they are likely to give birth to undernourished children, thus transmitting under nutrition to future generation. Unfortunately assessment of nutritional status of adolescent girls has been the latest explored area of research particularly in rural India. (Shivaramakrishna H.R, Deepa A.V, Sarithareddy M, 2011). The nutritional intake depends on the nutritional awareness of rural, semi urban and urban girls Hence it is essential to assess the nutritional awareness differences of status of adolescent girls, especially in rural area.

Nutritional deficiency is almost impossible to avoid in these modern times. With our busy lifestyle, the ever-tempting convenience of fast food, it is now very difficult to enjoy excellent daily nutrition. The foremost aim of physical education has been to inculcate a healthy mind in a healthy body. Our body is indeed an instrument satisfying all our needs. Its maintenance and upkeep has always been a serious concern of formal education. It finds expression as health education and organisation of games and sports.

Players always tend to improve their performance through vigorous physical activities and training and do not give more attention for their nutritional food habits. Women players were found to be more conservative than men players in taking nutritional food which was largely responsible for their nutritional awareness.

Melissa C. Mullinix (2003) stated that female soccer players reported an energy intake of 34 kcal/kg body weight (total 2015 kcal/day). The contribution of protein, fat and carbohydrate to total energy intake were 15%, 30% and 55%, respectively. Dietary intakes of vitamins D and E were less than two-thirds of the recommendations and intake of all minerals was greater than two-thirds of the recommendations. The self-reported health status suggests that this was a healthy group of female athletes. Responses to the nutrition attitude questions suggest that these athletes may benefit from appropriate education regarding the role of nutrients in health and performance. From a review of energy intake of male and female athletes in different sports, Burke *et al* (2001) concluded that the energy intake of female athletes, expressed relative to body mass, is about 70% of that of their male counterparts. This can be explained by the lower intensity, frequency and duration of the training programmes of most female athletes. Many studies, however, report that some athletes seem to be in negative energy balance, and such observations seem to apply more often to female athletes than to their male counterparts: these observations and the potential explanations have been reviewed in detail by Loucks (2004). It does seem that some female athletes are in precarious energy balance, and maintain a low body mass and low body fat content by prolonged energy restriction, including some periods of negative energy balance. This is not unique to female athletes, in many societies women are under greater pressure to maintain a low body fat content. At a time when the prevalence of obesity is increasing rapidly, some parts of the population are moving in the opposite direction. In a comprehensive review of match activities, patterns of play and energy demands of both training and match play, Bangsbo *et al* (2006) were able to present little information on the female player. There also seem to be rather few data on the energy intakes of female players and most of those are based on short term measurements (typically three days) using household measures to estimate portion sizes that were then recorded in a food diary. The food intake, especially nutritional food intake depends on an individual awareness and attitude. KieferIngrid, RathmannerTheres, and KunzeMichael (2005) documented that there are some considerable gender-specific differences in many areas of nutrition. Women are more often affected by problems with their eating behaviour, such as craving for special foods, that men are. The reasons for the different eating behaviours and the different attitudes towards nutrition can be found in psychological and socio-cultural factors. And in these circumstances, this research is devoted to find out the differences in nutritional awareness among urban, semi urban and rural interuniversity women players in Andhra Pradesh which will help sports managers and nutritional specialists to take suitable remedial action for the all-round development of these players.

Methodology

To achieve the purpose of the study, the investigator administered a nutritional awareness questionnaire consisting of 25 statements among 50 rural women players; 50 semi urban women players and 50 urban women players of different disciplines. The administered questionnaire has four dimensions. Each statement was responded by the respondents for a 5 point scale, strongly agree, Agree, Neutral, Disagree and Strongly disagree. The filled up questionnaire were scored and the total scores for all the twenty five statements were considered as the nutritional awareness level of the subjects. The differences on nutritional awareness among urban, semi urban and rural women players were tested for statistical significance using ANOVA. In all cases 0.05 level was fixed to test the significance.

RESULTS

Table 1: Analysis of Differences in Nutritional Awareness among Urban, Semi Urban and Rural Women Players

	Urban Women Players	Semi Urban Women Players	Rural Women Players	Source of Variance	Sum of Squares	df	Mean Square	F
Mean	86.86	81.86	79.48	Between	1418.81	2	709.41	13.43*
				Within	7766.52	147	52.83	

Required Table Value F(2,147): 3.07

* Significant

Since significant F value was obtained, the results were further subjected to post hoc analysis using Scheffe's post hoc analysis and the results presented in Table II.

Tab II: Multiple comparisons of Paired Means of Urban, Semi Urban and Rural Women Players on Nutritional Awareness

Urban Women Players	Semi Urban Women Players	Rural Women Players	Mean Difference	Required Confidence Interval
86.86	81.86		5.00*	3.60
86.86		79.48	7.38*	3.60
	81.86	79.48	2.38	3.60

* Significant

Discussions

The results presented in Table I proved that there were significant differences on nutritional awareness among urban, semi urban and rural women players as the obtained F value was greater than the required table F value to be significant at 0.05 level. The paired mean comparisons proved that urban women players were having highest nutritional awareness (M: 86.86), followed by semi urban women players (M: 81.86) and then by rural women players (M: 79.48). The differences between urban and semi urban players and urban and rural women players were significant and there was no significant differences between semi urban and rural women players. Ingrid Kiefer et.al. (2013) reported that the reasons for the different eating behaviours and the different attitudes towards nutrition can be found in psychological and socio-cultural factors. Sweta Singh, Sangeeta Kansal, and Alok kumar (2011) found caste, religion and marital status were significantly ($p < 0.05$) associated with nutritional status of adolescents. The findings of this study that rural women players were significantly less nutritional awareness than urban players was in agreement with the studies of Ingrid Kiefer et.al. (2013) and Sweta Singh, Sangeeta Kansal, and Alok kumar (2011).

Conclusions

The findings of this study proved that rural women players were significantly having lesser nutritional awareness and hence the study recommends the strong need of nutritional education for women players in the rural area.

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A Study On Position Of Center Of Gravity Of 5-11 Years Boys

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Abstract

Gravity has been considered to be the force of attraction experienced by a body due to the Earth. This is the Gravitational pull or force of gravity. As per Newton's law of gravitation there exists a force of attraction between earth and any materials body situated in earth atmosphere. The Gravity causes the weight of the body and acts vertically downwards to the center of the Earth. Position of Center of gravity depends on shape and size of the object. For human beings it is influenced by several factors namely age, sex, and body shape and size. There have been a good number of researches related with the shape and size of human beings and the position of Cg. Literature indicates that the position of Cg shifts downwards with respect to age for a certain period. For females the position of Cg is slightly lower in comparison with male. During participation in physical activity the position of Cg continuously changes with movement of body parts and thereby reorganization of body masses. The purpose of this study was to determined the position of Cg and nature of changes of Cg of 5 – 11 years boys. The position of Cg was determined in all the three perpendicular direction - Longitudinal , Sagittal & Frontal Axis by using Reaction Board Method. Fifteen subjects of each of seven groups were selected for the study. It is seen from the results that for all the groups the position of Cg was shifts downwards with growth and increase of age till 11years in boys.

Key words : Center of Gravity, Reaction Board, Planes of Axes of human body.

Introduction

The centre of gravity is a geometric property of any object. The centre of gravity is the average location of the weight of an object. In general, determining the centre of gravity (Cg) is a complicated procedure because the mass (and weight) may not be uniformly distributed throughout the object For a regular shaped body the location of the Cg is an geometric centre. For a irregular shaped the position of Cg shifts towards the heavier mass. Generally position of Cg for human body of male remains at the height of (53-56)% of total body height. For an adult with an average build the position of Cg will be lower for female because of lower heavier mass. For a new born baby the position of Cg lies inside the thorax. With the growth and development the lower portion gradually enlarged and Cg shifts downwards and finally remains in the upper part of sacrum. Human proportion have been important in art, measurement, and medicine. Although the human body has complicated features, the location of the Cg could be good indicator of body proportions. The Cg of human body depends on the gender and the position of the limbs. In a standing posture, it is typically about 10 cm lower than the naval, near the top of the hipbones.

The purpose of this study was to determined the position of Cg and nature of changes of Cg of 5 – 11 years boys.

Methodology

A total of 105 boys of different age groups were selected as subjects for the present study. The age group of the subjects were 5 years to 11 years. Each groups had 15 subjects. The subjects were selected from Kalyani of Nadia districts, West Bengal State. The subjects were from Kalyani University Experimental High School (H.S.).

Instruments-(Weighing machine in kg. & gram, Measuring steel tape graduated in centimeter, Reaction board, Steadiometer, A sprit level.

The position of C.G. was determined by Reaction Board Method.

Results And Discussion

Table – 1: Mean values (%) of position of Cg in three perpendicular axes of 5 – 11 yrs. Boys.

Age (yrs)	% longitudinal axis		% Sagittal axis		% Frontal axis	
	Mean	S.D	Mean	S.D	Mean	S.D
5	62.58	± 2.15	53.18	± 2.36	53.12	± 1.14
6	62.26	± 2.18	52.74	± 2.66	52.91	± 1.8
7	62.02	± 2.5	51.91	± 2.21	52.33	± 1.98
8	60.97	± 2.52	51.71	± 3.19	51.73	± 2.56
9	60.68	± 2.85	50.7	± 1.85	51.19	± 1.06
10	59.62	± 3.12	50.53	± 1.71	50.14	± 1.52
11	58.81	± 3.39	50.65	± 1.39	49.67	± 2.59

Table – 1, Indicates that the position of Cg gradually shifted towards the foot with increase of age up to 11 yrs.

In order to test the significance of difference among mean values, analysis of variance was used.

Table – 2 shows the results.

Table – 2 : ANOVA for position of Cg in longitudinal axis of 5 - 11 yrs. Boys.

Source of variation	Sum of squares (SS)	df	Mean square	F	Remarks
Between group	178.853	6	29.809	4.065	Significant at 0.05 level
Within group	718.553	98	7.332		
Total	897.406	104			

$F_{0.05}(6, 104) = 2.19$

Table – 2, shows, that the F value was 4.065, which was statistically significant at 0.05 level. Therefore to find out the exact location post Hoc test was used. Table – 3 shows the results.

Table:3 ,LSD For position of Cg in longitudinal axis (%) of 5 – 11 Yrs Boys

Parameter	5 yrs	6 yrs	7yrs	8yrs	9 yrs	10 yrs	11 yrs	Mean Difference	Sig.
Longitudinal %	62.58	62.26						0.32 NS	.746
	62.58		62.02					0.56 NS	.573
	62.58			60.97				1.61 NS	.106
	62.58				60.68			1.9 NS	.057
	62.58					59.62		2.96*	.004
	62.58						58.81	3.77*	.000
		62.26	62.02					0.24 NS	.810
		62.26		60.97				1.29 NS	.195
		62.26			60.68			1.58 NS	.113
		62.26				59.62		2.64*	.009
		62.26					58.81	3.45*	.001
			62.02	60.97				1.05 NS	.290
			62.02		60.68			1.34 NS	.177
			62.02			59.62		2.4*	.017
			62.02				58.81	3.21*	.002
				60.97	60.68			0.29 NS	.767
				60.97		59.62		1.35 NS	.177
				60.97			58.81	2.16*	.031
					60.68	59.62		1.06 NS	.290
					60.68		58.81	1.87 NS	.062
					59.62	58.81	0.81 NS	.412	

*significant at 0.05 level , NS, not significant at 0.05 level

From Table -3, Inter age group comparison of mean value (%) for position of Cg on longitudinal axis was computed through Post Hoc test, the results were significant at 0.05 level of confidence when the comparison was made between age 5 yrs with 10 yrs and other age categories up to 11 yrs, age 6 yrs with 10 yrs and other age categories up to 11 yrs, age 7 yrs with 10 yrs and other age categories up to 11 yrs, and age 8 yrs 11 yrs. Post Hoc test the results were not significant at 0.05 level of confidence when the comparison were between age 5 yrs with other age categories up to 9 yrs, age 6 yrs with other age categories up to 9 yrs, age 7 yrs with other age categories up to 9 yrs, age 8 yrs with other age categories up 10 yrs, age 9 yrs with other age categories up to 11 yrs and age 11 yrs with age 11 yrs.

This indicates the age group between, age 5yrs to 9 yrs, age 6 yrs to 9 yrs, age 7 yrs to 9 yrs, age 8 yrs to 10 yrs, age 9 yrs to 11 yrs and 10 yrs to 11 yrs the position changes of Cg in longitudinal axis slightly and rest of all group the position change of Cg were significant .

From table – 1, it was also seen that position of Cg of the 5 yrs age group. In sagittal axis was 53.18% of foot length measuring from heel. For next age group (6yrs) the position of Cg in sagittal axis was decreased to 52.74% of foot length. For 7 yrs boys group the position of 52.74% Cg in sagittal axis was reduced to 51.90% of the foot. For another next group of 8 yrs boys, the position of Cg in sagittal axis was 51.70%. Another next group (9 yrs) was 50.69%. For 10 yrs boys group was 50.52% and finally next group (11 yrs) the position of Cg in Sagittal axis was 50.64% of the foot from heel.

This clearly indicates that the position of Cg changed with increased of age.

In order to test the significance of difference among mean values analysis the variance was used Table – 4 shows the result.

Table – 4, ANOVA for position of Cg in Sagittal axis of 5 – 11 yrs. Boys.

Source of variation	Sum of squares (SS)	df	Mean square	F	Remarks
Between group	101.715	6	16.953	3.292	Significant at 0.05 level
Within group	504.629	98	5.149		
Total	606.344	104			

$F_{0.05} (6, 104) = 2.19$

It is seen from the table – 4 that the F value was 3.292, which was statistically significant at 0.05 level.

Therefore to find out the exact location researcher used post Hoc test. Table – 5 shows the results.

Table-5, LSD for position Cg in Sagittal Axis (%) of 5 – 11 Yrs Boys

Parameter	5 yrs	6 yrs	7yrs	8yrs	9 yrs	10 yrs	11 yrs	Mean Difference	Sig.
	53.18	52.74						0.44 NS	.598
	53.18		51.91					1.27 NS	.127
	53.18			51.71				1.47 NS	.078
	53.18				50.7			2.48*	.003
	53.18					50.53		2.65*	.002
	53.18						50.65	2.53*	.003
		52.74	51.91					0.83 NS	.315
		52.74		51.71				1.03 NS	.215
		52.74			50.7			2.04*	.015
		52.74				50.53		2.21*	.009
		52.74					50.65	2.09*	.013
			51.91	51.71				0.2 NS	.812
			51.91		50.7			1.21 NS	.148
			51.91			50.53		1.38 NS	.099
			51.91				50.56	1.35 NS	.132
				51.71	50.7			1.01 NS	.225
				51.71		50.53		1.18 NS	.157
				51.71			50.56	1.15 NS	.204
					50.7	50.53		0.17 NS	.838
					50.7		50.56	0.14 NS	.953
						50.53	50.56	-0.03 NS	.885

* significant at 0.05 level NS not significant at 0.05 level

From Table – 5 inter age group comparison of mean value (%) for position of Cg on sagittal axis was computed through Post Hoc test the results were significant at 0.05 level of confidence, when the comparison was made between age 5 yrs with 9 yrs and other age categories up to 11, Post Hoc test the result were not significant of 0.05 level of confidence when the comparison was made between age 5 yrs with other age categories up to 8 yrs, age 6 yrs with 7yrs & 8 yrs, 7 yrs with other age categories up to 11, age 8 yrs with other age categories up to 11, 9 yrs with other age categories up to 11 and 10 yrs with 11 yrs.

This indicate that the age group between age 5 yrs with 9 yrs, 10 yrs and 11 yrs, and age 6 yrs with 9 yrs, 10 yrs and 11 yrs the position of Cg in Sagittal axis decreased significantly and rest of other inter group comparison were not significantly.

Table – 6 shows the position of Cg in frontal axis for 5 yrs boys was 53.11% from the left side of the left foot towards the right foot. This value was reduced to 52.90% of 6 yrs boys, 52.32% of 7 yrs boys. 51.72% of 8 yrs boys, 51.18% of 9 yrs boys, 50.13% of 10 yrs boy but in 11 yrs boys it was slightly decreased to 49.67%.

In order to test the significance of different among mean values analysis of variance was used. Table 6 shows the results.

Table – 6: ANOVA for position of Cg in frontal axis of 5 yrs to 11 yrs boys.

Source of variation	Sum of squares (SS)	df	Mean square	F	Remarks
Between group	158.559	6	26.426	7.360	Significant at 0.05 level.
Within group	351.884	98	3.591		
Total	510.443	104			

$F_{0.05} (6, 104) = 2.19$

It is seen from the table – 6, that the F value was 7.360, which was statistically significant at 0.05 level. Therefore for clear information about changes post Hoc test was used Table – 7 shows the results.

Table – 7: LSD for position Cg in Frontal Axis (%) of 5 – 11 Yrs Boys

Parameter	5 yrs	6 yrs	7yrs	8yrs	9 yrs	10 yrs	11 yrs	Mean Difference	Sig.
Frontal axes %	53.12	52.91						0.21 NS	.766
	53.12		52.33					0.79 NS	.257
	53.12			51.73				1.39*	.048
	53.12				51.19			1.93*	.006
	53.12					50.14		2.98*	.000
	53.12						49.67	3.45*	.000
		52.91	52.33					0.58 NS	.402
		52.91		51.73				1.18 NS	.491
		52.91			51.19			1.72*	.015
		52.91				50.14		2.77*	.000
		52.91					49.67	3.24*	.000
			52.33	51.73				0.6 NS	.390
			52.33		51.19			1.14 NS	.103
			52.33			50.14		2.19*	.002
			52.33				49.67	2.66*	.000
				51.73	51.19			.54**	.435
				51.73		50.14		1.59*	.024
				51.73			49.67	2.06*	.004
					5.19	50.14		3.05 NS	.134
					51.19		49.67	3.52*	.031
					50.14	49.67	0.47 NS	.499	

* significant at 0.05 level, N.S. Not significant at 0.05 level

From Table -7 Inter age group comparison of mean value (%) for position of Cg in on frontal axis was computed through Post Hoc test, the results were significant at 0.05 level of confidence when the comparison was made between age 5 yrs with 8 yrs and other age categories to 11, age 6 yrs with 9 yrs up to 11 yrs, age 7 yrs with 10yrs and 11 yrs, 8 yrs with 10 yrs and 9 yrs with 11 yrs. Post Hoc test the result were not significant when the comparison was made between age 5 yrs with 6 yrs, age 6 yrs with 7 yrs and 8 yrs, age 7 yrs with 8 yrs and 9 yrs, age 8 yrs with 9 yrs, age 9 yrs with 10 yrs and age 10 yrs with 11 yrs. This indicates that the age group between age 5 yrs with 8 yrs and other age categories up to 11 yrs, age 6 yrs with 9 yrs and other age categories up to 11, age 7 yrs with 10 yrs and 11 yrs, age 8 yrs with 10 yrs and 11 yrs and age 9 yrs to 11 yrs the change was increased significant and rest of all groups changed was slightly reduced.

Conclusions

Body height and weight is gradually increasing from 5 yrs to 11 yrs boys. The position if Cg of 5 to 11 yrs. boys shifts downwards with increase of age. The position of Cg in sagittal axis is shifts slightly from toe to heel and position of Cg in frontal axis is lies almost in center of the two foot of 5 to 11 yrs.

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The Level Of Situation Intrinsic Motivation Among 16 Years Old Students In A Physical Education Class

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Abstract:

The aim of the study was to investigate the level of situation intrinsic motivation among 16years old students towards physical activities in a physical education class and further explore any gender difference towardssituation intrinsic motivationsubscases. A school was randomly selected in a district and four classes of 16 years old students undergoing physical education classes were selected as sample for the study. There were a total of 130 students (62 boys; 68 girls) ages 16 years old involved in this study. The instrument of Situation Intrinsic Motivation Scale by Blanchard et al (2007) was administered in this study. Descriptive data indicated that the overall measure for the Intrinsic Motivation was M=3.63, SD=0.72; Identified Regulation was M=3.25, SD=0.60; External Regulation was M=2.69, SD=0.76; and Amotivation was M=2.80, SD=0.73. The independent t-test revealed that Intrinsic Motivation and External Regulation was significant based on gender, $p < .05$. The results indicate that steps should be undertaken by school physical education teachers to improve the teaching of physical education to improve the students situationintrinsic motivation level.

Keywords: Situation Intrinsic Motivation, Physical Education, Gender

Introduction

Physical education is a learning process which uses physical activities to improve skills, fitness and attitude of an individual to achieve an optimum level (Wuest& Bucher, 2009). Intrinsic motivation is defined as an internal factor orders and integrates the attitude of an individual (Weinberg & Gould, 1999). This is important to make sure students are actively involved in the learning process in Physical Education lessons (Solmon, 2006). Activities in Physical Education (PE) need to be planned to make it attractive and varied so that students can have fun. Having fun while undergoing PE will contribute to continuous involvement from the students (Bailey, 2006; Viira & Koka, 2012).

Students who are highly motivated intrinsically in PE lessons will involve voluntarily in the physical activities in the class (Blanchfield & Jennifer Lisa, 2002; Tsigilis, 2005). Voluntary and sincere involvement can lead to active teaching process and give an impact on the students level of health (Blanchfield & Jennifer Lisa, 2002; Guzman & Kingston, 2012; Tsigilis, 2005). Therefore, the level of physical fitness of students should be parallel with the level of intrinsic motivation.

Data shows that the level of physical fitness and health of students are not favourable (Dan, Mohd Nasir, & Zalilah, 2011; Derri, Nikos, & Petraki, 2004; Kasmini, Idris, Fatimah, Hanafiah, Iran, & Asmah, 1997; Rengasamy, 2008, 2012; Singh, 2005; Sinnapan, 2006; Tomkinson, Olds, & Gublin, 2003; [USDHHS], 2008). Research also shows that the level of motivation and students interest among school students towards PE lessons after the age of 14 has declined especially among female students(Newton, 1994).This situation will persist until adulthood if students are not motivated to do physical activities and continuous exercises in their lives.

Efforts are being put in by researches to observe intrinsic motivation in individual involvement in sport and recreation activities (Blanchard, Maska, Vallerand, Sablonnie, & Provencher, 2007; Chin, Khoo, & Low, 2012; Cremades, Flournoy, & Gomez, 2012; Goose & Winter, 2012; Guzman & Kingston, 2012; Heng, 2001; Martin-Albo, Nunez, Dominguez, Leon, & Tomas, 2012; Moen & Verburg, 2012; Park, Jeon, & Kim, 2012; Tsitskari & Kouli, 2010). However, research on the intrinsic motivation of students involvement in PE lessons is still limited (Balakrishnan, 2011; Haywood, 1991; Kouli, Rokka, Mavridis, & Derri, 2009; Moreno, Gonzalez, Martin, & Cervello, 2010; Spittle & Byrne, 2009; Viira & Koka, 2012) especially for 16 years old students.

Previous research found out that there are significant differences in intrinsic motivation from the gender aspect (Cremades et al., 2012; Tsitskari & Kouli, 2010; Weinberg, Tenenbaum, McKenzie, Jackson, Anshel, Grove, & Forgaty, 2000). Research showed that female students are more intrinsically motivated than male students (Etnier, Sidman, & Hancoc, 2004; Petheric & Weigand, 2002; Weinberg et al., 2000). However, there are also research that shows that male students have more intrinsic motivation compare to female students in PE lessons and sports (I-Wei, 1998; McKiddie & Maynard, 1997; Newton, 1994; Tsitskari & Kouli, 2010; Xiang, McBride, & Guan, 2004; Zahariadis, Tsorbatzoudis, & Grouios, 2005). Inconsistency of these findings requires further research. This research is important to provide information regarding the aspects of intrinsic motivation of students to the stakeholders in the school curriculum and PE teachers so that the aims and objectives of PE can be achieved and the decline of intrinsic motivation among students in PE lessons can be reversed (Mathes, McGivern, & Schneider, 1992; Passar, 1982). Hence, this research was carried out to observe the level of situation intrinsic motivation among 16 years old students in PE lessons in one of the schools. This research is essential as it could provide information to teachers regarding the level of situation intrinsic motivation among 16 years old students in PE lessons. The reason for choosing 16 years old students to be the subject of this research is because these students are matured to give accurate responses (White, 1999). This research aims to observe the level of situation motivation among 16 years old students in PE lessons. Furthermore, this research also aims to observe the differences in situation intrinsic motivation subscales from the gender aspect.

Methodology

A quantitative research via survey was used in this research as the questionnaire could be administered to as many respondents (Robert, Spink, & Pemberton, 1999). This survey was carried out to gather information on the level of situation intrinsic motivation of 16 years old students in PE lessons in a school in Malaysia. A state and a district was randomly chosen in Malaysia. One school of the 23 schools in the district was selected to be the respondent in this research. 130 students of 16 years old from the four classes in the school were chosen to be the respondents and these respondents are of 16 to 17 years of age (Mean=16.05, SD=0.22).

Instrument

The Situational Intrinsic Motivational Scale (SIMS) instrument by Blanchard et al (2007) used in this research which consists of 16 items. Each item is measured in likert scale from 1 to 5. The Situation Intrinsic Motivation Inventory measures four subscales, namely intrinsic motivation domain (4 items), identified regulation domain (4 items), external regulation domain (4 items) and amotivation domain (4 items) (Moreno et al., 2010). Validity and the reliability of this SIMS is between .82 to .88 (Blanchard et al., 2007; Moreno et al., 2010). Before the questionnaire was distributed to the responden, researcher has given it to two experts in language and two experts in PE from the Faculty of Education in University of Malaya to be verified the usage and validity as the questionnaire was translate into Malay Language via back to back translation (Brislin, Lonner, & Thorndike, 1973). Pilot test was carried out on 35 respondents who fulfilled the same criteria has shown Cronbach Alpha value of .90 and could be accepted (Nunnally, 1978).

Procedure

An approval letter of the research was granted by the Planning and Research Division of Ministry of Education Malaysia for approval to carry out the research. Respondents participation in this research is voluntary and a letter of consent from parents were collected as these respondents were under the legal age. The questionnaire of the SIMS was given to the respondents and respondents were given 25-30 minutes to complete the questionnaire. The researcher has cooperation from the school administrators to gather all the respondents in the school canteen to make sure the respondents answered all the items in the questionnaire individually without any interaction. This was to avoid any bias in the responses from the respondents. The researchers also explained to the respondents that all their responses must be based on the teaching and learning process of PE lessons. All the answers must reflect respondents true feeling related to the teaching and learning process they underwent in PE lessons.

Results

Descriptive statistic analysis shows that all the respondents of one of the school involved are of the age of 16 to 17 years (Mean=16.05, SD=0.22).

Table 1 Situation Intrinsic Motivation Among 16 Years old Students in A School

Variable		Situation Intrinsic Motivation Subscale			
		Intrinsic Motivation	Identified Regulation	External Regulation	Amotivation
Gender	Mean	3.44	3.20	2.90	2.90
	SD	0.68	0.65	0.71	0.65
	N	62	62	62	62
Female	Mean	3.81	3.29	2.51	2.70
	SD	0.71	0.55	0.77	0.78
	N	68	68	68	68
Total	Mean	3.63	3.25	2.69	2.80
	SD	0.72	0.60	0.76	0.73
	N	130	130	130	130

Table 1 shows the situation intrinsic motivation among 16 years old students in PE lessons in a school. Result showed the mean score for male students is (M=3.44, SD=0.68) for the intrinsic motivation subscale, (M=3.20, SD=0.65) for the identified regulation subscale, (M=2.90, SD=0.71) for the external regulation subscale, and (M=2.90, SD=0.65) for the amotivation subscale. Meanwhile, the female students has a mean score of (M=3.81, SD=0.71) in the intrinsic motivation subscale, (M=3.29, SD=0.55) in the identified regulation subscale, (M=2.51, SD=0.77) in the external regulation subscale, and (M=2.70, SD=0.78) in the amotivation subscale.

Overall, the mean score of 16 years old students in a school in Malaysia shows the level of situation motivation in intrinsic motivation subscale (M=3.63, SD= 0.72), identified regulation subscale (M=3.25, SD=0.60), external regulation subscale (M=2.69, SD=0.76) and amotivation subscale (M=2.80, SD=0.73).

Table 2 Independent t test Situation Motivation Based On Gender

Situation Motivation Subscale	Intrinsic Gender	Gender		Mean Different	df	t value
		Male (n=93)	Female (n=81)			
Intrinsic Motivation						
Mean		3.44	3.81	0.37	128	-3.02*
SD		0.68	0.71			
Identified Regulation						
Mean		3.20	3.29	0.09	128	-0.88
SD		0.65	0.55			
External Regulation						
Mean		2.90	2.51	0.39	128	2.99*
SD		0.71	0.77			
Amotivation						
Mean		2.90	2.70	0.20	128	1.62
SD		0.65	0.78			

* Significant at $p < .05$

Table 2 shows independent t-test was carried out and showed a significant difference in the gender aspect in the intrinsic motivation subscale $t(1, 128) = -3.02, p < .05$ and external regulation $t(1, 128) = 2.99, p < .05$ among 16 years old students in a school. The result also showed that the mean score for female respondents is higher (Mean=3.81, SD=0.71) compare to male respondents (Mean=3.44, SD=0.68) with a mean difference of 0.37 in intrinsic motivation domain. But, for external regulation subscale, result showed that the mean score for male respondents is higher (Mean=2.90, SD=0.71) compare to female respondents (Mean=2.51, SD=0.77) with a mean difference of 0.39.

Discussion

Overall, the situation intrinsic motivation are still at a moderate level. This research is also aligned with the previous research (Alderman et al., 2006; Bailey, 2006; Blanchard et al., 2007; Moreno et al., 2010). This anomaly could be caused by several factors such as the PE curriculum and teacher's teaching experience. In this study, the perception of the students is based on PE lessons. On the other hand, a similar research done by Viira and Koka (2012) was not carried out in PE lessons. The finding of this research shows that the enjoyment in games should be given priority so that intrinsic motivation among students who follow PE classes could be increased. This is important to maintain students' active involvement in PE classes. The outcome of this result indicates that teachers should plan their daily lesson plans more effectively (Deci & Ryan, 1985). This is important to increase the level of intrinsic motivation among 16 years old students to be more active in PE lessons. If this situation is not taken seriously, there is a possibility that the intrinsic motivation among the students will gradually reduce and students will not be active and reluctant to get involved in the PE lessons. As a result, students will try to skip or give excuses to avoid being involved in the PE lessons. This will affect the discipline of students and indirectly their level of fitness will be reduced and be exposed to sedentary illnesses.

Independent t-test shows that there is a significant differences in gender in the intrinsic motivation and external regulation subscale, $p < .05$ in PE lessons. The result of the finding is not consistent with the previous findings (I-Wei, 1998; Newton, 1994; Tsitskari & Kouli, 2010; Zahariadis, Tsorbatzoudis, & Grouios, 2005). If seen in the 16 years old students curriculum perspective, the games taught are hockey, sepak takraw and tennis. There is a possibility that these games are quite challenging for female students and the challenges cause the girls to feel enjoyment compared to male students. Apart from that, teacher's role and characteristics could also affect this study whereby female teachers are more active and more knowledgeable in the tennis game and hockey compared to male teachers. This factor could contribute to students' enjoyment while following PE lessons. Although the finding of the research points to significantly higher intrinsic motivation in female students compared to male students in the subscale of intrinsic motivation, the categorization score range still shows that both male and female students have moderate level of intrinsic motivation in PE lessons.

Conclusion

This research found that the level of situation intrinsic motivation of 16 years old students in PE lessons is still at a moderate level. The finding shows that there is a significant difference in gender aspect in the intrinsic motivation subscale and external regulation subscale. The research gives the latest information about the level of situation intrinsic motivation of 16 years old students in PE lessons in a school. This study can provide an information to PE teachers, Curriculum Development Centre and Ministry of Education that a new transformation is needed to increase students' level of situation intrinsic motivation. This is important because situation intrinsic motivation is the key for students to continue to get involved actively in PE lessons. To improve the level of situation intrinsic motivation among students in PE lesson, PE instructors or teacher should engage in new pedagogical skills that is more effective and comprehensive.

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Computer Science in Sports

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Introduction:

Computer science in sport is an interdisciplinary discipline that has its goal in combining the theoretical as well as practical aspects and methods of the areas of informatics and sport science. The fact that the use of data and media, the design of models, the analysis of systems etc. increasingly requires the support of suitable tools and concepts which are developed and available in computer science that is why computer science has become an important partner for sport science.

Practically everybody has played sports video games on a computer. It's fun to pick a team and see how well you can play against a "virtual" rival. However, the uses for computers in sports go far beyond video games.

Objective:

To study Computer Science in sport.

History:

In 1960s First time Computers were used first time in sports to accumulate the sports information. Then the databases were created and expanded in order to launch documentation and dissemination of publications like articles or books that contain any kind of knowledge related to sports science. Until first organization in this area called International Association of computer science in sports.

The Association has been set up for following purposes/objectives:

- Dissemination of scientific knowledge concerning computer science in sport
- Providing a forum for the exchange of ideas
- Bridging the gap between researchers and practitioners
- Gather and disseminating information, scientific knowledge and materials on computer science in sport
- Counselling other organisations in questions of computer science in sport
- Representation of computer science in sport in other scientific associations

Methods:

There are several IT concept that are being used in sports, following are the some of the examples:

Data acquisition and data processing:

In this concept the data of players, teams, game, tournament feed in the system. This step is called called data acquisition. Then this data is processed, after in detail analysis reports are being created. Using these reports coaches plan the training path for players/teams. Sports managing committee uses these reports to organize upcoming sports event.

Presentation:

Using presentation very old technique used to teach or present plan. Presentations are used to explain the mechanism of a technique in particular sport. e.g. rotation technique in Volleyball it could be very easily explained using animated presentation.

Simulation:

Simulation is creating practical situation of a game and presenting in computer and how can one react or report to such situation is studied and planned.

Analyzing Movement

First, the player's movements are videotaped. Then, these videotaped images are transferred into a computer. Special application software analyzes the images. It measures the exact angle at which the player is holding his or her arms and legs. The speed and efficiency of each body movement is measured. This process is called motion analysis. Athletes who depend on speed to win will stop at nothing to reduce their times. Some Olympic swimmers wear full-body "skinsuits" so they can glide through the water more easily. So, it shouldn't be a surprise to hear that they use computer applications to improve their speeds. At the U.S. Olympic Training Center in Colorado, coaches use a computer application to develop perfect swimming strokes. This simulation software attempts to copy the way water flows around parts of the swimmer's body, such as the arms and hands. The swimmer's goal is to move through the water as smoothly as possible. Water turbulence can slow a swimmer down.

Sport Websites:

Information available on websites for viewers is real time. Following are the some of the example of it.

Match Schedule Match dates and venues are available.

Statistics. Up-to-the-minute information on teams and individual players is ready whenever you want it.

Team News. Web sites contain coach and player interviews, information on injuries, and so forth.

Ticket Purchasing. Rather than stand in line, you can purchase your tickets at home. You can even look at a diagram of the stadium to see exactly where you will be seated.

Conclusion:

Now a days there no sports in which computer cannot be used. At international level for every sport computer has become an important factor.

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“EFFECTS OF WINTER BREAK ON SELECTED PHYSICAL FITNESS COMPONENTS OF PROFESSIONAL STUDENTS OF PHYSICAL EDUCATION”

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Ganderbal (J & K)**

Abstract:

the purpose of the study was to investigate the effects of winter break on physical fitness components among professional students of physical Education. To achieve the purpose the study 19 male subjects were selected from Govt. College of physical education Ganderbal and 20 from department of physical education university of Kashmir Hazratbal who are regular student of M.P.Ed (Master of Physical Education) course. The age of the subjects ranged from 20 to 25 years. For assessment of physical fitness components of selected subjects the AAHPERD youth fitness test was used. The test items in AAHPERD youth fitness test are pull-ups, bent knee sit-ups, shuttle-run, standing broad jump, 50 yard dash, and 600 yard run. To compare physical fitness components among professional students before and after winter break the compared “t” test was used at 0.05 level of significance. The findings of the study reveal that there was a significant difference found among the selected physical fitness components.

KEY WORDS: - Physical Fitness, Winter Break, and Professional Students.

Introduction

Physical fitness is the ability or quality of a human being which can help him to perform various functions efficiently. It is a state in which an individual can perform various kinds of activities up to his maximum potential. This ability helps an individual in performing his routine tasks alertly and energetically. A physically fit person can enjoy his leisure time by performing various kinds of energetic activities and can cope with any situation without much problem. Fitness provides an individual such a power with the help of which, he can tackle difficult problems without becoming worried and tensed. Physical fitness is a pre-requisite for good health and well being of an individual. Physical fitness is probably the most popular and frequently used term in physical education and to develop physical fitness is the most important objective of physical educators. According to Nixon and Cozens (1964), it was the desire to establish a scientific approach to the development of physical fitness which formed the basis of the first meeting of physical educators in 1885 when the profession of physical education originated.

The new millennium is the age of technological excellence, where the life has become more luxurious with mechanical dependence that results into material gain and economic prosperity, yet in the process we lost our moral and spiritual realms including fitness and health. Physical fitness has been of great significance in the lives of human beings from time immemorial. In the pre-historic times, physical fitness was the key elements for the survival of human beings. People during those times were confronted with the hostile environment and only fit individuals could survive. Hence survival of fitness is the dictum. Even the civilization of Sparta, Athens and Rome in the history of the world has stressed physical fitness or physical training as an important objective of the educational programme. (Jewell 1969)

Materials And Methods

Subjects :-19 male subjects were selected from Govt. College of physical education Ganderbal and 20 from department of physical education university of Kashmir Hazratbal who are regular student of M.P.Ed (Master of Physical Education) course.

Variable and Tests

AAHPERD youth fitness test batteries were administered to measure physical fitness level among professional students.

AAHPERD youth fitness test includes the following test batteries

- 1.pull-up..... to measure arm and shoulder strength of the subjects.
- 2.bent Knee sit-upto measure abdominal strength of the subjects.
3. standing broad jumpto measure explosive strength and power of the subjects.
- 4.shuttle runto measure agility of the subjects.
5. 50 yard dashto measure the speed of the subjects.
6. 600 yard run &walkto measure endurance of the subjects.

Instruments used for the present study were Measuring Tape, Stop watch, and Standing Height Stand.

Procedure

The investigator met the selected subjects who were to be tested and explained the purpose of the present investigation. He demonstrated them the various tests with respect to the AAHPERD youth fitness tests. The data were collected from 39 students of M.P.Ed course.

Statistical Analysis

To compare physical fitness before and after winter break of professional students compared “t” test was used at 0.05 level of significance.

Result

Table -1: Pre and post test Means and paired “t” test of pull ups among the professional students of M.P.Ed course.

Pre test mean	Post test mean	T	DF	D M	Tabulated value
11.9487	9.0769	10.162	38		2.021

*Significant at 0.05 level

Tabulated “t” 0.05 (38) =2.021).

Table 1 clearly reveals that significant differences were found between the pre and post means of pull-ups. They are higher than the tabulated “t” of 2.021

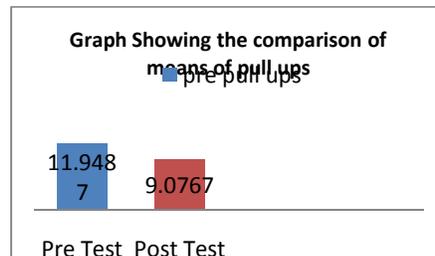


Table -2

Pre and post test Means and paired “t” test of bent knee sit- ups among the professional students of M.P.Ed course.

Pre test mean	Post test mean	T	DF	D-M	Sig. (2-tailed)
29.8718	25.7692	14.442	38		2.021

*Significant at 0.05 level

Tabulated “t” 0.05 (38) =2.021).

Table 2 clearly reveals that significant differences were found between the pre and post means of bent knee sit-ups. They are higher than the tabulated “t” of 2.021

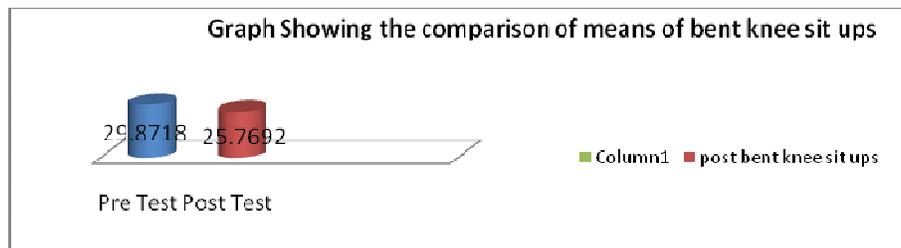


Table 3

Pre and post test Means and paired “t” test of standing broad jump among the professional students of M.P.Ed course.

*Significant at 0.05 level

Pre test mean	Post test mean	T	DF	D.M	Tabulated value
6.20	6.3597	11.482	38		2.021

Tabulated “t” 0.05 (38) =2.021).

Table 3 clearly reveals that significant differences were found between the pre and post means of standing broad jump. They are higher than the tabulated “t” of 2.021



Table 4:Pre and post test Means and paired “t” test of shuttle run among the professional students of M.P.Ed course.

Pre test mean	Post test mean	T	DF	D.M	Sig. (2-tailed)
10.3341	11.3744	5.542	38		2.021

*Significant at 0.05 level

Tabulated “t” 0.05 (38) =2.021).

Table 4 clearly reveals that significant differences were found between the pre and post means of shuttle run. They are higher than the tabulated “t” of 2.021

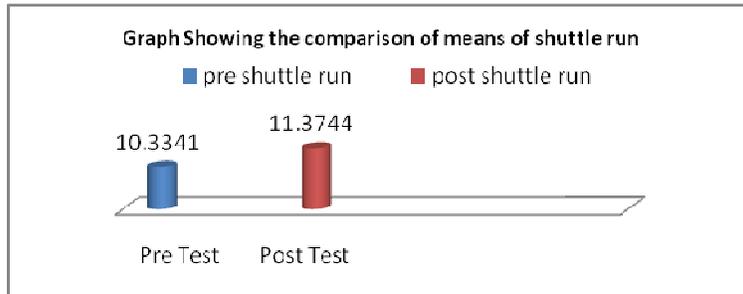


Table 5

Pre and post test Means and paired “t” test of fifty yard dash among the professional students of M.P.Ed course.

Pre test mean	Post test mean	T	DF	D.M	Sig. (2-tailed)
7.3503	8.2695	5.483	38		2-021

*Significant at 0.05 level

Tabulated “t” 0.05 (38) =2.021).

Table 5 clearly reveals that significant differences were found between the pre and post means of fifty yard dash. They are higher than the tabulated “t” of 2.021

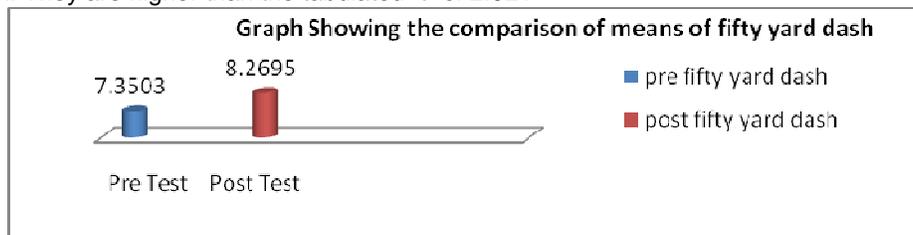


Table 6

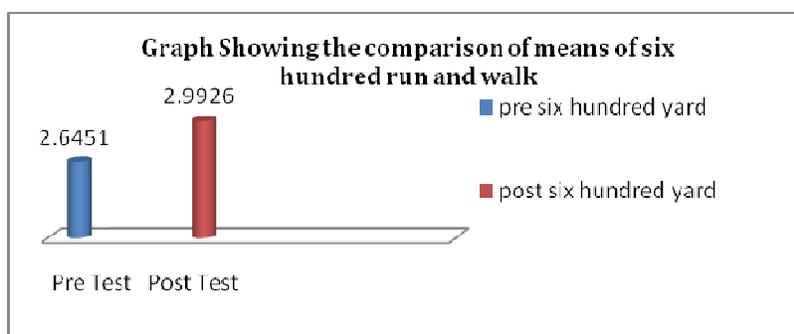
Pre and post test Means and paired “t” test of six hundred run and walk among the professional students of M.P.Ed course.

Pre test mean	Post test mean	T	DF	D.M	Sig. (2-tailed)
2.6451	2.9926	4.330	38		2.021

*Significant at 0.05 level

Tabulated “t” 0.05 (38) =2.021).

Table 6 clearly reveals that significant differences were found between the pre and post means of six hundred run and walk. They are higher than the tabulated “t” of 2.021



Discussion

The finding of the study reveals that there was a significant difference in effects of winter break on physical fitness components on the professional students of (M.P.Ed) course. Significant difference is because the natural environment is a fundamental factor in the development of living being and influence, the normal function of their body. Similarly the environment is an important factor in which training and competition takes place. The human efficiency and working capacity mainly depends up on the thermal environment of his surroundings. When a person is suddenly exposed from cold to hot climate or vice versa, he is affected not only physically but also physiologically.

Conclusion

The physical, physiological and psychological reaction of man is very depended on environmental conditions. Temperature, atmospheric pressure, humidity, the composition and pollution of the air, solar and other environmental factors may have a positive or negative influence on the human organism. As the general state of the health can be affected so will the efficiency and capacity of physical performance, and the susceptibility conditions. The seasons of the year are characterized by typical met logical and climatologically phenomena that are directly related to physical performance, training and sports.

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Effects of Resistance Training Plyometric and Combined Training on Jump Service and Limb Girth among School Level Volleyball Players

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Abstract

The purpose of the study was to facilitate the Effects of Resistance Training Plyometric and Combined Training on Jump Service and Limb Girth among School Level Volleyball Players. For this study sixty (N=60) male students randomly selected from different schools located in Chennai District and their age ranged between 15 to 17 years. They were divided into four groups namely experimental group I underwent Resistance training, Experimental group II underwent Plyometric training, Experimental group III combined training underwent both Resistance and Plyometric training and group IV was control group. Then they were participated in respective training for the period of six weeks and five days for weeks. Analysis of Covariance (ANCOVA) and scheffe's post hoc test was used in this research. It was concluded that Jump Service and Limb Girth were significantly improved due to the influence of six weeks practices of Resistance Training Plyometric and Combined Training when comparing to Control Group.

Keywords: Resistance, Plyometric, Combined Training, Volleyball Players etc

INTRODUCTION

Sports training are the basic form of an athlete's training. It is the preparation systematically organized with the help of exercises, which in fact is a pedagogically organized process of controlling an athlete's development. (Singh, 1984)

RESISTANCE TRAINING: Weight training falls under the resistance training category of exercise. It is the gold standard of resistance training that is flexible enough to accommodate any training goal, offers scores of physical fits and is considered as a good preventive medicine to any one regardless of sex or age.

Resistance training is good medicine. This is another concept that is becoming increasing popular. The preventive medicine and post rehabilitative benefits from weight training such as decreased blood pressure and cholesterol levels, improved body composition and post accident and injury recovery makes it instrumental in improving the quality of life for participants, mature adults and senior in particular.

PLYOMETRIC EXERCISES: Plyometric training is one of the best methods of developing explosive power in sports. Basically plyometric provide a method of training for the optimum relationship between strength and speed which will ultimately manifest in self as explosive power. Today plyometric movements are performed in almost all sports. Basic strength level must be attained before starting plyometric training programme. The choice of exercise must correspond to age, sex and biological development of sports person. These should be gradually increase stress during a complete training cycle. Body weight should be the determining factor in assigning the value of jumps in work out.

COMBINED TRAINING: Combined training is the training method, its combination of both resistance training and plyometric training.

STATEMENT OF THE PROBLEM: The purpose of the study was to find out the Effect of Resistance Training Plyometric and combined Training on Jump Service and Limb Girth among School level volleyball Players.

Methodology: for this study sixty (N=60) male students randomly selected from different schools located in Chennai District and their age ranged between 15 to 17 years. They were divided into four groups namely experimental group I underwent Resistance training, Experimental group II underwent Plyometric training, Experimental group III combined training underwent both Resistance and Plyometric training and group IV was control group. Then they were participated in respective training for the period of six weeks and five days for weeks.

The following dependent variable was selected for this study Jump Service and Limb Girth and independent variables are Resistance, Plyometric and Combined Training. Analysis of Covariance (ANCOVA) and scheffe's post hoc test was used in this research.

RESULTS-JUMP SERVE: The following tables I illustrate that statistical results Jump Servicing ability among school level volleyball players.

TABLE –I-COMPUTATION OF ANALYSIS OF COVARIANCE OF JUMP SERVE

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	24.73	25.67	25.33	25.00	B	7	3	2	0.39
					W	358	56	6	
Post Test Mean	27.93	28.60	29.27	25.00	B	115	3	38	7.10*
					W	301	56	5	
Adjusted Post Test Mean	28.27	28.24	29.15	25.74	B	97	3	32	17.37*
					W	103	55	2	

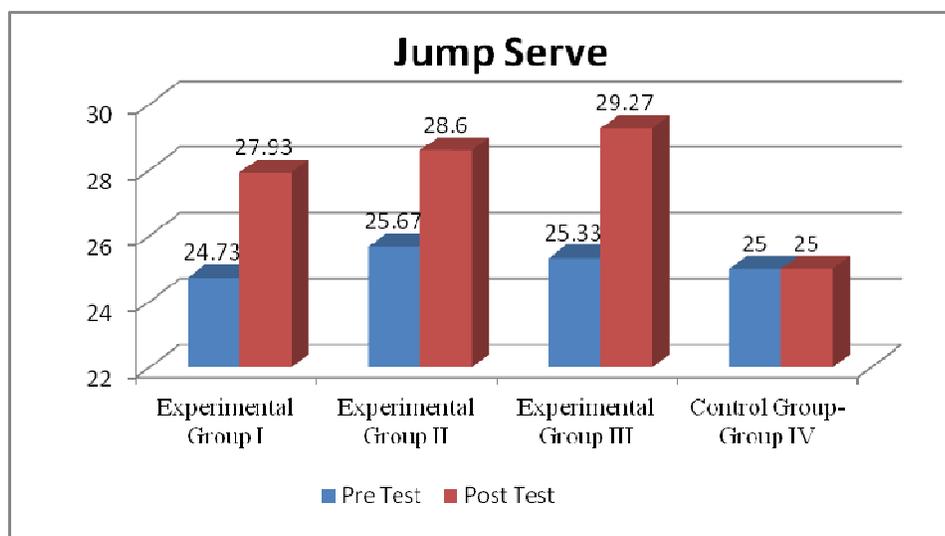
*Significant at 0.05 level of confidence for 3 and 56 (df) =2.7 and 55(df)=2.72.

TABLE- I (a)-COMPUTATION OF SCHEFFE'S POST HOC TEST ORDERED ADJUSTED FINAL MEAN DIFFERENCE OF JUMP SERVE

Experimental Group-I	Experimental Group-II	Experimental Group-III	Control Group-IV	Mean Diff	C.I
28.27	28.24	-	-	0.03	1.42
28.27	-	29.15	-	0.89	1.42
28.27	-	-	25.74	2.53*	1.42
-	28.24	29.15	-	0.91	1.42
-	28.24	-	25.74	2.50*	1.42
-	-	29.15	25.74	3.42*	1.42

* Significant at 0.05 level.

FIGURES -1-BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG THE GROUPS ON JUMP SERVE



Discussion On The Findings Of Jump Serve

The analysis of co-variance of jump servicing ability indicated that experimental group I (resistance), experimental group II (plyometric), experimental group III (Combination of resistance and plyometric training), were significantly improved than the control group on jump serve ability. It is due to the effects of Resistance, Plyometric and Combined Training.

The finding of the study showed that the experimental group III (Combination of resistance and plyometric training) had significantly improved jump serve ability better than the experimental group I and II. Resistance, Plyometric and Combined Training have its own value toward better performance of school level volleyball players. We can use Resistance, Plyometric and Combined Training not only as part of a programme to improve performance, but also as a way to assist in attending other goals Lockie, et al. (2003) and Ross A, and Leveritt M (2001).

LIMB GIRTH: The following tables II illustrate that statistical results limb girth among school level volleyball players

TABLE-II-COMPUTATION OF ANALYSIS OF COVARIANCE OF LIMB GIRTH

Means	Exp.G-I	Exp.G-II	Exp.G-III	Con.G	S.V	S.S	D.f	M.S	F
Pre Test Mean	35.85	34.30	36.35	37.65	B	115.04	3	38.35	0.96
					W	3025.85	56	39.81	
Post Test Mean	38.10	36.75	40.35	37.65	B	137.70	3	45.90	1.58
					W	2213.30	56	29.12	
Adjusted Post Test Mean	38.26	38.22	40.09	36.43	B	132.71	3	44.24	84.97*
					W	115.04	3	38.35	

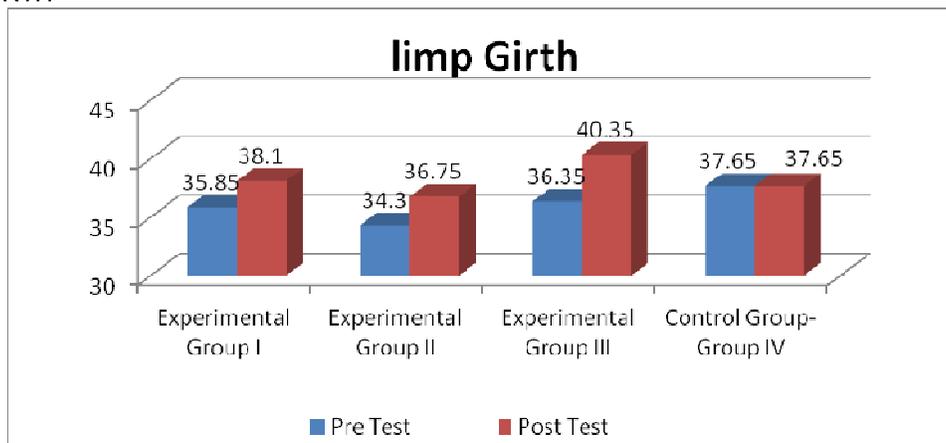
*Significant at 0.05 level of confidence for 3 and 56 (df) =2.7 and 55(df)=2.72.

TABLE -III (a)-COMPUTATION OF SCHEFFE'S POST HOC TEST ORDERED ADJUSTED FINAL MEAN DIFFERENCE OF LIMB GIRTH

Experimental Group-I	Experimental Group-II	Experimental Group-III	Control Group-IV	Mean Diff	C.I
38.26	38.22			0.04	0.65
38.26		40.09		1.83*	0.65
38.26			36.43	1.83*	0.65
	38.22	40.09		1.86*	0.65
	38.22		36.43	1.79*	0.65
		40.09	36.43	3.65*	0.65

* Significant at 0.05 level.

Figure-2-BAR DIAGRAM SHOWING THE MEAN DIFFERENCES AMONG THE GROUPS ON LIMBGIRTH



Discussion On The Findings Of Limb Girth

The analysis of co-variance of limb girth indicated that experimental group I (resistance), experimental group II (plyometric), experimental group III (Combination of resistance and plyometric training), were significantly improved than the control group on limb girth. It is due to the effects of Resistance, Plyometric and Combined Training.

The finding of the study showed that the experimental group III (Combination of resistance and plyometric training) had significantly improved limb girth better than the experimental group I and II. Resistance, Plyometric and Combined Training have its own value toward better performance of school level volleyball players. We can use Resistance, Plyometric and Combined Training not only as part of a programme to improve performance, but also as a way to assist in attending other goals Ross A, and Leveritt M (2001).

Conclusions

Within the limitation of this study, the following conclusions were drawn. It was concluded that school level volleyball players Jump Service and Limb Girth was statistically improved due to the influence of six weeks practices of Resistance, Plyometric and Combined Training to comparing the Control Group.

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A Study On The Socio-Economic Status Of West Bengal Women Cricketers

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Abstract

Women's participation in sport has a long history. Women's participation in sports is less not only physiologically but also greatly influenced by socio-economic status. The main purpose of the study was to analyze the socio-economic status of West Bengal women cricketers. Total 33 subjects were taken as subjects of different districts of West Bengal trained by Cricket Association of Bengal(CAB). Cricketers were divided into three age groups; i.e under 16 yrs, 17-19 yrs, 20-23 yrs. The data was collected from C A B Kalyani where a camp of 15 days was organised by National Cricket Academy of BCCI. The Socio economic status was assessed through questionnaire. The researcher taking into consideration parents occupation, parent's education, no. of members work in their family, individual education, individual occupation, and monthly family income. From the result it was found (i) majority of age groups, parent's occupation were business; (ii) majority of age groups, parents were educated which conclude parents influence their daughters for higher studies; (iii) majority of age groups, no. of member work in their family was one, still parents encourage their daughters to take cricket as a profession, even if they were single earning member; (iv) all cricketers were educated, so it conclude Bengal education system is in right direction; (v) only one age group, i.e 20-23 yrs, one cricketer was skilled worker which was a good sign according to child labour act; (vi) majority of age group, monthly family income was 4894-7322, signifies better condition; (vii) majority of age group, belongs to upper lower class.

Key words: social, economic, status, West Bengal, women cricketers, child labour

Introduction

Promotion of sports throughout West Bengal is the top priority of sports department. There are hidden sports talents in rural areas, if given the opportunity can groomed and do well in their respective fields. It is probably, not wrong to suggest that women's cricket in India is a particularly prominent field where women have asserted their own will to differ with the male determined characterization of organized sports of man's preserve. The conspicuous absence of women's cricket up to the 1960's even while women were into competitive swimming, basketball, table tennis & so on indicates the intensity with which cricket was considered a male bastion. The kind of comments that even women spectators had to confront in the cricket stands. so when some women note that, it was women themselves took the initiative of forming the West Bengal Women's Cricket Association in the early 1970's & declared that they would Select team for West Bengal to play the second ever national cricket championship for women, a remarkable development took everybody by surprise, about 400 women appeared for the selection, which took place at the Kalighat ground in Calcutta Maidans. Cricket Association of Bengal is the governing body for cricket in West Bengal. Its headquarters is located in the famous Eden Garden stadium, it organizes different type of cricket tournament in West Bengal. The aspirants who included not only students and working women but also a sprinkling of housewives, armed with their bats and pads, and busy displaying their talent in order to ensure their entry into trial camp. The impression of direct and enthusiastic women agency came across. It is indeed this enthusiastic initiative on the part of women themselves that then elicited an appreciative gesture from some of the man's clubs which came forward to cheer. From many established cricketers, a very renowned cricketers of West Bengal, is Jhulan Goswami born on 25 November 1983, Nadia, West Bengal is an all -round cricketer who plays for the Indian National Women's Cricket Team, Bengal Women, East Zone Women as well as the Asia Women XI Women's cricket Team on 1 February 2009, she was appointed to lead the team for the upcoming world cup.

An integral part of the team, Jhulan is noted for both her batting and bowling (right arm medium) capabilities. she has a test bowling average of less than 20 in the 2006-2007 season, she guided the Indian team to first test series win in England. She won the ICC women's player of the year and M.A Chidambaram trophy for Best Women Cricketer in 2011. The socio economic status is obviously a blending of two status, would therefore, be a ranking of an individual by the society he lives in, in terms of his material belonging and cultural possessions along with the degree of respect, power and influence he wields. Socio-Economic status can be derived from a single measurer calculated from several variables relating to occupational status, most often single measure, based measure are derived from responses to question on one individuals occupation. In contrast, multiple measure can be derived from a range of variables such father's and mother's occupation and educational attainment, income etc. Multiple measure tend to have stronger correlation with school achievement than single measure. This implies that they capture aspects of socio-economic background not captured by a single measure.

The purpose of the study was to analyze Socio-Economic status of the subject

Methodology

The subject for the present study were women cricketers of different districts of West Bengal trained by Cricket Association Bengal, who are going to be selected and suppose to play for Bengal women cricket 2014. Total no. of subjects here are 33.

The data were collected from the followings age groups:

- a) 16 years or younger girls. b) 17-19 years girls. c) 19-23years girls

According to the researcher, the data were collected from Cricket Association of Bengal (CAB), University of Kalyani stadium, where a camp of 15 days were organized by National Cricket Academy of BCCI.

For the present study, the investigator had collected the data on the basis of the followings.

1. Parents Occupation 2. Parents Education 3. Number of Members work in their family
4. Individual Education 5. Individual Occupation 6. Monthly Family Income.

For analysis of data, questionnaire methods was used and statistical procedure has been used. Socio economic status was measured by Kuppuswami scale(7 point)

Result And Discussion

Table-1:Percentage value of parent occupation of the cricketers

Age (years)	Business	Farmer	professional	Govt. Employee	Ex serviceman	Others
16 or younger	57.89	5.26	0	15.79	0	21.05
17-19	71.43	0	14.28	0	0	14.28
20-23	42.86	0	14.28	0	14.28	28.57

Table : 1 shows that in the 16 or younger age group 57.89% parents occupation were business, 21.05% were others presents 15-79% were Govt. employee and only 5.26% were farmer. In the 17-19 year age group 71.43% parents occupation were business 14.28% were professional and others. In 20-23 years age group 42.86% were businessmen, 28.97% were related with others profession, 14-28% were Ex-servicemen as well as professional i.e. engineer & Doctor etc. It is observed from the table that women cricketers' parents occupation of most of them were businessmen and least of them were farmer.

Table – 2:Percentage value of parent's education of the women cricketers

Age	Madhyamick	H.S	Graduate	P.G	Phd	Uneducated
16 or younger	36.84	15.79	36.84	5.26	0	5.26
17-19	71.43	0	42.85	0	0	14.28
20-23	42.86	28.57	28.57	0	0	0

From Table -2, It was found that women cricketers parent's education in the age group of 16 or younger, 36.81% were Madhyamik qualification, 36.81% were graduate, 15.79% were Higher Secondary 5.26% graduate qualification and 5.26% were un educated. In the 17-19 year age group 71.43% were Madhyamik qualifications 42.85% were graduate and 14.28% were uneducated. In the 20-23 years age group 42.86% were having Madhyamik qualification, 28.57% parents were having same Higher Secondary and graduate qualification. Most of the parents were educated.

Table-3:Percentage value of No. of members work of women cricketers

Age (years)	1	2	3	4	More than 4	None
16 or younger	73.68	15.79	0	0	0	10.53
17-19	71.43	28.57	0	0	0	0
20-23	85.71	14.28	0	0	0	0

From Table - 3 it was found that in the 16 or younger age group,73.68% family had only one person is working member, 15.79% had two income members in a family. In the 17-19 year age group 71.43 family had only one earning member and 28.57% had two earning member. In the 20-33 year age group 85.71% family had only one earning member and 14.28% had two earning member is their respective families. From all the three age groups it was found that only one earning member in a family was highest.

Table-4:The percentage value of individual education of women cricketers

Age (years)	Profession or honors	Graduate or P.G	Intermediate	High School	Middle School	Primary School	Illiterate
16 or younger	0	0	5.26	15.26	89.47	0	0
17-19	0	0	0	85.71	14.28	0	0
20-23	14.28	28.57	0	57.14	0	0	0

It was the noticed from table -4 that the percentage value of individual education of women from West Bengal in the 16 or younger age group, 89.47% were middle school, 15-26% were High School and 5-26% were Intermediated. This was as because they were below 16 years of age. In 17-19 years age group 85-71% were High school and 14-28% were middle school. In the 20-23 years age group 57.14% High School, 28-57% were graduate qualification and 14.28% had professional Degrees.

Table-5:The percentage value of Individual occupation

Age (years)	Profession	Semi Profession	Clerical Shop Woner	Skilled Worker	Semi Skilled Worker	Unskilled Worker	Unemployed
16 or younger	0	0	0	0	0	0	
17-19	0	0	0	0	0	0	
20-23	0	0	0	14.28	0	0	

From table -5 it was observed that the individual occupation of W.B. cricketers only in the 20-23 years age group 14.28% were skilled labour. Remaining two groups i.e 16 or younger age group and 17-19 years age groups all cricketers were unemployed which was a good sign according to child labour act.

Table-6:The percentage value of monthly family income of women cricketers

Age (years)	>=19575	9788-19574	7323-19573	4894-7322	2936-4893	980-2935	<=979
16 or younger	15.79	10.53	15.79	15.79	10.52	5.26	26.32
17-19	14.28	0	28.57	14.28	28.57	14.28	0
20-23	0	14.28	28.57	42.86	14.28	0	0

It was noticed from the table 6, in the 16 or younger age group, 26.32% family had less than thousand rupees income, 15-79% less than Rs. 7322 income 15.79% has less Rs. 9787 monthly income, 15-79% family had Rs. 19575 monthly income . In the 17-19 year age group 28-57% family had less than 4893 monthly income, 28.57% family also had less that Rs. 9787 monthly income, 14.28% family had less than Rs. 2935 and 7322 monthly income, 14.28% family had Rs. 19575 monthly income. In 20-23 years age group 42.86% family had less than Rs. 7322 monthly income, 28.57% family had less than Rs. 9787 monthly 14.28%. Family had less than Rs. 4893 and Rs. 19574 monthly income.

Table -7:The percentage value of Socio economic class of women cricketers

Age (years)	Upper-I	Upper-Middle-II	Lower Middle-III	Upper-Lower-IV	Lower-V
16 or younger	NR	31.58	10.52	42.11	15.80
17-19	NR	14.29	28.58	57.14	NR
20-23	NR	20.57	28.57	42.87	NR

From Table 7: It Reflects, that the percentage value of socio economic class, of WB women cricketers. Which was mainly based on their education, occupations and their monthly family appeared that in the 16 or younger age group, 42.11% cricketers were belongs to upper lower IV class, 31.58% belongs to upper middle class II, 15.80% belongs to lower –V class and 10.52% lower middle -III class. In the next groups of 17-19 years, 57.14%. Cricketers were belongs to upper lower –class IV, 28.58% belongs to lower middle class III, 14.29% belongs to upper middle –II class. In the last group of 20-23 years 42.87% cricketers were belongs to upper lower –IV class, 28.57% lower middle class III and 20.57% upper middle –II class. From the table 7 it was observed that major women cricketers belongs to upper lower class.

Conclusions

Present study of Socio Economic Status of West Bengal Women Cricketers was analyzed on the basis of the result, the following conclusion was drawn.

Majority of the age groups, parent's occupation of business.

Majority of the age groups, parents are educated, so it concludes that parents influenced their daughters to go for higher studies as well as taking sports participations.

Majority of the age groups, no of members work in their family is one, but they encourage their daughters to take cricket as a profession, even if they single to work.

All women cricketers are well educated according to their age, therefore it conclude that Bengal education system is in right direction.

Only one age group i.e 20-23 years, one women cricketer is skill worker and it is a good sign according to child labour act.

Majority age group, monthly family income is 4894-7322, which the signifies better condition.

Majority age group, belongs to upper lower class but still their family encourage them for active participation even though, they are not coming with better socio economic background

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Improvement Of Sports Person Through Yoga, Diet, Sleep And Celibacy

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Introduction:-

Holistic health is an approach to medical care that emphasizes the study of all aspects of a sports person's health, including physical, psychological and physiological. Holistic health is actually an approach to life. Beside and focusing on illness or specific parts of the body, this contemporary approach has its origin in ancient approach to health which considers the whole sports person and how he or she interacts with his or her environment. It emphasizes the connection of mind, body and spirit.

In the modern and technical age of science, there is a wide development consistently in the field of sports and physical education. Hence science has been included which is known as 'Sports Science'. Exercise physiology and psychology are the specific aspects of sports science. In this competitive age of sports only technical knowledge is not enough or gaining success. Besides technical knowledge, exercise physiology, psychology and other sciences also necessary or good sports performance.

Today, the sports person's physique, mental balance and good health are essential for the good performance of the sports person. Four guiding principles are considered important in the physical and mental development of the sports person. These are Yogic Exercise, Diet, Sleep and Celibacy.

YOGA :- It is essential to take care of the physical body with proper nourishment and disciplined life in order to achieve success on the path of Bhog to Yoga. The regular practice of Yoga makes this body energetic and regulated. Good health is the greatest gift in this world. Many great intellectuals have defined health in different ways but the definition given in the famous Ayurvedic text Sushrut is most appealing. According to this definition, the body – which has all the three doshas i.e. vata, pitta and kapha in equilibrium; the digestive fire is neither too slow nor too fast; the seven Dhatus (gross tissue elements of the body) are in proper ratio-Rasa or essence, Rakta (blood), Mansa (flesh), Meda (fat), Asthi (bones), Majja (bone-marrow), and Sukra (semen); the bladder and bowel functions are normal; mind, soul and all the 10 sensory organs are in a cheerful state – is said to be a healthy body. Sushrut's definition of health evaluates the body health on three different levels.

A person cannot be called healthy unless the body is in equilibrium at all the level – physical, mental and spiritual. If the body is healthy and yet the person suffers from lust, anger and other negative emotions, becomes the victim of bad thought and deeds, then the body begins to deteriorate and spiritual progress also slows down. It is clear that the last two stage of health, i.e. mental and spiritual are affected through Yoga, whereas Yoga clearly contribute to overall physical fitness. Ayurvedic text Charak Samhita explain three main basis of health; they are deed, sleep and celibacy. When Arjun overcome by a sense of fear and attachment for skins, suddenly becomes inquisitive about Yoga, Lord Krishna tells him that one who exercises moderation in eating, recreation, effort in work, sleep and wakefulness becomes an accomplished Yogi and Yoga destroys his miseries.

If we forget the past and look in the modern age every person want to be fit, efficient, free from the disease and wishes long life, for that only routine work is not sufficient. So every man has to do normal fitness exercise. Apart from this, one has to do yogasana. Yoga is done at any time and at any place. For that any equipment is not required.

Yoga is such a meditation, which maintains our physical and mental health. Yoga keeps all the parts active in the body. Yoga helps in increasing metabolic capacity, flexibility, agility and breath holding capacity.

Pranayam is breathing correctly from the diaphragm and act as a natural tranquillizer and calm the nervous system. It help in providing more oxygen in the blood flow. In the modern age to be healthy individual should follow the yoga.

Sports and physical Education should aim at making the child physically, mentally and emotionally fit and develop in his persona and social politics, which will help him to live happily with others and build him in to a good citizen. The hatha yoga is more beneficial for improving and practicing mental skills like concentration, relaxation and power of imagination and body control.

DIET: -

Among four pillars of perfect health, diet is the most important. Until or unless a proper diet regime is adopted, one cannot think of achieving good health. In fact diet itself is medicine. We can keep the diseases at bay by understanding the science of diet and its effects. The Indian sages and seers have classified food very minutely. Almost all the dieticians in the world prescribe a diet keeping in mind the gross body's nutritional needs and preservation requirements. Whereas Chhandyogya Upanishad cautions us that diet determines the state of the mind as well as the body. The effects on mind become a part of our mental and thinking process, and ultimately we perform according to what we decide at the mental level, Surprisingly diet is a determining factor behind our actions and world view. It is clear that diet nourishes our sensory organs, strengthens the vital energy and it also nourishes the attitude of our mind, Indian sages have proclaimed in the context of diet and its affects – the good and bad intentions with which we consume food, the happy or sad environment in which we eat our food and other minor factors pay a very significant role in the development of one's personality. Although in biochemistry, it has not been possible so far to document such effects and influences of diet on human body. Diet does have a decisive effect on our thoughts and mind. We eat food to satisfy three physical needs – first for the formation and development of physical organs, second to replenish the physical degeneration caused by day- to- day work and third to develop immunity, energy and vitality and make it capable for work, However, these guidelines are very conveniently forgotten when we sit down to eat. When we eat making taste us the deciding factor for selecting food, it may not prove beneficial for health. In the context of above said guidelines about food and its consumption we can develop three guidelines principles that are; what to eat, how to eat and when to eat.

The food that we eat in the form of fat, protein, sugar, water and salts is used by the body to manufacture about two thousand different useful compounds, These compounds reach different body organs and parts through blood and give nourishment. We need to select nutritious items in time with our nature and bodily needs in order to get the best out of this process. We also need to remember that also these nutritious items should be obtained from natural sources and not from meat. Along with the selection of food we also need to pay attention to how and where we eat. While simple food consumed with a peaceful, happy, tension and stress free state of mind gives excellent results for physical and mental development; most nutritious food consumed in a fearful, stressful and troubled state of mind can lead to several dangerous diseases. The food quickly fixed and eaten in a hurry is not beneficial for body and mind. Important point is that eating hen not hungry or suffering from indigestion is like taking poison.

SLEEP: -

Sleep I the third most important factor for having good health. It is one of the best gifts of God. Not allowing a person to sleep and keeping him awake is the biggest and most severe punishment in the world. Just imagine the consequences if God takes back sleep from mankind, the whole world will turn into a big asylum in a few days. The weary and tired body needs sleep to get back the energy and strength to work. All the living thing on this earth goes to sleep after a long day work. Therefore, our mental and physical health is also dependent on sleep. Every living being both animal and plant kingdom surrenders to sleep as devised by nature. In fact, our physical and mental health is very much dependent on having a good night's sleep. Early to rise and early to bed has remained the corner stone of Indian life – style. However, widespread industrialization and urbanization have severely impacted upon the daily routine. The individual wherever he or she is working need to give due consideration to the fact that sleeping for six to seven hours during any time of the day is not sufficient. We need to sleep at right time for six to eight hours.

CELIBACY: -

Celibacy is the fourth pillar for good health. The amount of description made in ancient literature about celibacy, its cope, its basis and importance has not been done in any other subject. The person who follows celibacy with complete austerity develops incredible physical, mental and spiritual abilities. Celibacy essentially means worshipping God and acquiring knowledge and protecting and conserving virility. Sage Charak has appealed for promoting celibacy as a kind of favor to society; he declares celibacy to be the greatest virtue that protects the body against diseases, increases vitality, gives happiness to body and mind and make a humble appeal to propagate it in the world. The author of Shatpath Brahman also says that a celibacy is never unhappy. Celibacy is a logical step towards controlling the ongoing process of the loss of physical and mental strength due to daily activities. It is the strong foundation for having a good life. Let us forget yogis for a while, even those enjoying pleasures of life should understand that in the absence of a sound body and happy mind, the person cannot even enjoy the luxuries of life. When a person is suffering from fever even delicious sweets taste bitter. In times of depression the auspicious blessings also sound like course. Those desires of good and happy life should practice celibacy and adopt a lifestyle commensurate with it. The first two pillars of good health, diet and sleep play an important role in supporting celibacy. A monogamous man and monogamous woman is considered to be a celibate, sex education is not the solution for the problem of HIV/AIDS epidemic that the world is grappling with Indian value system of practicing monogamy can certainly help.

Conclusion:-

In conclusion it is to state the almighty has gifted us with this physical body, which is a wonderful work of art, science and efficient organization. However, We are always acting in a way to misuse and destroy this amazing faultless creation by our personal misconduct, social pressures and mental exhaustion. Our measure of accomplishment or success in life is totally flawed. We generally tend to become illogical while dealing with this beautiful body that works like a well-oiled machine. We continuously ignore the directions to be followed to protect it. As a result, life becomes hellish and then only we realize the pain.

Recommendations:

Without getting into theoretical aspects, we should try to understand and accept the fact that dietary imbalance, irregular lifestyle, and undesirable thought processes are at the root of diseases. All the system and process in the body are interrelated. If we interfere with or disrupt any process or system, it's sure to have impact on other processes and systems. From the holistic point of view, it is bitter to treat the body as one unit instead of being constituted of different parts. Dietary imbalance irregular daily routine, imbalance of vata, pitta, and kapha, imbalance of hormones of the body and excess or deficiency of digestive fire seriously affect the health of the body. It also affects the functioning of various glands. Various diseases are the result of this irregularity. According to Acharya Vagbhatt, the accumulation of waste products in the body is also the reason for diseases. The feces and other wastes accumulate in the body due to digestive disorders which are mainly caused by a decrease in digestive fire. As a result food is not properly digested and starts accumulating as faecal matter.

In short, yogic Exercise, Diet, Sleep and Celibacy play the important role in the improvement of performance of a sport person and his/her physical and mental development.

References:

Holistic Health

Effects Of A Ten Week Training Programme On Repeated High Intensity Intermittent Runs Among Football Referees Of Malaysia

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Abstract

The objective of this study was to investigate the effectiveness and acceptability of a 10 week training programme to improve repeated high intensity intermittent runs of football referees in Malaysia. Sixty national football referees were randomly assigned into 3 groups (n=20 each group) namely the control group, experimental group one and experimental group two. Experimental group one followed a planned 10 week training programme (duration of training 4 days in a week, each session=90 minutes and time 5 pm) supervised by a physical education lecturer and his assistants. Experimental group two also reported for training at a different venue and trained on their own (duration, frequency and time of training similar to experimental group one). The design of this study focused upon the individual performances in the pre-test, providing training for 10 weeks and determining if the referees improved as a result of treatment. A mixed between-within subject analysis known as split-plot ANOVA (SPANOVA) was used to test the hypothesis. The null hypothesis was rejected [F (2, 57) =75.86 p<0.05]. However, the results of Pillai's Trace and Tukey Pair Wise Multiple Comparison further confirmed the results of SPANOVA. Tukey Pair Wise Multiple Comparisons among groups indicated that the performance of all the three differed from one another with experimental group one showing the best performance and the control group the poorest and the training method used by experimental group one was the best. The results provided meaningful support that a planned 10 week training programme was acceptable to improve performance in repeated high intensity intermittent runs. The training programme therefore, could be adopted as a formal training programme for football referees.

Keywords: repeated high intensity intermittent runs, national football referees, ten week training programme.

Introduction

The recognised international governing body of football is the Federation Internationale de Football Association (FIFA). FIFA headquarters is located in Zurich. FIFA announced in FIFA News (2011) that 208 men's national football associations are affiliated to FIFA and therefore considers football as the most popular game in the world. National associations oversee football within individual countries. According to a survey conducted by FIFA published in 2006, over 230 million people from more than 200 countries regularly play football. It was also found that football has the highest global television audience in sport ("Big Count 2006"). Today, football is played at a professional level all over the world. Millions of people regularly go to football stadiums to follow their favourite teams stated Ingle, Sean Glendenning & Barry (2003). While FIFA (2003) announced that billions more watch the game on television or on the internet and a large number of people also play football at an amateur level.

Wherever the game is played, referees are needed to supervise the matches. An official survey ("Big Count 2006") by FIFA revealed that in 2006 there were more than 840,000 registered referees and assistant referees worldwide.

Asagba (2004) strongly felt that football referees must reach and maintain a high level of fitness. Aerobic ability solely cannot see a football referee through successfully in ball games because of these frequent changes of space and need for sudden sprints. There must therefore be a capacity to supply anaerobic energy from time to time. The demand is getting higher in terms of physical conditioning. A football referee is supposed to be within 10 to 15 metre range from the ball at any time during play. Baumhake et al. (2007) agreed that referees should have good physical condition as requirements during a match. Castagna & Abt (2003) are of the opinion that approximately 1.800 metres is therefore covered at high intensity of more than 18 kilometres in an hour and in addition to about 1000 metres backwards running.

The average time without movement is 11 minutes during a match of 90 minutes (Castagna & Abt, 2003). Casajus & Castagna (2006) confirmed that football refereeing is a physically challenging

exercise mainly stressing physical and physiological functioning. Several recent studies have evaluated the locomotor activities and physiological demands of football referees and assistant referees (Krustrup&Bangsbo, 2001; Krustrup et al., 2002; Helsen&Buitynck, 2004; Castagna et al., 2005; Reilly and Gregson, 2006).

Football referees are often left on their own to develop their physical fitness efficiency. If they fail the FIFA Fitness Test, they are not allowed to officiate in a particular tournament. There has been no specific training programme designed to improve the fitness of football referees in Malaysia. Therefore, in order to ensure football referees can attain an optimal level of match fitness, emphasis within their fitness preparation programmes had to be firmly placed upon quality structured training sessions that provide an appropriate training stimulus to enable the attainment of such fitness. Hence, this study has been designed to investigate the effectiveness and acceptability of a ten week training programme to improve repeated high-intensity intermittent runs.

METHODOLOGY

This investigation was an experimental research design which involved the measurement of repeated high intensity intermittent runs. Sixty National football referees who lived in Kuala Lumpur and Selangor were selected. As only sixty referees were available, all of them were chosen as participants for the study. The participants were randomly assigned into three groups namely the control group, experimental group one and experimental group two. Each group consisted of 20 participants.

Procedure

The participation of referees in this research was voluntary and a letter of consent from each referee was collected. An introductory talk was administered to participants in experimental group one and two. As the participants ate their meals in their homes, their diets were not regulated. The participants were asked to follow their training programmes vigorously. The participants were encouraged to bring along their spouses during the training sessions because a study by Heinzelman& Bagley (1970) indicated that the husband's adherence to the training programme was directly related to the wife's attitude towards the programme.

Instrument

The participants were pre-tested on FIFA Fitness Test. Experimental group one and experimental group two were exposed to different experimental treatment respectively for ten weeks. Experimental group one followed a planned ten week programme while experimental group two also trained but on their own mainly jogging and playing minor games among themselves. The post-test was administered to the three groups after ten weeks. At the end of ten weeks training, the researcher investigated whether there was a significant difference in the performance of repeated high intensity intermittent runs. The design of this study focused upon individual performances in the pre-test, providing training for ten weeks and to determine if referees improved their performance in repeated high intensity intermittent runs as a result of experimental treatments.

RESULTS

The pre-test results showed very little difference between the means and the standard deviations among the three groups: control group (M=4.40, SD = 1.05, N=20), experimental group one (M=4.30, SD=1.13, N=20), experimental group two (M=3.80, SD=1.01, N=20). The direction of effect showed the same statistical features for all of the participants in the three groups: total groups (M=4.17,SD=0.64, N=60).

The descriptive statistical features for the three groups in post-test indicated: control group (M=4.6, SD=1.05, N=20), experimental group one (M=9.80, SD=0.41, N=20), experimental group 2 (M=6.40, SD=2.06, N=20), total groups (M=6.93, SD=2.55, N=60).

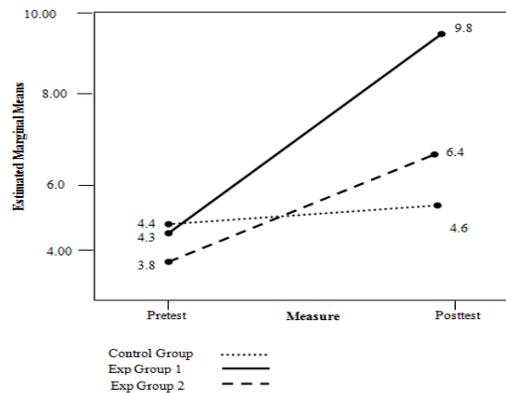
Table 1 below provides descriptive statistics for the three groups in pre-test means, post-tests means (M), the standard deviation (SD) and number (N) of participants in each group.

Table 1: Comparison of Pre-Test and Post-Test Means and Standard Deviation of Three Groups in Repeated High Intensity Intermittent Runs

Pre-Test	N	M	SD
Control Group	20	4.40	1.05
Experimental Group 1	20	4.30	1.13
Experimental Group 2	20	3.80	1.01
Total	60	4.17	1.08
Post-Test	N	M	SD
Control Group	20	4.60	1.05
Experimental Group 1	20	9.80	0.41
Experimental Group 2	20	6.40	2.06
Total	60	6.93	2.55

Figure 1 indicates the pre-test and post-test means for the three groups based on the number of repetitions in repeated high intensity intermittent runs .

Figure 1: Estimated Marginal Means of Measure 1. One Way Pre Test and Post Test by Group



To determine whether there was a significant difference in the performance of the three groups in repeated high intensity intermittent runs after following a ten week training programme, a mixed between-within subject analysis known as split-plot ANOVA (SPANOVA) with a .05 significant level was conducted.

Table 2: SPANOVA Tests of Between Groups for Pre-Test and Post-Test

Pre-Test	Sum of Squares	df	Mean square	F	Sig
Between Groups	4.13	2	2.07	1.84	.169
Within Groups	64.20	57	1.13		
Total	68.33	59			
Post-Test	Sum of Squares	df	Mean square	F	Sig
Between Groups	278.93	2	139.47	75.86	.000
Within Groups	104.80	57	1.84		
Total	383.73	59			

The pre-test results in Table 2 indicated that there was no significant difference among the three groups in repeated high intensity intermittent runs [$F(2, 57) = 1.84, p > 0.05$] before treatment was administered.

After undergoing a ten week training programme, the post-test results indicated that there was a significant difference among the three groups in the performance of repeated high intensity intermittent runs [$F(2, 57) = 75.86, p < 0.05$]. The mean value of experimental group one outperformed the other two groups. The results showed experimental group one was the most effective group as compared to control group and experimental group two.

To further determine whether there was a significant difference between pre-test and post-test scores as a whole and to determine if there was a significant effect on the treatment for the three groups, multivariate tests using Pillai's Trace was administered.

Pillai's Trace [$F(1, 57) = 429.15, p < 0.05$] indicated that there was a significant difference between pre-test and post-test scores as a whole. It showed that the programme had significant effect on repeated high intensity intermittent runs after treatment. There was also a significant interaction effect of the treatment for the three groups [$F(2, 57) = 131.63, p < 0.05$].

Table 3: *Multivariate Tests^a Using Pillai's Trace*

Effect	Value	F	Hypothesis df	Error df	Sig
Pillai's Trace	.883	429.15 _b	1.000	57.000	.000
Wilk's Lambda	.117	429.15 _b	1.000	57.000	.000
Hotelling's Trace	7.529	429.15 _b	1.000	57.000	.000
Roy's Largest Root	7.529	429.15 _b	1.000	57.000	.000
Measure * Group	Value	F	Hypothesis df	Error df	Sig
Pillai's Trace	.822	131.63 _b	2.000	57.000	.000
Wilk's Lambda	.178	131.63 _b	2.000	57.000	.000
Hotelling's Trace	4.169	131.63 _b	2.000	57.000	.000
Roy's Largest Root	4.169	131.63 _b	2.000	57.000	.000

- a. Design: Intercept + group
Within Subjects Design: measure
- b. Exact statistic

In order to investigate significant difference between groups, Tukey post hoc multiple comparison test analysis was conducted.

Table 4 shows Tukey Pair Wise Comparison on the means for the three groups in repeated high intensity intermittent runs

Table 4: Tukey Pair Wise Comparison for the Three Groups in Repeated High Intensity Intermittent Runs.

(I) group	(J) group	Mean Difference (I-J)	Standard Error	Sig ^b
Control Group	Experimental Group 1	-2.550*	.349	.000
	Experimental Group 2	-.600	.349	.091
Experimental Group 1	Control Group	2.550*	.349	.000
	Experimental Group 2	1.950*	.349	.000
Experimental Group 2	Control Group	.600	.349	.091
	Experimental Group 1	-1.950	.349	.000

Based on estimated marginal means

* The mean difference is significant at the 0.05 level.

^b. Adjustment for multiple comparisons: Least significant Difference (Equivalent to no adjustment)

The results indicated that the mean difference between the experimental group one and the control group was 2.55*. When the means of experimental group one and experimental group two were compared, it indicated a mean difference of 1.95*. The results indicated that the mean difference of experimental group one when compared to the mean difference of experimental group two and control group was significant at .05.

The mean difference of the experimental group two and the control group indicated a value of 0.60*. The mean difference was just significant at .05 significant level when the performance of experimental group two in repeated high intensity intermittent runs was compared with the performance of control group.

The results indicated that there existed a significant difference in the performance of the three groups in repeated high intensity intermittent runs after ten weeks of training [$F(2, 57) = 75.86, p < 0.05$]. Statistically significant differences were noted between experimental group one and experimental group two, experimental group one and control group and experimental group two and control group. The results of multiple comparisons among groups indicated that the performance of all the three groups in repeated high intensity intermittent runs differ from one another with experimental group one showing the best performance and the control group the poorest and the training method used by experimental group two.

Discussion

The results indicated that the performances of participants in experimental group one in repeated high intensity intermittent runs were the best when compared with the other two groups. It also showed that the training method used experimental group one was better than the training methods used by experimental group two and control group. Thus, from the findings of this study, it could be concluded that there were three general reasons for the improved performance in repeated high intensity intermittent runs of the football referees in Malaysia.

Firstly, training programme of this nature provided the football referees with an opportunity to train for four days in a week under the guidance of a trained physical education instructor. The instructor, playing a direct and ever-present role was recognized, as a result served as a strong motivating factor to the participants. Seguin et al (2010) reported that the exercise leaders appeared to be the single most important variable affecting training compliance and motivation.

Secondly, during the present investigation there was an intense curiosity and interest regarding the training programme; from the first exposure to instructors and at the pre-test to the last exposure at the post-test. The interest was true to all the three groups. All groups responded to the pre-test and post-test with seemingly equal engrossment. Interest in the training method might have grown even more intense for football referees in experimental group one who followed training method one as the investigation progressed.

Finally, the football referees in Malaysia never had an opportunity to participate in a group training programme. This study which offered a setting to train in a group could have motivated them to train harder as they were eager to know the training effects. A study by Trost et al (2002) reported that adult exercisers preferred group programmes those in which one trained alone. It also indicated poorer training compliance in individual programmes. It was further reported that social reinforcement and companionship associated with a group programme apparently facilitated increased training programme.

CONCLUSION

This planned training programme was effective and acceptable to improve in the performance of repeated high intensity intermittent runs of football referees. Therefore, it should be adopted as a formal training programme for football referees in Malaysia.

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Effect Of Yoga Aerobic And Combined Training On Cortisol Triiodothyronine And Thyroid Stimulating Hormone Among Obese School Girls

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Abstract:The present study is an outcome of the Effect of yoga aerobic and combined training on cortisol, Triiodothyronine (T3) and Thyroid Stimulating Hormone among obese school girls. Sixty obese school girls were selected randomly and divided into four equal groups the age groups of subjects were between 14 and 16 yrs. pre test and post test were conducted by applying cortisol, Triiodothyronine (T3) and Thyroid Stimulating Hormone test. Yoga and Aerobic and combined training was given to the Experimental groups for the period of twelve weeks and no training was given to the control group. The collected data were analysed by using the Analysis of covariance (ANCOVA) and scheffe's post hoc test. The result of the study shows that there was a significant difference on all the bio chemical variables due to the influence of Yoga, Aerobic and combined training. Within the limitation of the study the following conclusion were drawn: 1. Cortisol, Triiodothyronine (T3) and Thyroid Stimulating Hormone was reduced due to the influence of Yoga, Aerobic and Combined training of obese school girls. 2. Experimental group III undergone the Combined training shown the significant reduction in Cortisol, Triiodothyronine (T3) and thyroid stimulating hormone 3. Experimental group I with the Yoga training shown the greater reduction in Cortisol, Triiodothyronine (T3) and thyroid stimulating hormone than the Experimental group II (Aerobic training) Key words: Yoga, Aerobic training, Cortisol and Thyroid Stimulating Hormone

Introduction:

Childhood obesity affects more than 15 percent of children, making it one of the common chronic disease of childhood. Childhood obesity is not just a cosmetic problem. Today, more and more children are being diagnosed with diabetes, hypertension and other co-morbid conditions associated with obesity and morbid obesity. All through this site, overweight and obese are used interchangeably. Obesity Foundation India prefers the term overweight, while mass media often utilizes the term obese when referring to children.

STATEMENT OF THE PROBLEM: The purpose of the study was to find out the Effect of Yoga, Aerobic and Combined training on Cortisol, Triiodothyronine (T3) and Thyroid Stimulating Hormone among obese school girls.

DEPENDENT VARIABLE: 1. Cortisol 2. Thyroid Stimulating Hormone (TSH) 3. Triiodothyronine (T3)

INDEPENDENT VARIABLE: 1.Experimental group I - Yoga 2.Experimental group II- Aerobic training 3.Experimental group III- Combined training 4.Control group - No training

METHODOLOGY:

SELECTION OF SUBJECTS: To achieve the purpose of this study, sixty (N=60) obese school girls were selected from Tirunelveli district, Tamilnadu. The subject's age groups were between 14 and 16 years. The selected subjects were divided into four equal groups and each group consists of fifteen subjects. Namely Experimental group I, Experimental group II, Experimental group III and Control group.

EXPERIMENTAL DESIGN: The study was formulated as a random group design consist of pre and post test, sixty obese school girls were randomly divided into four equal groups, the group was assigned as an Experimental group I, Experimental group II, Experimental group III and control group. Prior to the experiment, the Cortisol, Triiodothyronine (T3) and Thyroid Stimulating Hormone tests were analyzed through Blood test. After twelve weeks of training period the post test were conducted and the data were collected.

DATA COLLECTION: Cortisol, Triiodothyronine (T3) and Thyroid Stimulating Hormone conducted in the bio chemical laboratory under the guidance of experienced physician and lab technician. The method used for the Cortisol was cortisol reagent kit and Thyroid Stimulating Hormone test was TSH Reagent kit

STATISTICAL TECHNIQUE: The analysis of co variance (ANCOVA) statistical technique was used to find out the effect of yoga, aerobic and combined training on Cortisol, Triiodothyronine (T3) and Thyroid Stimulating Hormone among obese school girls. If the post test were significant the scheffe's post hoc test was used to find out the paired mean significant difference, **Thirumalaisamy.R (1995)**

RESULTS FINDINGS AND DISCUSSION: The following table illustrate the statistical results of Effect Of Yoga, Aerobic and Combined Training on Cortisol, Triiodothyronine (T3) and Thyroid Stimulating Hormone among Obese School Girls and ordered adjusted means and the difference between the means of the groups under study.

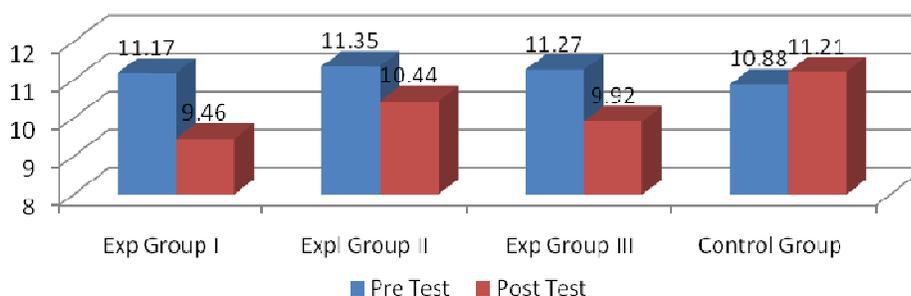
TABLE I- COMPUTATION OF ANALYSIS OF COVARIANCE OF CORTISOL

Test	EXP- I	EXP- II	EXP -III	CON	S.V	S.S	df	M.S	F	T.F
Pre Test	11.17	11.35	11.27	10.88	B	1.96	3	0.65	0.69	2.7
					W	52.91	56	0.94		
Post Test	9.46	10.44	9.92	11.21	B	25.34	3	8.44	4.92*	2.7
					W	96.22	56	1.71		
Adjusted Post Test	9.46	10.37	9.89	11.31	B	27.93	3	9.31	5.67*	2.72
					W	90.30	55	1.64		

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 CORTISOL (Scores in gm/dl)

CON	EXP- I	EXP-II	EXP-III	MD	CI
11.31	9.46	-	-	1.85*	1.34
11.31	-	10.38	-	0.93	1.34
11.31	-	-	9.89	1.42*	1.34
-	9.46	10.38	-	0.92	1.34
-	9.46	-	9.89	0.43	1.34
-	-	10.38	9.89	0.49	1.34



Discussions And Findings Of Cortisol

From these analyses, it is found that the effect of yoga, aerobic and combined training had significantly decreased the Cortisol level. When compared with the control group in terms of mean gains.

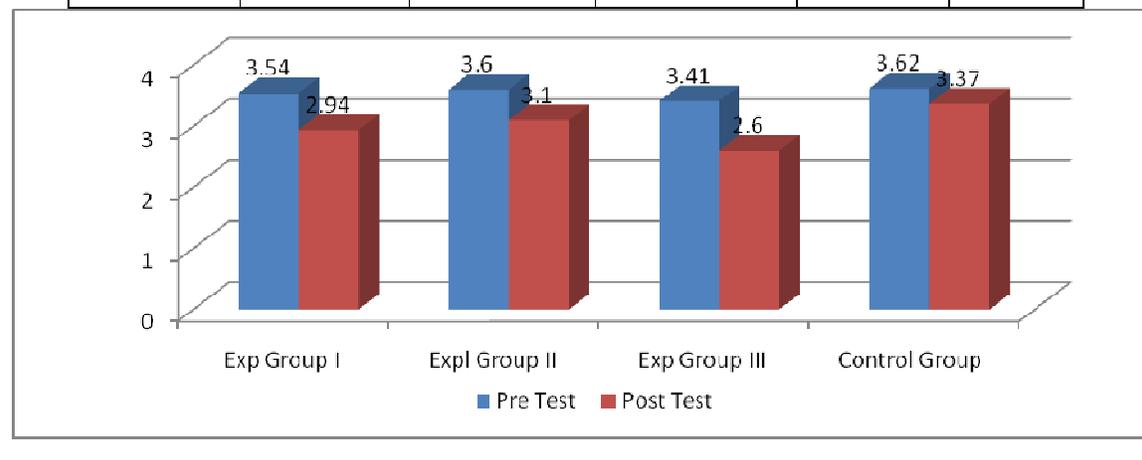
It is appealing to note that the outcome obtained from the analysis of covariance, Cortisol level carried out with the inclusion of yoga, aerobic and combined training and the result indicate that Experimental group I, Experimental II, Experimental group III and control group were significantly influenced on Cortisol.

TABLE III -COMPUTATION OF ANALYSIS OF COVARIANCE OF TRIIODOTHYRONINE (T3) Scores in (ng/dl)

Test	EXP I	EXP II	EXP III	CON	sv	Ss	df	MS	F	TF
pre test	3.54	3.6	3.41	3.62	b	0.38	3	0.12	1.26	2.7
					w	5.77	56	0.10		
post test	2.94	3.10	2.68	3.37	b	3.81	3	1.27	25.62*	2.7
					w	2.77	56	0.04		
Adjusted Post	2.93	3.09	2.70	3.36	b	3.25	3	1.08	22.82*	2.72
					w	2.61	55	0.04		

TABLE III (a) -COMPUTATION OF SCHEFFE'S POST HOC TEST ORDERED ADJUSTED FINAL MEAN DIFFERENCE OF TRIIODOTHYRONINE (T3)

CON	EXP I	EXP II	EXP III	MD	CI
3.36	2.94	-	-	0.42*	0.23
3.36	-	3.10	-	0.26*	0.23
3.36	-	-	2.70	0.66*	0.23
-	2.94	3.10	-	0.16	0.23
-	2.94	-	2.70	0.24*	0.23
-	-	3.10	2.70	0.40*	0.23



Discussion And Findings Of Triiodothyronine (T3)

The following tables illustrated the statistical results of the effect of yoga, aerobic and combined training on Cortisol, Triiodothyronine (T3) and Thyroid Stimulating Hormone among obese school girls and ordered adjusted means and the difference between the means of the groups under study had significantly decreased the Triiodothyronine (T3) when compared with the control group in terms of mean gains.

The analysis of covariance Triiodothyronine (T3) level carried out with the inclusion of yoga, aerobic and combined training and the result indicate that Experimental group I, Experimental II, Experimental group III and control group were significantly influenced on Triiodothyronine (T3).

Conclusions

Within the limitation of the study the following conclusion were drawn.

It was concluded that Cortisol level has significantly decreased due to the influence of twelve weeks of yoga, aerobic and combined training when compared to control group.

It was concluded that Experimental group I would have significantly decreased the Cortisol level greater than that of Experimental group II, III and control group due to the influence of twelve weeks of yoga, aerobic and combined training when compared to control group.

It was concluded that Triiodothyronine (T3) level has significantly decreased due to the influence of twelve weeks of yoga, aerobic and combined training when compared to control group.

It was concluded that Experimental group III would have significantly decreased the Triiodothyronine (T3) level greater than that of Experimental group I, II and control group due to the influence of twelve weeks of yoga, aerobic and combined training when compared to control group.

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Effect Of Yoga Aerobic And Combined Training On Alanine Aminotransferase (Alt), Asparatate Aminotransferase (Ast) Status Among Obese School Girls

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Abstract:

The present study is an outcome of the Effect of yoga aerobic and combined training on selected liver profile status among obese school girls. Sixty obese school girls were selected randomly and divided into four equal groups the age groups of subjects were between 14 and 16 yrs. pre test and post test were conducted by applying liver profile test. Yoga, Aerobic and combined training were given to the Experimental groups for the period of twelve weeks and no training was given to the control group. The collected data were analysed by using the ANCOVA and scheffe's post hoc test. The result of the study shows that there was a significant difference on selected liver profile status due to the influence of Yoga and Aerobic training. Within the limitation of the study the following conclusion were drawn: 1. Liver profile status was reduced due to the influence of Yoga, Aerobic and Combined training of obese school girls. 2. Experimental group III undergone the Combined training shown the significant reduction in liver profile status such as Alanine aminotransferase (ALT), Asparatate aminotransferase (AST), Alkaline aminotransferase (ALP) 3. Experimental group I with the Yoga training shown the greater reduction in liver profile status such as Alanine aminotransferase (ALT), Asparatate aminotransferase (AST), Alkaline aminotransferase (ALP) than the Experimental group II (Aerobic training) Key words: Yoga, Aerobic training, Alanine aminotransferase (ALT), Asparatate aminotransferase (AST), Alkaline aminotransferase (ALP)

Introduction:

Obesity is a disease characterized by excessive body fat. People who are medically obese usually are affected by behavior, genetic and environmental factors that are difficult to control with dieting.

STATEMENT OF THE PROBLEM: The purpose of the study was to find out the Effect of Yoga, Aerobic and Combined training on selected liver profile status among obese school girls.

DEPENDENT VARIABLE: 1. Alanine aminotransferase (ALT), 2. Asparatate aminotransferase (AST), 3. Alkaline Aminotransferase (ALP)

INDEPENDENT VARIABLE: Experimental group I-Yoga, Experimental group II - Aerobic training, Experimental group III-Combined training, Control group -No training

METHODOLOGY: **SELECTION OF SUBJECTS:** To achieve the purpose of study, Sixty obese school girls were selected from Tirunelveli district, Tamilnadu. The subject's age groups were between 14 to 16 years. The selected subjects were divided into four equal groups and each group consists of fifteen subjects. Namely Experimental group I, Experimental group II, Experimental group III and Control group.

Experimental Design:

The study was formulated as a random group design consist of pre and post test, sixty obese school girls were randomly divided into four equal groups, the group was assigned as an Experimental group I, Experimental group II, Experimental group III and control group. Prior to the experiment, the liver profile status were analyzed through Blood test. After twelve weeks of training period the post test were conducted and the data were collected.

TRAINING PROGRAMME:**Experimental group I work out:**

The first week of Yoga training were started with two repetitions. The training was conducted during the evening session between 3pm to 4pm for six days per week. The duration of Yoga training was increased one repetition in every week over twelve week period of time.

Experimental group II work out:

The first week of Aerobic training were started with five minutes. The training was conducted during the evening session between 4pm to 5pm for six days per week. The duration of aerobic training was increased with five minutes in every week over twelve week period of time.

Experimental group III work out:

The first week of Yoga and Aerobic training were started with one repetition. The training was conducted during the evening session between 5pm to 6pm for six days per week. The duration of aerobic training was increased with one repetition in every week over twelve week period of time.

CONTROL GROUP: No training was given to this group during the training period.

DATA COLLECTION:

Liver profile such as Alanine aminotransferase (ALT), Asparatate aminotransferase (AST), Alkaline aminotransferase (ALP) conducted in the bio chemical laboratory under the guidance of experienced physician and lab technician. The method used for the liver profile test was **Bromocresol Green** method. .

STATISTICAL TECHNIQUE:

The analysis of co variance (ANCOVA) statistical technique was use to find out the effect of yoga, aerobic and combined training on selected liver profile status among obese school girls. If the post test were significant the scheffe's post hoc test was used to find out the paired mean significant difference, **Thirumalaisamy.R (1995)**

RESULTS FINDINGS AND DISCUSSION:

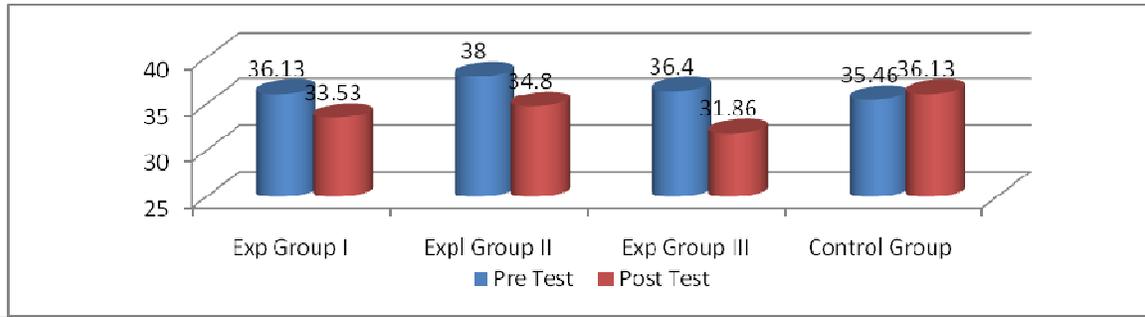
The following table illustrate the statistical results of the Effect Of Yoga, Aerobic and Combined Training on selected Liver Profile status among Obese School Girls, and ordered adjusted means and the difference between the means of the groups under study

TABLE I - COMPUTATION OF ANALYSIS OF COVARIANCE OF ALANINE AMINOTRANSFERASE(ALT) (Scores in gm/dl)										
TEST	EXP I	EXP II	EXPIII	CON	SV	SS	DF	MS	F	TF
Pre Test	36.13	38	36.4	35.46	B	6.93	3	0	0.67	2.7
					W	193.06	56	2.40		
Post Test	33.53	34.8	31.86	36.13	B	148.98	3	49.66	18.59	2.7
					W	149.6	56	2.67		
Adjusted	33.51	34.8	31.79	36.23	B	155.81	3	49.66	20.03	2.72
					W	142.58	55	2.42		
Mean	2.6	1.2	4.53	0.66						

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 ALANINE AMINOTRANSFERASE(ALT) (Scores in gm/dl)

CONT	EXP I	EXP II	EXP III	MD	CI
36.23	33.51	-	-	2.73	1.68
36.23	-	34.80	-	1.43	1.68
36.23	-	-	31.79	4.44	1.68
-	33.51	34.80	-	-1.29	1.68
-	33.51	-	31.79	1.72	1.68
-	-	34.80	31.79	3.01	1.68



DISCUSSION AND FINDINGS OF ALANINE AMINOTRANSFERASE (ALT)

This result indicated that the effect of yoga, aerobic and combined training had significantly decreased the Alanine aminotransferase(ALT) level. When compared with the control group in terms of mean gains.

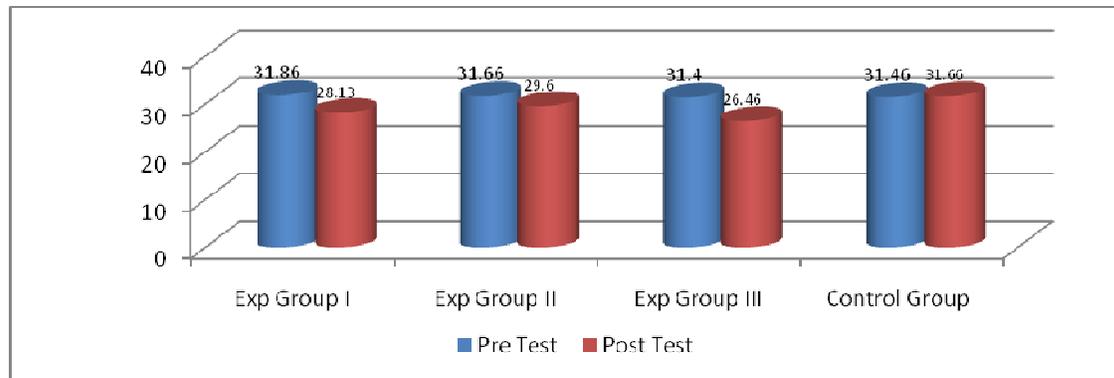
The analysis of covariance Alanine aminotransferase(ALT) level carried out with the inclusion of yoga, aerobic and combined training and the result indicate that Experimental group I, Experimental II, Experimental group III and control group were significantly influenced on Alanine aminotransferase(ALT).

TABLE II
COMPUTATION OF ANALYSIS OF COVARIANCE OF ASPARATATE
AMINOTRANSFERASE (AST) (Scores in gm/dl)

Test	EXP I	EXP II	EXP III	CON	sv	ss	Df	MS	F0	TF
Pre Test	31.86	31.66	31.4	31.46	b	2	3	0.66	0.37	2.7
					w	100.4	56	1.79		
Post Test	28.13	29.6	26.46	31.66	b	219.53	3	73.17	35.82	2.7
					w	114.4	56	2.04		
Adjusted	28.03	29.57	26.54	31.71	b	220.30	3	73.43	40.95	2.72
					w	98.62	55	1.79		
Mean	3.73	2.06	4.93	0.2						

TABLE II(a) - COMPUTATION OF SCHEFFE'S POST HOC TEST ORDERED
ADJUSTED FINAL MEAN DIFFERENCE OF ASPARATATE
AMINOTRANSFERASE

Control Group	EXP.GP 1	EXP.GP 2	COM.GP	MD	CI
31.72	28.03	-	-	3.69	1.40
31.72	-	29.57	-	2.15	1.40
31.72	-	-	26.55	5.17	1.40
-	28.03	29.57	-	-1.55	1.40
-	28.03	-	26.55	1.48	1.40
-	-	29.57	26.55	3.03	1.40



DISCUSSION AND FINDINGS OF ASPARATATE AMINOTRANSFERASE (AST)

This result indicated that the effect of yoga, aerobic and combined training had significantly decreased the Aspartate Aminotransferase (AST) level. When compared with the control group in terms of mean gains.

The analysis of covariance Aspartate Aminotransferase (AST) level carried out with the inclusion of yoga, aerobic and combined training and the result indicate that Experimental group I, Experimental II, Experimental group III and control group were significantly influenced on Aspartate Aminotransferase (AST).

Conclusions

It was concluded that Alanine aminotransferase (ALT), Aspartate aminotransferase (AST), Alkaline Aminotransferase (ALP) level has significantly decreased due to the influence of twelve weeks of yoga, aerobic and combined training when compared to control group. It was concluded that Experimental Group III would have significant decrease on Alanine aminotransferase (ALT), Aspartate aminotransferase (AST), Alkaline Aminotransferase (ALP) level greater than that of Experimental group I, II and control group due to the influence of twelve weeks of yoga, aerobic and combined training

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Computer Based Training Techniques in Sport

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Introduction

Modern sports developed rapidly, The improvement of athletic performance is reducing over time, because the challenge which from instincts of human beings rely on their own strength to the limits of self-physiological level has reached the limit. In order to maximize human potential ability. Modern sports need the science and technology intervene continuously. From the perspective of sports techniques, to improve athletic performance or to obtain a breakthrough, two changes must be done on the sports technology research methodological: The change from the traditional observation based on the human eye to the measurement of human motion technology based on high-precision motion capture and analysis. The change from experience and methods based on too much emotional to human motion analysis which is process-based human motion simulation and emulation.

Virtualization

Virtualization based upon computer technology, utilizes and synthesizes many kinds of advanced high-technology to produce a virtual world of multiple sense experience, which is a vivid 3D visual perception, tactile sensation, and olfactory sensation, etc. Accordingly, virtualization cause people to produce the sensation to personally go through a situation. Virtualization is an extremely sophisticated system, which, with its referred techniques, includes figure and image processing, speech processing, audio mode recognition, artificial intelligence, intelligent interface, transducer, real time compartment system, database, parallel processing, system modelling and simulation, system integration, trace positioning, etc. A typical virtualization system consists of virtual environment generator, effect generator, and interface device.

Function of Sports Virtualization

1. Sports Virtual Training Model Construction

The virtual training system of some sports have specific requirements for training scenarios. For example, the modeling of virtual training ground, virtual training equipment and virtual human,etc.

2. Data Recording

Record sports physical data of movement directly according to sensor tracking devices and use it generate computer animation. The biggest advantage of this approach is the ability to capture the human's (including training equipment) real movement of data. As the generated animation is basically the main person's (or device) movement copy, so the effect is very realistic,and it can ensure the scientific of the training

3. Replay Of Action

Replay of Action is important requirements of the sports simulation system. A traditional camera can not analysis the action from all angles and innovative of new action can not be achieved through the camera. Simulations and reproduce to the technology action can help athletes improve and innovate, improve technical level.

Technologies

1. Human Animation

From the last century, human animation has gone through four stages of development: kinematic control, dynamic control, controller-based motion control and motion capture. motion capture technology has characteristics of efficient and real strong sense, researchers have attached great importance to it.

2. Movement Recording

Movement Recording use sensors to record the three-dimensional information form of body action, then the computer according to the recorded data to drive the virtual human. The advantage of this approach is capture the real movement of body data, basically due to the formation is the copies of the body, so the effect is very realistic, and can generate many complex motion. Motion capture have three kinds of devices: optical devices, mechanical devices and electromagnetic devices. Motion capturing include planning, raw data acquisition, tracking, identification, frame conversion and mapping. The processing methods include signal processing, mapping offsetting, motion blending, motion texture and motion diagrams

3. Real Time Virtualization

Virtual sports related to the virtual scene and virtual athletes, real-time virtualization and interaction is particularly important. Real-time virtualization technology include the foreseeable judgement, details and image-based rendering. Interaction refers to the user use the virtualization devices (electromagnetic tracking devices, cameras, haptic devices, three-dimensional navigation devices and verbal or nonverbal communication devices) to interact with the system.

Conclusion

No matter what type of events, virtualization reality applications focus on action reproduce, especially in the technique oriented difficulty and beauty events. This is very much related to the technical characteristics of virtualization.

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Doping Control Process In Sports

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Introduction :-

The best part of being an athlete is rising to the challenge, doing your best under the circumstances, and enjoying the process. It is the celebration of the human spirit, body and mind. It is what we call "the spirit of sport," and is characterized by health, fair play, honesty, respect for self and others, courage, and dedication. Doping in sports is the complete antithesis of the Spirit of Sports. Doping destroys all that is good and noble about sports. Doping jeopardize the health and wellbeing of athletes and erode public confidence. In addition to risking serious health consequence, athletes who test positive for doping ruin their good name and reputation. The purpose of this paper is to give athletes useful information on anti doping process.

NATIONAL ANTI DOPING AGENCY :- The National Anti Doping Agency (NADA) is the national organization responsible for promoting, coordinating, and monitoring the doping control programme in sports in all its forms in the country. NADA works towards a vision of doping free sports in India.

ATHLETES' SELECTION :- Athletes can be selected for doping control at any time and any place.

ATHLETES' NOTIFICATION :- A Doping Control Officer (DCO) or chaperone will notify the athlete of selection for doping control. The DCO or chaperone will inform the athlete their right and responsibilities, including the right to have a representative present throughout the entire process. Athlete will be asked to sign a form confirming that they have been notified for doping control. For a minor or an athlete with a disability, a third party may be notified as well.

REPORTING TO THE DOPING CONTROL STATION :- Athlete should report to the doping control station as soon as possible. The DCO may allow you to delay reporting to the station for activities such as a press conference or the completion of a training session; however athlete will be accompanied by a DCO or chaperone from the time of notification until the completion of the sample collection process.

SELECTION OF COLLECTION VESSEL :- Athletes are given a choice of individually sealed collection vessels and athlete may select one. Athlete should verify that the equipment is intact and has not been tampered with. Athlete should maintain control of the collection vessel at all times.

PROVISION OF SAMPLE :- Athlete and a DCO of the same gender are permitted in the washroom during the sample provision. Minors and athletes with a disability may also have their representative present, however this representative is not permitted to view the sample provision. The objective is to ensure that the DCO is observing the sample provision correctly.

VOLUME OF SAMPLE :- The DCO shall use the relevant laboratory specifications to verify, in full view of the athlete, that the volume (>90ml) of the urine sample satisfies requirements for analysis.

SELECTION OF DOPING CONTROL KIT :- Athlete is given a choice of individually sealed sample collection kits from which to choose one. Athlete should verify that the equipment is intact and has not been tampered with. Open the kit and confirm that the sample code numbers on the bottles, the lids, and the container all match.

SAMPLE DIVISION :- Athletes divide the sample, pouring the urine themselves, unless assistance is required due to disability. Pour the required volume of urine into the "B" bottle (>30ml); and pour the remaining urine in to the "A" bottle (>60ml). Athlete will be to leave a small amount in the collection vessel so that the DCO can measure the specific gravity.

SEALING OF SAMPLE :- Athlete should seal the "A" and "B" bottles. Athletes' representative and the DCO should verify that the bottles are sealed properly.

MEASURING SPECIFIC GRAVITY :- If the sample does not meet the specific gravity requirement, athlete may be asked to provide additional samples.

DOCUMENTATION :-

Athlete should provide information on the doping control form about any prescription or non prescription medication or supplements they have taken recently. Athlete also have the right to note comments on the form regarding the conduct of the doping control session. Be sure to confirm that all of the information is correct, including the sample code number. Athlete should receive a copy of the doping control form. The laboratory copy of the form does not contain any information that could identify athlete.

Analysis :-

Samples are packaged for shipping to ensure that their security is tracked. Samples are sent to a WADA – accredited laboratory, which will adhere to the International Standard for Laboratories when processing samples, ensuring the chain of custody is maintained at all times. “A” sample is analyzed. “B” sample is curly stored and may be used to confirm an Adverse Analytical Finding from the “A” sample. The laboratory will report the results of sample analysis to NADA and WADA.

IF YOU ARE A MNOR OR AN ATHLETE WITH A SPECIFIC TYPE OF DISABILITY, YOU MAY REQUIRE SLIGHT MODIFICATIONS TO THE SAMPLE COLLECTION PROCEDURE.

= Minors may be accompanied by an athlete representative at all times & during the sample collection procedure, including in the washroom area; however, the representative will not witness the passing of the sample.

= If you have restricted mobility or restricted manual dexterity, you may ask the athlete representative or the DCO to assist you with mobility when handling equipment, splitting the sample, or completing paperwork.

= Athlete with cerebral palsy or significant lack of coordination may use a larger collection vessel if available.

= Athlete with visual impairment may be accompanied by an athlete representative at all times during the sample collection procedure, including in the washroom area; however the representative will not witness the passing of the sample. The athlete representative or the DCO may read the doping control form to you, and you may ask the athlete representative to sign the doping control form on your behalf.

= Athlete with an intellectual disability may be accompanied by an athlete representative at all times during the sample collection procedure, including in the washroom area however the representative will not witness the passing of the sample.

= Athlete using condom drainage or indwelling catheter drainage should remove the existing collection bag and drain the system so that a fresh sample can be obtained.

= Athlete who self catheterize may use their own catheter to provide a sample, or use one provide at the CO if available.

Conclusion :-

Doping controls or athlete testing are carried out in accordance with the Code and the International Standard for Testing. Athletes who compete at the international and national level may be tested anytime, anywhere. Specially trained and accredited doping control personnel carry out all tests. NADA is responsible to implement an effective number of in competition and out of competition tests on the athletes in its registered testing pool. This includes international and national level athletes being tested by NADA. The NADA develops a test distribution plan and allocates the number of samples for each sport or discipline required for effective deterrence. The plan includes out of competition testing, in competition testing, and may include blood as well as urine collection.

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“Capability And Performance Of Phei Coaches In The Division Of La Union: Input To Coaching Capability Enhancement Plan (Ccep)”

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Introduction

Coaching is a very popular aspect of physical education work. It has created a field for future physical educators. When done well, coaching can be a very important type of teaching. It affects students for much of their (Freeman 1997).

As we enter the new millennium, many changes have taken place in the world of sports coaching. The challenge of producing excellence in sports is now well recognized as requiring highly skilled academically qualified coaches. However, there are limited opportunities for coaches to formally gain skills with appropriate knowledge in helping athletes to develop new skills. Due to this limitation, sometimes in the school setting, coaching assignments is given to a person who is not competent in the particular sport. This diluted approach, which may be the only alternative to not offering the program at all, results in the supervision of students in a self-teaching exercise without the benefit of subject specialist to guide effective learning experience.

In the local educational setting particularly in the private Higher Education, it has been observed that sports coaching are commonly entrusted to school personnel who have little athletic experience and lack the various educational qualifications as well as the knowledge and competencies of a scientific coach. This coaching predicament often results to a mediocre performance of many private Higher Education Institutions in the region. This sports coaching predicament prompted the researcher to analyze the profile of varsity coaches, their capabilities and level of performance and use the findings as an input to improve coaching performance in particular and the sports development of PHEIs in the division of La Union in general. The researcher drew some concepts on coaching as basis for this research. Wuest (2006) for instance, stated that the coach, like any other professional, can only attain his goals if he possesses the basic interest and capabilities and acquires the skills and knowledge. Like any other teacher, the coach is affected or influenced by several factors that may affect his/her level of performance as an athletic coach. These include his personal and professional, work-related assignments, coaching capabilities, exposure to his environment, and aspirations in life.

The conceptual model of this study, therefore, is based on the assumption that there are capabilities of coaches that significantly affect their coaching performance. Thus, the independent variables for this study are the coaches' profile that includes personal, professional, and work-related factors of coaches as well a coaching capabilities in terms of social, technical and leadership skills. The dependent variable of study is the coaching performance measured in terms of competition results, athletes' development, and the benefits gained by the institution.

The identified level of performance of the coaches was then used as basis in designing a capability-enhancement program for coaches in private Higher Education Institutions (PHEIs) in the Division of La Union. Since this study analyzed the profile, coaching capabilities and level of performance of coaches of private Higher Education Institutions (PHEIs) in the Division of La Union the researcher sought answers to the following problems:

What is the profile of varsity coaches of private Higher Education Institutions in the City of San Fernando in terms of the following factors?

Personal and Professional Factors

Sex, Age, Civil Status, Highest Educational Attainment, Length of coaching experience, In-service trainings attended, Work-Related Factors, Teaching Load, Quasi-assignments, Number of teams coached, Extension service activities

What is the level of coaching capability of the coaches as assessed by the athletes and coaches themselves with respect to?

Social capability, Technical capability, Leadership capability

What is the level of coaching performance of coaches as assessed by varsity athletes in terms of the following?

Competition performance, Athlete's development

Benefits gained by the institution

Is there a significant difference between the assessments of varsity athletes and coaches on the coaching capability and level of performance of coaches?

Is there relationship between the level of coaching performance of the coaches and each of the following factors?

Profile of Coaches, Personal and professional, Work-related, Coaching Capabilities, Social, Technical Leadership
What coaching capability-enhancement plan may be developed to improve the coaches' performance?

This study also tested the following hypotheses:

There is no significant difference in the assessment of coaches and athletes on the coaching capability and level of performance of coaches.

There is no significant relationship between coaching performance and each of the following factors;

Profile of Coaches, Personal and professional, Work-related, Coaching Capability, Social, Technical Leadership

Review Of Literature

Coaching is both a science and art which involves a wide field of knowledge and abilities which are well-coordinated to help aspiring athletes achieve their potentials. Cassidy (2004) states that the role of a coaching is to direct and manage the process that leads to the achievement of identified and normally agreed goals. To achieve this, Miles (2000) cites that a coach can influence the development of his participants in several ways namely: *technically* by developing good technique and learning new skills; *physically* by improving physical condition and developing good all-round health; *socially* by learning to cooperate and compete with others; *psychologically* by learning to control emotions and develop self-esteem; and *personally* by promoting their own welfare, learning life skills, managing personal affairs, and developing sound values and attitudes.

Mackenzie (1997) explained that there are two main coaching styles; autocratic (do as I say) and democratic (involves the athletes in decision making). Coaches will use a variety of styles depending on the coaching situation. Cassidy (2004) cited six coaching methods or styles namely: *direct method/authoritarian style, task method/democratic style, reciprocal method/tuakana-teina, guided discovery method, and problem solving method.*

Frost (2009), on the other hand, suggested in his study that in all kinds of sports, there are characteristics that successful coaches share. His study showed that the top four characteristics of successful coaches are: a) the quality of practice, b) communicating with athletes, c) developing athlete's sports skills, and d) posing strong knowledge of the sport.

Existing studies reveal the extent of influence of coaches to the performance of athletes and coaches themselves such as that of Batinay (2008) who determined the level of performance of Wushu athletes in the Cordillera, Guinmtad (2006) who determined the extent of effectiveness and efficiency of teachers coaching athletics in terms of coaching skills/styles, performance and training program; Golez (2005) who determined the coaching competence and attitude of secondary school coaches towards the school sports program; Cariño (2003) who studied the socio-demographic profile of instructors; their level of performance in instruction, publication, extension services, and coaching performance; Claur (2006) who assesses the typology, level of competence, and styles of major and allied sports coaches in various BBEAL-member HEIs in Baguio City and Benguet; and Calicdan (2001) who analyzed the performance of varsity coaches of HEIs in region 1.

Other studies were devoted to the implementation of the program such as that of Jacob (2003) whose study aimed at finding out the status of the sports program and sports culture of DMMMSU; and Patacsil (2003) whose study centered on the analysis of the implementation of the physical education program in the private secondary school of La Union using the SWOT approach.

Compared with the study of Batinay (2008) on the profile of athletes, their performance level & factors that affect their performance; of Guinmtad (2006) on the efficiency & effectiveness of teachers coaching athletes in terms of coaching styles, performance and training strategies; and of Claur (2006) on the typology and level of competence of college physical education teachers with the end view of coming up with a comprehensive coaching program, this current study also deals with coaches competence but the expected output is focused on the Capability Enhancement Plan for coaches in the tertiary level.

All the cited studies have relation and similarities with the presented study as they dealt with the profile factors, competence, capabilities and extent of performance of varsity coaches.

Methodology

This study made use of the descriptive design. It described the profile of the coaches in the Private Higher Education Institution (PHEIs) in the division of La Union in terms of personal and professional factors, work-related factors, coaching capabilities, and coaches' level of performance. It also compared the perceptions of coaches and athletes on the coaches' capability and level of performance. It further established the relationship between the independent variables, are coaches' profile and capability and the dependent variable, which is the coaching performance.

The respondents of this study consisted of 46 coaches and 380 athletes of the 12 Private Higher Education Institutions (PHEIs) who are members of the La Union private Colleges Athletic Association (LUPRICAA) in the division of La Union. The representative sample for coaches and athlete respondents was determined using Lynch formula employing the proportional allocation method.

The researcher made use of survey-questionnaire as the main instruments in gathering the needed data. The questionnaires were used to gather the perceptions of coaches and athlete in the Private Higher Education Institutions in La Union. These were constructed by the researcher in accordance with the objectives and specific questions in the study.

The content validity of the instrument was established based on the evaluation done by five (5) private and public colleges and university sports directors/coordinators. A computed average weighted mean of 4.48 by the five raters indicated a high degree of content validity. In addition, the pooled judgment of the experts on coaching traits and capabilities on coaches' leadership styles on coaching evaluation on coaching competence strengthened the validity of the instruments used.

After gathering the data, the researcher encoded, tabulated, organized, computed, analyzed and interpreted them in accordance with the stated problems of the study.

The problems are as follows: (1) the profile of the varsity coaches in terms of personal, professional and work-related factors, the profile of the coaches was described in terms of frequency, mean and percentage distribution. (2) The perception of athletes and coaches on the capability of coaches in terms of their social, technical and leadership skills. These were described using frequency count and average weighted points (AWP). (3) The level of performance of the coaches. Frequency count and AWP was used. Each performance indicator was described in terms of mean scale value and then interpreted with respect to the scale used. (4) The significance of the difference in the perception of athletes and coaches. The t-test of independent means was employed to determine the significance of the difference between the perception of athletes and coaches in terms of the coaches' coaching capability and level of performance. (5) Significant relationship between performance of coaches and personal factors, work-related factors, and coaching capabilities.

The Pearson product Moment- Correlation was employed to establish the relationship of coaches' level of performance and each of the personal and professional factors, work-related factors and coaches' capabilities. The level of significance was set at 0.05 alpha.

Results And Discussion

As to the profile of the varsity coaches, it has been found that majority (59%) of the respondents are middle aged adults, married (54%), and 54% of them are generally new to their coaching assignment. There are 56% of the respondents have more than 18 work-load units and 82% have handled 1-2 teams. Those who rendered extension services were 61%. Many (37%) are non-Masters degree holder, have not attended sports trainings or seminars (31%), and holds chairmanship in unit or department level (30%).

In terms of their coaching capabilities, the coaches rated their capability "very high" along the three components: for social (AWP=4.46), for technical (AWP=4.26), and leadership (AWP=4.41). On the other hand, the athletes rated the coaches' capability differently along the three components: "very high social capability" in social (AWP=4.23), "high technical capability" (AWP=4.08), and moderate capability" (AWP=3.35) on leadership. Overall, the coaches rated themselves as "very highly capable" while the athletes rated them "highly capable".

Data also showed that both the coaches and athletes rated the overall performance of coaches as "fairly satisfactory" based on the average weighted means of 3.61 and 3.53 respectively.

It has been found further, that the two groups of respondents differed significantly on their perception of the coaches' capability along social, technical and leadership components as indicated by computed p- values which proved to be significant at 0.01 alpha level. They also significantly differed on their perception of the coaches' performance in terms of the athletes' development and the benefits gained by the institutions based on the computed p-values which proved to be significant at .05 and .01 alpha levels.

Also, the profile factors namely age, highest educational attainment, coaching experience, membership to sports associations, and trainings/seminars attended correlated positively to coaching performance measured in terms of “competition results”. Profile factors such as teaching load, quasi-assignments, number of teams coached, and extension services rendered correlated negatively with coaching performance measured in terms of “competition results”. On the other hand, the profile factor namely; membership in sports associations correlated positively with coaching performance along the athletes’ development indicator, while teaching-load, quasi-assignments, number of team coached and extension services correlated negatively with the “benefits gained by the institution indicator”. Capability factors along “social” and “leadership” skills correlated with “competition results” and “athletes’ development” performance indicators.

The technical capability factor correlated with “benefits gained by the institution” performance capability indicator.

Conclusions And Recommendations

Based on the findings of the study, the following are the conclusions drawn:

Mandatory of the coach- respondents are middle aged older adults, married, new to their coaching assignments, handles 1-2 teams, render extension services, and have more than 18 work-load units. Many are non- Masters Degree holder, hold chairpersonship in units and department levels, members in single sports organization, and have not attended sports seminars or trainings.

In general, the coaches believe they are “very highly capable” while the athletes view the coaches “highly capable” in terms of the social, technical, and leadership skills of the coaches.

The overall coaching performance of the coaches was rated “fairly satisfactory”.

The two groups of respondents differed significantly in their perceptions of capability and performance of the coaches.

The profile factors of the respondents namely personal, professional and work-related affect coaching performance. Likewise, the social, leadership and technical capability of the coaches affect their coaching performance.

From the results of what has been investigated, the researcher therefore, recommends the following;

The profile factors that were found to be positively correlated with coaching capabilities and performance should be taken into consideration by coaches. This included more coaching exposures, attendance to seminars and trainings, and membership to various sports associations in the regional and national level. Profile factors that are negatively correlated with capability performance should be looked into by administrators. This includes normalizing teaching load, reducing quasi-assignments, and giving coaching assignment to only one team at a time.

Having been described as only rated fairly satisfactory in their performance, PHEIs coaches should endeavor to enhance their coaching performance to produce better competition results and contribute more benefits to their respective institutions. The proposed coaching capability enhancement plan (CEP) is recommended for adoption by the individual coach or the institution.

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Impact Of 'Earthing' On Human Body

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Introduction:

Grounding or Earthing is a term generally used in the field of electricity. Earthing is also known as Grounding means, keeping the electrical line in contact with the ground to prevent electrical shocks or to safeguard the electrical gadgets from the excess electrical flow. Many studies are conducted to know the effect of ground contact on human body. Living in direct contact with the earth grounds our body, inducing favourable physiological and electrophysiological changes that promote optimum health. The primitive man had the privilege to be in contact with ground and got all the advantages of the same. But modernisation and sophistication has lead us to loose direct contact with the ground. Wearing shoes/footwear has become essential to prevent the foot from injuries and to protect us from extreme heat and cold climates. Traditional leather shoes that allowed contact between the Earth and our feet are replaced with synthetic nonconductive materials. Gradually, walking barefoot became a socially unacceptable practice. Using wooden floors, floor carpets, cots, wooden and plastic furniture have resulted into loss of direct contact with the ground. Our body is conductive because it contains a large number of charged ions (called electrolytes) dissolved in water. The blood and other body fluids are good conductors. All the elements we take into our body, like oxygen, sodium, potassium, calcium, magnesium etc. have a specific electrical charge- meaning they have a specific number of electrons and protons. Different chemicals are made up of different molecules. How those molecules are bound together, and how they react to other molecules is how chemicals create such energy. Activities of the billion of neurons in sending, receiving, and interpreting information from all parts of the body is caused because of the electrical signals. Everything we do is controlled and enabled by electrical signals running through our bodies.

Negativity is the natural resting state of the cells. It's related to a slight imbalance between potassium and sodium ions inside and outside the cell, and this imbalance sets the stage for the electrical capacity. Cell membranes exchange ions often referred to as the sodium-potassium gate. When the cell needs to send a message to other, it opens the gate. When the membrane gate opens, sodium and potassium ions move freely into and out of the cell. Negatively charged potassium ions leave the cell, attracted to the positivity outside the membrane, and positively charged sodium ions enter it, moving toward the negative charge. The result is a switch in the concentrations of the two types of ions -- and rapid switch in charge. It's kind of like switching between a 1 and 0 -- this flip between positive and negative generates an electrical impulse. This impulse triggers the gate on the next cell to open, creating another charge, and so on. In this way, an electrical impulse moves from one nerve to the other. A Body Voltage Meter can determine how much electricity is being induced in us when we are not in contact with the ground and how much electric charge is reduced when we are in contact with the ground.

The electrical properties of the body gets influenced by the electrical field around it and causes imbalance in the properties of the body which can disturb the health of a person. With the high prevalence of Electromagnetic waves, Wi-Fi and mobile phone waves in the environment can cause high amount of positive electrons in our body which may cause inflammations and escalate the degenerative process in the body. Further, the immune system of our body, that delivers Reactive Oxygen Species (ROS) at the site of injury, which is effective at the task of killing bacteria can also damage our healthy tissue. ROS are usually positively charged molecules that need to be neutralized immediately to prevent them from damaging the healthy tissue. It is evident that the positively charged free radicals in the body causes inflammation. That is one of the major reasons why our body needs an abundant supply of negative charges.

Earth is a natural source of electrons. Constant contact with ground can improve subtle electrical fields which are essential. When the human body is electrically grounded to the earth, random static charges and foreign electromagnetic fields immediately bleed off into the earth and the negative electrical charges of earth becomes a constant source of free electrons to flow into our body. The studies indicates that ground contact is an effective inexpensive, and easiest method to attain antioxidants. Different studies were conducted to examine the benefits of ground contact. Some of the studies indicate that we sleep better after walking in the sand or being in the direct contact with the waters of the ocean because the sand and ocean water are naturally conductive materials and both help ground the body and remove excess positive electrons. The human body, when it is in direct contact with the earth, the body becomes suffused with negative charged free electrons and equalizes to the same electric energy level as the earth. Some studies indicate that the earthing has positive influence on zeta potential levels of the body fluids i.e. blood and serum. Increase in zeta potential levels reduces the viscosity of the blood and increase the mobility of the transporting system to improve the nutritional supply within the body. Further the studies indicate that the earthing during exercise inhibits hepatic protein catabolism or increases renal urea excretion. Earthing during exercise affects protein metabolism, resulting in a positive nitrogen balance. The researchers proclaim the following health benefits of grounding as reduction of inflammation, chronic pain, stress, muscle tension and headache; Improving Sleep, increasing Energy, Lowering and promoting calmness by reducing stress hormones, Normalizing biological rhythms including circadian rhythm, Improving blood pressure and blood flow, lessens menstrual and female hormone symptoms, Speeds healing, eliminating jet lag, protecting the body from EMFs, Shortening of recovery time from injury or athletic activity, reducing or eliminating snoring, support adrenal health. Realising the need people in USA started using the artificial gadgets like beds, footrests and chairs connected to the earthing wires. Many companies started developing the equipment for earthing.

It is evident that the earthing the human body is an essential element in the health equation and is an effective globally available natural intervention to slow down the mounting percentages of chronic degenerative diseases. However, more advanced controlled research studies needed to be undertaken to further establish the health benefits of earthing. Earth as a "global treatment table" may be a simple, natural, and yet profoundly effective environmental strategy against many common health disorders disease. Boomi, one among the five elements of Pancha bhoothas i.e. bhoomi, neeru, agni, vayuvu and akash which is available in abundance in nature can change the quality of life if we are in constant contact with it.

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A Study on Speed Abilities among Sprinters and Long Jumpers of Hyderabad

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Abstract:

The purpose of the present study to find out the Speed among Sprinters and Long Jumpers of Hyderabad. The sample for the present study consists of 30 Male Sprinters and 30 Male Long Jumpers of Hyderabad. To assess the Speed the 30 M Run Test Were conducted among Sprinters and Long Jumpers. It was found that Sprinters are having Just better Performance to Long Jumpers. There is no significant difference in the speed between sprinters and long jumpers.

Key Words: Sprinters, Long jumpers, speed etc.

Introduction:

Sprinting is the act of running over a short distance at (or near) top speed. It is used in many sports that incorporate running, typically as a way of quickly reaching a target or goal, or avoiding or catching an opponent. Human physiology dictates that a runner's near-top speed cannot be maintained for more than 30–35 seconds due to the accumulation of lactic acid in muscles. In athletics and track and field, sprints (or dashes) are races over short distances. They are among the oldest running competitions. The first 13 editions of the Ancient Olympic Games featured only one event—the stadion race, which was a race from one end of the stadium to the other. There are three sprinting events which are currently held at the Summer Olympics and outdoor World Championships: the 100 metres, 200 metres, and 400 metres. These events have their roots in races of imperial measurements which were later altered to metric: the 100 m evolved from the 100 yard dash, the 200 m distances came from the furlong (or 1/8 of a mile) and the 400 m was the successor to the dash or quarter-mile race. The three phases of sprinting are acceleration, running at full speed and running quickly while fatigued. These three stages take place during any type of sprinting,

Sprinting events are the fastest competitions in track. They happen so quickly, they may seem like a single sprinting stage. But sprinters -- including hurdlers and relay runners -- all go through three distinct phases: drive, maximum velocity and maintenance. The long jump (formerly commonly called the "broad jump") is a track and field event in which athletes combine speed, strength, and agility in an attempt to leap as far as possible from a take off point. This event has been an Olympic medal event since the first modern Olympics in 1896 (a medal event for women since 1948) and has a history in the Ancient Olympic Games.

There are five main components of the long jump: the approach run, the last two strides, takeoff, action in the air, and landing. Speed in the run-up, or approach, and a high leap off the board are the fundamentals of success. Because speed is such an important factor of the approach, it is not surprising that many long jumpers also compete successfully in sprints. There are three major flight techniques for the long jump: the hang, the sail, and the hitch-kick. Each technique is to combat the forward rotation experienced from take-off but is basically down to preference from the athlete. It is important to note that once the body is airborne, there is nothing that the athlete can do to change the direction they are traveling and consequently where they are going to land in the pit. However, it can be argued that certain techniques influence an athlete's landing, which can have an impact on distance measured. For example, if an athlete lands feet first but falls back because they are not correctly balanced, a lower distance will be measured

Methodology:

AIM: To find out the Speed between Male Long Jumpers and Male Sprinters of Hyderabad, Telangana, India.

Sample:

The sample for present study consists of 30 Male Long Jumpers and 30 Male sprinters between the age group of 19 to 22 years Hyderabad those who have participated in the Hyderabad District Athletics Championships and the O.U. Inter College Athletics Championships for the year 2014-2015.

TOOLS: 30 Meter Run is used to collect the data for speed .

30 Meters sprint Test:

Objective: To monitor the development of the athlete's maximum sprint speed.

To undertake this test you will require:

- Flat non-slip surface, Cones and Stopwatch
- Assistant

This test requires the athlete to sprint as fast as possible over 30 metres

- The athlete warms up for 10 minutes
- The assistant marks out a 30 metre straight section with cones
- The athlete starts in their own time and sprints as fast as possible over the 30 metres
- The assistant starts the stopwatch on the athlete's 1st foot strike after starting and stopping the stopwatch as the athlete's torso crosses the finishing line
- The test is conducted 3 times
- The assistant uses the fastest recorded time to assess the athlete's performance.

Results and Discussion:

The results of the Study shows that Sprinters are having good Speed Compare to Long jumpers. The Long Jumpers generally requires training in a variety of areas. These areas include Speed work, jumping, weight training, plyometric training, bounding and flexibility. The Sprinters also requires training to improve the technique, speed work, plyometric training, bounding etc to improve all the motor qualities. Both Sprinters and Long Jumpers requires good technical and conditioning training to excel in the performance.

Table: 1 Showing the Performance of Long Jumpers and Sprinters in 30 M Sprints.

Group	N	Mean	Std. Deviation	t	Sig.
Long Jumpers	30	4.619	0.224	0.484	0.630
Sprinters	30	4.592	0.217		

In Table –I the Mean Values of Long Jumpers is 4.619 and sprinters is 4.592. The Standard Deviation of Long Jumpers is 0.224 and Sprinters is 0.217 and t is 0.484. In spite the Sprinters mean is better than Long jumpers but they are very close to each other. There is no significant difference between Long Jumpers and Sprinters in Speed.

Conclusions:

It is concluded that Sprinters are having slightly higher speed Compare to Long Jumpers. The Sprinters and Long jumpers are both nearly equal in speed. Coaches must give Coaching to the sprinters and Long jumpers to improve their motor qualities to excel in the performance.

Recommendations:

Similar Studies can be conducted among females and in other events in athletics. This type of studies is useful for preparing the coaching and condition program for improvement of motor qualities among the long jumpers and sprinters.

Acknowledgements:

I am very thankful to Mr.A.Xavier, Athletics Coach of Osmania University for his help in accomplishment of the study.

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Effect of Plyometric Exercises for development of Speed among Foot Ball Players of Osmania University in India

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Introduction:

Plyometric training develops that explosive, elastic and reactive strength that All jumpers need to 'leave the ground'.The word Plyometric is derived from the Greek word 'pleythein' meaning to increase or from the greek roots 'plio and metric' meaning 'more and measure'.Plyometrics is an advanced training technique aimed at linking strength with speed of movement to Produce Power. By stretching a muscle and quickly contracting it enables a muscle to reach maximum strength in as short a time as possible. With plyometric training, we seek to train the body's fast-twitch fibre, so that they can load [stretch] more quickly, and in turn unload more quickly to produce more power.In terms of basic muscular physiology, a pre-stretched, or loaded muscle is capable of generating more force than an un-stretched one. Athletes who are more explosive are able to excel at football, because they can sprint faster and jump higher, giving them an advantage when trying to go up and get to a thrown ball, burst up the field and chase down defenders. Plyometrics are exercises that challenge your muscles explosively. With consistent plyometric training, football players can significantly increase their speed and power.Using plyometrics for soccer is one the most effective ways to increase explosive speed and power.Research has shown that a muscle stretched before contraction will contract **more forcefully and rapidly**. And that is basically what plyometric exercises do...They stretch muscles rapidly and then immediately demand a powerful concentric contraction. Let's break that last sentence down with a practical example...Imagine the jumping movement to win a header.The very first phase of this movement has to be a downward thrust. Try it. Try jumping off the ground without first bending your knees.As you "dip" down just before a standing jump you are stretching muscle groups like the quadriceps and hip extensors. These are the muscles that will contract very forcefully a split second later to produce the jump. Football is not just about strength.In fact speed training for football might be just as important as traditional weight lifting,the highest ranked players are more likely to outperform their peers in tests like the 10 yard and 40 yards sprints than they are in the squat or bench press.

Purpose of the Study

The purpose for the present study to find out the effect of plyometric exercises for development of Speed among Foot Ball Players of Osmania University,Hyderabad.



Foot Ball Players in action

Methodology:

The sample for the present study consists of 40 Male Foot Ball Players of Osmania University, Hyderabad out of which 20 are experimental group and 20 are controlled group between the age group of 17-21 Years. Plyometric exercises such as hopping, bounding, depth jumps, box jumps etc were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training for eight weeks. Pre Test and Post Test were conducted in 30 M Run among the Experimental Group and Control Group. Important Plyometric Exercises:

Discussion

The Results of the Study shows that due to the plyometric training the mean of Experimental group has come from 4.39 to 4.03 from pre test to post test. The controlled group mean has increased from 4.25 to 4.88 due to the general training. Plyometric training involves quick, powerful, jumping and bounding movements which helps in increasing the speed among foot ball players. Plyometric training must be given to foot ball players with a good training background and under the supervision of a coach or trainer. A Warm up should be through to ensure that the muscles are warm and ready to perform at such a plyometrics, otherwise it leads to the injuries among the foot ball players.

Important guidelines to bear in mind before commencing plyometrics for soccer.

Warm up with 5-10 minutes of light aerobic activity followed by 5-10 minutes of stretching to all major muscle groups. Perform plyometrics for soccer at the start of a training session before endurance training or lots of ball work. Muscles should be fresh.

Actions should be performed at high speed and with maximum intensity while maintaining high quality. For example, in jumping exercises, as your feet touch the ground you should explode upwards rapidly. Two minutes rest between sets is normal. Remember, the idea is not become fatigued. Keep good form. Two sessions per week with 24-48 hours rest between during the late pre-season are ample. One session a week is enough during the in-season.

Table I: Mean values of 30 M run test between experimental and control groups of Foot Ball players

Variables	Group	Pre Test Mean	Post Test Mean	t	P - Value
30 M Run Test	Experimental	4.39	4.03	2.58	0.000
	Control	4.25	4.88		

The Experimental Group of 30 M Run Men is 4.39 in Pre Test and Controlled Group mean is 4.25 in Pre Test. The Experimental Group Mean is 4.03 in Post Test and Controlled Group mean is 4.88, the Experimental Group mean in Post Test in 30 M Run is decreased from 4.39 to 4.03 there is a improvement of 0.36 from Pre Test to Post and Control Group Mean is post test is 4.88 there is a increase of 4.25 to 4.88 from Pre Test to Post, the performance is come down to 0.63 in the controlled group. Due to the Plyometric Training the Experimental group has improved a lot.

Conclusion

It is concluded that due to the plyometric training the foot ball increased in the speed. The foot ball players must have a good base level of fitness, especially strength, balance, speed, endurance before they begin the plyometric training program.

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Ways to Improve the Management of Health Promotion Projects of Sri Muang Chum Subdistrict, Maesai district, Chiangrai Province, Thailand.

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Introduction

The Tenth National Economic and Social Development Plan(2007-2017)was implemented in October 2006 with an emphasis on human development for people in local areas all over Thailand. One of the many initiatives of the plan was the “Green and Happy Society” campaign which was launched shortly after around the country. The campaign aimedtoenhance health, hygiene, and health education among local people. Leaders of SubdistrictAdministrative Organization (SAO) in each community co-operated to administer the campaign. Officers of these local administrative offices were sent out to inform local people about the objectives of the campaign as well as to gather public opinion about health improvement. Local committees were formed and meetings were convened to brainstorm ideas for health promotion projects and activities. Some examples of the projects and activities that local people created were the followings such as Mental health project for the elderly people, Cycling project, Aerobic dancing project and some campaign for motorcycle helmets wearing project etc. Training programs were made available to volunteers -especially those in remote areas - to equip participants with the skills required to aid in the promotionof the health message. Along with this campaign, health centers were set up in many places in order to provide health services and education as well as to support local people in running their health promotion projects and activities. Once health promotion projects and activities were underway in some local communities, local participants, administrative organizations, volunteers, and health centers expanded their network to other communities and covered a larger number of people, the majority of whom were poor(Office of the National Economic and Social Development Board, 2008).

While there were some material benefits to the health and wellbeing of local communities generated by the health promotion projects and activities, the health problems of the majority of people still remained. Previous studies also showed that 90 percent of poor peoplewerein poor health and 20 percent of the people did not have health insurance. (Board of The Ninth National Health Development Plan, 2001). In most cases, health insurance was a remedy that addressed the symptoms of problems that arose rather than preventing illness by addressing the causes. Therefore, prevention has become the focus of improvingthe health and wellbeing of local people and their communities.

In an ongoing effort to improve people’s health and wellbeing, the government has invested a lot of money in many health related projects all over the country. However, the number of unwell people is still very high. In other words, the returns of the investment are still not worthwhile. Every year, a high number of peopleexperience health issues from three main causes; accidents, heart disease, and cancer. The high number of unwell people has made the existing health centers, hospitals and good health care services inadequate. It is almost impossible to care for all people in need, especially the poor and those in rural areas. Consequently, raising awareness around how people can protect themselves from the adverse circumstances which lead to health problems is very importantin improving their physical and mental health as well as general wellbeing.

In helping people to improve their health and wellbeing, Sri Muang Chum Subdistrict Administrative Organization conducted 30 health promotion projects for people in its 9 villages which are homes to 2,107 households. Some examples of the projects are Mental health project for the elderly people, Cycling project, Aerobic dancing project and some campaign for motorcycle helmets wearing project etc. After the projects were carried out for a length of time, two major problems were found. Firstly, the disjointed nature of health schemes made it difficult for all concerned to work together cooperatively. Thus, coordination among responsible organizations was ineffective. Secondly, the villagers' interest in the health promotion projects had fallen. As a result of these two problems, there was less participation from villagers.

These circumstances demanded further attention and it was for this reason that I decided to investigate the problems with the aim of looking for ways to improve the management of health promotion projects implemented by Sri Muang Chum Subdistrict Administrative Organization. The area of study covered Sri Muang Chum Subdistrict, Mae Sai District, Chiang Rai Province. In this research, the concept of Health Promotions, defined by WHO at the first International Conference on Health Promotion in Ottawa on November, 21st, 1986, was employed as a guide line. The definition is as follows:

Health promotion is the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment. Health is, therefore, seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy life-styles to well-being.
(WHO, 1986)

In addition, the three key concepts of the Ottawa Charter, 1986, were also explored in this research because they have been used as guidelines for establishing strategies for health promotion around the world. The three key concepts are "Advocate", "Enable", and "Mediate". The first key concept "Advocate" suggests that health promotion action aims at making political, economic, social, cultural, environmental, behavioral and biological factors favourable through advocacy for health. The second key concept "Enable" focuses on the need for people from all walks of life to achieve equity in health. It suggests that health promotion action aims to enable all people to attain their fullest health potential. The third Ottawa Charter's key concept "Mediate" addresses the need for coordinated action by all concerned. It suggests that "professional and social groups and health personnel have a major responsibility to mediate between differing interests in society for the pursuit of health" (Saari, H. and Wise M, 2011: ii191-ii192). Apart from these concepts, the notion of community development and the concept of management and administration in local areas were also taken into account because these two concepts are relevant to developing a more systematic and effective way to manage project implementation in rural areas.

Method

This study is qualitative research. Data was collected in two ways; documentary research and field research. The documentary research method was carried out at the beginning of data collection process. Information about Sri Muang Chum SAO and its management of health promotion projects was collected. In addition, informative data about health promoting systems including health promotion policy, plans, projects and outcomes of projects implemented in Sri Muang Chum Subdistrict were collected from existing documents and publications. As for the field research, some special techniques including observation, interviews, focus group discussions, questionnaires and meetings were employed. Sixty eight representative samples were divided into the many sectors they were representing, i.e. health volunteers, village chiefs, local people living in the same area, the chief executive of Sri Muang Chum SAO, chief administrator of Sri Muang Chum SAO, and officers of Sri Muang Chum SAO. Various methods of collecting and analyzing the data were employed and were carried out in the following steps. The *first* step was to gather some general information about Sri Muang Chum Subdistrict area and its SAO's working process on health promotion. After that, meetings with key persons were arranged in order to obtain cooperation in conducting this research. The *second* step was the process of conducting focus group discussions, interviews and exchanging views of people who participated in health promotion projects implemented in their communities. This step aimed to collect more information about health promotion projects and problems encountered.

During this step, participatory observation and non-participatory observation were also carried out. The *last* step, which happened after all necessary data and information had been collected, was interviewing some key informants including the chief of administrator of Sri Muang Chum SAO and the chief executive of Sri Muang Chum SAO about the working process and problems encountered when implementing the health promotion projects. A set of questionnaires was also given to the key informants in order to secure and validate the information collected verbally through the interview. The information gained from these steps, especially about the problems, was analyzed and used to formulate suggestions for improving the management of the health promotion projects in the communities.

Findings

The findings of the study are presented as three main points:

1. Situations and challenges concerning health promotion in Sri Muang Chum Subdistrict
2. Problems concerning the management of health promotion in Sri Muang Chum Subdistrict.
3. Possible ways to improve the management of health promotion projects in Sri Muang Chum Subdistrict

1. Situations and challenges concerning health promotion in Sri Muang Chum Subdistrict

Sri Muang Chum Subdistrict is located in Mae Sai District, Chiang Rai province. It is one of the communities that has adopted the policy 'Human development in all dimensions' endorsed in The Tenth National Economic and Social Development Plan (2007-2017). In implementing the policy concerning human health and wellbeing development, the concerned organizations, including Sri Muang Chum SAO and Sri Muang Chum Public Health Service Center, initiated health promotion campaigns in order to promote good health and wellbeing of people in the community. Despite the launch of various health promotion campaigns and projects, the outcome failed to meet their expectations. Some major challenges were: the lack of smooth continuity in their operation; the lack of participation from people in the community; the lack of coordination of responsible officers; and an inadequate number of public health personnel. Remarkably, Sri Muang Chum Public Health Service Center has only two medical personnel to serve 4,887 people in the whole community.

2. Problems concerning the management of health promotion in Sri Muang Chum Subdistrict.

In terms of the management of health promotion campaigns and projects, it was found that each concerned organization and medical sector in Sri Muang Chum Subdistrict had no systematic cooperation with the other. Consequently, there was some overlap and redundancy in their operation as well as in project activities. Another factor that hindered the campaign and project management was an inadequate budget given to each community area. In addition, the lack of knowledge and information about the campaigns resulted in low interest from and participation of local people in each health campaign or activity. Also, the volunteers' lack of enthusiasm in continuously engaging in the projects was another challenge to project management. Furthermore, there were no monitoring, assessment nor mentoring mechanisms for each project or activity. Lastly, as a result of inadequate budgeting and the low number of health personnel, accessibility to health promotion projects was not made available to all people in the community. Therefore, it was inevitable for organizations to encounter challenges in driving the national health promotion policy to meet the guidelines of WHO. Although Sri Muang Chum SAO had formerly conducted 30 health promotion projects for people in the community, it was found that health strategies for building healthy public policy, creating supportive environments for health, strengthening community actions, and developing personal skills were not implemented.

3. Possible ways to improve the management of health promotion projects in Sri Muang Chum Subdistrict

From the actual circumstances and problems mentioned above, meetings were arranged to gather public opinion from the stakeholders in order to find possible ways to effectively manage health promotion projects in the community. Some suggestions are listed as follows:

There should be a proper and clear plan for health promotion campaigns so that all concerned sectors and individuals have the same understanding and be able to cooperatively drive the campaigns to success.

Health promotion projects should be made clear to all concerned sectors so that each sector can design an efficient operating system and thus reduce redundancy and overlap in managing the projects.

There should be an efficient way to inform all people in the community about health promotion projects available to them. This should include information about their health and what activities and services are available for them to improve their health and wellbeing. When people are well-informed, they will have an equal opportunity to participate in health promotion projects. Health project volunteers should be recruited carefully and be given appropriate training if needed. Volunteers should have suitable knowledge, skills, and attitude to be involved in the health promotion projects. Along with the campaigns, publications containing information about health care and wellbeing should be made available and accessible to all people. This will help people become more knowledgeable of how to take care of their own health and wellbeing. Assessment of the project outcomes should be designed and implemented. In order to receive adequate funding to implement the projects, budgetary plans should be made prior to applying for funds from the government. Necessary cost in regard to medical equipment, public relations materials and fees or expenses for some specific activities should be thought about carefully in planning budgets. There should be a system of accountability to insure a proper use of funds for the benefit of all people. Concerned organizations should also consider seeking grants from the private sector to ensure a smooth delivery and management of the health promotion project.

Summary

This qualitative research examined the management of health promotion projects in Sir Muang Chum Subdistrict, Mae Sai District, Chiang Rai province. The main objective of this research was to investigate problems of the health projects and suggest ways to improve the management of the projects. The research methods included documentary analysis, purposive sampling, participant observations, key informant interviews, in-depth interviews and focus group discussion. Questionnaires were also used as a research tool to validate data.

To sum up, in order to improve the implementation of the projects, some important aspects require attention. Firstly, clear health promotion plans and strong coordination among concerned organizations must take place. Secondly, the involvement of people in the community is vital. Tianghongsakul (1986) stressed that to develop a community what is necessary is the complete involvement of all members of the community. The research makes it clear that without an involvement of all people in the community throughout the entire process, it is impossible to successfully implement a project in the community. Thirdly, a clear selection criteria for recruiting public health personnel and volunteers is needed. Another important aspect is public relations. Publicity of the projects and publications regarding health and wellbeing must be made available and accessible to all people in the community. In addition, budgetary plans and accountability systems need to be formulated carefully prior to application for funds and grants from both government and the private sector. It was suggested that the finance division of Sri Muang Chum SAO seek grants from the private sector so that the projects can be made accessible to a larger number of people in the community. Last, but not least, assessment plans must be made and implemented in order to assess the outcomes of the projects.

It is hoped that the findings and suggestions of this research bring improvement to the implementation of health promotion projects in Srimuang Chum Subdistrict as well as in other communities for the quality of health available and its equitable distribution to all people.

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The Effectiveness Of Teaching Games For Understanding (Tgfu) In Improving The State Of Self Confidence Among 16 Years Old School Boys

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Abstract:

This study was conducted to examine the effectiveness of Teaching Games For Understanding (TGFU) in improving the state of self confidence among 16 years old school boys. Sixty (60) of 16 years old school boys were selected for the study based on the intact sampling method. One class was used as the control group (n=30), while another class as the treatment group (n=30) which underwent intervention with TGFU in physical education class conducted twice a week for 4 weeks. After 4 weeks, Mann Whitney Test was carried out and there was a significant median difference between treatment group (Md = 5.85, n = 30) and control group (Md = 4.46, n = 30), U = 98.00, z = -5.21, p <.05, r = .09. This indicates that TGFU in a 40 minutes physical education class conducted twice a week for 4 weeks can significantly improve the state of self confidence among 16 years old school boys in a school. Some recommendations were suggested for future research.

Keywords: Teaching Games For Understanding (TGFU), Tradisional Teaching, State Self-confidence, School Boys

Introduction

Physical Education (PE) currently emphasizes teaching and learning that encompasses the students' skills, fitness, knowledge and attitudes (Butcher&Wuest, 2009). The aim of PE is to ensure the students could master the games (Butler &McCahan, 2005; Chow, Davids, Button, Shuttleworth, Renshaw, & Araujo, 2007). Self-confidence is one of the criteria to ensure the students' success in mastering the hockey game. Self-confidence is a process of encouraging that may affect the effectiveness of individuals achievement (Bandura, 1986). Bandura (1986) has also highlighted four factors that influence the self confidence such as verbal persuasion, individual physiology, performance and experience in PE classes. Studies of self-confidence in sports have been conducted (Bagherpour, HairulAnuarHashim, Asok Kumar Saha& Ghosh, 2012; Bjom, 1995; Callow & Water, 2005; Callow & Hardy, 2007; Lim, 2008; Lim & Singh, 2010; Lim & Singh, 2011; Magyar &Feltz, 2003;Morrison, 1999; Woodman, Akehurst, Hardy, & Beattie, 2010), but studies of self confidence among students in PE classes are still limited (Balakrishnan, 2011).

There are some Teaching Models in PE such as the Direct Instruction Model, Personalized System for Instruction Model, Cooperative Learning Model, Sport Education Model, Peer Teaching Inquiry Teaching Model and Teaching Games For Understanding (TGFU) (known as Tactical Model) (Bunker & Thorpe, 1982; Blomqvist, Luhtanen, &Laakso, 2001; Mosston& Ashworth, 2002; Rink 2010; Werner, Thorpe, & Bunker, 1996). Although there is no study that reported dominant teaching model used in the teaching of PE, the common teaching model used is the Direct Instructional Model (known as Traditional Teaching Model) (Balakrishnan, 2011; Metzler, 2000; Zuber Hassan, 1999).

Direct Instructional Model (Traditional Teaching Model) is teacher centered (Bunker & Thorpe, 2010; Metzler, 2000). Physical Education teachers use direct instruction in teaching the skills of a game to the students. Therefore, the process of teaching the game is more organized and controlled. Teachers have control in the process of teaching the game and students' game techniques can be corrected during the process of teaching. Teachers also emphasize drills to the students so that students can master the entire skills of the game. Teaching process is very structured and organized and it helps teachers to manage their teaching time more effectively.

The structured and organized Traditional Teaching Model does not give pleasure to the students (Bunker & Thorpe, 2010). This is because the drills or repeated skills can easily cause students to feel bored and trapped in the process of learning (Balakrishnan, 2011). Recent studies show that students' interest in games in PE is dwindling (Balakrishnan, 2011; Sanmuga, 2008). This is because the Traditional Teaching Model employed by the teachers are not so inclusive (Thorpe & Bunker, 2010). Students cannot get to experience the actual game play and the skills gained from the drills are not applicable in real game situations. The TGFU approach (Tactical Games Model) has been introduced to ensure that students' achievement could be increased to the optimum level (Liu, 2003; Thorpe & Bunker, 2010). TGFU is able to improve overall student achievement in the games (Balakrishnan, 2011; Bunker & Thorpe, 1982; Butler & McCahan, 2005; Kirk & Macdonald, 1998; Liu, 2003; Mitchell, 2005; Mitchell, Griffin, & Oslin, 2006; Moreno, Lopez, Diaz, & Martinez, 2011; Rovegno & Dolly, 2006; Sanmuga, 2008; Psotta & Martin, 2011; Webb & Pearson, 2008). TGFU is a student-centered approach (Bunker & Thorpe, 2010; Oslin, Mitchell, & Griffin, 1998). In TGFU, pupils are given the autonomy to make decisions such as the selection of members and playing equipment. Autonomy given for students to participate in the modified games tailored according to the requirements of the students opportunity, understanding of the game can improve learning outcomes in PE class (Balakrishnan, 2011; Pangrazi & Casten, 2007; Richard & Wallie, 2005; Sanmuga, 2008). TGFU can also improve student knowledge and understanding a whole of the game aspects (Balakrishnan, 2011; Bunker & Thorpe, 1982; Mitchell, 2005; Webb & Pearson, 2008).

TGFU has been carried out for school children in schools (Balakrishnan, 2011; Sanmuga, 2008; Sanmuga, 2010; Sanmuga & Khanna, 2012a, 2012b; Sanmuga, Ahmad Hashim, Ong, Abdul Rahim Shariff, Mohd Sani Madon, & Nelfianty AbdRasyhid, 2013). However, there is very few studies of TGFU conducted by researchers in PE classes, especially in the state self confidence among 16 years old school boys in hockey game. Thus, a study should be conducted to see the effect of TGFU and Traditional Teaching method in improving state self confidence among 16 years old school boys in PE classes.

This study was conducted to investigate the effects of TGFU Model and Traditional Teaching Model in improving state of self-confidence among 16 years old school boys in hockey game in PE classes. The purpose of the study conducted were:

1. To investigate the mean scores of the state of self-confidence between the treatment group and the control group among 16 years old school boys in PE classes.
2. To investigate the differences in median scores of the state of self-confidence between the treatment group and the control group among 16 years old school boys in PE classes.

Methodology

This study is a quantitative study using a quasi-experimental methods involving the control group and the treatment group with pre-test and post-test (Gay, 1992; Gay & Airasian, 2000). A total of 60 boys aged of 16 years in a school in a district in Malaysia were selected through intact sampling. A total of 30 school boys in one class were used as the control group, while another 30 students were used as the treatment group. The treatment and the control groups were subsequently determined through simple random sampling technique. The treatment group underwent the TGFU for 40 minutes in hockey game in PE classes twice a week for 4 weeks. Meanwhile the control group underwent the Traditional Teaching of hockey game in PE classes as usual twice a week for 4 weeks.

Instrument

State Self Confidence Inventory (SSCI) by Vealey (1986) was used to observe the state of self-confidence among school boys in the hockey game in PE classes. This instrument consists of 13 items using a Likert scale from one (low) to nine (high). The validity and reliability of SSCI is more than 0.95 (Vealey, 1986; Woodman et al., 2010). The pilot study that was conducted on 33 school boys in schools that have the same characteristics indicates the reliability of 0.88.

Procedure

Letters of authorization from the Division of Educational Planning and Research, Ministry of Education Malaysia, State Education Department and District Education Office were submitted to the principal of a school for the study purpose. Participation is voluntary and the consent of the parents of all subjects were obtained as subjects were under age. Control and treatment groups consisted three boys in a group. The treatment group were going against the control group in real situations game for three minutes. Respondents were given 25-30 minutes to complete the SSCI. The responses were based on their true feelings and the subject compared their state of confidence with the school athletes' state of confidence in the hockey game.

After the pre-test, the control group underwent the learning of hockey game in PE as usual; five-minute warm-up activity, followed by activities progression, small games and cooling down activity. This learning session lasted for 40 minutes twice a week for 4 weeks. Meanwhile the treatment group underwent the TGFU for 40 minutes twice a week for 4 weeks in PE classes. After 4 weeks, the post test was administered to the treatment group and the control group according to the procedure for the pre-test.

Data Analysis

Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 20.0. After four weeks following the Traditional Teaching and TGFU classes in a hockey game for 40 minutes twice a week, a descriptive analysis was used to see the mean scores of the state of self-confidence among the respondents in the control group and the treatment group. Mann Whitney test was used to determine the differences in median scores of the state of self-confidence between the control group and the treatment group among school boys in a school.

Results

Table 1: State Self Confidence Mean Scores Of Treatment And Control Group

Variable	Treatment Group (n= 30)		Control Group (n= 30)		
	Pre Test	Post Test	Pre Test	Post Test	
State Self Confidence	Mean	4.86	5.97	4.31	4.55
	SD	1.13	0.81	1.13	0.91
	Skewness	0.63	0.04	0.78	1.40
	Kurtosis	-0.95	-1.18	1.91	2.40

Table 1 shows the state self confidence pre test mean scores of the treatment group was (Mean= 4.86, SD= 1.13) and post test was (Mean= 5.97, SD= 0.81). While the pre test mean scores for the control group was (Mean= 4.31, SD=1.13) and post test was (Mean= 4.55, SD= 0.91). After four weeks, enhancement mean scores of treatment group was 1.11 while the control group was 0.24. Normality test for skewness (± 2.00) and kurtosis (± 2.00) showed abnormal for the post test of control group (Kurtosis= 2.40). The normal Q-Q plot, detrended Q-Q plot and box plot had showed abnormal. Kolmogorov-Smirnov test and Shapiro-Wilk was ($p < .001$). It shows that the two groups were not similar. This shows the non-parametric test (Mann Whitney Test) must be carried out to see the differences of state self confidence between treatment group and control group.

Table 2: State Self Confidence Mean Rank Of Treatment And Control Group

Ranks				
State Self Confidence	Group	N	Mean Rank	Sum of Ranks
Pre Test	Treatment	30	36.12	867.00
	Control	30	28.58	1086.00
	Total	60		
Post Test	Treatment	30	46.42	1114.00
	Control	30	22.08	839.00
	Total	60		

Table 2 showed the state self confidence mean rank of the treatment group and control group. Data showed the mean rank of pre test for treatment group was 36.12, while mean rank for control group was 28.58. After four weeks intervention, mean rank of post test for treatment group was increase to 46.42 while control group was decrease to 22.08.

Table 3: Results Of State Self Confidence Mann-Whitney Test

Test Statistics		
State Self Confidence	Pre-Test	Post Test
Mann-Whitney U	345.00	98.00
Wilcoxon W	1086.00	839.00
Z	-1.65	-5.21
Asymp. Sig. (2-tailed)	.10	.00

a. Grouping Variable: Group

Table 3 showed the results of state self-confidence Mann-Whitney test for the pre test and post test. Mann-Whitney test showed there was no significant state self confidence of treatment and control group in pre test, $U= 345.00$, $z= -1.65$ ($p > .05$). After four weeks of intervention, results showed there was a significant differences state self confidence between treatment and control group with $U= 98.00$, $z= -5.21$ ($p < .05$). Seem there was a significant differences post test between treatment and control group, there median scores must carried out to see the saiz of effect.

Table 4: Median Scores of State of Self Confidence

Report	Pre-Test	Post-Test
State Self Confidence		
Median Control Group	4.00	4.46
N	30	30
Median Treatment Group	4.35	5.85
N	30	30
Total Of Median	4.00	4.81
N	60	60

The differenced the state of self-confidence between treatment group and control group was $z = -5.21$, and $N = 60$, with the value of r is 0.09. According to the effect of the size proposed by Cohen, Manion, & Morrison (2011), the r value obtained is calculated as the low of effect (0.1 = low impact, 0.3= moderate impact and 0.5= large impact). Mann Whitney U analysis showed there was a significant median difference between treatment groups ($Md = 5.85$, $n = 30$) and the control group ($Md = 4.46$, $n = 30$), $U = 98.00$, $z = -5.21$, $p < .05$, $r = .09$ with low impact.

Discussion

The finding has proven that TGFU can significantly improve the level of state self confidence among 16 years old school boys in a school. This indicated that TGFU in a 40-minute lesson twice a week for four weeks can increase the state of self confidence among 16 year old school boys. Bandura (1986) has highlighted four factors that influence the self-confidence such as verbal persuasion, individual physiology, performance and experience in PE classes.

In TGFU, the students had their own autonomy to select the team members and equipment compare to Traditional Teaching Model (Rink, 2010). Students were more comfortable and enjoyed themselves as they could play with the team members that they selected themselves. The feeling of comfortable among the students can influence students' physiology. The feeling of comfortable and enjoying the games can reduce fear and anxiety among the students. By reducing fear and anxiety, the state of self-confidence can be increased and students can do better without any pressure (Bandura, 1986; Morrison, 1999). In TGFU, PE teacher and team members gave verbal persuasion to the students more often compare to Traditional Teaching Model. This verbal persuasion can motivate students to do better compare to the Traditional Teaching which was controlled by the teacher. In TGFU, students could also performed better than those in Tradisional Teaching Model, which was more structured. If the students have gone though a good performance for sure the state of self-confidence will be higher. The performance and experience can increase the level of students' state of self-confidence (Bandura, 1986).

This finding is consistent with a study conducted by Lim and Singh (2010) to examine the effectiveness of three intervention strategies in psychology in maintaining the multi-dimensional instantaneous concerns among volleyball players aged average 16.35. The study by Lim & Singh (2010) was conducted on volleyball players under 18 who represented a state to the National Volleyball Championship Malaysian Schools Sports Council, 2008. The Competitive Sport Anxiety Inventory-2 Revised (CSAI-2R) instrument was used to study three components, namely the cognitive anxiety, somatic anxiety and self-confidence. ANOVA tests have shown significant differences in cognitive anxiety, somatic anxiety and self-confidence between the control group and the experimental one day before the match. Despite intervention, subjects and intruments used by past researchers and the ones in the present study is different. Yet, the study shows significant improvement in the level of self confidence.

Conclusion

This study has found that TGFU in 40 minutes twice a week for four weeks in PE classes can significantly improve the level of state self-confidence among 16 years old school boys. As TGFU is able to improve the level of state self confidence among 16 years old school boys, a suggestion should be proposed to the PE teachers and PE curriculum department to implement the TGFU in the PE classes among the school boys. Similar research should be conducted to include some additional factors to look at the impact of the TGFU with some additional variables such as increment of the subjects and gender.

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The Effectiveness Of Teaching Games For Understanding (Tgfu) In Improving The Hockey Dribling Skills Among School Girls

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Abstract:

This study was conducted to examine the effectiveness of Teaching Games For Understanding (TGFU) in improving the hockey dribbling skills among 16 years old school girls in a school. Sixty six (66) school girls were selected for the study based on the intact sampling method. One class was used as the control group (n=33), while another class, as the treatment group (n=33) underwent intervention with TGFU in physical education lessons conducted twice a week for 4 weeks. After 4 weeks, ANCOVA analysis indicated that the treatment group had significant improvement with $F(1, 63) = 27.68, p < .05$. This indicated that TGFU in a 40 minutes physical education class conducted twice a week for 4 weeks can significantly improve the hockey dribbling skills among 16 years old school girls in a school. Some recommendations were suggested for future research.

Keywords: Teaching Games For Understanding (TGFU), Traditional Teaching, School Girls

Introduction

Physical Education (PE) currently emphasizes teaching and learning that encompass the students' skills, fitness, knowledge and attitude (Wuest & Butcher, 2009). Games in PE class are important because 65% of teaching time is allocated for the games (Werner, Thorpe, & Bunker, 1996). Teaching games in PE aims to improve students' skills and motivation to engage in the games (Werner et al., 1996). The aim of PE is to ensure the students master the games (Butler & McCahan, 2005; Chow, Davids, Button, Shuttleworth, Renshaw, & Araujo, 2007).

According to Rink (2010), there are some Games Teaching Model in PE such as the Direct Instruction Model, Personalized System for Instruction Model, Cooperative Learning Model, Sport Education Model, Peer Teaching Inquiry Teaching Model and Tactical Games Model (known as Teaching Games For Understanding, TGFU) (Bunker & Thorpe, 1982; Mosston & Ashworth, 2002; Rink 2010). Although there is no study that investigate dominant teaching model used in the teaching of PE, the common teaching model used is the Direct Instructional Model (known as Traditional Teaching Model) (Metzler, 2000; Zuber Hassan, 1999).

Direct Instructional Model (Traditional Teaching Model) is teacher-centered (Bunker & Thorpe, 2010). In the Traditional Teaching Model, PE teachers emphasize direct instruction to the students to perform skills when teaching a game. Emphasis on direct instruction is more favorable for the students to perform the skills in the game. This is because the process of teaching game is more organized and controlled. Teachers have control all over the process of teaching the game and students' game techniques can be corrected during the process of teaching in PE. Teachers also emphasize drills to the students so that students can master the skill of the game entirely. Teaching process is very structured and organized so it helps teachers to manage their teaching time more effectively.

The structured and organized Traditional Teaching Model does not give pleasure to the students (Bunker & Thorpe, 2010). This is because the drills or repeated skills can easily cause the students to feel bored and trapped in the process of learning (Balakrishnan, 2011; Metzler, 2000). Studies have shown that their interest in games in PE is dwindling (Balakrishnan, 2011; Metzler, 2000). This is because the Traditional Teaching Model used by the teachers is not so inclusive (Balakrishnan, 2011; Metzler, 2000; Thorpe & Bunker, 2010). Students cannot get to experience the actual game play and skills gained from the drills which are also not applicable in real game situations.

Nowadays, the approach of Teaching Games For Understanding (Tactical Games Model) has been introduced to ensure that a maximum increase in students' achievement (Balakrishnan, 2011; Metzler, 2000; Thorpe & Bunker, 2010). Teaching Games For Understanding (TGFU) is able to improve overall students' achievement in a game (Balakrishnan, 2011; Bunker & Thorpe, 1982; Butler & McCahan, 2005; Kirk & Macdonald, 1998; Rovegno & Dolly, 2006; Mitchell, 2005; Sanmuga, 2008; Psotta & Martin, 2011; Webb & Pearson, 2008). TGFU is a student-centered approach (Balakrishnan, 2011; Bunker & Thorpe, 2010; Metzler, 2000). In TGFU, students are given the autonomy to make decisions such as the selection of members and playing equipment. Autonomy given to students to participate in the game which is modified according to the requirements of the students opportunity, understanding of the game can improve learning outcomes in PE lessons (Balakrishnan, 2011; Pangrazi & Casten, 2007; Richard & Wallie, 2005; Sanmuga, 2008). TGFU can also transfer students' knowledge and understanding in every game aspects. (Balakrishnan, 2011; Bunker & Thorpe, 1982; Mitchell, 2005; Webb & Pearson, 2008).

TGFU was carried out for 10 year-old school children in primary schools (Balakrishnan, 2011) and 13-year-old school boys in lower secondary schools (Sanmuga, 2008, 2010; Sanmuga & Khanna, 2012a, 2012b; Sanmuga, Ahmad Hashim, Ong, Abdul Rahim Shariff, Mohd Sani Madon, & Nelfianty Abd Rasyhid., 2013). However, there are very few studies of TGFU conducted by local researchers in PE classes, especially among 16-year-old school girls in hockey game. Thus, a study was needed to see the effects of TGFU and Traditional Teaching method in teaching the hockey dribbling skills among 16 years old school girls in a school in Malaysia.

This study was conducted to investigate the effects of TGFU and Traditional Teaching method in teaching the hockey dribbling skills among 16-year-old school girls in a school in Malaysia. The purposes of the study conducted were:

1. To investigate the mean scores of hockey dribbling skills test between the treatment group and the control group of 16 year old school girls in a school.
2. To investigate the differences of mean scores of hockey dribbling skills between the treatment group and the control group of 16 years old school girls in a school.

Methodology

This study was a quantitative study using a quasi-experimental method involving the control group and the treatment group with pre-test and post-test (Gay, 1992). A total of 66 girls aged 16 in a school in Malaysia had been selected by intact sampling. A total of 33 of school girls in one class were used as the control group, while 33 more of school girls in one class were used as the treatment group. The treatment and the control group were subsequently determined through simple random sampling technique. The treatment group underwent the TGFU for 40 minutes of hockey game in PE classes twice a week for 4 weeks. Meanwhile, the control group was followed Traditional Teaching of hockey games in PE class as usual twice a week for 4 weeks.

Instrument

Games Performance Assessment Instruments (GPAI) by Mitchell et al (2006) was used to observe the effects of hockey dribbling skills among 16 years old school girls in a school. This instrument consisted of seven components, namely base, adjust, decision making, skill execution, support, cover and guard using a Likert scale from one (very poor performance) to five (very effective achievement) (Mitcell et al., 2006). The reliability of GPAI is more than 0.75 (Blomqvist, 2001; Liu, 2003; Oslin et al., 1998), 0.85 (Sanmuga, 2008) and 0.78 (Balakrishnan, 2011). The pilot study was conducted on 33 of 16-year-old school girls in schools which had the same characteristics indicated the reliability of 0.82.

Procedure

A letter of authorization from the Division of Educational Planning and Research, Ministry of Education Malaysia, State Education Department and District Education Office was submitted to the principal of a school for the study purpose. Participation was voluntary and the consent of the parents of all subjects were obtained as subjects were still under age. Control and treatment groups consisted girls in groups of three. The treatment group was set against the control group in real game situations for three minutes. Three observers were appointed to assess the dribbling skills of each group using the GPAI form.

After the pre-test, the control group underwent the learning of hockey games as the usual; five-minute of warming-up, followed by progression of activities, mini games and cooling down the body for 40 minutes twice a week for 4 weeks. Meanwhile the treatment group underwent TGFU of hockey games for 40 minutes twice a week for 4 weeks. After 4 weeks, a post test was administered and to the treatment group and the control group. It was administered according to the procedure for pre-test.

Results

Table 1 Hockey Dribling Skills Among 16 Years old School Girls

Variable	Treatment Group (n= 33)			Control Group (n= 33)	
		Pre Test	Post Test	Pre Test	Post Test
	Hockey Dribling Skills	Mean	1.12	3.61	1.18
	SD	0.33	0.50	0.39	0.84
	Skewness	1.43	-0.46	1.73	-0.44
	Kurtosis	1.17	-1.91	1.05	-0.10

Table 1 shows the hockey dribling skills pre test mean scores of the treatment group was (Mean= 1.12, SD= 0.33) and post test was (Mean= 3.61, SD= 0.50). While the pre test mean scores for the control group was (Mean= 1.18, SD=0.39) and post test was (Mean= 2.73, SD= 0.84). After four weeks, enhancement mean scores of treatment group was 2.49 while the control group was 1.55. Normality test for skewness (± 2.00) and kurtosis (± 2.00) showed normal distribution for treatment and control group. The normal Q-Q plot, detrended Q-Q plot and box plot had showed normal distribution. Kolmogorov-Smirnov test and Shapiro-Wilk was ($p > .001$). It shows that the two groups were similar. This study involved a quasi-experimental design and intact sampling, therefore the ANCOVA analysis was used. The analysis of linearity, regression and Leneve's test ($F = 4.07, p > .05$) has been carried out and met the criteria of ANCOVA analysis. For statistical analysis, the confidence level was set at .05 level. To see the effect of the difference between the treatment group and the control group, ANCOVA was conducted by pre-test scores of both groups as the covariate.

Table 2 Mean Score Adjusted For The Treatment Group And Control Group

Variable	Treatment Group (n= 33)				Control Group		
		Post	Adjusted	Pre		Adjusted	
	Pre Test	Test	Mean	Test	Post Test	Mean	
Hockey Dribling Skills	Mean	1.12	3.61	3.61	1.18	2.73	2.72
	SD	0.33	0.50		0.39	0.84	

Table 2 showed the mean score of post test for treatment group was adjusted to 3.61, while the mean score of post test for the control group was adjusted to 2.72 in this study.

Table 3 ANCOVA Analysis Of Hockey Dribling Skills

Source	df	Mean Square	F	Sig.	Partial Squared	Eta
Corrected Model	2	6.66	14.06	.00	.31	
Intercept	1	47.55	100.37	.00	.61	
Dribling Skills_Pre Test	1	.58	1.23	.27	.02	
Group	1	13.11	27.68	.00	.31	
Error	63	.47				
Total	66					
Corrected Total	65					

a. $R Squared = .31$ (Adjusted $R Squared = .29$)

* Significant at $p < .05$

Table 3 showed a summary of ANCOVA analysis for hockey dribling skills between the treatment group and the group of 16 years old school girls who participated in this study. ANCOVA analysis showed significant difference between treatment groups with $F(1,63) = 27.68, p < .05$ compare to the control group.

Discussion

This finding has proven that TGFU better than Traditional Teaching in enhancing the hockey dribbling skills among 16 years old school girls in a school. This means teaching using TGFU in a 40-minute lesson twice a week for four weeks can increase hockey dribbling skills among 16 year old school girls in a school. This finding is consistent with a study conducted by Balakrishnan (2011).

This finding is inconsistent with the findings conducted by Balakrishnan (2011) in a game of handball. Studies of school boys aged 10 years in a primary school during Physical Education class for 4 weeks using Game Performance Assessment Instrument (GPAI) found that the group that followed TGFU increased handball dribbling skills.

This study is also compatible with Sanmuga (2008, 2010) who conducted a study on the effectiveness of the three Tactical Style on the students of various levels in the hockey game. He used the Spectrum Teaching Model Mosston and Ashworth with TGFU in the study. The study was conducted on 225 male students ages 13 years who were divided into groups of high skill, medium skill and low skill for 15 weeks. That study was conducted using a training program involving PE classroom and also co-curriculum. This study only involved school girls in PE classes for only four weeks of TGFU during PE classes twice a week. In this study also, a total of three observers from the District Education Office who have experience in the game of hockey were specially appointed to assess the hockey dribbling skills using GPAI instruments.

Conclusion

This study has indicated that TGFU in 40 minutes twice a week for four weeks in PE classes can significantly improve the level of hockey dribbling skills among 16 years old school girls. Hence, TGFU is able to improve the hockey dribbling skills among school girls, some suggestions are proposed for further research. Future researchers can conduct similar studies to investigate other factors that may affect the impact of the TGFU with Traditional Teaching. Some additional variables such as increment of the subjects, gender, schools, intrinsic motivation and self-confidence.

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The Effectiveness Ofteaching Games For Understanding in Improving The Situation Intrinsic Motivation In Physical Education Class

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Abstract:

This study was conducted to examine the effectiveness of Teaching Games For Understanding in improving the situation intrinsic motivation among 16 years old school boys in PE classes. Sixty (60) school boys aged of 16 years from two classes were selected for the study based on the intact sampling method. One class was used as the control group (n=30), while another class as the treatment group (n=30) underwent intervention with TGFU in physical education class conducted twice a week for 4 weeks. The instrument of Situation Intrinsic Motivation Scale by Blanchard et al (2007) was administered in this study. After 4 weeks, The independent t-test revealed that intrinsic motivation subscale was significant between group, $p < .05$. This indicates that TGFU in a 40 minutes physical education class conducted twice a week for four weeks can significantly improved intrinsic motivation among 16 years old school boys in a school. Some recommendation was suggested for future research.

Keywords: Teaching Games For Understanding (TGFU), Traditional Teaching, School Boys, Situation Intrinsic Motivation, Physical Education

Introduction

Physical Education (PE) is a learning process which uses physical activities to improve skills, fitness and attitude of an individual to achieve an optimum level (Wuest & Bucher, 2009). Intrinsic motivation is defined as an internal factor orders and integrates the attitude of an individual (Weinberg & Gould, 1999). This is important to make sure students are actively involved in the learning process in PE lessons (Solmon, 2006). Activities in PE need to be planned to make it attractive and varied so that students can have fun. Having fun while undergoing PE will contribute to continuous involvement from the students (Bailey, 2006; Viira & Koka, 2012). Students who are highly motivated intrinsically in PE lessons will involve voluntarily in the physical activities in the class (Blanchfield & Jennifer Lisa, 2002; Tsigilis, 2005).

Research shows that the level of motivation and students interest among school students towards PE lessons after the age of 14 has declined especially among female students (Newton, 1994). This situation will persist until adulthood if students are not motivated to do physical activities and continuous exercises in their lives. Efforts are being put in by researchers to observe intrinsic motivation in individual involvement in sport and recreation activities (Blanchard, Maska, Vallerand, Sablonnie, & Provencher, 2007; Chin, Khoo, & Low, 2012; Cremades, Flournoy, & Gomez, 2012; Goose & Winter, 2012; Guzman & Kingston, 2012; Heng, 2001; Martin-Albo, Nunez, Dominguez, Leon, & Tomas, 2012; Moen & Verburg, 2012; Park, Jeon, & Kim, 2012; Tsitskari & Kouli, 2010). However, research on the intrinsic motivation of students involvement in PE lessons is still limited (Balakrishnan, 2011; Haywood, 1991; Kouli, Rokka, Mavridis, & Derri, 2009; Moreno, Gonzalez, Martin, & Cervello, 2010; Spittle & Byrne, 2009; Viira & Koka, 2012) especially for 16 years old school boys.

There are some Teaching Models in PE such as the Direct Instruction Model, Personalized System for Instruction Model, Cooperative Learning Model, Sport Education Model, Peer Teaching Inquiry Teaching Model and Teaching Games For Understanding (TGFU) (known as Tactical Model) (Bunker & Thorpe, 1982; Blomqvist, Luhtanen, & Laakso, 2001; Mosston & Ashworth, 2002; Rink 2010; Werner, Thorpe, & Bunker, 1996). Although there is no study that reported dominant teaching model used in the teaching of PE, the common teaching model used is the Direct Instructional Model (known as Traditional Teaching Model) (Balakrishnan, 2011; Metzler, 2000). Recent studies show that students' interest in games in PE is dwindling (Balakrishnan, 2011; Sanmuga, 2008).

This is because the Traditional Teaching Model employed by the teachers are not so inclusive (Thorpe & Bunker, 2010). Direct Instructional Model (Traditional Teaching Model) is teacher centered (Bunker & Thorpe, 2010; Metzler, 2000). Physical Education teachers use direct instruction in teaching the skills of a game to the students. Therefore, the process of teaching the game is more organized and controlled. Teachers have control in the process of teaching the game and students' game techniques can be corrected during the process of teaching. Teachers also emphasize drills to the students so that students can master the entire skills of the game. Teaching process is very structured and organized and it helps teachers to manage their teaching time more effectively.

The TGFU approach (Tactical Games Model) has been introduced to ensure that students' achievement could be increased to the optimum level (Liu, 2003; Thorpe & Bunker, 2010). TGFU is able to improve overall student achievement in the games (Balakrishnan, 2011; Bunker & Thorpe, 1982; Butler & McCahan, 2005; Kirk & Macdonald, 1998; Liu, 2003; Mitchell, 2005; Mitchell, Griffin, & Oslin, 2006; Moreno, Lopez, Diaz, & Martinez, 2011; Rovegno & Dolly, 2006; Sanmuga, 2008; Psotta & Martin, 2011; Webb & Pearson, 2008). TGFU is a student-centered approach (Bunker & Thorpe, 2010; Oslin, Mitchell, & Griffin, 1998). In TGFU, pupils are given the autonomy to make decisions such as the selection of members and playing equipment. Autonomy given for students to participate in the modified games tailored according to the requirements of the students opportunity, understanding of the game can improve learning outcomes in PE class (Balakrishnan, 2011; Pangrazi & Casten, 2007; Richard & Wallie, 2005; Sanmuga, 2008). TGFU can also improve student knowledge and understanding a whole of the game aspects (Balakrishnan, 2011; Bunker & Thorpe, 1982; Mitchell, 2005; Webb & Pearson, 2008).

TGFU has been carried out for school children in schools (Balakrishnan, 2011; Liu, 2003; Mitchell, 2005; Mitchell et al., 2006; Sanmuga, 2008; Sanmuga, 2010; Sanmuga & Khanna, 2012a, 2012b; Sanmuga, Ahmad Hashim, Ong, Abdul Rahim Shariff, Mohd Sani Madon, & Nelfianty Abd Rasyhid, 2013). However, there is very few studies of TGFU conducted by researchers in PE classes (Balakrishnan, 2011), especially in the situation intrinsic motivation among 16 years old school boys in hockey game. Thus, a study should be conducted to see the effect of TGFU and Traditional Teaching method in improving situation intrinsic motivation among 16 years old school boys in PE classes.

This study was conducted to investigate the effects of TGFU Model and Traditional Teaching Model in improving situation intrinsic motivation among 16 years old school boys in hockey game in PE classes. The purpose of the study conducted were:

1. To investigate the mean scores of the situation intrinsic motivation subscales between the treatment group and the control group among 16 years old school boys in PE classes.
2. To investigate the differences in median scores of the situation intrinsic motivation subscales between the treatment group and the control group among 16 years old school boys in PE classes.

Methodology

This study is a quantitative study using a quasi-experimental methods involving the control group and the treatment group with pre-test and post-test (Gay, 1992; Gay & Airasian, 2000). A total of 60 boys aged of 16 years in a school in a district in Malaysia were selected through intact sampling. A total of 30 school boys in one class were used as the control group, while another 30 students were used as the treatment group. The treatment and the control groups were subsequently determined through simple random sampling technique. The treatment group underwent the TGFU for 40 minutes in hockey game in PE classes twice a week for 4 weeks. Meanwhile the control group underwent the Traditional Teaching of hockey game in PE classes as usual twice a week for 4 weeks.

Instrument

The Situational Intrinsic Motivational Scale (SIMS) instrument by Blanchard et al (2007) used in this research which consists of 16 items. Each item is measured in likert scale from 1 to 5. The Situation Intrinsic Motivation Inventory measures four subscales, namely intrinsic motivation domain (4 items), identified regulation domain (4 items), external regulation domain (4 items) and amotivation domain (4 items) (Moreno et al., 2010). Validity and the reliability of this SIMS is between .82 to .88 (Blanchard et al., 2007; Moreno et al., 2010). Before the questionnaire was distributed to the responden, researcher has given it to two experts in language and two experts in PE from the Faculty of Education in University of Malaya to be verified the usage and validity as the questionnaire was translate into Malay Language via back to back translation (Brislin, Lonner, & Thorndike, 1973). Pilot test was carried out on 35 respondents who fulfilled the same criteria has shown Cronbach Alpha value of .90 and could be accepted (Nunally, 1978).

Procedure

Letters of authorization from the Division of Educational Planning and Research, Ministry of Education Malaysia, State Education Department and District Education Office were submitted to the principal of a school for the study purpose. Participation is voluntary and the consent of the parents of all subjects were obtained as subjects were under age. Control and treatment groups consisted three boys in a group. The treatment group were going against the control group in real situations game for three minutes. Respondents were given 25-30 minutes to complete the SIMS. The responses were based on their true feelings in the hockey game. After the pre-test, the control group underwent the learning of hockey game in PE as usual; five-minute warm-up activity, followed by activities progression, small games and cooling down activity. This learning session lasted for 40 minutes twice a week for 4 weeks. Meanwhile the treatment group underwent the TGFU for 40 minutes twice a week for 4 weeks in PE classes. After 4 weeks, the post test was administered to the treatment group and the control group according to the procedure for the pre-test.

Results

Table 1 Situation Intrinsic Motivation Among 16 Years old School boys in A School

Situation Intrinsic Motivation		Control (n = 30)		Treatment (n = 30)	
		Pre Test	Post Test	Pre Test	Post Test
Intrinsic Motivation	Mean	3.28	3.59	3.69	4.49
	SD	0.64	0.45	0.69	0.37
	Mean Difference	0.31		0.80	
	Skewness	0.40	-0.35	0.27	-0.20
	Kurtosis	0.55	1.66	-0.92	-0.91
	Identified Regulation	Mean	3.17	3.42	3.24
	SD	0.56	0.39	0.79	0.68
	Mean Difference	0.25		0.35	
	Skewness	0.09	-0.31	-0.22	0.09
	Kurtosis	0.52	1.53	0.53	-0.45
External Regulation	Mean	3.01	3.26	2.71	3.20
	SD	0.66	0.55	0.75	1.06
	Mean Difference	0.25		0.49	
	Skewness	0.35	-0.43	0.84	0.16
	Kurtosis	0.91	0.72	0.04	-1.61
	Amotivation	Mean	3.01	3.30	2.73
SD		0.44	0.46	0.87	1.08
Mean Difference		0.29		0.39	
Skewness		0.29	-0.59	-0.34	0.01
Kurtosis		1.28	0.16	-0.67	-1.23

Table 1 shows the subscale of intrinsic motivation pre test mean scores of the control group was (Mean= 3.28, SD= 0.64) and post test was (Mean= 3.59, SD= 0.45), while the subscale of intrinsic motivation pre test mean scores for the treatment group was (Mean= 3.69, SD= 0.69) and post test was (Mean= 4.49, SD= 0.37). The subscale of identified regulation pre test mean scores of the control group was (Mean= 3.17, SD= 0.56) and post test was (Mean= 3.42, SD= 0.39), while subscale of identified regulation pre test mean scores for the treatment group was (Mean= 3.24, SD=0.79) and

post test was (Mean= 3.59, SD= 0.68). The subscale of external regulation pre test mean scores of the control group was (Mean= 3.01, SD= 0.66) and post test was (Mean= 3.26, SD= 0.55), while subscale of external regulation pre test mean scores for the treatment group was (Mean= 2.71, SD= 0.75) and post test was (Mean= 3.20, SD= 1.06). The subscale of amotivation pre test mean scores of the control group was (Mean= 3.01, SD= 0.44) and post test was (Mean= 3.30, SD= 0.46), while the subscale of amotivation pre test mean scores for the treatment group was (Mean= 2.73, SD=0.87) and post test was (Mean= 3.12, SD= 1.08).After four weeks, enhancement mean scores of subscale intrinsic motivation for controlgroup was 0.31 while the treatment group was 0.80.In subscale identified regulation, enhancement mean scores showed for control group was 0.25 while the treatment group was 0.35. While, enhancement mean scores of subscale external regulation for control group was 0.25 while the treatment group was 0.49,and enhancement mean scores of subscale amotivation for control group was 0.29 while the treatment group was 0.39.

Normality test for skewness (± 2.00) and kurtosis (± 2.00) showed normal distribution of both group. The graf of normal Q-Q plot, detrended Q-Q plot and box plot had showed normal in pre and post test. Kolmogorov-Smirnov test and Shapiro-Wilk was ($p > .001$). It shows that the two groups were similar. This shows the parametric test (Independent t-test) must be carried out to see the diffences of SIMS between control group and treatment group. The Levene' test in Table 2 also showedvarian for all subscale of SIMS between group were similar ($p > .05$).The independent t test of SIMS in pre test showed all subscale in SIMS are similar ($p > .05$).

Table 2 Independent t test Situation Motivation Post Test Based Between Group

Situation Intrinsic Motivation	Levene' Test (F)	df	t value
Intrinsic Motivation	0.13	58	-8.23*
Identified Regulation	6.25	58	-1.33
External Regulation	3.39	58	0.32
Amotivation	4.03	58	0.92

* Significant at $p < .05$

Table 2 shows independent t-test was carried out after four weeks of intervention and showed a significant difference between group in the intrinsic motivation subscale($t(1, 58) = -8.23, p < .05$) among 16 years old school boys in a school. The result also showed that the mean score for treatment group is higher (Mean=4.49, SD=0.37) compare to control group(Mean=3.59, SD=0.45) with a mean difference of 0.90 in intrinsic motivation subscale. But, for identified regulation, external regulation and amotivation subscales, result showed there was no significant difference between group.

DISCUSSION

The finding has proven that TGFU can significantly improve the level of intrinsic motivation among 16 years old school boys in a school. This indicated that TGFU in a 40-minute lesson twice a week for four weeks can increase the level of intrinsic motivation among 16 year old school boys. In this study, the perception of the students is based on TGFU in hockey games during PE lessons after four weeks of intervention. The finding of this research shows that the students enjoyed the hockey games and intrinsic motivation among students was increased. In TGFU, school boys are given the autonomy to make decisions such as the selection of members and playing equipment. Autonomy given for school boys to participate in the modified games tailored according to the requirements of the students opportunity, understanding of the game can improve intrinsic motivation in PE class (Thorpe & Bunker, 2010). This is important to maintain school boys' active involvement in PE classes especially in hockey games. In Tradisional Teaching, the structured and organized does not give pleasure to the school boys of control group (Bunker & Thorpe, 2010). This is because the drills or repeated skills can easily cause students to feel bored and trapped in the process of learning (Balakrishnan, 2011).

Independent t-test shows that there is a significant differences between group in the intrinsic motivation subscale, $p < .05$ in hockey games during PE lessons. The result of the finding is showed the TGFU can improved the intrinsic motivation subscale after four weeks of intervention. There is a possibility that the school boys of TGFU feel enjoyment compared to Tradisional Teaching school boys. In TGFU, the school boys had their own autonomy to select the team members and equiment compare to Traditional Teaching Model (Rink, 2010). School boys were more comfortable and enjoyed themselves as they could play with the team members that they selected themselves (Deci & Ryan,

1985). The feeling of comfortable among the school boys can influence school boys' physiology (Bandura, 1986). The feeling of comfortable and enjoying the games can reduce fear and anxiety among the school boys. By reducing fear and anxiety, the school boys can do better without any pressure (Bandura, 1986; Deci & Ryan, 1985). In TGFU, PE teacher and team members gave verbal persuasion to the school boys more often compare to Traditional Teaching Model. This verbal persuasion and interaction between group members can motivate school boys to do better compare to the Traditional Teaching which was controlled by the teacher. In TGFU, school boys could also performed better than those in Tradisional Teaching Model, which was more structured. If the students have gone though a good experience and enjoy the PE classes, it can increase the level of school boys' intrinsic motivation (Deci & Ryan, 1985). School boys can get to experience the actual game play and the skills gained from the drills are applicable in real game situations.

Conclusion

This study has found that TGFU in 40 minutes twice a week for four weeks in PE classes can significantly improve the level of intrinsic motivation subscale among 16 years old school boys. The finding shows there is a significant difference between TGFU in the intrinsic motivation subscale compare to Traditional Teaching. As TGFU is able to improve the level of intrinsic motivation among 16 years old school boys, a suggestion should be proposed to the PE teachers and PE curriculum department to implement the TGFU in the PE classes among the 16 years old school boys. Similar research should be conducted to include some additional factors to look at the impact of the TGFU with some additional variables such as increment of the subjects and gender.

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The Level Of Intrinsic Motivation Among 16 Years Old Students Towards Physical Activities In A Physical Education Class

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Abstract:

The aim of the study was to investigate the level of intrinsic motivation among 16 years old students towards physical activities in a physical education class and further explore any gender difference towards intrinsic motivation domain. A school was randomly selected in a district and all five classes of Form Four students undergoing physical education classes were selected as sample for the study. There were a total of 174 students (93 boys; 81 girls) ages between 16-17 years old (Mean age =16.05; SD=0.22). Intrinsic Motivation Inventory (IMI) by McAuley et al (1989) was administered to collect data on their intrinsic motivation. Descriptive data indicated that the overall measure for the Interest/enjoyment domain was M=4.06, SD=0.27; Perceived competency was M=3.91, SD=0.24; Effort was M=4.20, SD=0.32; and Pressure/tension was M=3.67, SD=0.36. An independent t-test carried out between gender show a significant difference $t(1,172)= 3.65$, $p<.05$ for interest/enjoyment domain while perceived competency $t(1, 172)= 1.89$, Effort $t(1, 172)=-1.88$, Pressure/tension domain $t(1, 172)= -0.38$ show no significant differences, $p>.05$. The results revealed that the overall measure for all the four domains for intrinsic motivation was moderate (2.34-4.66) among 16 years old students and when gender difference were compared the boys had slightly more interest/enjoyment towards physical activities carried out in a physical education class. The results indicate that steps should be undertaken by school physical education teachers to improve the teaching of physical education to improve the students intrinsic motivation level.

Keywords: Intrinsic Motivation Domain, Physical Education, Gender

Introduction

Intrinsic motivation is defined as an internal factor orders and integrates the attitude of an individual to achieve an aim (Weinberg & Gould, 1999). Intrinsic motivation is important to make sure students are actively involved in the learning process of PE. Activities in PE need to be planned to make it attractive and varied so that students can have fun. Having fun while undergoing PE will contribute to continuous involvement from the students (Bailey, 2006; Viira & Koka, 2012). Students who are highly motivated intrinsically in PE lessons will involve themselves voluntarily in the activities in the class (Tsigilis, 2005). Awareness on the intrinsic motivation among students in PE lesson is very important to encourage students to be more active in the teaching and learning process of PE lessons (Solmon, 2006). Voluntary and sincere involvement can lead to active teaching process and give an impact on the students health (Blanchfield & Jennifer Lisa, 2002; Guzman & Kingston, 2012).

Efforts are being put in by researches overseas to observe intrinsic motivation in individual involvement in sport and recreation activities (Cremades, Flournoy, & Gomez, 2012; Goose & Winter, 2012; Guzman & Kingston, 2012; Martin-Albo, Nunez, Dominguez, Leon, & Tomas, 2012; Moen & Verburg, 2012; Park, Jeon, & Kim, 2012; Tsitskari & Kouli, 2010). However, research on the intrinsic motivation of students involvement in PE lessons is still limited (Kouli, Rokka, Mavridis, & Derri, 2009; Spittle & Byrne, 2009; Viira & Koka, 2012).

Previous research found out that majority of the students have intrinsic motivation in the interest/enjoyment domain (Alderman, Beighle, & Pangrazi, 2006; Bailey, 2006; McAuley, Duncan, & Tammen, 1989; McGee, Strasser, McKenzie, & Stoll, 2005; Prochaska, Sallis, Slymen, & McKenzie, 2003; Tsitskari & Kouli, 2010) compared to the perceived competency domain (Ferrer-Caja & Weiss, 2000; Jaakola, 2002; McGee et al., 2005; Tsigilis, 2005; Tsitskari & Kouli, 2010; Weiss, 2001), effort domain (Ferrer-Caja & Weiss, 2000; Tsitskari & Kouli, 2010) and pressure/tension domain are at the lowest level (Tsitskari & Kouli, 2010).

Additionally, it is found that there are significant differences in intrinsic motivation from the gender aspect (Cremades et al., 2012; Tsitskari & Kouli, 2010; Weinberg, Tenenbaum, Mckenzie, Jackson, Anshel, Grove, & Forgy, 2000). Whereby male students prefer perceived competency domain more

than effort domain, interest/enjoyment domain and pressure/tension domain. Meanwhile, female students prefer to be in the interest/enjoyment domain compared to perceived competency domain, effort domain and pressure/tension domain (Weinberg et al., 2000). Overall, female students are more intrinsically motivated than male students (Etnier, Sidman, & Hancoc, 2004; Petheric & Weigand, 2002; Weinberg et al., 2000). However, there are also research that shows that male students have more intrinsic motivation compare to female students in PE lessons and sports (I-Wei, 1998; McKiddie & Maynard, 1997; Newton, 1994; Tsitskari & Kouli, 2010; Xiang, McBride, & Guan, 2004; Zahariadis, Tsorbatzoudis, & Grouios, 2005). Inconsistency of these findings requires further research. Apart from that, research also shows that the level of motivation and students interest among school students towards PE lessons after the age of 14 has declined especially among female students (Newton, 1994). Cognitive Evaluation Theory in PE lessons should be emphasized to overcome the dwindling of interest among students in PE lessons. This theory highlights four main factors, namely choice and control, competency perception and optimum challenges, translating external factors in a control form or information and factors for emphasis on the importance aspect of differences in individual to help identify and understand students' intrinsic motivation (Deci & Ryan, 1985). The four main factors will affect the students' intrinsic motivation in the interest/enjoyment domain, perceived competency domain, effort domain and pressure/tension domain (McAuley et al., 1989).

There is a lack of empirical study on intrinsic motivation in PE classes especially for 16 years old students. Hence, this research was carried out to observe the level of intrinsic motivation among 16 years old students in PE lessons in one of the schools in Malaysia. Furthermore, this research also aims to observe the differences in intrinsic motivation domain from the gender aspect. This research is essential as it could provide information to teachers regarding the level of intrinsic motivation among the students in PE lessons. The reason for choosing 16 years old students to be the subject of this research is because these students are matured to give accurate responses (White, 1999).

Methodology

A quantitative research via survey was used in this research as the questionnaire could be administered to as many respondents as possible (Robert, Spink, & Pemberton, 1999). Survey was carried out to gather information on the level of intrinsic motivation of students in PE lessons in a school in Malaysia. The state and district in Malaysia was randomly chosen and one of the 23 schools in the district of was selected to be the respondent in this research. 174 students of the five classes in the school were chosen to be the respondents and these respondents are of 16 or 17 years of age (Mean=16.05, SD=0.22).

Instrument

The instrument used in this research is the Intrinsic Motivation Inventory (McAuley et al., 1989) which consists of 18 items. Each item is measured in likert scale from one to seven. The Intrinsic Motivation Inventory measures four intrinsic motivation domain, namely interest/enjoyment domain (5 items), perceived competency domain (5 items), effort domain (4 items) and pressure/tension domain (4 items). Validity and the reliability of this inventory is between .75 to .90 (McAuley et al., 1989; Park et al., 2012; Tsigilis, 2005; Vlachopoulos & Michailidou, 2006). Categorization of score range of this instrument is low (1.00-2.33), moderate (2.34-4.66) and high (4.67-7.00).

Before the questionnaire was distributed to the responden, researcher has given it to two experts in language and two experts in PE from the Faculty of Education in University of Malaya to be verified the usage and validity as the questionnaire was translate into Malay Language via back to back translation (Brislin, Lonner, & Thorndike, 1973). Pilot test was carried out on 35 respondents who fulfilled the same criteria has shown Cronbach Alpha value of .90 and could be accepted (Nunally, 1978).

Procedure

An approval letter of the research was granted by the Planning and Research Division of Ministry of Education and it was sent to the State and District Educational Department for approval to carry out the research. After obtaining the permission, researcher went to see the school and the students via to explain the objective of the research. Individual participation in this research is voluntary and a letter of consent from parents were collected as these respondents were under the legal age. Respondents were given 25-30 minutes to complete the questionnaire. The researcher has cooperation from the school administrators to gather all the respondents in the school canteen and make sure the respondents answered all the items in the questionnaire individually without any interaction. This was to avoid any bias in the responses from the respondents. The researchers also explained to the respondents that all their responses must be based on the teaching and learning process of PE lessons. All the answers must reflect respondents true feeling related to the teaching and learning process they underwent in PE lessons.

RESULTS

Table 1

Intrinsic Motivation Data Among Students in A School.

Variable	Intrinsic Motivation Domain				
		Interest/ Enjoyment	Perceived Competency	Effort	Pressure/ Tension
Male	Mean	4.13	3.94	4.15	3.66
	SD	0.24	0.24	0.34	0.35
	N	93	93	93	93
Female	Mean	3.98	3.87	4.24	3.69
	SD	0.29	0.23	0.29	0.39
	N	81	81	81	81
Total	Mean	4.06	3.91	4.20	3.67
	SD	0.27	0.24	0.32	0.36
	N	174	174	174	174

Table 1 shows the data on the intrinsic motivation among students in PE lessons in a school. Result showed the mean score for male students is 4.13, SD=0.24 for the interest/enjoyment domain, 3.94, SD=0.24 for the perceived competency domain, 4.15, SD=0.34 for the effort domain, and 3.66, SD=0.35 for the pressure/tension domain. Meanwhile, the female students has a mean score of 3.98, SD=0.29 in the interest/enjoyment domain, 3.87, SD=0.23 in the perceived competency domain, 4.24, SD=0.29 in the effort domain, and 3.69, SD=0.39 in the pressure/tension domain.

Overall, the mean score among students in a school shows moderate level of intrinsic motivation in interest/enjoyment domain (Mean 4.06, SD= 0.27), perceived competency domain (Mean=3.91, SD=0.24), effort domain (Mean=4.20, SD=0.32) and pressure/tension domain (Mean=3.67, SD=0.36).

Table 2

Level of Intrinsic Motivation Among Students In A School.

Intrinsic Domain	Motivation		Female	Level
	Male	Level		
Interest/Enjoyment	4.13	Moderate	3.98	Moderate
Perceived Competency	3.94	Moderate	3.87	Moderate
Effort	4.15	Moderate	4.24	Moderate
Pressure/Tension	3.66	Moderate	3.69	Moderate

Table 2 shows the level of intrinsic motivation among students in a school. From the categorization of score range of the instrument of research namely low (1.00-2.33), moderate (2.34-4.66) and high (4.66-7.00) the result shows that all the domains of intrinsic motivation among students in a school are at the moderate level. Overall, it can be deduced that the motivation among students in a school is at a moderate level when participating in PE lessons.

Table 3 Independent t test Intrinsic Motivation Based On Gender

Intrinsic Motivation Domain	Gender		Mean Different	df	t value
	Male (n=93)	Female (n=81)			
Interest/Enjoyment					
Mean	4.13	3.98	0.15	172	3.65*
SD	0.28	0.29			
Perceived Competency					
Mean	3.94	3.87	0.07	172	1.89
SD	0.24	0.22			
Effort					
Mean	4.15	4.24	0.09	172	-1.88
SD	0.34	0.29			
Pressure/Tension					
Mean	3.66	3.69	0.03	172	-0.38
SD	0.35	0.39			

* Significant at $p < .05$

Table 3 shows inference analysis of the data collected. Independent t-test was carried out and showed a significant difference in the gender aspects according to the enjoyment domain of intrinsic motivation among students in a school. The result also showed that the mean score for male respondents is higher (Mean=4.13, SD=0.28) compare to female respondents (Mean=3.98, SD=0.29) with a mean difference of 0.15. Analysis of independent t-test showed that there was a significant difference between male students and female students in the PE class in term of interest/enjoyment domain of intrinsic motivation $t(1, 172)=3.65, p < .05$. Meanwhile, there is no significant differences in other domains of intrinsic motivation, perceived competency $t(1,172)= 1.89$, effort $t(1,172)=-1.88$, and pressure/tension $t(1,172)=-0.38, p > .05$ based on gender.

Discussion

Overall, the intrinsic motivation and all domains of intrinsic motivations are still at a moderate level. This indicates that there is a possibility that the PE teachers have applied Cognitive Evaluation Theory in their class but at a limited scale. The outcome of this result indicates that teachers should plan their daily lesson plans more effectively by including every domain in the Cognitive Evaluation Theory so that students are more competitive and have interest/enjoyment in the activities designed by the teachers (Deci & Ryan, 1985). This is important to increase the level of intrinsic motivation among students to be more active in PE lessons. If this situation is not taken seriously, there is a possibility that the intrinsic motivation among the students will gradually reduce and students will not be active and reluctant to get involved in the PE lessons. As a result, students will try to skip or give excuses to avoid being involved in the PE lessons. This will affect the discipline of students and indirectly their level of fitness will be reduced and be exposed to sedentary illnesses.

This research is also aligned with the previous research that found that if Cognitive Evaluation Theory is applied in the teaching and learning activity, students will be enjoy and motivate every time they conduct physical activities in the class or outside school hours (Alderman et al., 2006; Bailey, 2006; Prochaska et al., 2003). The result of this research is also supported by the previous research (Ferrer-Caja & Weiss, 2000) that proved that teaching and learning process based on the Cognitive Evaluation Theory can produce a generation that has intrinsic motivation to be actively involved in physical activities. Therefore, the finding of the research clearly shows that there is a possibility that the Cognitive Evaluation Theory has been applied in the process of teaching and learning of PE as there is some influence of intrinsic motivation in the form four students' involvement in PE lessons.

Inference analysis, independent t-test shows that there is a significant differences in gender in the interest/enjoyment domain, $p < .05$ whereby male students in a school feel more enjoyment and excited in PE lessons compared to their female counterparts. The result of the finding is consistent with the previous findings (I-Wei, 1998; Newton, 1994; Tsitskari & Kouli, 2010; Zahariadis et al., 2005). If seen in the 16 years old students curriculum perspective, the games taught are hockey, *sepak takraw* and tennis. There is a possibility that these games are quite challenging for female students and the challenges cause the girls to feel less enjoyment compared to male students.

Apart from that, teacher's role and characteristics could also affect this study whereby male teachers are more active and more knowledgeable in the *takraw* game and hockey compared to female teachers. This factor could contribute to students' enjoyment while following PE lessons. Although the finding of the research points to significantly higher intrinsic motivation in male students compared to female students in the domain of interest/enjoyment, the categorization score range still shows that both male and female students have moderate level of intrinsic motivation in PE lessons.

The finding also shows that there is no significant difference between gender in the perceived competency domain, effort domain, pressure/tension domain, $p > .05$. This finding is not parallel with the previous studies (Ferrer-Caja & Weiss, 2000; Viira & Koka, 2012; Weinberg et al., 2000). This anomaly could be caused by several factors such as the PE curriculum and teacher's teaching experience. In this study, the perception of the students is based on PE lessons. On the other hand, a similar research done by Viira and Koka (2012) was not carried out in PE lessons. The finding of this research shows that the interest/enjoyment domain, perspective competency, effort and pressure/tension domain should be given priority so that intrinsic motivation among students who follow PE classes could be increased. This is important to maintain students' active involvement in PE classes.

Conclusion

This research found that the level of intrinsic motivation of students of one school in PE lessons is still at a moderate level. The finding shows that there is a significant difference in gender aspect in the interest/enjoyment domain. However, for perceived competency domain, effort domain and pressure/tension domain there is no significant difference in gender aspect.

The research gives us the latest information about the level of intrinsic motivation of students in one school in PE lessons. This study can provide an input to PE instructors, Curriculum Development Centre and Ministry of Education that a new transformation is needed to increase students' level of intrinsic motivation. Application of the Cognitive Evaluation Theory should be appreciated as it is important to improve intrinsic motivation among the students in schools. This is because intrinsic motivation is the key for students to continue to get involved actively in PE lessons. To improve the level of motivation among students in a school, PE instructors should engage in new pedagogical skills that is more effective and comprehensive.

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Perception On Women's Sports Participation

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Abstract

The notion that "women are the weaker sex" is not true in the world of sport. For women like men can be competitive and aggressive without destroying ones natural beauty and charm. Sports participation is after all a worthwhile goal for women. The purpose of this study is to determine the perception on women's sports participation while correlating to the type and degree of sports participation. It also determined the contributing factors of the moderating variables such as; father and mother's educational attainment, family income, and institutional location. The study was conducted among the 973 randomly selected female Physical Education students of the three institutions; Mindanao State University, Marawi City; Mindanao State University-Iligan Institute of Technology, Iligan City; and Capitol University, Cagayan de Oro City. Descriptive-correlation method of research was used employing the Perception on Women's Sports Participation Inventory (PWSPI) as the foremost tool in gathering the data. Results indicated that the variables of father and mother's educational attainment and family income showed a significant correlation with the perception on women's sports participation, while, institutional location was not significantly correlated. Significant correlation was also found between father, mother's educational attainment, and institutional location towards the variable of the type of sports participation. However, family income showed no significant correlation to the type of sports participation. It was also found out that there was no significant correlation between mother's educational attainment, family income, and institutional location towards the variable of the degree of sports participation. Significant correlation however, was found between father's educational attainment and degree of sports participation. Perception on women's sports participation was found to be significantly correlated towards the type and degree of sports participation. It was concluded further, that the relationships of the variables significantly contributed to the positive perception on women's participation in sports.

Keywords: Perception, type and degree of sports participation, gender.

Introduction

In most societies, participation in sports has been primarily a male domain. However, over the past decades women in sports advocates have proven that women are also competent and have a place in the sports world. When the first female ball player circled the bases at Vassar College in 1866, sportswomen have taken their sports experiences to heart (Sandoz & Winans, 1999). Even without strong history of achievements women had to prove that they were competent in sports. In present days, we see vast number of women participating in not only considered minor sports but also in type of sports that require great prowess and skills.

The growth of women's sports can best be judge by the gradual but persistent expansion of women's events in the modern Olympic Games (Bennette, Howell, and Simri, 1983). However, when women first began banging at the door of sportsworld, they encountered plenty of opposition. As the acceptance of women in sport has not followed a steady, uphill course throughout history, instead, it has gone through many peaks and valleys – times when female sports figures more popular heroines and times when women were condemned as unfit mothers (Lutter & Jaffee, 1996).

Over the years most objectives to women's sports participation have been subjective in nature, often predicated upon the sentimental thesis that women is fragile in nature and dainty in appearance (Klafs & Lyon, 1978). It is also related to the Victorian ideal of femininity that rejected vigorous sports participation because it was believed that such activity could compromise a woman's modesty, jeopardized her emotional control and result in injury that could hinder or prevent childbearing and the contradiction of a mate (Eitzer & Sage, 1978).

Women constitute a special case in the realm of sport activities. Unfortunately, sport has traditionally been defined as male domain, and access to sport for women has been defined as out of the ordinary to the point of being discourage and in some cases, legally outlawed (Coakley, 2001). The fear of losing one's femininity was the real issue behind so much attention to women's active involvement in sports.

In addition, Miller & Levy (1996), concluded that "sports participation by women routinely carries a negative stigma," because traditional images of sports are seen as incompatible with traditional roles for women (Goldberg & Chandler, 1991).

According to Nixon, Maresca, and Silverman (1979), women athletes have been hypothesized to experience gender role conflict especially if they engage in sports traditionally regarded as more masculine, because society is still more comfortable with women who participate in sports that emphasize traditional feminine characteristics such as grace and beauty (Kiovula, 1995). Thus, gender role conflict is purported to be generated by the dissonance of the women athlete's need to identify with two roles: the valued feminine role and the unvalued, even stigmatizing, athletic role for girls and women (Adler, Kless, 1992).

Hall (1996) added that the real issue behind so much attention to an athlete's femininity was the fear that she might be a lesbian. She further added that sports researchers leapt upon this concept, and their studies typically found that women athletes were more androgynous, more masculine, less sex-type, or less feminine. On the other hand, although negative stereotypes of the femininity of women athletes exist, the study of Metheny (1965) provide a positive perception toward women athletes that they are respected and are seen as feminine by men and women, athletes and non-athletes alike.

Furthermore, Fasting (1996) stated that the global women's movement over the past thirty years has emphasized that females are enhanced as human beings when they develop their intellectual and physical abilities. This idea has encouraged women of all ages to pursue their interests in sports, and it has led to the creation of new interests among those who, in the past never would have thought of playing sports. Coakley (2001) added that the women's movement also helped redefine occupational and family roles for women, and this has provided more women the time and resources they need to play sports. As the ideals of the women's movement have become more widely accepted and as male control over the lives and bodies of women has weakened, more women have chosen to play sports

These and other issues have brought importance of determining other impressions and perceptions on women's sports participation. Thus, the perception of the students on women's sports participation may depend on their experiences and participation in past and present sports and physical activities.

Purpose of the Study

The purpose of the study is to determine the perception on women's sports participation among the 973 randomly selected female Physical Education students of the three institutions; Mindanao State University, Marawi City; Mindanao State University-Iligan Institute of Technology, Iligan City; and Capitol University, Cagayan de Oro City.

It also aimed to determine the relationships of the dependent variables of the type and degree of sports participation, as well as the moderating variables of father and mother's educational attainment, family income, and institutional location.

Purposely, this study helps to encourage more participation and involvement of women not only in playing sports but as well as in sports management, administration and leadership.

The study is also significant among women in developing and promoting more sports programs that will enhance perception that is more positive and influence those who fairly perceived women's participation in sports.

Findings further provide awareness among women not only the health benefits, healthy lifestyle and social contribution of sports but to encourage them to participate as well.

Moreover, the result of this study provide empirically-based information for sports organizers, administrators, trainers, and coaches to provide sports program and open more opportunities that will encourage among women to participate in sports. Finally, it will provide baseline information for further research on women in sport.

Methodology

Research Design :In this particular study, a descriptive–correlation type of research design was used to determine the respondents' perception on women's sports participation. It aimed to determine the relationship of the independent variable of perception on sports participation and the dependent variables of type and degree of sports participation. It also aimed to determine if the selected moderating variables of parents' educational attainment, family income and institutional location affect the independent and dependent variables. The data was collected and evaluated through a researcher–made questionnaire on perception on women's sports participation.

*Samples and Sampling Procedures:*The study involved the female students of Physical Education 1 to 4 classes of the three Universities namely: Mindanao State University–Main Campus (MSU-Main) in Marawi City, Mindanao State University–Iligan Institute of Technology (MSU-IIT) in Iligan City, and Capitol University (CU) in Cagayan de Oro City. The numbers of respondents taken from each University were determined through stratified random sampling procedure with the following distribution: MSU–Marawi, 484; MSU–IIT, 307; and CU, 182 a total of 973 samples.

*Instrumentation:*The study used a researcher-made questionnaire developed based on observations, interviews, literature review and with the help of experts. The questionnaire has two main parts; the demographic profile of the respondents which consists of the following; institutional location, parent's educational attainment, family income, type of sports participation, and degree of sports participation. The second part is the Perception on Women's Sports Participation Inventory (PWSPI) the primary tool in determining the respondents' perception on women's sports participation. It is composed of fifteen (15) questions with positive and negative questions; both have five choices to choose depending on how the respondents perceive women's active involvement and participation in sports.

The researcher-made questionnaire was validated by the research adviser and some experts. It was pilot tested at the Princess Lawan Bae Hall Dormitory of 50 selected occupants with a reliability of .703.

Results and Discussion

The data showed the five categories of the parents' educational attainment of the respondents which showed that both father and mother's educational attainment indicate to have a high percentages of 46.8% and 49.7% respectively who had able to graduate in college. The intellectual capacity of the parents significantly contributed to the respondents' awareness of the essential contribution of sports and other related physical activities.

In terms of the respondents' monthly family income, it ranged from "Below P10,000.00" to as high as "Above P15,000.00". Among the 973 respondents, 375 of them had a monthly family income of below P10,000.00 and 360 respondents have a monthly family income of P10,000-P15,000. Only 238 respondents were having a monthly family income of above P15,000.00.

A high percentage of the respondents came from MSU-Marawi with a frequency distribution of 486.

Majority of the respondents participate in individual and dual sports with a percentage of 54.4% (529), and 43.4% (422) participate in team sports. There were 22 respondents who signified to have not played at all.

There were 620 of the respondents or majority of them occasionally participate in sports while 20.6% (200) participate regularly and 15.7% (153) do not participate at all.

The results disclosed, that 919 out of 973 respondents perceive "positive" and strongly positive" on female sports participation.

Results in relation to father and mother's educational attainment and family income showed a significant relationship with perception on sports participation, while, institutional location was not significantly correlated with perception on sports participation.

Significant relationships were found out between father and mother's educational attainment and institutional location and the type of sports participation. However, family income showed no significant relationship with the type of sports participation.

There were no significant relationships between mother's educational attainment, family income and institutional location with the degree of sports participation. Significant relationship however was found out between father's educational attainment and degree of sports participation.

Perception on sports participation was found out to be significantly correlated with the type of sports participation and degree of sports participation.

It was concluded further, that the relationships of the variables greatly contributed to the positive perception on women's participation in sports.

Conclusion

In most societies participation in sports has been primarily a men's domain. However, over the past decades women in sport advocates have proven that women are also competent and have a place in the sportsworld. It is interesting to note that as positively perceived that women who participate in sports are confident and have a higher level of self-esteem, perform better leadership qualities and possess a healthy lifestyle.

Active involvement in sports among women therefore does not harm psychologically and physically nor detract their femininity but enhanced them as individual. In order to foster more positive perception on women's sports participation, advocates therefore on women in sports should continue and expand the advocacy on empowering women's equity in sports.

Recommendations

In order to foster more positive perception on female sports participation, it is recommended that coaches, trainers, and sports administrators should encourage and provide more sports program opportunities for women.

Sports promotion for women should include workshops and trainings on social graces and good grooming that will help keep the natural charm and maintain the lady-like characteristics of women even those who literally involve in more physical sports.

Parents should encourage exposure and participation on both competitive and recreational activities to their children during earlier stage to establish wider perspective related to sports participation and involvement. School administrators, particularly those in elementary grades, should provide more participation opportunities and develop programs that will positively encourage the young girls to get involve into sports and recommend in training camps those with possible potentials for better trainings and skill development. Private and public agencies with women organizations should include active involvement among members on both recreational and competitive sports activities. Local Government Units should provide sports facilities and equipment and develop programs for free or with minimal charges for better access of the community, especially those with potentials but less fortunate to sustain their sporting habits. Among women, sport is not only an avenue for competition where one should be competitive and aggressive. It does not only develop social adjustments but a worthwhile involvement for wellness and healthy lifestyle. Participation therefore, is worth - sweating.

Further study is also recommended considering women in a specific sport and to include other significant variables like ethnicity, religion or other culture oriented factors.

Finally, since women's participation in sports has always been an issue not only among culturally conscious communities but even in communities of free thinking and liberated individuals, therefore advocates on women in sports should continue and expand the advocacy on empowering women's equity in sports.

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The women and sport in Indian society

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Abstract

Man is a social animal. A society influences the men quite a bit if he achieves excellence in any field, say, sports. History is full of evidence how Kings, Maharajas, and Rulers patronized sports and sportsmen in order to establish high traditions of sports culture and through these achieved deep social impact. Sport in India is yet to reach its peak. The Mughals ruled India for centuries, the Britishers for another one and a half-century. It was only after 1947, when we achieved independence that we started developing as a modern nation, with special rights to half of its citizens namely women. Women in India are still unable to take a stand for themselves. Resolution of the Second International Olympic Committee World Conference on Women and Sport "Raising awareness about the positive influence of the Convention on the Elimination of All Forms of Discrimination against Women on the development of physical activity and sport for women and girls;" As Swami Vivekananda rightly said that "The nation which doesn't respect women will never become great.....". Now in modern era many women were emerged in sports in India, like P.T.Usha, Karanam Malleswari, Meri kom, Sania Mirza, Saina Nehwal, Mithali Raj and other great personalities who also laid a path for many young and upcoming women participants.

Introduction:

According to Jiddu Krishnamurthy "human being is the culmination of different facets like intellect, body, mind spirit, appetite, emotions etc., none of the single facet independently can describe an individual. Humans have brain as well as mind. The brain is the material centre of the nervous system, responsible for the coordination of all sensory organs, memory, and intellectual knowledge. The mind is not material, but it is related to insight, non-visual perception, compassion and the profound intelligence, which guide a human to act rightly, to do good deeds. The main objective of education should be developing the brain and mind, not on accumulating knowledge.

Dominating the child and directing him according one's fancy will kill his inborn natural talents and growth. Every child is born and entitled to win "in the true spirit of sportsmanship and for the glory of sports"

"I like winning, I can accept losing but above all I love to play" -Boris Becker.

Man is a social animal. A society influences the men quite a bit if he achieves excellence in any field, say, sports. History is full of evidence how Kings, Maharajas, and Rulers patronized sports and sportsmen in order to establish high traditions of sports culture and through these achieved deep social impact.

Sportsmen are the pillars of success in a particular society, when they are recognized by the society. Sport in India is yet to reach its peak. The Mughals ruled India for centuries, the Britishers for another one and a half-century. It was only after 1947, when we achieved independence that we started developing as a modern nation, with special rights to half of its citizens namely women. Indian women are still trying to establish their own identity. Women in India are still unable to take a stand for themselves. Resolution of the Second International Olympic Committee World Conference on Women and Sport "Raising awareness about the positive influence of the Convention on the Elimination of All Forms of Discrimination against Women on the envelopment of physical activity and sport for women and girls;"

The Brighton Declaration on Women and Sport calls for:

Equality in society and sport; Sport facilities that meet the needs of women;An increase in the number of women coaches, advisers and decision makers in sport;Education, training and development

programmes that address gender equality; Information and research on women and sport; Allocation of resources for sportswomen and women's programmes; and Incorporation of the promotion of gender equality and sharing of good practices into governmental and non-governmental policies and programmes on women and sport.

The International Year of Sport and Physical Education in 2005 generated considerable attention to the issue of sport and development throughout the world. Women are the wealth of India and they have contributed in almost every field and made country feel proud at every occasion. They are in front, leading the country, making mile stones and source of inspiration for many. However, another reality of Indian society is that there is systematic discrimination and neglect of women in India, which could be in terms of inadequate nutrition, denial or limited access to education, health and property rights, child labour and domestic violence etc. The fear of sexual violence has been a powerful factor in restricting women's behavior and sense of freedom and also participating in sports. The socio-cultural attributes in society have left a deep mark on women empowerment in India. Parents depend on sons for support in old age and looked to them as potential builders of family prestige and prosperity whereas daughters are considered to destine for others. Women in India need and expect equal access to education, health, nutrition, employment and productive resources. In fact they are fighting for their rights to decide their own path for development. As Swami Vivekananda rightly said that "The nation which doesn't respect women will never become great....". Therefore, in pursuit of making India a great nation, media should work towards giving women their much deserved status. The worth of a civilization can be judged by the place given to women in the society. Of the several factors that justify the greatness of India's ancient culture, one of the greatest is the honored place ascribed to women. Manu, the great lawgiver, said long ago, 'where women are honored there reside the gods'. According to ancient Hindu scriptures, a man without the participation of his wife can perform no religious rite with perfection. A wife's participation is important in some religions, such as in Hinduism. Married men along with their wives are allowed to perform sacred rites on various important festivals. Wives are, thus befittingly called 'Ardhangani' (better half). They are given not only important but also equal position with men. The Muslim influence on India caused considerable deterioration in the status of women. They were deprived of their rights of equality with men. Raja Ram Mohan Roy started a movement against this inequality and subjugation. The contact of Indian culture with that of the British also brought improvement in the status of women. The third factor in the revival of women's position was the influence of Mahatma Gandhi who induced women to participate in the Freedom Movement. The survey results provide for a detailed discussion of sports participation in one country i.e. England for those people aged 16 and over. Women who classify themselves as Black Caribbean (34%), Black African (34%), Indian (31%), Pakistani (21%) and Bangladeshi (19%) have participation rates below the national average for all women. "The greatest negative influence of religion on women sport is found in Muslim countries. When we are stepping into 21st century, one must overcome the barbarous attitude and divert the destructive mind of the youth to sports.

The socio-cultural, community setup and religious factors mostly affecting women participation in sports. In our society the parents and other family members try to impose restriction over the movements of girls of growing age in family. The parents feel that girls should take more interest in the activities, which are confined to the four walls of houses. A false notion is developed among the girls, which restricts their participation in sports.

Conclusion: Now in modern era many women were emerged in sports in India, like P.T.Usha, Karanam Malleswari, Meri kom, Sania Mirza, Saina Nehwal, Mithali Raj and other great personalities who also laid a path for many young and upcoming women participants. In spite of that situation, Indian women clinched more than 30 medals in International level since 1951 Asian games till today. But still there is a need to develop the Sports Culture among our Indian Society rather than political and religious cultures for safer, healthier and sporting India."

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International Journal in Multidisciplinary and Academic Research (SSIJMAR) Vol. 2, No. 2, March-April (ISSN 2278 – 5973)

Importance Of Physical Exercise On Positive Life Style In The 21st Century

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Abstract

Lifestyle is the identity of a community and its people. It involves values, attitudes, habits and activities of the people, related to these aspects. A positive lifestyle reflects a positive attitude of the race or community and contributes effectively to a progression of, not only the people of that community, but the nation at large. A positive lifestyle can be achieved in several ways but the basic requisite for this is physical fitness; as the saying goes, "a healthy mind in a healthy body". To keep oneself physically fit, it is mandatory that individuals resort to physical exercise, in a planned manner. A nation should aspire for a positive lifestyle of its people where the attainment of a "healthy body" is important.

Key Words: Positive Lifestyle, Physical Exercise

Introduction

Lifestyle is a manner of living that reflects the person's values and attitudes. Lifestyle is a set of attitudes, habits or possessions associated with a particular person or group, a way of living of individual, groups and societies, which manifest in coping with their physical, psychological social and economic environments on a day to day basis. It is a pattern of behaviour or way of individual lives. It is the typical way of life of an individual group or culture. It includes the patterns of social relation, consumption, entertainment and dress. Positive lifestyle is expressed in activities, attitudes, interest, opinions and values. It also reflects a person self-image or self-concept, the way they see themselves and believe that they are seen by others. Lifestyle generally means pattern of individual practices and personal behavioural choices that are related to elevate or reduce health risks. Physical exercise is any bodily activity that enhances or maintains physical fitness and overall health and wellness. It is also a subset of physical activity that is planned, structured, and repetitive and has an intermediate objective to improve or maintenance of physical fitness.

Health And Wellbeing

Health is an attainment of a level of health that will enable every individual to lead a socially and economically productive life. It also states that in which the individual is able to mobilize all his resources-intellectual, emotional, and physical, for optimum daily living¹.

The ideas about health and wellbeing change over time and vary between cultures and life stages. "While definitions and measures of health and well-being vary, there tend to be two salient person-related concepts that are often combined with a more societal-level perspective. The first is that *health and well-being* can refer to the actual physical health of workers, as defined by physical symptomatology and epidemiological rates of physical illness and diseases. The second is that *health and well-being* can refer to the mental, psychological, or emotional aspects of workers as indicated by emotional states and epidemiological rates of mental illnesses and diseases². The term 'health' generally appears to encompass both physiological and psychological symptomatology within a more medical context. Therefore we suggest the term *health* as applied to organizational settings can be used when specific physiological or psychological indicators or indexes are of interest and concern. Well-being tends to be a broader and encompassing concept that takes into consideration the "whole person." Beyond specific physical and/or psychological symptoms or diagnoses related to health, therefore, *well-being* can be used as appropriate to include context-free measures of life experiences (e.g., life satisfaction, happiness and within the organizational research realm to include both generalized job-related experiences(e.g., job satisfaction, job attachment) as well as more facet-specific dimensions (e.g., satisfaction with pay or co-workers)³.

Significance Of Positive Lifestyle

A positive lifestyle contributes to increasing longevity and slowing down the ageing process. It helps all generations to stay strong and healthy, both mentally and physically. A positive lifestyle slows down disease development and increases immunity as well as the level of energy. It enables to accomplish

more work in life which in turn provides a greater sense of satisfaction. Positive lifestyle enables better coordination of muscles and increases strength, flexibility and endurance. It improves the holistic quality of life⁴.

COMPONENTS OF POSITIVE LIFESTYLE

Life style is a comprehensive term, which has many components which include healthy diet, physical exercise, stress management, socialization, personal hygiene, safe environment etc.

Physical, mental, social, emotional, spiritual and intellectual qualities are developed when one participates in vigorous physical activities. This also keeps a child away from diseases. Through the development of the child a nation will be developed and through the development of a nation the world will be developed⁵.

In the 21st Century, technological advancement and diversity have greatly changed the lives of people in society. It has both positive and negative effects on our daily lives. The media portrays many role models as impossibly perfect-looking. Photos in magazines are often air-brushed, making females appear slimmer and males more muscular. Children as well as adults tend to relish fast food compared to a healthy diet. Videogames are preferred to games that include physical activity. Plastic surgery is used by many celebrities, and some models use drugs to stay slim or fit. This obsession with image and achieving the 'perfect' body is thought to have played a significant role in the increase of drug misuse and eating disorders in young people today.

The prevalent barriers in today's society include time, access to location of facilities, ability, cost, illness and health problems, lack of willingness and awareness. Time constraint in today's busy life time is sighted as one of the commonest excuses for not exercising. Facilities are not evenly spaced, for eg. some people are very close to a leisure centre /gym whereas others will have to travel a long way. New participants are sometimes embarrassed as they lack the required fitness and energy. Buying sports equipment and paying for related activities can be off putting. People with health conditions will need a medical professional's clearance before exercise. At times people have to migrate for adequate opportunities or jobs. There is a distinct trend of transformation from joint to nuclear families. Sometimes, inspite of having access to facilities, lack of willingness is seen as people are not aware of the benefit of physical exercise in their lives – in the present as well as their future.

Society is made of social groups that differ according to the ways that humans use technology to provide needs for them. Although the beneficial effects of sports for development are still not exploited to their full extent, sports can help bridge the cultural and ethnic divides, create jobs and business, promote tolerance and non-discrimination. Sports also promote a healthy lifestyle and the value of exercise, which is especially important now that we are in the age of internet and video games. From an early age the main influence on your lifestyle choices have been parents or guardians. As a child one observes parents' lifestyle choices and learn from them. For example, children whose parents eat a healthy, balanced diet are more likely to do so when they become adults. Peer pressure often leads to negative lifestyle choices, but can have positive effects, like peers encouraging one another to join a sports team. Role model has a positive influence in sports.

However, most people get benefit from some form of physical activity. New kinds of interactive computer games, such as the Wii fi have helped people to overcome some of these barriers – they can exercise in the comfort of their home, do not have to travel, and can take part whenever it is convenient. These games can motivate and engage people of all ages. In our modern technological era there are various books on health, innovative forms of exercise – yoga, meditation, aerobics and new medical facilities which facilitate in creating a positive lifestyle via physical exercise.

Conclusion

Humans adopted a settled life from their earlier nomadic existence to lead a better and happier existence. It has started from the dawn of the human civilization. From a traditional lifestyle man has changed to a modern one, taking into account a better standard of living. But with the advancement of modern times, man is facing various problems like time management, increase of stress, competition, etc. In this fast and stressed out lifestyle, only physical exercise can create a holistic positive lifestyle for individuals, thereby developing a better individual as a worthy member of the who could contribute to the development of a progressive and healthy nation.

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A Study On Competitive State Anxietybetween Power Lifters And Weight Lifters.

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Abstract:-

The present study undertaken by the investigator may be justified as worthwhile on the following grounds. Anxiety appears to be one of the important, psychological traits for any person for achievement and success in life. Anxiety enables a person to improve upon his performance. Knowledge of the results of the study may be useful for athletes, coaches and trainers. The results of the study can help subjects in knowing their cognitive state anxiety level and assessing it. Knowledge of the results of the study can be used for motivation purposes. The results of the study can be used for feedback power lifters and weight lifters. Self-confidence of inter collegiate power lifters and weight lifters.

Introduction:-

The purpose of the present study was to compare the competitive state anxiety of inter-collegiate power lifters and weightlifters. The study was delimited to one hundred (N=100) subjects with 50 subjects in each category being studied. The study was further delimited to subjects in the age group of 18-28 years. The study was confined to men subjects only. The sample of subjects in the present study includes power lifters and weightlifters represented their respective colleges in the university inter-collegiate tournament. The study was delimited to one hundred (N=100) subjects, fifty power lifters and fifty weight lifters (50) who have participated in the Inter-collegiate competition in their respective universities during the year 2013 -2014. The study was delimited to the administration of competitive state anxiety inventory developed standardized by Martens, Valley and Burton 1992. The mood states and motivation of subjects while responding to the competitive state anxiety questionnaire and their subsequent influence on the data gathered and the results of the study were beyond the control of the investigator. There may not be any significant difference in competitive state anxiety between inter-collegiate power lifters and weightlifters.

Comparative

That compasses involving, comparison as method, especially in a branch of study; it is concerned to be a comparison analysis of dominant characteristics between two or more areas for purpose of investigating their similarities and differences.

Study The act or process of applying the mind so as to acquire knowledge or understanding, as by reading investigating etc., careful attention to, and critical examination and investigation of any subject, event, etc., on essay or thesis embodying the results of a particular investigation.

SportsA competitive activity, which involves degree of physical exertion or which requires and skill in the playing of an object.

Methodology

The purpose of the present study was to compare the competitive state anxiety between inter-collegiate men power lifters and weightlifters. In this chapter, the details regarding the selection of subjects, criterion measure, sample selected for the study, selection of tool for the study, description of tool used, administration of the tool, collection of data and statistical technique employed have been presented.

Selection of Subjects

The subjects for the present study were sportsmen who participated from their respective colleges in power lifting and weightlifting in their respective universities inter-collegiate tournament

during the year 2013-14. The subjects had represented their respective colleges in the University inter-collegiate competitions in power lifting and weightlifting.

Sample Size

Sample for the present study consist of one hundred (N=100), subjects who were in the age group of 18-28 years, 100 subjects (N=100) belongs to power lifting and weightlifting were in equal number served as subjects.

Criterion Measure

The criterion measure selected was Competitive state Anxiety.

Selection of the Tool

In order to collect data necessary for the present study there was a need for an objective psychological tool that would measure Anxiety. The (CSAI- 2) developed and standardized by Martens, Vealey and Burton 1992 was used because of the following reasons.

It was simple enough and economical

It has been widely and extensively used in the field of psychological testing, and could be conveniently adopted for the purpose of the study

It is an objectively score able test

The items and questions in the test could be easily understood by the responders.

Description of the Tool

The competitive state anxiety inventory 2 (CSAI-2) test designed and standardized by Martens, Vealey and Burton 1992 consists of a series of questions numbering 27. Each item or question in the questionnaire has got four answers. Each subject will have to tick for 1, 2,3,4, subject has to put a tick mark against any of the four answers that would reveal the response of competitive state anxiety of each subject. All instructions in the questionnaire are very clearly stated and responses were assessed based on the scoring keys given by the authors.

Test Administration

In the instructions that appear before the questions to be answered by the subjects, the subjects under study were briefed about the purpose of the present investigation and about the importance of anxiety. The questionnaire and the relevant instructions were personally handed over to each subject during intercollegiate tournaments. The subjects were requested to answer the items of the inventory sincerely. They were also convinced that the response provided by them would be for the purpose of research only.

Scoring

Scoring of the responses given by each subject to the questionnaire was done by the researcher himself as per the Scoring Keys The total of score obtained by each subject, in response to all the twenty seven statements of the inventory that were quantified in numerical form represented as the data for the present study.

Statistical Procedure

To test the research hypothesis, 't' test for difference of means was used with the level of significance being set at 0.05 percent The statistical package for social science was used to calculate 't' value.

DATA

The main purpose of the present study was to compare the competitive state anxiety between men power lifters and weight lifters who had taken part in their respective Universities in intercollegiate tournaments. To achieve the purpose of present investigation the investigator administered Martens, Valley and Burton 1992 inventory to one hundred subjects (N=100) in the age group of 18-28 years who had participated in the University intercollegiate tournaments during the year 2013-14. The sample included 100 subjects fifty from power lifting and fifty from weight lifting. Necessary data relevant to the present study were collected through competitive state anxiety inventory. Statistical analysis of data revealed the following findings which have been presented in table 1.

Table - 1

Showing The Mean Value, Standard Deviation And 'T' Value Of The Cognitive State Anxiety

Sl.No	Players	N	Mean	S.D.	't' value
1	Power lifters	50	22.20	2.62	.558
2	Weight lifters	50	22.52	2.92	

The mean difference in cognitive state anxiety was analyzed by 't' test for statistical significance of inter collegiate power lifters and weight lifters. It is evident from the table 1 that there is no significant difference exists between the inter collegiate power lifters and weight lifters in cognitive state anxiety. Since the calculated 't' value .558 was found to be lesser than tabulated 't' value 1.67 required to be significant at 0.05 levels. Therefore there is no significant difference exist in cognitive state anxiety of inter collegiate power lifters and weight lifters and the null hypothesis was accepted.

Table – 2

Showing The Mean Value, Standard Deviation And 'T' Score Of The Somatic State Anxiety

Sl.No	Players	N	Mean	S.D.	't' value
1	Power lifters	50	21.98	2.97	.753
2	Weight lifters	50	22.46	3.14	

The mean difference in cognitive state anxiety was analyzed by 't' test for statistical significance of inter collegiate power lifters and weight lifters. It is evident from the table 2 that there is no significant difference exists between the inter collegiate power lifters and weight lifters in somatic state anxiety. Since the calculated 't' value .753 was found to be lesser than tabulated 't' value 1.67 required to be significant at 0.05 level. Therefore, there is no significant difference exist in somatic state anxiety of inter collegiate power lifters and weight lifters.

Table - 3

Showing The Mean Value, Standard Deviation And 'T' Score Of The Self Confidence

Sl.No	Players	N	Mean	S.D.	't' value
1	Power lifters	50	23.34	3.30	1.59
2	Weight lifters	50	22.34	2.36	

The mean difference in cognitive state anxiety was analyzed by 't' test for statistical significance of inter collegiate power lifters and weight lifters. It is evident from the table 3 that there is no significant difference exists between the inter collegiate power lifters and weight lifters in self-confidence. Since the calculated 't' value 1.59 was found to be lesser than tabulated 't' value 1.67 required to be significant at 0.05 levels. Therefore, there is no significant difference exist in self confidence of inter collegiate power lifters and weight lifters. Self-confidence of inter collegiate power lifters and weight lifters.

Conclusions:-

The calculated 't' value showed no significant difference between power lifters and weight lifters, since the calculated 't' value is lesser than the critical 't' value in cognitive state anxiety. When mean value of cognitive state anxiety was compared weight lifter's mean value is slightly more than the power lifters. The calculated 't' value showed no significant difference between power lifters and weight lifters, since the calculated 't' value is lesser than the critical 't' value in somatic state anxiety. In this aspect when mean value is compared weight lifters have shown more mean value than power lifters. The calculated 't' value showed a no significant difference between power lifters and weight lifters, since the calculated 't' value is lesser than the critical 't' value in self confidence. In this power lifters have shown more self confidence than weight lifters when mean value was compared.

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A Study On Physical And Motor Fitness Among Volley Ball, Hand Ball and Kabaddi Players

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Abstract:-

Motor fitness is regarded as the preparedness for performance with special regard for big muscles activity, in a more general phase of physical fitness. Fundamental and success of all games and sports is higher level of physical and motor fitness. Under any hypothesis, a secured and fit body is a re-requisite to become a top-level performer in any of the games and sports. Prakash (1984) conducted a research programme on comparison of selected physiological and physical factors of handball, Kabaddi and volleyball

Keywords: Physical and Motor Fitness Among, Volley Ball, Hand Ball and Kabaddi Players

Introduction:-

Volleyball is the game which is not having physical contact with opposite teams' player. Comparing to other two games in the study volleyball need less vital capacity because when every point was scored they will have the breathing time while next service. But vital capacity is needed while playing the rally. Endurance is needed to play whole five sets of match which is having 25 points in each set. Speed is needed to the ground and spike the ball while moving. Handball is a fast moving vigorous combative game so lot of oxygen is needed to play for an hour. So handball needs to be good oxygen uptake capacity (vital capacity). While handball has to play 60 minutes in a same energy level so lot of endurance is needed to play the game. While on the move of task break and while coming to diffence speed will be needed to gain the position. Kabaddi is an also vigorous agility game with lot of body contact. In this game vital capacity holds an important role while doing cant skill. Rider has to hold his breath while riding in opponents court. If he loses his breath he will be called out. So more vital capacity is need than any other sport in the study. Kabaddi players need endurance for play a 40 minutes and speed is needed for antiriders to catch the riders while riders need speed to escape from antiriders and to touch the center line to gain the poin.

To study the significant difference between Volley ball players, Hand ball players and Kabaddi players with respect to diastolic bloodpressure. To study the significant difference between Volley ball players, Hand ball players and Kabaddi players with respect to 50 meters speed To study the significant difference between Volley ball players, Hand ball players and Kabaddi players with respect to endurance of 1000 meters.

It was hypothesized that there will be a significant of Physiological and Motor Fitness Variables among Volley Ball, Hand Ball and Kabaddi Players at Intercollegiate Players Level.

There is no significant difference between Volley ball players, Hand ball players and Kabaddi players with respect to their vital capacity. There is no significant difference between Volley ball players, Hand ball players and Kabaddi players with respect to diastolic blood pressure. There is no significant difference between Volley ball players, Hand ball players and Kabaddi players with respect to 50 meters speed. There is no significant difference between Volley ball players, Hand ball players and Kabaddi players with respect to endurance of 100 meters.

The limitation of the present study is as follows the food habits; other regular habits and life style are not controlled. The regular activities of the students will not be controlled. Family background of the subject will not be considerer. Environmental factors, which contribute to the mental ability of the players, were not taken into consideration. The response of the subject to the questionnaire might not be honest in all cases and this was recognized as a limitation. The present study was delimited in the following aspects. The study will be restricted to 30 Volley Ball, 30 Hand Ball, and 30 Kabaddi players.

The age limit of the subject will be limited to the range of 18 to 25 years. The study was restricted to two physiological variables namely blood pressure and heart rate, Motor Fitness variables are speed and endurance.

Methodology

In this chapter the selection of subjects, selection of variables, reliability of the data, instrumental reliability, testers competence, subjects reliability, orientation of the subjects, collection of the data and statistical techniques employed for analyzing the data have been described.

Selection of Subjects

A total of 90 inter collegiate level consist of volley ball, hand ball and Kabaddi players were randomly selected.

Selection of Variables

The research scholar reviewed the available scientific literature, books, journals, periodicals, and magazine and research papers pertaining to the study. Taking into consideration of the importance of these variables and the feasibility criteria for these following variables were selected for the investigator.

Physiological Variables, Blood Pressure, Vital Capacity, Motor Fitness Variables, Speed, Endurance
Reliability of Data

The reliability of data was ensured by establishing the instrument reliability and subject reliability.

Subject Reliability

As the same subjects were used to measure for self-confidence and achievement motivation of ability with questionnaires by the same investigator were considered reliable.

Collection of Data

The administration of the test and the method of the collection data were explained while collecting the data.

Physiological Variables

Blood Pressure, Vital Capacity.

Blood Pressure and Vital Capacity was measured by using Standard Instrument.

Motor Variables

Speed and Endurance was measured in Track

50 Meters Dash (Speed)

Purpose : To measure speed and acceleration.

1000 Meters Run: (Endurance)

Purpose: Test to measure cardiovascular endurance.

Vital Capacity

Vital capacity was measured with the help of Drg Spirometer

Statistical Techniques

The data that were collected from the subjects were treated statistically. To find out the significance difference among the volley ball, hand ball and kabaddi players for the main purpose of the study was "A study on physical and motor fitness among volley ball, hand ball and kabaddi players." Then the data were analysed with reference to the objectives and hypotheses by using student unpaired 't' test and Karl Pearson's correlation coefficient by using SPSS 11.0 statistical software and results were obtained there by have been interpreted.

THE DATA

After the data had been collected, it was processed and tabulated using Microsoft Excel - 2000 Software. The data collected on Vital capacity, Diastolic blood pressure, 50 meters Speed and Endurance of 1000 meters of Volley ball, Hand ball and Kabaddi players. The main purpose of the study was "A study on physical and motor fitness among Volley ball, Hand ball and Kabaddi players". Then the data were analyzed with reference to the objectives and hypotheses by using student unpaired t-test and Karl Pearson's correlation coefficient by using SPSS 11.0 statistical software and the results obtained there by have been interpreted. It is also the intention of the investigator to find out whether differences in the independent variable namely group of players (Volley ball, Hand ball and Kabaddi players) with respect to Vital capacity, Diastolic blood pressure, 50 meters Speed and Endurance of 1000 meters and consequently others. The results are presented in the following section.

To achieve this hypothesis, the Karl Pearson's correlation coefficient technique has been applied and the results are presented in the following table.

Table:- Results of correlation coefficient between vital capacity, diastolic blood pressure, speed 50 meters and endurance 1000 meters of all three types of players

Variables	Vital capacity	Diastolic blood pressure	50 meters speed	Endurance of 1000 meters
Vital capacity	1.0000			
Diastolic blood pressure	0.2596*	1.0000		
50 meters Speed	0.1223	-0.0602	1.0000	
Endurance of 1000 meters	0.1099	-0.0057	0.2062	1.0000

*Significant at 5% level of significance $p < 0.05$

From the results of the above table, we seen that,

The relationship between vital capacity and diastolic blood pressure of All players (Volley ball, Hand ball, Kabaddi) players ($r=0.2596$, $p < 0.05$) is found to positive and statistically significant at 5% level of significance. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, vital capacity increases with increase in diastolic blood pressure of All players (Volley ball, Hand ball, Kabaddi) players. The relationship between vital capacity and 50 meters speed of All players (Volley ball, Hand ball, Kabaddi) players ($r=0.1223$, $p > 0.05$) is found to positive and statistically not significant at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. The relationship between vital capacity and endurance 1000 meters of All players (Volley ball, Hand ball, Kabaddi) players ($r=0.1099$, $p > 0.05$) is found to positive and statistically not significant at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. The relationship between diastolic blood pressure and 50 meters speed of All players (Volley ball, Hand ball, Kabaddi) players ($r=-0.0602$, $p > 0.05$) is found to negative and statistically not significant at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. The relationship between diastolic blood pressure and endurance 1000 meters of All players (Volley ball, Hand ball, Kabaddi) players ($r=-0.0057$, $p > 0.05$) is found to negative and statistically not significant at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected. The relationship between 50 meters speed and endurance 1000 meters of All players (Volley ball, Hand ball, Kabaddi) players ($r=0.2062$, $p > 0.05$) is found to positive and statistically not significant at 5% level of significance. Hence, the null hypothesis is accepted and alternative hypothesis is rejected.

Conclusion:- Within the limitations of the present study and on the basis of the findings the following conclusions are drawn; The Volley ball players and Hand ball players have similar vital capacity. The Volley ball players have higher vital capacity as compared to Kabaddi players. The Hand ball players and Kabaddi players have similar vital capacity. The Volley ball players and Hand ball players have similar diastolic blood pressure. The Volley ball players and Kabaddi players have similar diastolic blood pressure. The Hand ball players and Kabaddi players have similar diastolic blood pressure. The Volley ball players and Hand ball players have similar speed. The Volley ball players and Kabaddi players have similar speed. The Hand ball players and Kabaddi players have similar speed. Volley ball players and Hand ball players have similar endurance. The Volley ball players and Kabaddi players have similar endurance. Hand ball players and Kabaddi players have similar endurance. Vital capacity increases with increase in diastolic blood pressure of Hand ball players Vital capacity increases with increase in diastolic blood pressure of All players (Volley ball, Hand ball, Kabaddi) players

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Awareness Knowledge And Attitude Towards Doping Among Ranichannamm University Inter-Collegiate Weight Lifter And Power Lifter

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Introduction

In the recent years, sport began to play a more important part of our lives. It became so popular that the wages of the athletes are ridiculously high, although that's only some of the athletes out of the majority. A ridiculous amount of hard work and practices is what is needed to match up to this reward. Winning games is one important way to raise their self- value, and how much they'll earn. Winning become so important that people would try anything to win, including taking drugs what is a most important thing for the athletes? Does doping have a negative impact? Why they cheat?

What is most important in an athlete; what do athletes make money with? Their bodies. Those drug users are betting games with their bodies, putting their future at risk. It is most likely that the athletes' bodies will be affect by the drugs in a negative way. Some of these drugs taken could even be dangerous enough to cause illness leading up to death, such as heart attack, strokes, cancer, and HIV-AIDS. Think twice, why make so much money if one could not be alive to spend it?

Not only does doping has negative impact physically, it can also cause mental illness. By doping at all cost, the users develop a sacrifice-all-to-win attitude, which will affect their life in many parts. If a person could do something illegal to gets what he wants, there's no doubt that he would harm someone to reach that goal. This type of attitude toward things is very dangerous; it can lead up to criminal acts.

Among this society where people are struggling to survive, training days and nights, contains these others who isn't playing fair. Perhaps they did train hard, or perhaps they were skipping practices, either way, they would ruin the game by taking drugs to get themselves into a higher level. It wouldn't be fair because no one else is taking, or if everyone starts taking drugs then each person would take more and more; there will be no end to that. The result of all that above would be wicked health and it will involve a large amount of people.

I believe most doping athletes are blind by the overwhelm pressure, and a few minutes of losing their mind could lead to a wrong decision. From a normal point of view, we could conclude that the risk isn't worth the try, it's not worth it at all. I am disappointed that some people think that sport doping is not a problem. And people should think deeply about the win at all cost attitudes.

Pierre de Coubertin, founder of the modern Olympic Games, was one of the first to point out the necessity of protecting sport from the dangers threatening it as an institution. In 1923, in a speech delivered in Rome, he denounced "the intrusion of politics into sports, the increasingly venal attitude towards championship, the excessive worshipping of sport, which leads to a belief in the wrong values, chauvinism, brutality, overworking, overtraining, and doping".

The recent doping scandal of the last Tour de France cycling competition drew the attention of the media to practices which, until then, had remained covert. This media coverage has increased public awareness of this phenomenon. Indeed, due to their scope and sophistication, doping practices are a threat to more than just the world of sport. Though first considered to be no more than a cheating problem, the doping issue has reached such proportions that it now concerns society as a whole. As the stakes involved in sport grow higher and the phenomenon more widespread, the moral values attached to sport are increasingly called into question and the health of athletes increasingly at risk.

Furthermore, the close link observed between doping and addiction underscores the former's social and sanitary impact. This report shows that far from being limited to the world of high-ranking athletes, doping is an important public health issue.

The scope of the problem A few examples are enough to give an idea of the scope of the problem: in 1986, a physician and two pharmacists were indicted for having sold over 2,000 phials of Tendon, at 150 times their normal price. On December 2, 1995, near Lille, customs officers seized nearly 200,000 tablets and phials of anabolic drugs meant for the muscle-building club market. An article by P. Laure published in the magazine "Sport et Vie" n°44 (September 1997), analyzes in de tail the new opportunities offered by Internet: twenty-odd servers presenting all sorts of drugs, including anabolic steroids, corticoids and beta-blockers. A synthetic graph provides the market prices for these drugs — from 50 to 3,800 francs for the minimal dose — and shows that it is possible to obtain drugs listed among French prescription only drugs (lists I and II) as well as illegal drugs.

However, the empirical data presently available does not allow us to accurately assess the phenomenon. In 1966, 37 champions from 2 sports federations were tested and 12 were tested positive. In this small sample, the percentage of doped athletes was 37%. In 1992, 8,000 tests were carried out in 56 federations and only 69 tested positive: in this case, the rate fell to 1%. Indirect data, such as the seizure of banned drugs, the dismantling of distribution networks, as well as the tragic fate of some champions-between 1987 and 1990, "18 Belgian and Dutch cyclist champions died, apparently due to the use of erythropoietin" (Laure, 1995, p.136) - lead us to believe that the low percentage of positive tests does not mean that doping has disappeared, but that it is now possible to hide it. The percentages of doped athletes given in the press vary from 10 to 90%. But the level of the athletes or even the precise sources of these figures are never mentioned, which only shows that the extent of the doping phenomenon is impossible to assess. It is thus all the more difficult, except in very rare cases, to cross the dependent variable "doping" with the independent variables which are necessarily taken into account in a sociological approach to the issue. The variations of doping behavior according to gender, age, socio cultural background, education and other characteristics are unknown.

The aims In order to enhance their performance, sportsmen use specific "methods" which optimize the qualities needed for their sport, on the basis of various physiological, biological, and psychological factors. According to a widespread opinion, "upstream" doping, used for the above-mentioned aim, is "bad" and should be distinguished from "downstream", or "good" doping, meant to help athletes recover their physiological and biological balance. In fact, both types of doping are complementary, since they artificially boost the body's abilities, the second type of doping aiming to make up for the negative effects of the former.

Aerobic potential can be increased by increasing the blood's oxygen transfer capacity. This is very important in sports requiring staying power, rely on the body's energy metabolism, or require intense effort and varying sources of energy. After long-lasting or intense effort, glycogen reserves must be restored. A specially adapted nutritional strategy and drugs are then needed to modify the metabolic process. Methods include altitude training, self-transfusion, more recently, recombinant EPO, and of course glucocorticoids, etc.

When the aim is to increase strength and muscular power and improve technique, protein, natural or synthetic anabolic agents are frequently used, in combination with hyper protein diets and muscle-building exercises. The balance between the increase in muscle mass and the loss of fat mass can be maintained thanks to growth hormones associated with amino acids or other drugs with anabolic properties (but whose initial medical purpose is other), or with nutritional supplements.

To postpone fatigue and enable the body to reach its utmost limits, one can use antalgics, cardio-respiratory analeptics, central nervous system stimulants, several of which are strong anti-depressants and stimulants.

In sports where body features or size, tall or short, are important, such as body-building, the shape of the body can be modified through hormonal manipulations.

Various drugs are used to fight stress, facilitate sleep, and remain in good physical shape, such as benzodiazepine derivatives and amphetamines, cannabinoids, alcohol, beta-blockers. For disciplines where it is important to stay alert, the sleeping-waking rhythm can be controlled thanks to amphetamines or more recent drugs.

Last, cultural and individual factors also play a role in drug-taking behavior. On the one hand, as concerns men, value is placed on the mesomorphic body type and muscular strength; physical stereotypes are spread by the media and the athletic subculture. On the other hand, one must take into account factors such as low self-esteem, or other psychological problems linked to for example to one's body image and which existed prior to drug-taking.

Illicit drugs are of course taken on the sly. Several ways of hiding the fact exist: diluting urine, hem dilution, reducing kidney tubular secretions or the testosterone/epitestosterone ratio.

The World Anti-Doping Agency (WADA) promotes, coordinates and monitors the global fight against Doping in sport. This review is the result of WADA's identification of education and social science research as strategic priorities for developing evidence-based anti-doping education programs and interventions. Based upon the need identified by WADA, the review provides an extensive annotated bibliography of peer reviewed publications in the social sciences regarding

Predictors and precipitating factors in doping; Attitudes and behaviors towards doping and Anti-doping education or prevention programs.

The database created during this review should be maintained so that future research in this area can be centrally documented and recorded.

New list of banned substances and methods

Stimulants, Narcotics, both natural and synthetic, Anabolic agents, Diuretics, Peptide and glycoprotein hormones and analogs, Blood doping, Pharmacological, chemical or physical manipulation, Alcohol, Marijuana, Local anesthetics, Corticosteroids, Beta-blockers

All physicians have access to the detailed list, since it is quoted on p. 6 of the 1998 edition of the VIDAL medical dictionary ("Banned substances and methods").

Drugs which are detectable thanks to present testing methods All natural or synthetic doping drugs (a to e) have a common physical and chemical characteristic, which is low molecular weight (under 500) (see table II). They can thus be detected by the usual analytical methods, such as gas chromatography, together with mass spectrometry.

DELIMITATIONS:

The study was delimited to Men Weight lifter

The study was delimited to weight lifters and power lifters.

Further the study was delimited to only 30 members from each group.

LIMITATIONS:

No motivation technique used to collect the data is one of the limitations.

The study is limited to the information gathered from the power lifter and weight lifters.

The study was limited only for a male and female student.

The main hypothesis is that there would be a significant difference between weight lifter and power lifter in terms of attitude towards doping.

SIGNIFICANCE OF THE STUDY:

The study helps to compare the attitude towards doping of higher level.

This study may help to know the attitude towards doping among power lifters.

This study may help athletes to perform without taking dope.

Methodology

All players who represent state level and inter college in power lifter weight lifter. The population from these 60 players was chosen from each group.

Sl no	Name	No. of players involved in the study
1	Weight lifter	30
2	Power lifter	30

Data Gathering Tools:

A researcher received many data gathering tools or techniques which may vary their complexity, design administration and interruption each tool in appropriation for the collation of certain types of evidence or information. The researcher has to select from the available tools. Which will provide data relevant for the testing of the hypothesis for this research the tool used were attitude towards doping developed C. Ostrow, Ph.D., Chair Edward Etzel, Ed.D? Edward Jacobs, Ph.D... This inventory was designed to study the attitude towards doping of weight lifter and power lifter.

Description of tools:

This tool is a five point scale. It consists of 25 questions each item has five alternative choices. Student can mark any one of these alternatives.

Scoring of questionnaire:

There are 25 items in the questionnaire.

Each item has five alternate choices as agree, strongly agree.

For positive and negative items = 5, 4, 3, 2, 1

High score indicates have good attitude towards doping.

Collection of data:

The data for the present study was collected by the researcher himself. Prior of data collection the permission from the respective head of the department of Analysis of Data:

The previous chapter deals with the methodology of study. In this chapter analysis of data means studying the organized material in order to discover inherent facts. The data is studied in as many angles as possible to explore the new facts. Analysis requires an alert flexible and open mind. It is worthwhile to prepare a plan of analysis before the actual collection of data.

Data:

Good and Barr suggest four helpful to get started on analyzing the gathered data.

To think in terms of significant tables that the data permit.

To examine carefully the statement of problem and earlier analysis and to study the original record of the data. To get away from the data and to think about the problem in layman's terms or to

actually discuss the problem with others. To analyze the data by making various statistical calculation.

Statistical techniques have contributed greatly in gathering, organizing, analyzing and interpreting numerical data through statistics. Statistical call for competence in the use of statistical methods and for understanding of concepts that underline their development and their application. The researcher must know the strength and weakness of the statically methods, which he use so that he may not mislead or be misleading by such methods.

Table -1: SHOWING THE MEAN, SD, AND 'T' VALUE FOR POWER LIFTER AND WEIGHT LIFTER

Group	N	Mean	SD	't' value
Weight lifter	30	77.9333	10.20119	2.503
Power lifter	30	83.2333	6.44169	

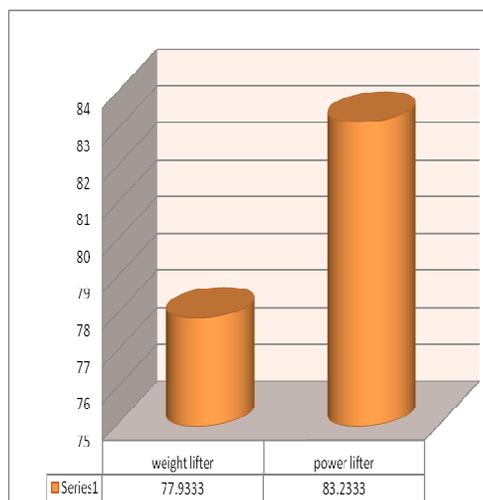


Fig-1. Graphical Representation Of Mean Value Of The Weight Lifter And Power Lifter

Interpretation:

Since the obtained 't' value of -2.503 lesser than that of the table value at 0.05 level of significance. The value was found to be significant.

and data was collected during 2011-2012 for getting response attitude toward doping questionnaire was distributed to student as the statement are in English for better understanding of statement by investigator himself make than clear.

The response by the student made on same sheet provided by the investigator. The response for attitude towards doping are made on a fine print scale v2 Agree, strongly agree, strongly disagree, disagree, neither agree. The student was required to cross mark in any one of brocket.

After collecting the data test materials scoring of response sheet were made according to scoring key. Given the appendix – a in this way collection of data for present was research was made.

Conclusion

However in all dimensions power lifter show greater degree of attitude toward doping than the weight lifter players. Most probably the relation is that the weight lifter is more conscious about the doping aspects.

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Impact of a session of continuity strenuous activity on the proteinuria in disabled adolescent boys

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Abstract

Proteinuria is a kidney disease means the presence of proteins in urine. But the exercise proteinuria, which usually occurs after physical activity . Intense activity is more common in a reversible process that is not associated with clinical symptoms. The present study aimed to investigate Continuation of a session of intense activity on the amount of protein was inactive boys. Thus, 27 disabled adolescent boy Age range 12 to 14 years were selected as sample. Subjects in a group with an active schedule as a continuation of 1600 meters ran. Urine tests before and 24 hours after the activities were measured. For statistical analysis, paired t test was used to compare variables. Analysis of data showed: The excretion of total protein, creatinine and albumin before and 24 hours after the operation there was a significant difference ($p \leq 0/001$). A session of intense activity continued to increase urinary excretion of total protein, creatinine and albumin 24 hours after the activities to be disabled in adolescent boys.

Keywords: intensive activity, proteinuria, adolescent boys

Introduction.

Kidneys are vital members that Perform various functions in the body. The kidneys play an important role in controlling the volume, osmotic pressure, electrolyte content and are responsible for the stability of the internal environment of the body. The blood flow in the kidneys normally 22% of the cardiac output at rest or 1100 ml, respectively occurs. During exercise, cardiac output distribution for all 4% or 200 mL per minute [1]. Exercise induces profound changes in renal hemodynamics[2] and protein excretion in healthy human subjects[3]. Strenuous exercise induces acute renal changes in healthy children and adults[4]. Physical exercise is associated with an increase in urinary protein excretion which is a reversible and also a benign phenomenon[5]. The increased clearance of plasma proteins suggests an increased glomerular permeability and a partial inhibition of the tubular reabsorption process. Postexercise proteinuria is more specifically related to the intensity than to the duration of the exercise[4]. Moreover, the excretion of plasma proteins is due primarily to enhanced glomerular membrane permeability associated with a saturation of the reabsorption process [6]. Heavy exercise induces glomerular-tubular (mixed) type proteinuria while glomerular type proteinuria occurs with moderate exercise [7]. Specific protein determination may shed light on the site of the impairment, according to the transfer of high- and low-molecular-weight (HMW and LMW, respectively) substances through the kidney (Hardwicke et al. 1970). Previous studies have used albumin (Alb) and b2-microglobulin (b2-m) molecules as representatives of these HMW and LMW proteins. It is known that an increase in the Alb excretion rate may be evidence of enhanced glomerular membrane permeability, while increases in LMW proteins indicate tubular dysfunction [8]. Previous findings indicate an increase in proteinuria after exercise in athletes and active adults[9].

The purpose of this study was to determine the amount of total protein, albumin and creatinine before and 24 hours after activity. Considering that the majority of previous studies have been conducted on athletes and adults. And also Considering that the the majority of Iran's population are young people.

Methodology

In the present study, 27 volunteers were recruited qualified disabled boy, And healthy subjects with respect to the information contained in the questionnaire, personal information, medical history, and their health was measured. And physical education at school during the week and did not have any specific exercise. The participants in the six months before the test had any kidney disease and surgery.

Table 1

(Physical characteristics of subjects)

Variable	Means & S.D
Age (years)	13/22 ± 0/80
Height (cm)	158/89 ± 9/56
Weight (kg)	45/52 ± 5/53
Fat (percent)	7/66 ± 4/13
BMI (kg m)	17/98 ± 0/99

Test Protocols: Subject to the test protocol was run 1600 meters around the track with a schedule to be completed duration of the race. 24 hours before and after the test participants had similar feed. Indicators such as total protein, albumin, β_2 -microglobulin, creatinine and proteinuria induced by gamma-glutamyl transferase activity can be used to determine. For physical activity, 24-hour urine collection before and after physical activity and sports are used to determine proteinuria.

Descriptive statistics were used to calculate the mean and standard deviation. After using the Kolmogorov-Smirnov normality of data distribution was confirmed. The measured parameters were compared between the two groups t test for independent groups was used. Statistical analysis software SPSS (version 16) was used and the significance level of $p \leq 0/001$ was considered.

Results

Table 2 shows the statistical results of the variables before and 24 hours after exercise to see everything.

Table 2. variables before and 24 hours after the operation

Variable	Before the activity	24 hours After of activity
Total protein(mg/l)	49/98±24/93	178/80 ± 91/89
Albumin(mg/l)	23/26 ± 7/86	60/63 ± 25/44
Creatinine(mg/dl)	187/09 ± 70/12	567/11 ± 467/43

According to Table 3, the p value obtained is significant at 0/001, In other words, the total protein excretion, creatinine and albumin before and 24 hours after the operation there is a significant difference.

Table 3. Comparison of protein before and 24 hours after the operation

Variable	degrees of freedom	significance level	T
Total protein	26	0/001	-7/494
Albumin	26	0/001	-7/374
Creatinine	26	0/001	-4/232

*Significant at 0/001 level

Discussion

In the present study it was observed that urinary excretion of total protein, albumin and creatinine were significantly increased 24 hours after exercise. Neumayr also particularly albumin protein after exercise activity and the reason for it is momentary disturbances in the functioning of the tubular-Glomerul [10]. Portman & Associates increase in total protein, albumin, creatinine and β_2 -microglobulin reported. Also, a large protein such as albumin and total protein dependent on the intensity and increased permeability of the glomerular and tubular reabsorption disorder expressed [11]. Afshar et al that a study of 18 young Kai Karate fight three 3-minute rounds conducted that There was a 10 minute break between rounds results showed that total protein, β_2 -microglobulin and albumin levels were significantly increased after activity that The increase in the albumin was obvious that the expression may be due to changes in glomerular permeability and stress-induced sympathetic nerve that is consistent with research [12]. Portman and Van Calc significant increase in the urinary excretion of total protein, albumin and β_2 -microglobulin observed that the results of the present study is consistent but Creatinine levels remained unchanged, but the results of this study contradict And may cause conflict term and athletic activities for the participants in the study [13].

Conclusion

As it was shown, the results showed a significant increase in urinary excretion of continuous session of intense activity total protein, albumin and creatinine placed 24 hours after the activity. Increased excretion of total protein and albumin in the present study suggest that proteinuria is a glomerular-tubular. Currently, there is no evidence of impact damage and proteinuria sports people need to limit physical activity is not. The best athletes in annual medical examinations carried out to ensure the absence of clinical signs of proteinuria.

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Sports Talent Scouting Among Urban Area Boys Of Himachal Pradesh

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Abstract

The objective of the present investigation was to explore the hidden sports talent in the urban areas of Himachal Pradesh w.r.t. selected variables as per SAI norms and then again scout the explored hidden sports talent w.r.t. to selected variables on satisfactory, good and very good standards as per SAI norms. The sample of study comprised of 180 school going boys of 14 years (age group). Anthropometric measurements i.e. height and weight were selected as the criterion measures for talent identification. It was hypothesised that the majority of the hidden sports talent in the urban areas of Himachal Pradesh w.r.t. selected variables would not be as per SAI norms. Moreover, it was also hypothesised that the majority of the explored hidden sports talent w.r.t. selected variables would be at satisfactory standard as per SAI norms. Data regarding anthropometric and motor ability variables was assessed using SAI National Sports Talent Contest Battery. The percentile method was applied to statistically analyse and interpret the obtained data. The results of the investigation showed that on the selected talent scouting criterion measures, 55-70% of urban areas boys of Himachal Pradesh were found to have standard height and weight according to SAI norms. Moreover, it was also revealed that the majority of the explored hidden sports talent w.r.t. selected variables was found to be at satisfactory standard as per SAI norms, yielding 41-58% in case of height and 66-93% in case of weight.

Keywords: Sports Talent, Talent Exploration, Urban Area, Sports Authority of India etc

Introduction

Sports are a worldwide phenomenon today. In no period of the world history sports was so popular, organized and important as it is today. Considering the importance of sports competitions, one can say that it has become a social need of the present civilization, which must be met by the societies and the government.

Although talent identification and development programmes have gained popularity in the recent decades, there remains a lack of consensus in relation to talent identification and there is no uniformly accepted theoretical framework to guide current practice. The success rates of talent identification and development programmes have rarely been assessed and the validity of the models applied remains highly debated. A conceptual framework that acknowledges both genetic and environmental influences and considers the dynamic and multidimensional nature of sport talent needs to be developed and set in action.

OBJECTIVE OF THE STUDY

To explore the hidden sports talent in the urban areas of Himachal Pradesh w.r.t. selected variables as per SAI norms and to scout the identified hidden sports talent on satisfactory, good and very good standards as per SAI norms.

HYPOTHESIS

It was hypothesised that the majority of the hidden sports talent in the urban areas of Himachal Pradesh w.r.t. selected variables would not be as per SAI norms. Moreover, the majority of the identified hidden sports would be at satisfactory standard as per SAI norms.

Methodology

The present study was confined to school going boys (14 years age group) of urban areas of Himachal Pradesh. The study was further delimited to the urban area schools of four districts i.e. Bilaspur, Hamirpur, Mandi and Kangra of Himachal Pradesh. A sample of 180 boys was taken on the basis of random sampling technique from 12 schools, selecting 3 schools from each district. Hidden sports talent was confined to two criterion measures viz; two anthropometric variables i.e. height and weight. Data regarding the hidden sports talent was collected using SAI's Sports Talent Contest Battery. The collected data was statistically analysed using Percentile method.

Results And Discussion

The findings of the research study have been presented in the table No.1 and 2 and their analysis and discussion is presented along with.

Table-1

Frequencies and Percentage of the Students of the Urban Areas of Himachal Pradesh w.r.t. Anthropometric Variables as per SAI Norms (N=180)

Variables	Criterion Measures as per SAI Norms		Criterion Measures not as per SAI Norms	
	Frequencies (F)	Percentage (%)	Frequencies (F)	Percentage (%)
Height	127	70.56%	53	29.44%
Weight	123	68.33%	57	31.67%

Source: Primary Data

Interpretation:

Table no.1 reveals that 70.56% of the students of the urban areas in Himachal Pradesh were found to have standard height according to the SAI norms, whereas 29.44% were having a height below those norms.

From the above analysis, it can be inferred that; about two third of the students have height according to SAI norms, whereas about one third of the students were below the norms. Thus, as per the result of the statement the formulated hypothesis for the present investigation i.e. *"the majority of the hidden sports talent in the urban areas of Himachal Pradesh w.r.t. anthropometric variable height would not be as per SAI norms"* is rejected.

Table no.1 presents that 68.33% of the students of the urban areas in Himachal Pradesh were found to have standard weight according to the SAI norms, whereas 31.67% were having a weight below those norms.

From the above analysis, it can be inferred that; about two third of the students have weight according to SAI norms, whereas about one third of the students were below the norms. Thus, as per the result of the statement the formulated hypothesis for the present investigation i.e. *"the majority of the hidden sports talent in the urban areas of Himachal Pradesh w.r.t. anthropometric variable weight would not be as per SAI norms"* is rejected.

Table-2

Frequencies and Percentage of the Identified Hidden Sports Talent in the Urban Areas of Himachal Pradesh w.r.t. Anthropometric Variables on Satisfactory, Good and Very Good Standards as per SAI Norms

Variables	Very Good		Good		Satisfactory	
	Frequencies (F)	Percentage (%)	Frequencies (F)	Percentage (%)	Frequencies (F)	Percentage (%)
Height (N=127)	1	0.79%	52	40.94%	74	58.27%
Weight (N=123)	10	8.13%	31	25.20%	82	66.67%

Source: Primary Data

Interpretation:

Table no. 2 reveals that out of the students who were identified to have standard height as per SAI norms, 0.79% of them were found to have height of very good standard, 40.94% of good standard whereas 58.27% of satisfactory standard.

From the above analysis, it can be inferred that; majority of the students who were identified to have standard height were found to have a height of satisfactory standard as per SAI norms. Thus, as per the result of the statement the formulated hypothesis for the present investigation i.e. *"the majority of the identified hidden sports talent in the urban areas of Himachal Pradesh w.r.t. anthropometric variable height would be at satisfactory standard as per SAI norms"* is accepted.

Table no. 2 presents that out of the students who were identified to have standard weight as per SAI norms, 8.13% of them were found to have weight of very good standard, 25.20% of good standard whereas 66.67% of satisfactory standard.

From the above analysis, it can be inferred that; majority of the students who were identified to have standard weight were found to have a weight of satisfactory standard as per SAI norms. Thus, as per the result of the statement the formulated hypothesis for the present investigation i.e. *“the majority of the identified hidden sports talent in the urban areas of Himachal Pradesh w.r.t. anthropometric variable weight would be at satisfactory standard as per SAI norms”* is accepted.

Conclusion

From the above findings and within the limitations of the present study, the following conclusions are drawn:

About two third of the students in the urban areas of Himachal Pradesh were found to have a standard height according to the SAI norms, whereas about one third were having a height below those norms. Moreover, the majority of the students who were identified to have standard height were having a height of satisfactory standard as per SAI norms.

Nearly more than half of the students in the urban areas of Himachal Pradesh were found to have a standard weight according to SAI norms, whereas less than half of them were having a weight below the norms. Besides, the majority of the students who were identified to have standard weight were having a weight of satisfactory standard as per SAI norms.

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Effect Of Plyometric Training And Saq Training On Explosive Strength And Speed Of University Level Soccer Players

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Abstract:

Thirty male soccer players aged between 18 and 26 years from Nirmala college in Ernakulam District, Kerala were selected. They were randomly divided into three groups of ten each, out of which group I (n = 10) consisted of SAQ (speed, agility, quickness) training, group II (n = 10) consisted Plyometric training and group III (n = 10) consisted control group. The dependant variables were explosive strength and speed. The first training season was later pre-season, which consisted of four weeks of training with three days (three sessions) of training and before the training session was a rest day. The second training season was the In-season, which consisted of two weeks with two days (two sessions) of training and before the training session was a rest day. Pre-test was conducted for all the three groups before giving the training and post-test was conducted after 6 weeks of training. The statistical technique used was ANCOVA. The result of the study showed that Plyometric training improved explosive strength and speed better than SAQ training both for the 6 weeks training programme among the male university level soccer players.

Keywords: Plyometric training, SAQ training and Soccer.

Introduction

The game of soccer is full of challenges and counter challenges between the contesting teams. Biomotor abilities are the foundations of ability of an individual to perform an exercise – strength, endurance, speed, coordination, flexibility and agility. The contribution of the biomotor abilities to the attainment of high performance is determined by two factors; the ratio between them as a reflection of the specifics of the sport and by the level of development of each ability according to its degree of participation in performing the sport/event. (Arpadcsanadi, 1966). Explosive power is not always the predominant goal of the strength training program. For events such as distance running, cycling, swimming and rowing, strength endurance is a major limiting factor. Again, the greater amount of starting maximal strength, the more of it can be maintained for a prolonged period. For soccer we see speed as the ability to accelerate quickly. The ability is reacting quickly to situations able to twist, turn and change direction, ability to produce bursts of fast running throughout the game; and the ability to read a situation and anticipate.

Methodology

Thirty male soccer players aged between 18 and 26 years from Nirmala college in Ernakulam District, Kerala were selected. They were randomly divided into three groups of ten each, out of which group I (n = 10) consisted of SAQ (speed, agility, quickness) training, group II (n = 10) consisted Plyometric training and group III (n = 10) consisted control group which was not given any training. The dependant variables were explosive strength and speed. Explosive strength was measured by vertical jump and speed was measured by 30 meters dash. The first training season was later pre-season, which consisted of four weeks of training with three days (three sessions) of training and before the training session was a rest day. The second training season was the In-season, which consisted of two weeks with two days (two sessions) of training and before the training session was a rest day.

TRAINING SCHEDULE

Table 1: Sdq Training Exercises

EXERCISES	LOW INTENSITY	MEDIUM INTENSITY	HIGH INTENSITY
1	butt-kicks	high knee forward	ladder speed run
2	high knee forward	high knee side ward	run over micro hurdle
3	high knee side ward	ladder speed run	-----
4	falling starts	run over micro hurdle	partner resisted run
5	zigzag run forward	zigzag run forward	ladder zigzag cross over
6	zigzag run side ward	zigzag run side ward	figure eight
7	zigzag run back ward	ladder zigzag cross over	z- pattern run
8	s- drill	s- drill	-----
9	rope skipping	single leg rope skipping	-----
10	in place angle jump	cross lateral skaters	cross lateral skaters
11	scissors jump	scissors jump	-----
12	lateral skaters	lateral skaters	single leg hop

Table 1 a: Low Intensity Sdq Training Program For Soccer Players (First Two Weeks Of Training)

DAYS	SUN	MON	TUE	WEN	THE	FRI	SAT
MORN	rest	SAQ training program	active rest	SAQ training program	active rest	SAQ training program	active rest
REP/ SETS	-----	12 x 3	miner game	12 x 3	miner game	12 x 3	miner game

Table 1 b

Medium Intensity Sdq Training Program For Soccer Players (Second Two Weeks Of Training)

DAYS	SUN	MON	TUE	WEN	THE	FRI	SAT
MORN	rest	SAQ training	active rest	SAQ training	active rest	SAQ training	active rest
REP/ SETS	-----	12 x 4	miner game	12 x 4	miner game	12 x 4	miner game

Table 1 c

High Intensity Sdq Training Program For Soccer Players (Third Two Weeks Of Training)

DAYS	SUN	MON	TUE	WEN	THE	FRI	SAT
MORN	Rest	SAQ training	active rest	active rest	SAQ training	active rest	active rest
REP/ SETS	-----	8 x 4	miner game	miner game	8 x 4	miner game	miner game

Table 2

PLYOMETRIC TRAINING EXERCISES

EXERCISE	LOW INTENSITY	MEDIUM INTENSITY	HIGH INTENSITY
1	butt-kicks	double leg hop	single leg hop
2	double leg hop	double leg jump side ward	Medicine ball throw in single hand
3	double leg jump side ward	Medicine ball throw sitting	single leg hop side ward
4	Medicine ball throw sitting	Medicine ball scoop toes	z- pattern cuts
5	Galloping	single leg rope skipping	single leg stride jump
6	in place angle jump	cross lateral skaters	cross lateral skaters
7	scissors jump	scissors jump	tuck jump
8	lateral skaters	lateral skaters	star jump

Table 2 a
LOW INTENSITY PLYOMETRIC TRAINING PROGRAM
FOR SOCCER PLAYERS (FIRST TWO WEEKS OF TRAINING)

DAYS	SUN	MON	TUE	WEN	THE	FRI	SAT
MORN	rest	plyometric training	active rest	plyometric training	active rest	plyometric training	rest
REP/ SETS	-----	8 x 4	miner game	8 x 4	miner game	8 x 4	-----

Table 2 b
MEDIUM INTENSITY PLYOMETRIC TRAINING PROGRAM
FOR SOCCER PLAYERS (SECOND TWO WEEKS OF TRAINING)

DAYS	SUN	MON	TUE	WEN	THE	FRI	SAT
MORN	rest	plyometric training	active rest	plyometric training	active rest	plyometric training	active rest
REP/ SETS	-----	8 x 3	miner game	8 x 3	miner game	8 x 3	miner game

Table 2 c
HIGH INTENSITY PLYOMETRIC TRAINING PROGRAM
FOR SOCCER PLAYERS (THIRD TWO WEEKS OF TRAINING)

DAYS	SUN	MON	TUE	WEN	THE	FRI	SAT
MORN	rest	plyometric training	active rest	active rest	plyometrics training	active rest	active rest
REP/ SETS	-----	8 x 3	miner game	miner game	8 x 3	miner game	miner game

Pre-test was conducted for all the three groups before giving the training and post-test was conducted after 6 weeks of training. The de-training effect was measured after the two weeks of de-training. The statistical technique used was ANCOVA.

Analysis Of Data And Results Of The Study
Explosive Strength

The data collected from pre test, post test and after the detraining test on SAQ training group, Plyometrics training group and the control group have been statistically analyzed and presented in Table 3.

Table 3
Analysis of covariance of control group, SAQ training group and the plyometrics training group on explosive strength

Source of variation	d f	SSx	SSy	SSxy	SSyx	MSSyx	F
Between	2	5	42.46667	14	-0.80956	-0.40478	*12.9726
Within	26	-3.99632	-41.4646	-12.998	0.811263	0.031202	
Total	28						

*Significant at .05 level of confidence
'F' value required at 0.05 level=3.37

The adjusted post test mean of control group is 100.7886, SAQ group is 101.7149 and the plyometrics group is 101.2411, resulting in an 'F' ratio of -12.9726, which indicates a statistical significant difference at .05 level of confidence. The above statistical analysis indicates that there was significant variation among the three groups after the training period further, to determine which of the paired means has a significant difference; LSD test was applied. The result of the LSD test is presented in Table 3 a.

Table 3 a
Mean Difference among control group, SAQ training group and the plyometrics training group on explosive strength

CONTROL	SAQ	PLYOMTRC	MD	CD(5% LEVEL)
100.7886		101.2411	-0.45249*	0.164787
100.7886	101.7149		-0.92625*	
	101.7149	101.2411	0.473753*	

Table 3 a shows the adjusted post test mean difference between SAQ group and control group as 0.92625 which was statistically significant at .05 level of confidence. The adjusted post test mean difference in Plyometrics group and control group as 0.45249 which was also statistically significant at .05 level of confidence and the adjusted post test mean of SAQ and Plyometrics group is 0.473753, which was also statistically significant at .05 level of confidence.

Speed

The data collected from pre test, post test and after the detraining test on SAQ training group, Plyometrics training group and the control group have been statistically analyzed and presented in Table 4.

Table 4: Analysis of covariance of control group, SAQ training group and the plyometrics training group on 30 meter sprint

Source of variation	df	SS x	SS y	SS xy	SS yx	MSS yx	F
Between	2	0.030407	0.015227	0.002047	0.042353	0.021177	*13.162 1
Within	26	0.970338	0.985508	0.998433	-0.04183	-0.00161	
Total	28						

*Significant at .05 level of confidence

'F' value required at 0.05 level=3.37

The adjusted post test mean of control group is 0.287714, SAQ group is 0.303336 and the plyometric group is 0.216164, resulting in an 'F' ratio of 13.1621, which indicates a statistical significant difference at .05 level of confidence. The above statistical analysis indicates that there was significant variation among the three groups after the training period. Further, to determine which of the paired means had a significant difference; LSD post-hoc test was applied. The result of the LSD test is presented in Table 4 a.

Table 4 a: Mean Difference among control group, SAQ training group and the plyometrics training group on 30 meter sprint

CONTROL	SAQ	PLYOMTRC	MD	CD(5% LEVEL)
0.287714		0.216164	0.07155*	0.037419
0.287714	0.303336		-0.01562	
	0.303336	0.216164	0.087171*	

Table 4 a shows that the adjusted post test mean difference between SAQ group and control group as -0.01562 which are not statistically significant at .05 level of confidence. The adjusted post test mean difference in Plyometrics group and control group is 0.07155 which was also statistically significant at .05 level of confidence. Since the adjusted post test mean of SAQ and Plyometrics group are 0.087171, which is statistically significant at .05 level of confidence.

DISCUSSION

The results of the study indicate that after the completion of six weeks period of soccer training programme leg strength ability improved for both SAQ group and Plyometrics group. The Plyometrics group soccer players have improved the leg strength ability significantly, when compared with the SAQ group soccer players. The results are in line with that of study earlier conducted by Oberg *et al*, (1985), who have reported that soccer training programme improved strength, in addition to the soccer training programme implementation of four weeks strength training programme improves specific strength for soccer players.

The result of the study shows that in the case of plyometrics training the speed has developed better than the SAQ training group. The reason for the development of the plyometrics group was that the speed is the product of stride length and the stride length basically depends on the explosive strength. So the result of the present study indicate that the strength is the main factor for the development of speed.

Conclusions

From the analysis of the data the following conclusions were drawn

The comparison of pre and post test score of the SAQ group and plyometrics group in the explosive strength test indicated that there was significant improvement in the plyometrics group than the SAQ group. The comparison of pre and post test score of the SAQ group and plyometrics group in the speed test indicated that there was a significant improvement in the plyometrics group than the SAQ group.

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A Comparative Study Of Strength And Co-Ordinative Ability Among School Level Male Kabaddi And Kho-Kho Players Of District Kangra

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Abstract

The purpose of the study was to compare the arm and shoulder strength, abdominal strength and co-ordinative ability among male Kabaddi and Kho-Kho players. To accomplish the study a sample 120 players, 60 players each of Kabaddi and Kho-Kho, studying in Government Senior Secondary Schools of District Kangra of Himachal Pradesh was selected as subjects. It was hypothesized that no significant difference would appear between the Kabaddi and Kho-Kho players w.r.t. selected physical fitness variables. Data was collected using selected test items of AAHPERD's Physical fitness test battery. Mean, Standard Deviation and T-test were used to analyze the data statistically. The level of significance was set at 0.05 level of confidence. The results showed a significant difference between the Kabaddi and Kho-Kho players w.r.t. physical fitness variables arm and shoulder strength and co-ordinative ability except abdominal strength where both Kabaddi and Kho-Kho players performed similarly.

Keywords: Strength, Co-ordinative Ability, Kabaddi, Kho-Kho.

Introduction

Sport is as old as the human society, and it has achieved universal following in the modern times. It now enjoys popularity which strips out any other form of social activity. It has become an integral part of educational process. Millions of fans follow different sports events all over the world. Many participate in sports activities for the fun of it or for health, strength and fitness. It is taking the shape of a profession to some with high skills, with ample financial benefits linked with high degree of popularity. Each sports activity demands different types and levels of different physical abilities. When a particular sport possesses qualities, it contributes to the development of specific physical fitness. It is this specific fitness which makes it possible for a player to perform unusual and extraordinary movements with a very high standard of efficiency. Regular training leads to improve one's physical fitness which includes strength, speed, flexibility, endurance and co-ordination. Co-ordination ability plays a very vital role in all games and sports because when an athlete participates in game and sports, he has to bring about a series of changes in direction and movement at various parts of the body. The main objective of the study was set to compare the Kabaddi and Kho-Kho players w.r.t. selected physical fitness variables i.e. the arm and shoulder strength, abdominal strength and co-ordinative ability.

HYPOTHESIS

It was hypothesized that no significant difference would appear between the Kabaddi and Kho-Kho players w.r.t. selected physical fitness variables.

PROCEDURE

In the present investigation, a survey type of study has been conducted. In total, investigator selected a sample of 120 players by means of purposive random sampling from ten schools of the Kangra district of Himachal Pradesh, out of which he selected 12 Kabaddi players each from the first five schools and 12 Kho-Kho players each from the other five schools. The subjects were boys of 10+1 and 10+2 classes of Government Senior Secondary Schools and were of 15-17 years age group only. Moreover, the present research was confined to only those players who had participated at zonal level school tournament of district Kangra.

Data regarding selected physical fitness variables was collected using selected test items of AAHPERD's Physical fitness test battery. Mean, Standard Deviation and T-test were used to analyze the data statistically. The level of significance was set at 0.05 level of confidence.

Results And Discussion

The Mean, Standard Deviation and 't' values of the investigated physical fitness variables of Kabaddi and Kho-Kho players are given in the table No.1, 2, 3, 4 and 5 and their analysis and interpretation follows them.

Table-1 :Mean values, standard deviation and 't' value of arm and shoulder strength variable of kabaddi and kho-kho players

	N	Mean	S.D.	S.E.M.	Mean Difference	Df	t-value
Kabaddi	60	10.93	1.68	.22	.98	118	3.09*
Kho-Kho	60	9.95	1.79	.23			

*Significant at 0.01 level

Table-1 reveals that the mean scores of arm and shoulder strength variable of the selected Kabaddi and Kho-Kho players are 10.93 and 9.95 respectively and the calculated 't'-value (3.09) for both the groups is higher than the table value at 0.01 level of significance. Thus, it is interpreted that the two groups differ significantly w.r.t. the variable arm and shoulder strength.

Hence, the formulated hypothesis for the Kabaddi and Kho-Kho players w.r.t. the variable arm and shoulder strength is rejected.

Table-2 :Mean values, standard deviation and 't' value of abdominal strength variable of kabaddi and kho-kho players

	N	Mean	S.D.	S.E.M.	Mean Difference	Df	t-value
Kabaddi	60	28.93	1.77	.23	.400	118	1.19
Kho-Kho	60	29.33	1.90	.25			

Not Significant at 0.05 level

Table-2 reveals that the mean scores of abdominal strength variable of the selected Kabaddi and Kho-Kho players are 28.93 and 29.33 respectively and the calculated 't'-value (1.19) for both the groups is less than the table value at 0.05 level of significance. Thus, it is interpreted that the two groups do not differ significantly w.r.t. the variable abdominal strength.

Hence, the formulated hypothesis for the Kabaddi and Kho-Kho players w.r.t. the variable abdominal strength is accepted.

Table-3:Mean values, standard deviation and 't' value of co-ordinative ability variable of kabaddi and kho-kho players

	N	Mean	S.D.	S.E.M.	Mean Difference	Df	t-value
Kabaddi	60	11.12	.22	2.86	.111	118	3.09*
Kho-Kho	60	11.01	.17	2.18			

*Significant at 0.01 level

Table no. 3 reveals that the mean scores of co-ordinative ability variable of the selected Kabaddi and Kho-Kho players are 11.12 and 11.01 respectively and the calculated 't'-value (3.09) for both the groups is higher than the table value at 0.01 level of significance. Thus, it is interpreted that the two groups differ significantly w.r.t. the variable co-ordinative ability.

Hence, the formulated hypothesis for the Kabaddi and Kho-Kho players w.r.t. the variable co-ordinative ability is rejected.

Conclusions

Based on the analysis and interpretation of the data and within the limitations of the present investigation, following conclusions are drawn:

The Kabaddi players are better than Kho-Kho players when compared against the physical fitness variable arm and shoulder strength.

The Kabaddi and Kho-Kho players have same level of physical fitness when compared against the physical fitness variable abdominal strength.

The Kabaddi players are better than Kho-Kho players when compared against the physical fitness variable co-ordinative ability.

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Effect of Closed and Open Kinetic Chain weight training in combination with Plyometric exercises on the 60 meters Sprint performance

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Abstract:

Introduction: Sprinting is a repetitive Plyometric contraction of high caliber in a rapid succession and needs explosive strength in great quantities with functional element in it. Strength and explosive strength which are in tandem for the performance of sprint running and are interdependent. These factors of performance need to be trained in a specific manner to improve the sprint acceleration as well the maintenance of sprint ability. *Methodology:* Sixty male students in the age 18-22 yrs were randomly included into three groups, two groups being activity groups and one as control group. One group practiced Open kinetic chain weight training followed by plyometric exercises and the second group practiced Closed Kinetic chain weight training followed by plyometric exercises. Baseline and post study values of the 60 meters sprint performance were analysed with ANCOVA (Analysis of Covariance) and further analysis with Shceffe's post hoc test. *Results:* Significant difference was observed among the groups ($F= 38.29$ at $P = <0.0001$) and Scheffe's post hoc comparison among groups indicated that the Closed Kinetic weight training with plyometrics experienced significantly reduced timing for 60 meters sprint performance when compared to the Open kinetic chain with plyometrics group. *Conclusion:* Closed Kinetic Chain weight training cum Plyometric training of the study is more effective than the protocol of Open Kinetic Chain Weight training cum Plyometric training of the study in bringing down significantly the 60 meters sprint time performance.

Key words: Sprinting, Plyometric contraction, Explosive strength, Sprint ability.

Introduction:

Explosive strength which is synonymous to power may be explained as the ability of overcoming resistance in a very quick manner whereas the mere strength may be understood as the ability of overcoming resistance without any time reference. As it is very essential to possess high amounts of power among the sports persons and athletes, there have been several methods of training and combination of trainings evolved and followed. But, most of the sporting actions including the running may be termed as Plyometric muscular contractions only. The plyometric contraction of muscles may be identified as eccentric and immediately followed by concentric contractions of muscles. This is the reason the sporting activities in general generate extraordinary power. This concept recognises it necessary to improve the capacity of generating explosive strength among the required muscle groups for improving the specific sports performance or skill. The science of myotatic stretch reflex mechanism explains the essentiality of plyometric contraction. Improvement in this neuromuscular facilitation mechanism leads to improvement in sporting performances especially in sprinting as sprinting is a repetitive plyometric contraction of high caliber in a rapid succession. Study envisaged to find out the comparative effect of Open Kinetic Chain weight training in combination with plyometric exercises and Closed Kinetic Chain Weight training in combination with plyometric exercises on the 60 meters sprint time performance of individuals.

Methodology:

Sixty volunteer male students who have never been trained regularly on scientific basis in the age group of 18 to 22 years were selected for the study from Sri Venkateswara University area colleges and were randomly assigned to three groups, out of which two were activity groups and one group acted as control group. The first group was named as Closed Kinetic Chain plus Plyometric group (CKC + P group) and the second group was named as Open Kinetic Chain plus Plyometric group (OKC + P). The total experimentation period lasted for five months, during which the first month was devoted for orientation of the individuals and make them ready for the experimental exercise protocols

both physically and in terms of intellect with respect to the envisaged exercise protocols. CKC+P group performed four closed kinetic chain weight exercises for lower body and two for the upper body in each session before proceeding for Plyometrics exercises. The four lower body exercises performed by this group were Half Squat, Hack Squat, Heel raises and Bridge up with weights. Then the individuals practiced the two Upper body Closed Kinetic Chain exercises, Push ups and Pull Ups immediately after. OKC+P group This group performed four Open kinetic chain weight exercises for lower body and two for the upper body in each session before proceeding for Plyometrics exercises. The four lower body exercises performed by this group were Leg Extension for quads, Leg Curl for Hamstrings, Heel Plantar flexion for Gastrocnemius and Standing Hip extension. Then the individuals practiced the two Upper body Open Kinetic Chain exercises, bench press and Bicep curls. The timing for the 60 meters sprint was taken to milliseconds and the individuals were necessarily sit in the sprint start position and no standing start was allowed, hence the individuals of the study were give orientation on the sprint starting, but that did not lead to serious practice. Analysis of Covariance (ANCOVA) was employed to analyse whether there was any significant difference between the baseline and post experimentation values of the criterion variables because of the two combinations of training comparing the control group. 0.05 level of significance was used to test the hypotheses of the study and to interpret the results. Scheffe's post hoc individual comparison tests were used to find out the source of significant difference and to make detailed discussion and bring out results of the study.

Results And Discussion:

As per the Analysis of Covariance depicted in table I there was significant difference among the three groups with respect to 60 meters sprint performance time (observed F of 38.29 at P = <0.0001), indicating that there was experimental effect due to the different protocols of the two different combinations of resistance training ie Open Kinetic chain and Closed Kinetic Chain weight training each following immediately with Plyometric training and caused significant changes in the 60 meters sprint performance timing of the experimental groups. Pre test, Post test and adjusted post test means as indicated in table II, indicates that both Open Kinetic Chain cum Plyometric troupe and Closed Kinetic Chain cum Plyometric groups have reduced their 60 meters sprint performance timings significantly indicating both the protocols of the experimentation were effective in enhancing significantly the 60 meters sprint performance of the individuals of the study. The same has been depicted in figure IV as diagram for vivid explanation, but to understand and find out which type of the experimental combination training protocol was more effective in reducing the 60 meters sprint performance timing, Scheffe's Post Hoc comparison test was done in table III and the Scheffe's Comparison Difference for ordered difference was 0.03. The ordered difference between Closed Kinetic chain weight training cum

TABLE I. ANCOVA FOR 60 METERS SPRINT TIMING

Source	SS	df	MS	F	P
Adjusted means	0.7	2	0.35	38.29	<.0001
Adjusted error	0.51	56	0.01		
Adjusted total	1.2	58			

TABLE II: Pre test, Post test and Adjusted Post test means for 60 meters sprint timing

Means	OKC + P group	CKC + P group	Con group
Pre test means	9.6465	9.8055	9.7945
Post test means	9.4685	9.571	9.8065
Adjusted Post test means	9.5586	9.5211	9.7663

Figure I

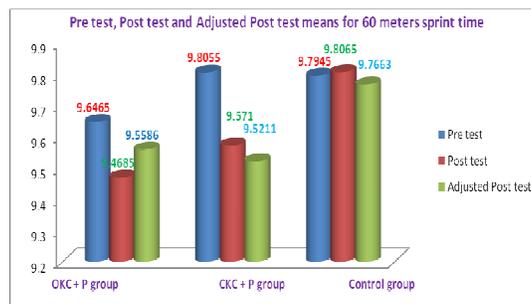


TABLE III. Scheffe's Post Hoc comparison test (0.03)

Groups and Values	OKC + P group	Control Group
-------------------	---------------	---------------

	9.558	9.766
CKC + P group	-0.037	-0.245
9.521	Sig	Sig
OKC + P group	----	-0.208
9.558		Sig

cum Plyometrics group (CKC + P group) and the Open Kinetic Chain weight training cum Plyometrics group (OKC + P group) was significant (0.037) indicating the CKC + P group reduced their 60 meters sprint timing significantly when compared to the OKC + P group. Also both CKC + P and OKC + P groups experienced significant reductions in their 60 meters sprint performances when compared to the Control group of the study indicating both the protocols of the experimentation were significantly effective in reducing the 60 meters sprint performance time of the individuals of the study.

The analysis also indicated that both the Closed Kinetic Chain weight training cum Plyometric training group and Open Kinetic Chain weight training cum Plyometric training groups have experienced significant enhancements in the 60 meters sprint timing when compared to the control group of the experimental study. Hence, the sprint acceleration and maintenance ability of both the experimental groups enhanced significantly and this signifies both combinations can be used to improve sprint ability during the training. Between the two active experimental groups the Closed Kinetic Chain weight training cum Plyometric group experienced significant increments in 60 meters sprint timing when compared to the other active experimental group i.e. Open Kinetic Chain weight training cum Plyometric training group. Hence, the protocol of Closed Kinetic Chain weight training cum Plyometric training of the study is more effective than the protocol of Open Kinetic Chain Weight training cum Plyometric training of the study.

Conclusion:

Closed Kinetic Chain weight training cum Plyometric training of the study is more effective than the protocol of Open Kinetic Chain Weight training cum Plyometric training of the study in bringing down significantly the 60 meters sprint time performance.

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Training effect of Open Chain Kinetic weight training with plyometric exercises and Closed Kinetic chain weight training with Plyometric exercises on Stride Length during sprint running

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Abstract:

Introduction: Explosive strength which is synonymous to power may be explained as the ability of overcoming resistance in a very quick manner whereas the mere strength may be understood as the ability of overcoming resistance without any time reference. As it is very essential to possess high amounts of power among the sports persons and athletes, there have been several methods of training and combination of trainings evolved and followed. **Methodology:** Sixty male students in the age 18-22 yrs were randomly included into three groups, two groups being activity groups and one as control group. One group practiced Open kinetic chain weight training followed by plyometric exercises and the second group practiced Closed Kinetic chain weight training followed by plyometric exercises. Baseline and post study values of the sprint stride length was analysed with ANCOVA (Analysis of Covariance) and further analysis with Scheffe's post hoc test. **Results:** Significant difference was observed among the groups ($F= 27.01$ at $P = <0.0001$) and Scheffe's post hoc comparison among groups indicated that both Closed Kinetic weight training with plyometrics and Open kinetic chain weight training with plyometrics experienced significantly increased sprint stride length performance when compared to the control group. **Conclusion:** Both Open Kinetic chain weight cum plyometric training and Closed kinetic chain weight cum plyometric trainings of the study caused significant improvements in stride length during sprinting, but in terms of absolute mean difference the CKC + P group showed better improvement in Stride Length after the experimentation period when compared to the OKC + P group of the study.

Key words: Explosive strength, stride length, Power.

Introduction:

Explosive strength has been considered as an important factor of fitness for success in many sporting activities. Explosive strength which is synonymous to power may be explained as the ability of overcoming resistance in a very quick manner whereas the mere strength may be understood as the ability of overcoming resistance without any time reference. As it is very essential to possess high amounts of power among the sports persons and athletes, there have been several methods of training and combination of trainings evolved and followed. But, most of the sporting actions including the running may be termed as Plyometric muscular contractions only. The plyometric contraction of muscles may be identified as eccentric and immediately followed by concentric contractions of muscles. This is the reason the sporting activities in general generate extraordinary power. This concept recognises it necessary to improve the capacity of generating explosive strength among the required muscle groups for improving the specific sports performance or skill. The science of myotatic stretch reflex mechanism explains the essentiality of plyometric contraction. Improvement in this neuromuscular facilitation mechanism leads to improvement in sporting performances especially in sprinting as sprinting is a repetitive plyometric contraction of high caliber in a rapid succession. Among other factors which influence the sprinting performance especially of very short distance in nature, explosive strength of the person one important factor. The short sprint running performance may be improved by improving the stride length or by improving the cadence or by improving both. Stride length may be described as the distance between the two successive strides and measured after the acceleration period is over i.e. between the forty and fifty meters. Stride cadence or cadence may be referred to the number of strides performed in a second. This is normally measured between the thirty and fifty meters mark. Strength training is generally conducted in several ways and the major way being the weight training. Closed and open kinetic chain weight trainings have their own advantages and disadvantages. Closed kinetic chain exercise denotes the type of exercise in which the exercise is performed with a terminal point fixed like Half squats, Pushups etc, where the foot or hand will be in

constant touch with the ground. Open kinetic chain exercises denotes the type of exercise in which the exercise is performed without a terminal point or the limbs are freely allowed to move like leg extension done on machine, leg flexion done on machine etc.

Methodology:

Sixty volunteer male students who have never been trained regularly on scientific basis in the age group of 18 to 22 years were selected for the study from Sri Venkateswara University area colleges and were randomly assigned to three groups, out of which two were activity groups and one group acted as control group. The first group was named as Closed Kinetic Chain plus Plyometric group (CKC + P group) and the second group was named as Open Kinetic Chain plus Plyometric group (OKC + P). The total experimentation period lasted for five months, during which the first month was devoted for orientation of the individuals and make them ready for the experimental exercise protocols both physically and in terms of intellect with respect to the envisaged exercise protocols. CKC+P group performed four closed kinetic chain weight exercises for lower body and two for the upper body in each session before proceeding for Plyometrics exercises. The four lower body exercises performed by this group were Half Squat, Hack Squat, Heel raises and Bridge up with weights. Then the individuals practiced the two Upper body Closed Kinetic Chain exercises, Push ups and Pull Ups immediately after. OKC+P group This group performed four Open kinetic chain weight exercises for lower body and two for the upper body in each session before proceeding for Plyometrics exercises. The four lower body exercises performed by this group were Leg Extension for quads, Leg Curl for Hamstrings, Heel Plantar flexion for Gastrocnemius and Standing Hip extension. Then the individuals practiced the two Upper body Open Kinetic Chain exercises, bench press and Bicep curls. Number of strides taken by each individual during their 60 meters all out sprinting was measured by keeping the chalk powder on the track and the last stride was taken to the nearest ten centimetres as percentage to the meter. Analysis of Covariance (ANCOVA) was employed to analyse whether there was any significant difference between the baseline and post experimentation values of the criterion variables because of the two combinations of training comparing the control group. 0.05 level of significance was used to test the hypotheses of the study and to interpret the results. Scheffe's post hoc individual comparison tests were used to find out the source of significant difference and to make detailed discussion and bring out results of the study.

Results And Discussion:

As per the Analysis of Covariance depicted in table I there was significant difference among the three groups with respect to Stride Length distance (observed F of 27.01 at P = <0.0001), indicating that there was experimental effect due to the different protocols of the two different combinations of resistance training ie Open Kinetic chain and Closed Kinetic Chain weight training each following immediately with Plyometric training and caused significant changes in the Stride Length distance of experimental groups. Pre test, Post test and adjusted

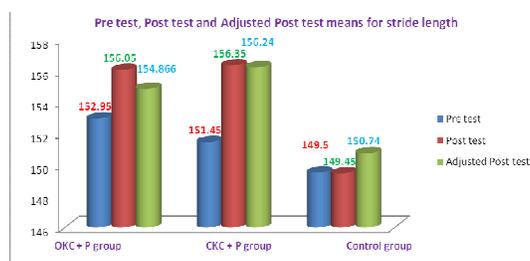
TABLE I ANCOVA FOR STRIDE LENGTH

Source	SS	df	MS	F	P
Adjusted means	322.24	2	161.12	27.01	<.0001
Adjusted error	334.05	56	5.97		
Adjusted total	656.28	58			

TABLE II: Pre test, Post test and Adjusted Post test means

Means	OKC + P group	CKC + P group	Con group
Pre test means	152.95	151.45	149.5
Post test means	156.05	156.35	149.45
Adjusted Post test means	154.866	156.24	150.74

Figure I



post test means as indicated in table V, indicate that both Open Kinetic Chain cum Plyometric group and Closed Kinetic Chain cum Plyometric groups have increased their Stride Length performance

significantly indicating both the protocols of the experimentation were effective in enhancing significantly the Stride Length performance of the individuals of the study. The same has been depicted in figure III as diagram for vivid explanation, but to understand and find

TABLE III Scheffe's Post Hoc comparison test (3.28)

Groups and Values	OKC + P group	Control Group
	154.866	150.74
CKC + P group	1.374	5.5
156.24	N. Sig	Sig
OKC + P group	----	4.126
154.866		Sig

out which type of the experimental training combination protocol was more effective in increasing the Stride Length distance, Scheffe's Post Hoc comparison test was conducted in table VIII and the Scheffe's Comparison Difference for ordered difference was 3.28. The ordered difference between Closed Kinetic Chain weight training cum Plyometrics group (CKC + P group) and the Open Kinetic Chain weight training cum Plyometrics group (OKC + P group) was not significant (1.374) indicating both the CKC + P group and OKC + P groups though experienced increments in their Stride Length distance but the observed post experimentation difference was not significant between them. Both CKC + P and OKC + P groups experienced significant increments in their Stride Length distances when compared to the Control group of the study indicating both the protocols of the experimentation were significantly effective in increasing the Stride Length of the individuals of the study.

With respect to the criterion variable Stride Length, both the Closed Kinetic weight training cum Plyometric training group and Open Kinetic Chain Weight Training cum Plyometric training groups experienced significant increments in their Stride Length significantly when compared to the Control Group of the study. This indicates that both the training protocols of resistance training are effective in improving the Stride Length of the individuals of the study and hence the sprinting ability of the individuals of the study. But, there was no significant difference between the Closed Kinetic Chain weight training cum plyometric group and Open Kinetic Chain Weight training cum plyometrics groups for Stride Length Performance, though the Closed Kinetic Chain with plyometrics group experienced more gain in stride length when compared to the other active group of the experimentation due to the experimental protocol of the weight training. In terms of absolute mean difference, the CKC + P group showed better improvement in Stride Length after the experimentation period when compared to the OKC + P group of the study.

Conclusion:

Both Open Kinetic chain weight cum plyometric training and Closed kinetic chain weight cum plyometric trainings of the study caused significant improvements in stride length during sprinting, but in terms of absolute mean difference the CKC + P group showed better improvement in Stride Length after the experimentation period when compared to the OKC + P group of the study.

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Effect of Plyometric Exercises for development of Speed among Volley Ball Players of Government College of Physical Education

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Abstract:

The sample for the present study consists of 20 Male Volley Ball Players of Government College of Physical Education out of which 10 are experimental group and 10 are controlled group. Plyometric exercises such as hopping, bounding, depth jumps, tuck jumps, Push ups etc were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training for six weeks. Pre Test and Post Test were conducted in 30 M Run to measure the speed among experimental group and controlled group. This study shows that due to the plyometric training there is an improvement of experimental group in Speed and controlled group is decreased in performance speed. Volley Ball Players require good speed to excel in the Volley Ball.

Key Words: plyometric exercises, speed, volley ball etc

Introduction:

Volleyball is a team sport in which two teams of six players are separated by a net. Each team tries to score points by grounding a ball on the other team's court under organized rules. It has been a part of the official program of the Summer Olympic Games since 1964.

On February 9, 1895, in Holyoke, Massachusetts (USA), William G. Morgan, a YMCA physical education director, created a new game called *Mintonette* as a pastime to be played (preferably) indoors and by any number of players. The game took some of its characteristics from tennis and handball. Another indoor sport, basketball, was catching on in the area, having been invented just ten miles (sixteen kilometers) away in the city of Springfield, Massachusetts, only four years before. *Mintonette* was designed to be an indoor sport, less rough than basketball, for older members of the YMCA, while still requiring a bit of athletic effort.

The first rules, written down by William G Morgan, called for a net 6 ft 6 in (1.98 m) high, a 25 ft × 50 ft (7.6 m × 15.2 m) court, and any number of players. A match was composed of nine innings with three serves for each team in each inning, and no limit to the number of ball contacts for each team before sending the ball to the opponents' court. In case of a serving error, a second try was allowed. Hitting the ball into the net was considered a foul (with loss of the point or a side-out)—except in the case of the first-try serve.

After an observer, Alfred Halstead, noticed the volleying nature of the game at its first exhibition match in 1896, played at the International YMCA Training School (now called Springfield College), the game quickly became known as *volleyball* (it was originally spelled as two words: "*volley ball*"). Volleyball rules were slightly modified by the International YMCA Training School and the game spread around the country to various YMCAs.

The history of Olympic volleyball traces back to the 1924 Summer Olympics in Paris, where volleyball was played as part of an American sports demonstration event. After the foundation of FIVB and some continental confederations, it began to be considered for official inclusion. In 1957, a special tournament was held at the 53rd IOC session in Sofia, Bulgaria to support such request. The competition was a success, and the sport was officially included in the program for the 1964 Summer Olympics.

In Volleyball plyometrics can help to increase your vertical jump, speed and explosive power around the court. However, they should be performed alongside or following a sport-specific resistance training program. Remember firstly that explosive power is a function of **both** strength and speed of muscular contraction. Volleyball plyometric exercises will help condition your neuromuscular system to apply a greater level of force in a shorter period of time.

Methodology:

The purpose of the present study to find out the effect of plyometric exercises for the development of speed among volley ball players. The sample for the present study consists of 20 Male Volley ball players of Govt. College of Physical Education out of which 10 are experimental group and 10 are controlled group. Plyometric exercises such as Push ups, Medicine Ball Throws, Hopping, Bounding, Tuck Jumps, Box Jumps, dumbbell throws etc were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training for six weeks. Pre Test and Post Test in 30 M Run to measure the speed among experimental group and controlled group.

Result:

This results of the study shows that due to the plyometric training there is a improvement of experimental group in and Speed and controlled group is decreased in performance of speed due to the general training.

Table I:

Mean values of 30 M run test between experimental and control groups of Volley ball players

Variables	Group	Pre Test Mean	Post Test Mean	t	P - Value
30 M Run Test	Experimental	4.53	4.13	2.58	0.000
	Control	4.66	4.68		

The Experimental Group of 30 M Run Men is 4.53 in Pre Test and Controlled Group mean is 4.66 in Pre Test there is a difference of 0.13 in Pre Test. The Experimental Group Mean is 4.13 in Post Test and Controlled Group mean is 4.68, the Experimental Group mean in Post Test in 30 M Run is decreased from 4.53 to 4.13 there is a improvement of 0.40 from Pre Test to Post and Control Group Mean is post test is 4.68 there is a increase of 4.66 to 4.68 from Pre Test to Post, the performance is come down to 0.02 in the controlled group. Due to the Plyometric Training the Experimental group has improved a lot.

Conclusion:

It is concluded that due to plyometric exercises there will be improvement in speed among volley ball players. Plyometrics training volleyball exercises should be done quickly with the purpose of training muscles to be more powerful and to get the explosive strength. The purpose of jump training is to train the muscles to pre-stretch before jumping. During this pre-stretch, energy is stored in the muscle which can be used to jump higher and also to attained the good speed for getting excel in volley ball skills to perform the better.

Recommendations:

Similar Studies can be conducted on Women volley ball players and other sports and games.

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Importance of Nutrition in Sports and Games

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Introduction:

Nutrition plays a very vital role in the life span of an athlete. Nutrition depends on various factors such as the physical condition, existing nutrient condition, atmosphere surrounding the athlete etc. There are lots of myths and facts about nutrition. This is apparently dependent on the atmosphere around an athlete. Your body needs the right balance of carbohydrates, protein, fat, vitamins, minerals and fluids to fuel your fitness. Even if you're not competing in a sport, eating right can help you train harder, delay fatigue and help to increase performance. We can learn to balance from nature a lot. For example consider a peanut. If you slice a single peanut into two, one of the two pieces will have a small tip with a tiny granule attached to it. Did you ever try to taste this separately? It is sour in taste. It tells us that the two parts of peanut, which taste sweet, should be eaten with this granule to balance the taste and nutritional value. This is how nature teaches us to balance the diet. We should identify and learn. The difference between participating and achieving goals can be tied to your nutrition. At THAPOS, we help you get information that might help you achieve your targets. We present this information, which are suggestions, after lot of screening to help you take decisions. We have small articles for every possible topic in an easy understandable manner. The difference between participating and achieving your goals can be tied to your nutrition.

Discussion:

Hydration: A lot depends on the fluid levels your body takes in. Your performance also is affected if proper hydration levels are not maintained.

Start a sporting/exercise activity having fluids at least an hour before and after the routine.

Replace sweat loss during the activity by having fluids at regular intervals.

Identify a fluid replacement plan which suits your body type to prevent over heat, stress on the cardiovascular system and the result of your performance.

Hydration levels are to be optimized as per the environment, to deliver performance.

Experiment during training with fluids and their volume of intake, so that you give your best at the right

Foods And Food Pyramid:

Food is available abundantly all over the world in varied forms. The availability depends on various geographical and environmental conditions. Decades ago food pyramid was created and eventually it changed to MY Pyramid and My Plate. So, it is you who have to decide on what and how to have food?

Types Of Foods:

Foods are generally classified into vegetables and legumes/beans, fruits, lean meats and poultry, fish, eggs, tofu, nuts and seeds, grain (cereal) foods, mostly whole grain and/or high cereal fibre varieties.

milk, yoghurt, cheese and/or alternatives.

You also have foods that you can consume occasionally, just for satisfaction, these do not contain essentials. This will be a discretionary choice.

sweet biscuits, cakes, desserts and pastries

processed meats, sausages and bakery products with high fat/salt content.

sweetened condensed milk, ice cream and others of the same family, confectionery and chocolate

commercially fried foods, cream, butter and spreads which contain high saturated fats

sweetened soft drinks and cordials, sports and energy drinks

You will also need unsaturated fats for a healthy diet. These are of two types

monounsaturated fats (mostly in olive/canola oil, cashews, almonds, avocados).

polyunsaturated fats like omega-3s and omega-6s. Omega-3s are found only in oily fish. Omega-6s are found in Safflower, Soybean oil and Brazil Nuts.

Importantly, you should try and replace saturated fats with unsaturated fats to make your diet healthier. It is for you to make your diet interesting instead of getting bored by sticking to a standard one. Try varied combinations. Try combinations only while training. Listen to your body.

Carbohydrates:

Carbohydrates are the common sources for energy. A lot of research has proved that while maintaining optimum hydration levels, a high carbohydrate diet is essential to peak performance during an exercise or sporting routine

Vitamins And Minerals:

Vitamins are organic compounds that are vital nutrients. There are 13 vitamins available in variety of forms. They have diverse biochemical functions which you need to identify. Make it a habit to read food labels before you buy a food product. Correlate the labels with your diet.

Minerals like iron, potassium, magnesium, calcium etc.. are also needed in your regular diet. They have to be identified from the foods we take. It is always better to have variety of foods in your diet. Multi vitamin, multi mineral supplements are the last resorts you should take.

Fats:

Eating habits vary between individuals. It is a common myth that one should avoid fat based foods for a healthy diet while it is a truth that fat is needed for a healthy diet. One should identify the right kind of fats. The good fats are:

Monounsaturated Fats, Polyunsaturated Fats, Conjugated Linoleic Acid (CLA), Medium Chain triglyceride

Proteins:

Proteins are like bricks for a building. They are present in every element of the body. The amount of protein needed is different for different sports/exercises. You should be carefully listening to your body depending on the level of intensity of your workouts. You have to click a balance with foods, since they also support you with other kinds such as carbohydrates, fats, vitamins and minerals.

What to eat before a game?..

An athlete should maintain a regular diet regime. There will be slight changes before the game. Depending on the type of game, you need to assess the type and quantity of food you have to take. Generally, you should just eat to curb the craving never eat full. count your calories. Do not take more than 1000 calories. Have sufficient time between the game and having food. This is to give time for the food to digest. If it is a lunch/dinner have gap of at least 3 hours and a gap of 1 hour. Monitor your fluid intake well. Keep yourself well hydrated even during the game. Apart from water fruit juices or sports drinks are also good choices. Carbs provide energy. They are easy to digest than protein and fats. Avoid carbs with high fiber since they take a longer time to digest and a time lag can make you uncomfortable. Protein and fat intake should meet your daily requirement. Of the total calorie intake protein should be 12 to 15 percent, fat 25 to 30 percent and the rest should be carbs.

Conclusion

The optimum diet is completely dependent on the social and geographical environment we live in.

A nutrient is a substance that is required for life. Nutrients come from food, and supplements are taken as a final step. Lack of nutrients is experienced in the present, not the future. All of us are different from each other biologically and each of us must say individually what we need to eat. You complete your nutrition exercise when: You identify all the nutrients and understand about where they come from. You know about the nutrients that require extra effort to obtain and their quantities. You change your diet, based on visible signs and feelings, as necessary to maintain the balance between excessively available nutrients and the scarcest nutrients.

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Contribution of the special Movement Education Program that is applied on the Students of the Special Education and Rehabilitation center to the development of skills – coordination

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Abstract:

At this research, 70 male students (35 experimental, 35 control) from 10-12 age group studying in 1 official state school and 6 special education and rehabilitation centers have been participated in the survey. Specially prepared movement education program (in the form of individual and group skill-coordination developer covering the basic techniques of educational games and football) is applied in the studies. Students were tested with test batteries (20 m run, 20-meter slalom run, 20 meters ball sliding, 20 m slalom ball sliding, 20m wall pass, hit shot from 10 m, hit shot from 10 m with moving ball, consisting of the basic techniques of football. These studies continued for 12 weeks. Experiment group and control group were formed from students at the beginning of the study process. The test batteries, specially prepared for students, were applied as pre-test and post-test. Two-factor variance analysis (anova) is done for the data and interpreted by analyzing them with SPSS 13.0 statistical program. At the end of the research, despite the fact that no change in the control group is observed, a significant improvement in the implementation of basic techniques of football (20 m run, 20-meter slalom run, 20 meters ball sliding, 20 m slalom ball sliding, 20m wall pass, hit shot from 10 m, hit shot from 10 m with moving ball) of the experimental group is observed. Although no significant improvement in the physical development with movement education program that requires physical skill and coordination of student who need special education was observed, significant improvements in skill and coordination features was found.

Key Words: Special Education, Movement Education, football, Rehabilitation, Skill-Coordination.

Introduction

Special education is defined as a set of educational services that individually are administered to students who have significantly different characteristics from average students and aims to maximize the likelihood of independent living of individuals (Eripek, S, and et al. 1998). Recently in the Turkey multi-faceted studies are done on various fields related to integration and acquisition of individuals with disabilities to society (5, 6, 7 cit. 8. Şen, C.İnce, G. 2007).These studies aim to displace the individuals with disabilities from closed space where they live their life and engage them into society, to make their physical and social development better and to improve their quality of life (Şen, C. İnce, G. 2007). No matter for what purpose it is done, participating in physical activities make people enjoy the life, gain the personal freedom, enter to the modern society and provide benefits in terms of adaptation (Açıkada, Ergen, 2007). Cratty and Bryant, (2007) suggests that physical education activities minimize the emotional and muscle tension, ensure improvement in IQ levels of disabled children, whereas Ninot and his colleagues,(2007) recommend engagement of physical education and sports activities in the programs for people with disabilities, meanwhile they suggest that these activities should be done under control of physical educator. Nolan and his friends, (2007) express that positive developments have been seen in the behavior of students with disabilities who regularly attend physical education classes.

According to the findings of many studies, because of the social progress incompetence of children with mental retardation, they have difficulty in joining or they are weak in participating in physical activity, thus it is reported that this situation will negatively affect the children's physical fitness levels (İlhan and et all, 2008). There are many studies on the development of physical, physiological and motor characteristics of educable mentally disabled persons. It is indicated that regular exercises or sports activities have some behavioral change and motor development effects on mental disabilities. (Şahin and et all, 2007).

Leisure needs of children with mental disabilities are the same as those without disabilities. These requirements are activities like resting, relaxation, enjoyment, recognition, learning, gaining experience, being together, communicating with other people, creativity, etc. (Vuran, Çolak, 2007). If

interaction with their peers opportunities for students with special needs is provided, they may learn to exhibit appropriate social behavior, to develop friendships, cooperation (Oymak,M.1998).

For this purpose, we believe that our study is needed for children who need special education, and that the studies will provide benefit for children as regards social, cultural and psychological.

Method

Population and Sample: 70 male students (35 experimental + 35 control) from 10-12 age group among 650 (male) students studying in 1 official state school and 6 special education and rehabilitation center have been participated in the survey. In the selection of the students those who have the ability to play football are selected. Flat ball sliding, slalom ball sliding, passing, fast wall passing, hitting still ball, hitting moving ball, goal kick techniques were applied as game skill. Students' personal information (IQ, social development, physical development) were taken from personal files that was created by counseling and research center. Movement education program: Specially prepared movement education program (in the form of individual and group skill-coordination developer covering the basic techniques of educational games and football) is applied in the studies. Aids were taken from football coach, physical education teacher, physical therapy and rehabilitation specialist and class teachers in preparation of movement education program. Prepared movement education program is designed in accordance with the views of educational sciences, a faculty member of the education and training programs department, a faculty member of the School of Physical Education and Sports and Medical school, a faculty member of the physical therapy and rehabilitation department. The designed movement education program is applied on 10 student of a different rehabilitation center as a pilot application, the movements that were unsuitable for skill and application were removed

Data collection:

The study was started on 3 December 2008 and was conducted at the weekends (Saturdays and Sundays). These studies continued for 12 weeks. Experiment group and control group were formed from students at the beginning of the study process. The test batteries specially prepared for students, were applied as pre-test and post-test

After implementation of the movement education program, students were tested by the test batteries consisting of basic techniques of football (20 m run, 20-meter slalom run, 20 meters ball sliding, 20 m slalom ball sliding, 20m wall pass, hit shot from 10 m, hit shot from 10 m with moving ball.).

Analysis of Data: Frequency and percentage values were found regarding the students participated to the research. In addition, two-factor variance analysis (anova) is done for the data and interpreted by analyzing them with SPSS 13.0 statistical program.

Findings

Table 1: Age, height, weight, IQ and Disability type values of the Subjects

	Age	Height	Weight	IQ (sub-unit)	IQ (upper-unit)	Disability type
Experiment Group	10	129.43±6.28cm	27.25±7.45kg	55	68	MDMD
Control Group	10	128.12±5.35cm	26.45±6.55kg	57	70	MDMD
Experiment Group	11	135.28±5.35cm	34.65±4.25kg	52	65	MDMD
Control Group	11	134.45±5.32cm	35.12±4.65kg	55	64	MDMD
Experiment Group	12	138.15±7.62cm	38.25±6.45kg	51	67	MDMD

Control Group	12	139.22±6.74cm	39.45±7.15kg	53	66	MDMD
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MDMD: Mild degree mental disability

Table 2: Averages and Comparisons of the Pre-test - Post-test of the Groups

PARAMETERS	GROUPS	TESTS	X	F
20 M Speed Run	Experiment Group	Pre-Test	4,43	F _(1,68) =136,682, p<0,01
		Post-Test	3,17	
	Control Group	Pre-Test	4,32	
		Post-Test	4,25	
20 M Slalom Running	Experiment Group	Pre-Test	9,25	F _(1,68) =200,608, p<0,01
		Post-Test	7,52	
	Control Group	Pre-Test	9,45	
		Post-Test	9,18	
20m Ball Sliding	Experiment Group	Pre-Test	7,36	F _(1,68) =235,017, p<0,01
		Post-Test	6,21	
	Control Group	Pre-Test	7,52	
		Post-Test	7,44	
20m Slalom Ball Sliding	Experiment Group	Pre-Test	16,12	F _(1,68) =119,548, p<0,01
		Post-Test	12,57	
	Control Group	Pre-Test	16,44	
		Post-Test	16,28	
20 min. Wall Pas	Experiment Group	Pre-Test	9	F _(1,68) =210,496, p<0,01
		Post-Test	11	
	Control Group	Pre-Test	8	
		Post-Test	8	
10 M Hit Shot (Still Ball)	Experiment Group	Pre-Test	2	F _(1,68) =10,213, p<0,01
		Post-Test	5	
	Control Group	Pre-Test	3	
		Post-Test	3	
10 M Hit Shot (Moving Ball)	Experiment Group	Pre-Test	2	F _(1,68) =3,221, p<0,01
		Post-Test	4	
	Control Group	Pre-Test	3	
		Post-Test	2	

Table 3: Special Movement Education Program

Practice Dates	Acquirements	Activities	Target-Goal
1.Week	Identifying individual skills	Ball games	Movement development
2.Week	Strength improving games	Health ball games	Development of different muscle groups
3.Week	Agility improving games	Games with various materials	Be able to use different materials in sports
4.Week	Coordination improving games	Station games	Providing psychomotor development
5.Week	Team games	Ten passing game, etc.	Cooperation improving
6.Week	Futsal games	Futsal with different number of players	Improving movement with ball
7.Week	Individual techniques	Ball sliding	Identifying the individual ability
8.Week	Group techniques	passes	Improving group working
9.Week	Group techniques	Ball sliding and shot	Improving group working

10.Week	Team techniques	Getting involved in	Creating team spirit
11.Week	Team techniques	Getting involved in	Creating team spirit
12.Week	Preparation matches	With different teams	Ability to adapt in match environment

Discussion And Interpretation

At the end of the research, despite the fact that no change in the control group is observed, a significant improvement in the implementation of basic techniques of football (20 m run, 20-meter slalom run, 20 meters ball sliding, 20 m slalom ball sliding, 20m wall pass, hit shot from 10 m, hit shot from 10 m with moving ball) of the experimental group is observed. A number of studies related to the research found that regularly done movement education programs have a positive contribution on physical fitness levels of children. A number studies state that football training is not only effective on the physical development of young children, but also it is effective on their mental, aesthetic and moral development. In a study of 10-12 male football players pulmonary function, it is indicated, that compared to the same age children's sedentary pulmonary function the football player, children had significantly different, football has a positive effect on lung volume and capacity (Açıkada, C. Ergen, E.2007). In a study named Evaluation of Some Physical and Physiological Characteristics of 10-13 Years Old Male Children Participated the Summer Football Courses, it is stated that the 10-13 aged male children who participated the Football Summer course got appropriate physical and physiological characteristics and as a result of the course their flexibility and abdominal muscle strength and endurance increased (.w.w.w.tüik.gov.tr). It is identified that the football project that is applied among children and youth between primary schools is given in accordance with the purpose of the schools football organization and it has positive impact on children (Şen, C. İnce, G.2007). Again, it is found that the football workout has a positive contribution on the kinesthetic and musical intelligence of 8-10 age group children (Oymak.M.(1998)., akt. Çolak. S., Bayazıt. B., Aktekin. E., Çolak, T.2007). In study of improvement of motoric features of children and young people, it is concluded that football playing children got an adequate level of height, body weight, body composition, muscle strength and endurance, anaerobic power and technical features (Vuran. S., Çolak, A. 2007).

Concept of virtue, majority of children believe that it is important to play well in order to win, and they

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Advantage of Computer Based Volleyball Training For Giving Feedback

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Abstract:

The use of computers in education is growing at a rapid rate, with use of computers for educational purposes more than doubling between 1984 (36.2%) and 1997 (84%) (National Center for Education Statistics, 1999). One of the main advantages of computer-based education is the ability to provide immediate feedback on individual responses. In general terms, feedback is any message generated in response to a learner's action. Among the most important outcomes of feedback are helping learners identify errors and become aware of misconceptions. Feedback is also a significant factor in motivating further learning. As described by Cohen (1985), "this component (feedback) is one of the more instructionally powerful and least understood features in instructional design" The current paper summarize the advantages of computer based assistance to coach in giving immediate feedback to volleyball players.

Recording Games and practices session:

Attack:

The attack, also known as the *spike*, is usually the third contact a team makes with the ball. The object of attacking is to handle the ball so that it lands on the opponent's court and cannot be defended. A player makes a series of steps (the "approach"), jumps, and swings at the ball. During attack attacker's position on time jump and proper hit on the ball is very important. In this method practice session of attack is recorded and analyzed for every individual player. Each step if attack is analyzed carefully and point of weakness and are of improvement provided as a feedback for every player.



Block:

Blocking refers to the actions taken by players standing at the net to stop or alter an opponent's attack. A block that is aimed at completely stopping an attack, thus making the ball remain in the opponent's court, is called offensive. A well-executed offensive block is performed by jumping and reaching to penetrate with one's arms and hands over the net and into the opponent's area. It requires anticipating the direction the ball will go once the attack takes place. It may also require calculating the best footwork to executing the "perfect" block. In blocking footwork, jump, both hands position and perfect timing is very important.

Blocking session of players is recorded during practice session and then analyzed for each player to identify mistakes and finding the ways of improvements.

For game planning several types of blocking techniques is planned like single/double/triple block.



block

Set:

The set is usually the second contact that a team makes with the ball. The main goal of setting is to put the ball in the air in such a way that it can be driven by an attack into the opponent's court. The setter coordinates the offensive movements of a team, and is the player who ultimately decides which player will actually attack the ball.

Set is very important technique in volleyball. Setting ball to correct player on correct time is very important by giving dodge to opponents team player. Setting can be done by underarm or overhead using fingers movement.

The attack and set session is recorded at same time and analyzed every set ball to every attacker and feedback is given to setter showing which attacker can hit which type of balls more accurately and effectively



Pass:

Also called reception, the pass is the attempt by a team to properly handle the opponent's serve, or any form of attack. Proper handling includes not only preventing the ball from touching the court, but also making it reach the position where the setter is standing quickly and precisely. Passing sessions are recorded analyzed for each player and feedback is given to each player for their improvements like judging the ball while standing at back line of court. Taking underarm or overarm pass.

Serve:

A player stands behind the inline and serves the ball, in an attempt to drive it into the opponent's court. His or her main objective is to make it land inside the court; it is also desirable to set the ball's direction, speed and acceleration so that it becomes difficult for the receiver to handle it properly. A serve is called an "ace" when the ball lands directly onto the court or travels outside the court after being touched by an opponent.

There are different types are server doing server bay standing, jump and server etc. Taking every player ability in consideration in recorded video coach gives feedback to player which type of service they can do perfectly and effectively

Conclusion:

Using computer based feedback technique is very useful for coach to identify the weakness of players and to plan area of improvements for every individual player by showing them their mistakes in videos. Using feedback method coach can also strengthen strong points of player and help them to make it more strong

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Standardization of Athletic Norms in Track Events of the University Male Students of Andhra Pradesh

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Introduction

“MENS SANA IN CORPORE SANO”. A healthy mind lives in a healthy body. Games in the remote past had a religious significance, for some they remain a cult, if not a religion, even today. Later, they were looked upon as a form of military training (GREEKS); for many they are still a battle. Physical activities and competitions are no more the royal scenario of leisure and pomp. They have become real battles of strength, power and fortitude. Today, it is not participation but the victory that is the motto. To get successes, standards are fixed and ruthlessly followed right from the very inception of athletic activity by a man or woman. A man wins a game not when he says 'I must win' but when he concentrates on the standards which alone can take him to the victory. Usain Bolt the undisputed King of sprints is one of the examples to set the standards high and achieving them impeccably with breaking world record time and again by clocking 9.58 seconds in the Olympic Games and World Championship (Guinness World Records, 2015). Ben Johnson of Canada is another one, who won 100 m sprint creating new world record with a superb timing of 9.83 seconds in World Cup Athletics held in Rome on 27.9.1987 (IAF, 1987). He was reported saying one day earlier that 'I must win'. For that victory big Ben was concentrating on that timing all through his training performance. So he had won not on that 27th day of September but much earlier when he fixed his target and focused all his concentration upon it. Joyner Griffith who became a sensation at the Seoul Olympics (Park Seh-Jik, 1991) and shattered records after records got distinction only because after the Los Angeles Olympics she had set targets – standard norms, and had concentrated faithfully on them. This equally is true for several others alike, who shattered the era of their own. Philips Andre in 400 m hurdles by pursuing the standards and norms set and pursued in the year 1988 at Seoul won over his master and mentor the unchallenged sovereign of the event Edwin Moses for over a decade (Park Seh-Jik, 1991). Sports, such as they are today, stem from the modern industrial era. Walking, running, jumping and throwing are all movements that men practiced in Ancient times. It was a leisure exercises, more for pleasure, however, they have now acquired a different significance. Present day track and field athletics are centered on speed in a competitive spirit. Words such as performance, competition, record, training, self-restraint, personal achievements, express the essence of the world of athletics. Athletes strive to leave a mark for posterity, to set a record, to tie their name to any Olympic medal or, at least, included in the ranking list-Andrew Zimbalist. 2015. The recrudescence of the Olympic spirit is closely associated to this process and the motto “Citius-Altius-Fortius”, stresses the importance of the time factor. The first records in athletic events were registered around 1880. The first of the modern Olympic Games were held in 1896. In 1912, the International Amateur Athletic Federation (IAAF) was founded and it published the first official list of men's world records in 1921 and of Women's world records in 1935. After nearly 100 years of evolution of track and field athletics during which a surprising improvement of performances has been achieved, the question arises, can we expect the development of these tendencies and consequently further improvements in performances or have we already reached the limits of human capacities in competitive sports. To get these standards, one needs fitness. He must be able to live more effectively and efficiently with his prowess and potential. His physical, mental, emotional, social, spiritual and all other powers must be geared to take him nearer and nearest to that standard. Physical fitness, therefore, is the sine-qua-non, the cause causans of athletic achievement. Physical fitness from occupation point of view has been defined as the degree of ability to execute a specific physical task under specific ambient conditions – Karpovich (2003). It is the capacity to prolong hard work and restore promptly after that to normalcy. It depends upon strength, speed, endurance, agility, power and flexibility of an individual. As men are individuals they may reach the same standard but usually by entirely different and devious routes – John W Bunn (1972). The performance of the boys and girls in athletics also depends upon many hereditary and environmental factors. Two are never alike and there are individual differences in the native ability, structure, functions, glandular development and other physiological and psychological state of body and mind. According to Nelson (1996), some of the advantageous and handicapping factors which influence performances in physical activities are race, sex, intelligence, weight, height, length of

various parts and organs of the body, vital capacity, blood pressure, pulse rate, nerve force, energy, strength and endurance. While fixing standards all these have to be and must be taken into consideration. True, as we go up in age these standards would be raised and proportioned to the development of all the above faculties, which are correlated to each other and not mutually exclusive (Miller, 2002). In most of the athletic-developed countries the standards are fixed from the tender age taking them further through the primary schools, the secondary schools, the colleges and universities and then post-education at specialized institutions. A study of these standards and their fixation can be studied at any of these levels (Nauert, R., 2014). In India, however, it is only at the college/university level that any such experimentation or study is feasible for lack of facility, uniformity and planning at lower level, besides absence of sports facilities and their development in an organized manner. In Indian Universities with the establishment of a separate wing for sports at the Association of Indian Universities, some focus was made on standardization and development of various games activities including athletics in Andhra Pradesh, too, standardization programme got its start with it. The holding of the First Asian Games in India invoked a new sense in the standardization of China and then Korea in the realm of sports in general and athletics (especially in Asia) gave much fill up to this concept. The investigator has tried to focus all attention on the urgent need for scientific back-up to ensure future development in our sports set-up and has also stressed upon the necessity to recognize the fact that sport is a multisided process consisting of a system of putting together the many effective ingredients available within the framework of the numerous sciences that are involved. Some of these sciences are Kinanthropometric, Physiology of Exercise, Sports Biomechanics, Sports Psychology, Biochemistry, Dietetics, and Sociology etc. These are the areas of research that ultimately contribute to the achievement of excellence in sports. In today's computer world, scientific coaching has totally replaced the age-old techniques, fascinating but outdated and out-moded. We cannot, in a scientific age, boost of rich traditions unless they are scientifically sound. There is a continuous search and research on increasing the explosive power for better performances. Every jerk of energy, every fraction of movement and every decimal of the human body motor must be so regulated as to release the maximum speed, strength, endurance and agility. The question is how to evaluate these components and fix standard? To measure them McCloy (2004) in his book "The Measurement of Athletic Power" suggested a wide range of activities, rules for their organization etc. These scales after appropriate optimization can even today be utilized for students of all levels of education. He further suggested a formula for the computation of 'Athletic Index' and proposed the 'accomplishment quotient. The Physical Education, being very much needed at the university level, requires to be revised under the guidance of existing physical fitness norms. This will provide good opportunities to the students as well as to the Athletic coaches to evaluate their performance. Hence, the need arises to prepare norms for Athletes in the track events, for University students of Andhra Pradesh. With the increasing interest towards athletic competitions, the investigator has been motivated to find out the athletic norms in track events 100 meters, 400 meters, and find standards of technical and non-technical university male students of 16-19 years of age. This study will be helpful in the overall progress of athletics. It shall give a picture for grading up the male students of Andhra Pradesh Universities.

Method

The present study was a normative survey of Andhra Pradesh University students of 16 to 19 years of age for which a sample of 50 students for each of the five technical and five non-technical universities were selected for the study. The total numbers of students were 250 for each of the category totaling to 500. In order to achieve the objectives of the study, two track events (100 m, 400 m) were selected to prepare the norms. In both these events the objective was to measure speed and anaerobic power. The fastest time in seconds was recorded for each of the event from the start to the finish. The tests were conducted in two sessions-morning and evening so as to give sufficient time for recovery. The administered of the tests on the subjects was carried out after giving them sufficient explanation of each event. Instructions and demonstration where ever it was felt necessary were given before the commencement of test. In both the events, one trial was given to the students in a group of six to get the best results. In order to analyses the data, different types of statistical tools used were Arithmetic Mean, t-test, analysis of variance and percentiles were computed for establishing the norms. The 10th percentile (p10) was selected for most efficient students below which only 10% of the students take the time to complete a particular event. 50th percentile (p50) has been selected for a student of the medium class performance below which only 50% of the students take the time to complete a particular event. 99th percentile (p99) has been selected for a student of the lowest efficiency who somehow completes the event. Since the percentiles are the ordered statistics the position to know the percentile rank of a particular observation to locate in one of the above mentioned three categories were considered. Hence the percentile rank has been prepared to construct the norms for the two athletic track events.

Results

The results of the study are analyzed in the following tables:

TABLE- 1: Percentile Ranks, Skewness and Kurtosis of the Distribution of Technical and Non-Technical University Students of 16 to 19 Years of Age for 100 Meters (Percentile comparison)

Percentile	Technical	Non-Technical
p10	14.1	13.4
p19	14.3	13.7
p29	14.6	13.8
p39	14.8	13.9
p49	14.9	13.9
p59	15.1	14.2
p69	15.2	14.5
p79	15.5	14.7
p89	16.0	15.0
p99	16.8	16.1
MEAN	14.960	14.140
SD	0.044	0.038
SKEWNESS	0.133	0.369
KURTOSIS	-0.321	-0.376

Table 1 shows that there were 10% students in the Technical group who clocked the time of 14.1 seconds to cover 100 meters distance and 99% students covered the distance in 16.8 seconds. The non-technical students covered the same distance in 13.4 seconds and 16.1 seconds respectively. 50% students of the technical group clocked the time of 14.9 seconds and non-technical group clocked the time of 13.9 seconds. Both had a difference of one second. Time up to 1/10th of a second changed the gradation in the speed and its timings. Further the results showed that skewness of the distribution in case of technical group is 0.133 and in case of non-technical group is 0.369. This means that the performance in 100 meters is more normally distributed in case of Technical Group rather than in case of Non-Technical Group. The Kurtosis in Technical (0.321) and non-technical (0.376) groups showed Leptokurtic in both the groups. These Leptokurtic distributions indicate that the timings of the majority of students were concentrated around the average values and very small number of students had timings which were dispersed away from the average values.

TABLE – 2: Percentile Ranks, Skewness and Kurtosis of the Distribution of Technical and Non-Technical University Students of 16 to 19 Years of Age for 400 Meters Run (Percentile Comparison)

Percentile	Technical	Non-Technical
p10	58.7	56.7
p19	59.5	57.5
p29	59.8	58.2
p39	60.3	58.3
p49	60.7	58.7
p59	61.3	58.9
p69	61.7	59.2
p79	62.5	59.5
p89	62.9	60.2
p99	65.4	62.3
MEAN	60.870	58.604
SD	0.099	0.087
SKEWNESS	0.255	0.106
KURTOSIS	-0.505	-0.344

Table 2 shows that there are 10% students in technical group who have covered the 400 meters run in 58.7 seconds and 99% students have taken 65.4 seconds. Amongst the Non-Technical students, 10% have finished 400 meters in 56.7 seconds while 99% have covered the distance in 62.3 seconds. 50% of students, in the case of Technical group, have covered the distance at 60.7 seconds and in the case of Non-Technical group, have taken the time of 58.7 seconds. The results indicate the Non-Technical students in the age group of 16-19 years have given better performance to finish 400 metres run than the Technical group. Besides, the results showed that Skewness of the curve in the

case of Technical group is 0.255 and in case of Non-Technical group is 0.106. This means that the performance of 400 metres is having more normality distribution in case of Technical group rather than Non-Technical group. The Kurtosis of Technical (-0.505) and Non-Technical (-0.344) group is Leptokurtic in both the groups. This shows that the Technical and Non-Technical groups have comparable timing for 400 metres run in the age group of 16-19 years. The timings in lower 10% and upper 99.9% cases do not show much difference in speed in reference to 400 metres. This gives out that performance of Non-Technical group is better than the Technical group.

Discussion

The study was to find out the present status of physical fitness and performance of the students in technical and non-technical universities in sprints 100 m and in short run 400 m and to standardize the norms for the performance in the 10 universities of Andhra Pradesh, 5 Technical and 5 Non-Technical. It may be inferred that students in age group of 16-19 for 100 metres run for technical group, have covered the distance of 100 metres at p10 in 14.1 seconds and non-technical group 13.4 seconds and p99 in 16.8 seconds and 16.1 seconds respectively. This means that 90% of the subjects in the sample are able to cover the distance of 100 metres in 16.8 seconds and 16.1 seconds in this event. Whereas only 10% of the subjects in the sample were able to cover the distance in 14.1 seconds and 13.4 seconds in this event. For 400 meters, the performance of 16-19 years students at p10 level for this distance was 58.7 seconds for Technical students and 56.7 seconds for Non-Technical students, and at p99 of percentile rank, the Technical students have covered the distance in 65.4 seconds and Non-Technical students in 62.3 seconds. It means that 99% students have covered this 400 metres run in 65.4 seconds and 62.3 seconds and only 10% students have achieved the timing of 58.7 and 56.7 seconds for Technical and Non – Technical groups respectively. The reasons for better performance of Non-Technical students as noted and understood were found to be: They possessed better health as compared to their counterparts.

They had more time to participate in athletic activities due to fewer burdens of books, periodical tests, semesters and broader syllabi. They were making more use of sports facilities like gymnasium hall, stadia, play grounds and track. They got more encouragement to participate in games and sports and were less surrounded by book environment as was the case with the Technical students. Some other latent factors also help Non-Technical students to perform better such as good physique, unpolluted rural background, care-free approach to life and healthier nutrition etc. The Technical university students, mostly borderers with the urban elite background and upbringing, appeared more interested in indoor games spending time in library and reading rooms. These differences were affecting the performance of Technical University students overtly and covertly both. These findings show that Non-Technical students have shown better performances in all the events used for testing. The results of the study corroborate the earlier studies of McCloy, (2004), Hunt, et al (2009), Erlanger et al., (2003), National Collegiate Athletic Association, (2012-2013) & CIS Athlete's Guide, Canada, (2011-2012). It may, however, be said that although the students of Technical Universities did not fare so well as their counterparts in Non-Technical Universities yet they did fairly well as an average human being.

Conclusion

It was concluded that The Non-Technical students of age group 16-19 have shown better performance by 1 sec in 100 m. It was also found that Non-Technical students have shown better performance by more than 2.1 seconds in the 400 meters. These findings show that Non-Technical students have shown better performances in all the events used for testing.

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Sports And Legal Protection

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Introduction:-

College, private schools, and public schools have a legal duty to exercise reasonable care towards their students. The duty encompasses the duty of college coaches and sports trainers to exercise reasonable care for the health and safety of student in sports. An sports trainer has the duty to conform to the standard of care required of an ordinary careful trainer. When anyone in a sports organization breaches duty of care, there may be repercussions for the principals of the organizations. Senior managers' can be vicariously liable for offences committed by anyone in the organization including volunteers. To reduce the risk of negligence by sport providers, managers should regularly monitor their staff and programs.

Some Issues In Sports Arena:-

There are certain issues as laid down in the following have to be take care of:-

Discrimination:-Direct discrimination occurs where young people are treated less favourably in, for instance, access to training or selection in teams because of their gender, ethnicity, disability or sexual orientation , refused membership or provided membership on less favourable terms and conditions than other members. Indirect discrimination is where a practice impacts on one junior more than another because of a personal characteristic. Discrimination is prohibited in regard to work, education, provision of services and registered clubs.

Sexual Harassment

Sexual harassment refers to "the unwelcome conduct of a sexual nature that offends, humiliates or intimidates a person." It can be verbal or physical. This offence involving children is likely to involve the more serious criminal offences of indecent dealing and sexual assault.

Criminal Acts /Child Protection

Legal Acts dealing with child protection contain obligations on people dealing with children. Child Protection requires , teachers and coaches to notify particular government departments if they suspect child abuse or maltreatment , applicants for child-related employment to be screened in some jurisdictions, and not only paid employees. Child abuse includes sexual abuse/ misconduct – any sexual act or threat imposed on a child physical abuse – non accidental injury and/or harm to a child, emotional abuse – behaviours that can psychologically harm a child (eg severe verbal abuse)

Health and Safety

Every state and territory has legislation governing occupational or workplace health and safety (OHS). It applies to workers, volunteers, students or club members. Generally speaking, each Act stipulates whether you need to appoint an OHS Officer or Representative, ways to comply with its OHS obligations. Where no particular way is specified, you must choose an appropriate way to ensure the OHS of people under your responsibility. Under common law, a duty of care is also imposed on organisations to see that all reasonable precautions are taken to prevent injury

Sports Legislations In India:

There is no national or state legislation for regulation of sports in India. The Ministry of Youth Affairs & Sports was set up by the Govt. of India to create the infrastructure and promote capacity building for broad-basing sports as well as for achieving excellence in various competitive events at the national and international levels. Sports promotion is primarily the responsibility of the various National Sports

Federations (NSFs) which are autonomous in nature. The Ministry of Sports and Youth Affairs issues notifications and guidelines from time to time for the purpose of regulation of NSFs.

The Sports Law in India is governed and regulated by

- National Sports Policy
- Sports Law and Welfare Association of India
- Sports Authority of India
- The Sports Broadcasting Law in India.

National Sports Policy, 1984/2001

A Resolution on the National Sports Policy was laid in both Houses of Parliament in August, 1984. The National Sports Policy, 1984 was formulated with the objective of raising the standard of Sports in the country. The National Sports Policy, 1984 provided inter-alia that the progress made in its implementation would be reviewed every five years to determine the further course of action, as may be necessary, following such review. Over the years, it has transpired that even as the National Sports Policy, 1984 encompasses various facets in respect of encouraging sports in the country, the implementation of the same is not complete. In order to reformulate the National Sports Policy 1984, National Sports Policy 2001, was drafted

The objective of the guidelines of National Sports Policy 2001 is three fold:

- Firstly to define the areas of responsibility of the various agencies involved in the promotion and development of sports,
- Secondly, to identify National Sports Federations eligible for coverage under these guidelines, to set priorities, and to detail the procedures to be followed by the Federations, to avail of Government sponsorship and assistance.
- Thirdly, to state the conditions for eligibility which the Government will insist upon while releasing grants to Sports Federations.

Sports Law And Welfare Association Of India

The Sports Law and Welfare Association of India is a national non profit and professional organization which work with the common goal of understanding, advancement, and ethical practice of Sports Law in India for the promotion of Sports, by bringing Legal Practitioners and Sports persons together. The Association provides consultancy on various matters including regulation of sports governing bodies, general sport and law issues, intellectual property issues in sport, online advocating in legal disputes of sports in court on behalf of sports persons and sports bodies, etc. The Sports Law and Welfare Association of India aims to further the discussion of legal problems affecting sports and to promote the exchange of a variety of perspectives and positions of sports law and provide a forum for lawyers representing athletes, teams, leagues, conferences, civic recreational programs, educational institutions and other organizations involved in professional, collegiate, Olympic, physical education and amateur sports.

Sports Authority Of India

The Sports Authority of India was established to fulfill the need of an apex body to coordinate various sports activities in India. The success of the IXth Asian Games at Delhi has raised sports consciousness and enthusiasm in India which in turn, motivated the Government of India to focus on sports development to encourage physical fitness among youth and to direct their energy towards excellence. The Sports Authority of India has gradually, extended its operations to promote broadbase sports. The other thrust areas of SAI include provision of strengthening of inputs for excellence and various supportive programmes, such as Academic Programmes, Coaching and Physical Education Awareness Programmes and Scholarship Schemes as incentives to sportspersons. The Sports Authority of India operates various Schemes at sub-junior, junior and senior level and endeavors to broad base sports and develop excellence by upgrading the skills of Indian sports persons.

The Sports Broadcasting Law In India

The Sports Broadcasting Signals (Mandatory Sharing with Prasar Bharati) Act was passed in 2007 with an objective to provide access to the largest number of listeners and viewers, on a free to air basis, of sporting events of national importance through mandatory sharing of sports broadcasting signals with Prasar Bharati and for matters connected therewith or incidental thereto. The Act provides that any content right owner or holder television or radio broadcasting service provider shall not carry a live television broadcast on any cable or Direct-to-Home network or radio commentary broadcast in India of sporting events of national importance, unless it simultaneously shares the live broadcasting signal, without its advertisements, with the Prasar Bharati to enable them to re-transmit the same on its terrestrial networks and Direct-to-Home networks in such manner and on such terms and conditions as may be specified.

Sports And Competition Law

Two teams playing against each other are like two corporate firms producing a single product. The product is the game, weighted by the revenues derived from its play. In one sense, the teams compete; in another, they combine in a single firm in which the success of each branch requires efficiency. Unequally distributed playing talent can produce "competitive imbalance". Remuneration of the team members largely depends on the level of competition between the teams in the particular sports. sport is generally organized in a kind of a 'pyramid' structure, with a single governing body controlling most regulatory and commercial aspects of each sport, the governing body appears to be de facto 'dominant' and therefore claims relating to the abuse of monopoly.

Sports Law And Arbitration

Arbitration, a form of alternative dispute resolution (ADR), is a legal technique for the resolution of disputes outside the courts, wherein the parties to a dispute refer it to one or more persons (the "arbitrators", "arbiters" or "arbitral tribunal"), by whose decision (the "award") they agree to be bound. It is a settlement technique in which a third party reviews the case and imposes a decision that is legally binding for both sides. Other forms of ADR include mediation (a form of settlement negotiation facilitated by a neutral third party) and non-binding resolution by experts. Arbitration in India is governed by the Arbitration and Conciliation Act 1996 ("Indian Arbitration Act"), which is based on the UNCITRAL Model Law. The Indian Arbitration Act is broadly divided into two parts. Part I applies to arbitrations held in India, whether domestic or international, and Part II applies to arbitrations held outside India. Part II, incorporates the rules related to international arbitrations governed by the New York or Geneva Conventions. In sports, the disputes are first referred to the federations that govern a particular sport and subsequently the international authorities that govern the sport. e.g. in hockey disputes are referred to the Indian Hockey Federation and after that the International Hockey Federation.

Proposal And Conclusion

The Indian Sports industry has progressed by leaps and bounds. Sports have assumed a corporate form with the number of commercial interests involved. With increasing market maturity and the need for clear and comprehensive legal documentation, sport issues are slowly becoming a major focus as contracts must be able to clarify parties' expectations and commitments, must protect the athlete's and the brand's big-picture interests and must factor in regulatory, legal and other risks inherent in the industry. The country has reached a stage where India needs a legislation that deals with sports law. India's failure in all the international sports events is an indication of poor infrastructure and corruption which exists within the federations. In order to meet the increasing demands of the changing scenario, national as well as international, it is important that a uniform code for sports be promoted. Like India, USA and UK do not have a national legislation to regulate sports and the sports federations in the country. However, the enactment of legislations in all the three categories of sports law i.e. amateur, professional and international athletes of US gives protection to the interest of the sportsmen. The key issues faced by the Indian sports include:

- Inefficient or inappropriate deployment of funds
- Mistakes in management Non-accountability for results
- Prejudice in selection procedures for national teams
- Undemocratic or unethical electoral practices in sports bodies

Thus India needs a national legislation for promotion, development and uniform regulation for sports in India. Sport figures in the State list of the Seventh Schedule (entry 33) of the Constitution. Though there was a proposal to include sports in Concurrent List over which both state as well as centre will be competent to make laws, however, the government has failed to do so. Further the government has failed to implement National Sports Policy of India even after its repeated attempts. The Parliament must enact a national legislation on sports wherein: *Firstly*, it shall provide for establishing a Sports Commission to regulation of sports in India. The Sports Commission shall:

advise the Ministry of Sports and Youth Affairs regarding sports.;

support talent identification and promote and foster development and participation in sports at all levels of foundation, participation, performance and excellence;

ensure an adequate allocation of funds and resources to national and provincial sports federations and their affiliated bodies;

monitor and take measures to ensure the proper use of funds allocated by the Sports Commission to sports federations;

must oversee the implementation of sports policies in India etc.

Secondly, the legislation on sport shall aim at promotion of sport, right from the school level by integrating sports with education by making it a compulsory subject of learning up to the Secondary School level. An appropriate Inter-school and Inter- College/University competition structure shall be introduced at the National, State and District levels.

Thirdly, in addition to the Union and State Governments, the sustained involvement of other agencies, including the Panchayati Raj Institutions, Local Bodies, Educational Institutions, Sports Federations/Associations in the creation, utilization and proper maintenance of the Sports infrastructure like play fields and stadium, both in rural and urban areas.

Fourthly, the sports federations and associations shall no more be autonomous and shall register itself under this legislation instead of Societies Registration Act and the allocation of funds to these federations shall be routed through the Sports Commission established under the Act. These federations must be accountable to the Sports Commission in respect of fund. The Sports Commission shall have the power to carry out investigation in respect of any misappropriation of funds.

Fifthly, the Sports Commission shall be empowered to carry out dispute resolution. It shall be empowered to constitute panels for adjudicating disputes and punish offenders for violation of code of conduct, offenders under national anti doping rules etc.

Sixthly, the organization like Sports Authority of India shall be under the control of the Sports Commission and shall solely aim at coordinating various sports activities in India.

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Sports Authority of India

National Sports Policy

Sports as a professional activity for women - Recent trends and Global scenario

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Introduction

Professional athletes are distinguished from amateur athletes by virtue of being paid. Throughout the world, most top female athletes are not paid, and work full-time or part-time jobs in addition to their training, practice and competition schedules. Women's professional sports organizations defy this trend. Such organizations are relatively new, and are most common in very economically developed countries, where investors are available to buy teams, and businesses can afford to sponsor them in exchange for publicity and promotion of their products. Very few governments support professional sports, male or female. Beginning in the late 1960s, a few women gained enough recognition for their athletic talent and social acceptance as role models to earn living playing sports. Most of these were in the United States.

Among them was Joan Weston, a roller derby star who was once the highest paid female in sports, but she was the exception rather than the rule. Things began to change in 1973 when Billie Jean King won "the Battle of the Sexes" and cracked the glass ceiling on pay for female athletes. Other players, like Martina Navratilova, broke through that ceiling, decreasing the gap between women and men athlete's pay on a regular basis rather than occasionally. Even now, in the 21st century, most professional women athletes around the world receive very little notoriety or pay compared to men. Life acknowledged the importance of King's achievement in 1990 by naming her one of the "100 Most Important Americans of the 20th Century."

USA

Though women have been pro athletes in the United States, since the early 1900s, paid teams, leagues and athletes are still uncommon and, as of 2013, paid far less than their male counterparts. For instance, the WNBA had its first season in 1997, 51 years after inception of the men's NBA. The WNBA (under the NBA Board of Governors) pays the top women players 60 times less than the top men. In 2005, the WNBA team salary cap was \$0.673 million.

The NBA cap was over 60 times higher, at \$43.87 million. The Association became the first American women's pro league in 2001, but lasted only briefly because of financial sponsorship. Fans enjoyed women's pro soccer for three seasons before executives announced suspension of the league, despite the Women's national soccer team's rating as one of the world's top teams.

Absence of a Women's professional football (soccer) league in the United States made it difficult for the Soccer women's national football team to find new players until Women's Professional Soccer was founded. A 2004 effort to revive the WUSA was launched. On September 4, 2007, a new North American women's professional football league, tentatively named Women's Soccer LLC, was announced and ultimately launched in 2009 as Women's. As of 2013, the only sports that men but not women play professionally in the United States are football, baseball, ice hockey, and Ultimate Frisbee.

Association football

The Women's Professional Soccer league, formed in September 2007, began its league play in March 2009. In its final season in 2011, there were six teams in the eastern United States. The WPS cancelled the 2012 season when the number of teams dropped to five after Boris low's team in South Florida magic Jack was terminated by the league. The WPS hoped to continue the season in 2013 with at least six teams and eight in the 2014 season, but ultimately folded in May 2012 because of legal and financial troubles.

In November, 2012, the US, Mexican and Canadian soccer federations announced the establishment of the National Women's Soccer League which will begin play in 2013. The three federations will provide salaries to a number of players across the eight-team league to lessen the costs of the rosters and provide development opportunities for the players. The US Soccer Federation will operate as the front office for the leagues.

Baseball

Since many men were on the battlefield during the Second World War, the All-American Girls Professional Baseball League (AAGPBL), in place of Major League Baseball, was created in 1943 to provide entertainment of people exhausted by the war. It was such a success that the number of people who attended women's baseball games reached almost 1 million in 1948. Yet, when the war ended and Major League Baseball players came back home, female baseball players were obliged to fill the role of housewife at home. AAGBL lost its audience, struggled with finances, and ceased to exist in 1954.

Forty years later, in 1994, a businessman in Atlanta struck a \$3 million sponsorship deal with Coors and formed a women's professional baseball team called the Colorado Silver Bullets. About 20 members were selected from 1,300 baseball players nationwide for this team. The Bullets played games with men's semi professional teams and regional teams. After the birth of the Ladies League Baseball in 1997, it included four teams. The Bullets fought with them. The Ladies League Baseball changed its name into the Ladies Pro Baseball and added two teams into the league in 1998. However, after the first month, the league was suspended due to the financial difficulties of its sponsors. The Bullets folded in 1998 after Coors terminated its contract.

Basketball

There are many countries where women's professional basketball league exists besides the United States, such as Italy, Germany, Spain, and Brazil. Many Americans players went overseas and some WNBA players play basketball in foreign countries during WNBA's off-season.

The Women's Professional Basketball League (WBL) was a professional women's basketball league in the United States. The league played three seasons from the fall of 1978 to the spring of 1981. The league is generally considered to be the first American professional women's basketball league to be founded. The next league was the Women's American Basketball Association and the Women's Basketball Association (WBA) The WABA/WBA was a professional women's basketball league in the United States. The league played three seasons from the summer of 1993 to the summer of 1995. The league is considered to be the first American professional women's basketball league to be successful as a summer league, like the WNBA. Also the American Basketball League (ABL) was founded in 1996 during an increase in the interest in the sport following the 1996 Summer Olympics. The league played two full seasons (1996–97 and 1997–98) and started a third (1998–99) before it folded on December 22, 1998.

Golf

The LPGA (Ladies Professional Golf Association) was founded in 1950 and is the longest running women's professional sports association.

Softball

The first women's professional softball league was established in 1976, but it only lasted for four years because of its financial reasons and failure in marketing. In 1994, the National Pro Fast pitch emerged to prepare a rebirth of the professional league, which came into existence with 6 teams in 1997. As of 2012, the league has 4 teams that play 44 games each and then participate in the Championship Series. The league is expected to expand "due to on-going expansion efforts".

Tennis

The Women's Tennis Association (WTA) was founded in 1973 with Billie Jean King at the forefront. It is widely considered the most successful and popular of any organization in women's professional sports. The league has over 2,500 players from 92 nations, and it has over \$100 million in prize money for 54 tournaments and 4 Grand Slams in 33 countries.

Volleyball

The Women's Professional Volleyball Association was established in 1986. The association organized professional 6-player indoor volleyball leagues and beach volleyball leagues, such as Bud light Pro Beach Volleyball League in 1997, in which 4 teams participated. It dissolved in 1997.

Motorsport

Eight women qualified to the Indianapolis 500 formula race: Janet Guthrie (9th in 1978), Lyn St. James (11th in 1992), Sarah Fisher, Danica Patrick (3rd in 2009 y 4th in 2005), Simona de Silvestro, Pippa Mann, Milka Duno and Ana Beatriz Figueiredo. They also raced at American open wheel racing (USAC National Championship, Cahmp Car and Indy Car Series. The only one to win a race was Patrick at the 2008 Indy Japan 300; she scored several podiums and finished 5th in the 2009 Indy Car Series season, 6th in 2008 and 7th in 2007. Guthrie finished 5th in a USAC race in 1979. Fisher scored two podiums.

Ice hockey

At the turn of the 20th century, the first organized women's ice hockey leagues started in Canada, as did the first-ever attempt at launching a pro league in the 1990s. The Canadian Women's Hockey League (CWHL) has a historic legacy, but the current incarnation of the League began operations in 2007. Over the decades, the League has had many names: In the late 90s and early 2000s, it was the National Women's Hockey League (NWHL). Many of the current stars were culled from that league after its demise in 2007. At the time, owners were losing money and unable to forge a cohesive plan for how to move the league forward. The prospect of having no professional league for women left the world's top players with nowhere to play.

In the summer of 2007, a groundbreaking initiative launches a player-run league with a new vision. Along with fellow players Kathleen Kauth, Kim McCullough, Sami Jo Small, Jennifer Botterill, Lisa-Marie Breton and a group of keen business people, they formed the Canadian Women's Hockey League (CWHL), following the example of the National Lacrosse League. The result was a non-profit organization that favoured a centralized league over the old ownership model. This new league would cover all basic travel, ice rental, uniforms and equipment costs for the league's 6 teams across Eastern Canada. Until the 2010-11 seasons the players in the league had to pay over \$ 1,000 each to play hockey. While these female elite hockey players hope to make a living playing someday, everyone involved in the League, from players to staff, work "pro bono," leading double lives as National Team athletes, journalists, policemen's, fire brigades, school principals and teachers.

The competition is semi-professional, meaning that the players are paid above the old maximum for professionals but rely on part-time jobs or schooling outside the game. Full professionalism has been tried, mostly on the part of individual teams (Fulham L.F.C. was the first side to go full pro, but was downgraded later by the owners), but it will take years to develop a fully professionalised women's league in England. Backing by a male club does not necessarily equal success, and the level of success achieved by male clubs may be reversed in female counterparts (compare these local derbies

Similar semi-professionalism examples exist in women's rugby union and cricket. Common to most European sports, promotion and relegation is used for the leagues (which the WNBA and WPS do not have). The LET (Ladies European Tour) is Europe's leading women's professional golf tour and formed as the WPGA in 1978. Over the last 33 years, the tour has developed into a truly international organisation and in 2011 will operate 28 golf tournaments in 19 different countries worldwide. www.ladieseuropeantour.com

Top earning sports women

According to Forbes Magazine, the top ten earning female athletes are:

2011 rank	Name	Earnings (USD)	Sport
1	Maria Sharapova	\$25.0 million	Tennis
2	Caroline Wozniacki	\$12.5 million	Tennis
3	Danica Patrick	\$12.0 million	Motorsport
4	Venus Williams	\$11.5 million	Tennis
5	Kim Clijsters	\$11.0 million	Tennis
6	Serena Williams	\$10.5 million	Tennis
7	Kim Yun-Na	\$10.0 million	Figure skating
8	Li Na	\$8.0 million	Tennis
9	Ana Ivanovic	\$6.0 million	Tennis
10	Paula Creamer	\$5.5 million	Golf

Forbes list: 2011

Women Professional Sports competition

Women's sport at the Olympics

Cycling

UCI Women's Road World Cup

Football (soccer)

Women's World Cup

Algarve Cup

Four Nations Tournament

CONCACAF Women's Gold Cup

Copa do Brasil de Futebol Feminino

CONMEBOL Sudamericano Femenino

FA Women's Cup
 FA Women's Premier League Cup
 FA Women's Community Shield
 U-20 World Cup
 U-17 World Cup
 OFC Women's Championship
 UEFA Women's Championship
 Netball
 ANZ Championship
 Netball and the Olympic Movement
 Ice hockey
 Alpine Cup
 Asian Winter Games {
 Canadian Interuniversity Sport women's ice hockey championship
 Clarkson Cup
 Coupe Dodge
 Elite Women's Hockey League
 Esso women's hockey nationals
 4 Nations Cup
 MLP Nations Cup
 NCAA Women's Frozen Four
 IIHF Challenge Cup of Asia
 IIHF European Women's Champions Cup
 IIHF European Women Championships
 IIHF World Women's Championships
 IIHF World Women's U18 Championships
 Women's hockey Tournament at the Olympic Games *Samsung Wickenheiser Festival *1987 World
 Women's Hockey Tournament
 Women's Pacific Rim Championship
 Winter Universiade
 Softball
 Softball at the Olympics
 Softball at the 1996 Summer Olympics
 Softball at the 2000 Summer Olympics
 Softball at the 2004 Summer Olympics
 Softball at the 2008 Summer Olympics
 Women's College World Series
 Golf

The LET (Ladies European Tour) is Europe's leading women's professional golf tour and formed as the WPGA in 1978. Over the last 33 years, the tour has developed into a truly international organisation and in 2011 will operate 28 golf tournaments in 19 different countries worldwide.

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A Comparative Study of Achievement Motivation among Judokas and Fencers of Hyderabad

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Introduction:

Achievement Motivation defined as the need to perform well or the striving the success as the need to perform well or the striving for success and evidenced by persistence and effort to achieve high performance in sports. Motivation is based on your emotions and achievement related goals. Achievement Motivation is the desire to excel at task. Sport Psychology is the scientific study of people and their behaviors in sport. The role of a sport psychologist is to recognize how participation in sport exercise and physical activity enhances a persons development. Beginning, in the 1970, Sport psychology became a part of the curriculum on university campuses. Today, sport and exercise psychologists have begun to research and provide information in the ways that psychological well being and vigorous physical activity are related. Modern day sports are very demanding . It requires for the sportsmen and athletes a like to perform to the very best of their abilities and beyond. Individual sport activities such as Judokas and Fencers, have shown to elicit higher anxiety levels than competitive team sport activities such as soft ball and basket ball.

Achievement Motivation defined as the need to perform well or the striving for success and evidenced by persistence and effort in the face of difficulties. Achievement Motivation is regarded as central human motivation. Achievement Motivation form to be the basic for good life. People who are oriented towards achievement in general, enjoy life and feel in control, being motivated keeps people dynamic and gives them self respect. They set moderately difficult but easily achievable targets, which help them, achieve their objectives. They do not set up extremely difficult or extreme easy targets by motivated people prefer to work on a problem rather than leaving the outcome to chance. It is also seen that achievement motivated sports persons seem to be more concerned with their personal achievement rather the rewards of success.

Need for achievement refers to an individual's desire for significant accomplishment, mastering of skills, control, or high standards. These include: "intense, prolonged and repeated efforts to accomplish something difficult. To work with singleness of purpose towards a high and distant goal. To have the determination to win".

Judo is a modern martial art, combat and Olympic sport created in Japan in 1882 by Jigoro Kano 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 achoke. Strikes and thrusts by hands and feet as well as weapons defenses are a part of judo, but only in pre-arranged forms (kata, 形) and are not allowed in judo competition or free practice A judo practitioner is called a **judoka**.

Fencing practice and techniques of modern competitive fencing are governed by the FIE, though they developed from conventions developed in 18th- and 19th-century Europe to govern fencing as a martial art and a gentlemanly pursuit. The modern weapons for sport fencing are the foil, épée, and sabre.

Method:.

The purpose of the study is to find out the level of achievement motivation among Judokas and Fencing Players of Hyderabad.The sample for the study consists of 30 Judokas and 30 Fencers of Hyderabad.The Standardized Dr.B.N.M. Achievement Motivation scale were used for the study.

Result:

The Questionnaire were administered in small groups after the practice sessions of the Fencers and judokas. They also given brief description of achievement motivation and questions in the tests to yield the precise results.

Table No.1 showing the achievement motivation of Judokas and Fencers

Sports Persons	Mean	S.D.	N	DF	't'
Judokas	32.13	5.92	30	58	8.14**
Fencers	39.27	7.90	30		

The results in Table No.1 Shows that fencers are more Achievement than Judokas. Individual Performance sports like Athletics, Badminton,boxing, fencing, Weight Lifting etc must have more achievement motivation to excel in sports. The Decision must be made by Individual sports persons is final for his performance. The mean of Fencers is 39.27 compare to mean of the judokas is 32.13.It was found the Fencers are having more Achievement Motivation than judokas because the fencers required compulsory Motivation and concentration to achieve excel in Performance.

Conclusion:

It is concluded that Fencers are having the highest achievement motivation compare to judokas.It is concluded that Individual Sports persons like Athletes set goals and aims to give level best performance to win the Competition, where as the Team game players depend upon their group to give the high level of performance.It is recommended that achievement motivation is compulsory for all sports persons to achieve high excellence in sports.The Coaches must prepare all the sports persons with high level of motivation to excel in sports and games.It is concluded that Individual Sports persons are having more Achievement Motivation because they set goals and aims to give level best performance to win the Competition, where as the Team Game sports persons depend upon their group to give the high level of performance.It is recommended that achievement motivation is compulsory for all sports persons to achieve high excellence in sports.The Coaches must prepare all the sports persons with high level of motivation to excel in sports and games.

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A Comparative Study of Mathematical Aptitude among Students of Private and Government Schools of Mahabubnagar District

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Introduction:

Mathematics occupies a central place in the curriculum and it is next to only to language in importance. It was esteemed by International mathematics first study that one fifth of students time was devoted to mathematics alone. The importance of mathematics, therefore, reflects the vital role, it plays in the contemporary society. Mathematics plays a vital role in the economic and social development of a country because it is the basis for all science and technology.

Mathematics is used throughout the world as an essential tool in many fields, including natural science, engineering, medicine, finance and the social sciences. Applied mathematics, the branch of mathematics concerned with application of mathematical knowledge to other fields, inspires and makes use of new mathematical discoveries, which has led to the development of entirely new mathematical disciplines, such as statistics and game theory. Mathematicians also engage in pure mathematics, or mathematics for its own sake, without having any application in mind. There is no clear line separating pure and applied mathematics, and practical applications for what began as pure mathematics are often discovered

All Teachers of Mathematics are naturally interested in the nature of the subject.

Aptitude is a Present condition of a person which is indicative of Individual potentialities for the future. An aptitude is a component of a competency to do a certain kind of work at a certain level, which can also be considered "talent". Aptitudes may be physical or mental. Aptitude is not developed knowledge, understanding, learned or acquired abilities (skills) or attitude. The innate nature of aptitude is in contrast to achievement, which represents knowledge or ability that is gained through learning. Aptitude and intelligence quotient are related, and in some ways differing views of human mental ability. Whereas intelligence quotient sees intelligence as being a single measurable characteristic affecting all mental ability, aptitude often refers to one of many different characteristics which can be independent of each other, such as aptitude for military flight, air traffic control, or computer programming.^[2] This is more similar to the theory of multiple intelligences..A single construct such as mental ability, might be measured with multiple tests. Often, these test scores will be correlated with each other. The U.S. Department of Labor's General, for instance, is determined by combining Verbal, Numerical and Spatial aptitude subtests. In a given person some aptitudes might be low and others high. In the context of an aptitude test the "high" and "low" scores are usually not far apart, because all ability test scores tend to be correlated. Aptitude is better applied intra-individually to determine what tasks a given individual is more skilled at performing. Inter-individual aptitude differences are typically not very significant due to IQ differences. Of course this assumes individuals have not already been pre-screened for aptitude through some other process such as SAT scores, GRE scores, or finishing medical school.

Characteristics of an Aptitude

1. Specificity
2. Unitary Composition
3. Facilitation of learning activity or type of activity.
4. constancy

Objectives of the Study:

To find out the mathematical aptitude of private school students and Govt. High school in Mahabubnagar District.

Methodology:

The Sample for the study consists of 50 Male Private School Student and 50 Male Government High School Students of Mahabubnagar District.

To study the mathematical aptitude in private and government schools the normative survey method is used, where the survey conducted on mathematical aptitude of students. The Researcher conducted the Pilot study to construct the mathematical aptitude test which consists for 40 most appropriate questions. Each Question has with four alternatives out of which one alternative is a right answer. This Test administered to 50 Students of Government High school and private school and obtained the responses of the students from the questionnaire.

Results of the Study**Table: 1:**

Comparison of Mathematical Aptitude of Private School Students and Government school Students

Variable	Sample Size	Mean	S.D.	Deg. Of Freedom	T values
Private School Students	50	20.8	8.54	98	3.4
Govt. School Students	50	15.4	7.25		

The mean of the Private schools students is 20.8 compare to Government school Students is 15.4. The Private Schools Students has good mathematical foundation compare to the government high school students.

Conclusions:

It is concluded that the private school students are having the higher mathematical ability compare to the govt. high school students.

Recommendations:

Similar Studies can be conducted on female students and other different school. This type of study is useful to the mathematics teacher to improve the mathematics aptitude among the students in the school. This type of study also helpful to the student to improve the mathematical aptitude.

References:

Aptitude wikipedia
Mathematics wikipedia

The Problems Of Sporting Goods Brands In Competition With World Famous Brands Of Sport Consumer's Perspective

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Abstract

According to consumer nationalism and protection of domestic producers is important that can lead to economic growth. In addition, the production of quality products to suit the needs of consumers in the country can switch non-domestic consumers to brands in sports lead to permanent customers. Since, according to quality, prices and designs suit the needs of different athletes and beauty guarantee increasing demand and the migration of consumers to the category of domestic products, as a result, the assessment of domestic brands with foreign sports brands, it is especially important. The purpose of this study was to examine the problems of sporting goods brands compete with world famous brands of sport was discussed from the viewpoint of customers. The statistical population of customers in the region of Monirieh has the famous sports brands in Tehran. Among the 260 randomly selected, are assessed using a questionnaire and were examined. Data were analyzed with spss software. The results showed that the price, quality, design, and beauty products, affect the internal and external brands.

Keywords: sporting goods brands, protection of domestic producers, quality of products

Introduction

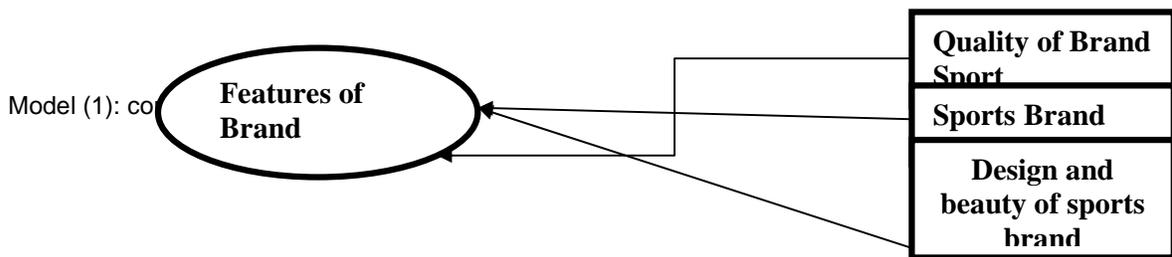
In recent years, the rise of international trade on the one hand and the presence of international companies on the other hand, led to the emergence of broader global markets products in many different countries (Khan and Bamber, 2008). With the increasing growth of international trade, consumers in different countries are significantly exposed to foreign goods. It is of interest to researchers to investigate the consumer behavior in one country or region and to assess consumer attitudes to foreign goods has increased as far as the efforts of many authorities. This was done in order to examine how the consumer buying behavior influences this. This is important in the world (Haghighi and Hosseinzadeh, 2009). These trends may be positive or negative for many factors, such as cost or quality of products or factors that affect their perceived value by the consumer, on the other hand, the sports industry is one of the most important and most exciting industries in the world, and the product is confronted with the fierce competition in the world. As a result, the choice between domestic and foreign products, including cognitive factors Quality, price and design and beauty can be biased foreign products. But some consumers believe that buying foreign goods can have a negative impact on the national economy. After buying this kind of product as opposed to a sense of homeland friendship and buyers, these products are responsible for unemployment compatriots know that the effects of international competition have lost their jobs. Iran is supporting the production and consumption of domestic goods has always been a priority for economic and trade policy; as far as the government is working on a resolution supporting the production department in 2010 and 2009 buying foreign goods in any country, is banned (ibid). But the attention to design and aesthetics, price and quality is a very important factor in product selection. Customers should design, quality and price are satisfied to find its orientation. In some research, the factors including price, quality, fashion (design and aesthetics), store environment, and promote the brand (branding) have been introduced (Wang Yi, 2008). Because it reflects the quality and characteristics of the product or service features include the ability to meet the needs and build satisfaction (Wong and Sydik, 2008). Product quality as the most important factor affecting the perceived loyalty (Lowe, 2006). Mark Bourne research results (2005) also showed that all factors considered in choosing a brand are important to some degree, while the quality has the greatest impact on brand choice and then, the brand awareness is important (Bourne mark and others, 2005). Therefore, the present study attempts to examine the domestic sports brands, the buyers of these products according to the characteristics of each of their products has problems with foreign brands.

Theoretical Principles of research:

Perceived quality: perceived quality of the things has always been desired by researchers. Rae is defined predominantly by researchers the judgment to the benefit of our customers, excellence, reliability and distinction of a brand relative to other competing brands. Perceived quality affects not only their size but also in other product categories would be an impact from a customer perspective. (Aaker and Jvachymstalr, 2000). Zaltmn (1988) perceived quality as the customer's perception of the overall quality or superiority of a product or service associated with accepting other options defines acceptable target. Components of quality sports goods including fashion (design and aesthetics), size, components, color, performance and efficiency (Frynjz, 2005).The material in product quality is very important because the feel, texture and other aspects affect product performance. In addition, consumers are personalized depending on the color and the color of the product may either accept or refuse it (ibid). Knowledge of the quality and desire to high quality products, and they need the best and most complete selection available to buy products that are defined (Asproulz and Kendall, 1986).Price is probably the most significant part of the average consumer. Customers are very loyal to the brand and are willing to pay a higher price for their favorite brands, so they are going to buy is not easily influenced by price (Kadgam, Foster, 2000).The results show that the inexpensive price and customer behavior is the product of the factors affecting brand loyalty (Dehkordi, Rahimi and Kelor, 2010). In addition, customers who have a strong belief in the value of their favorite brands, compare brands and replace them with their evaluated price (Mutinhoo and Raji, 1996). Choose Brand deflation caused by the family and need to buy products before (Wong Yee Fong and Sydek, 2008).Designer fashion and beauty, visible and includes plans, profiles and details affecting the perception of consumers towards the brand (Frinjz, 2005). And Lau (2006) in their study concluded that three brands of fashion or beauty of design and brand promotion are key factors. Fashion brand and its effect on brand loyalty of consumers are extremely loyal (Lao, 2006). Sporting goods brands that offer stylish, fashion-conscious customers loyal to their absorption (Wong Yee Fong and Sydek, 2008). Wong Fong Pao or HyahSydek (2008) showed that there is a significant positive relationship between brand name (brand), product quality, price, style, advertising, quality of service and loyalty to the store with sports apparel brand. Giring and Hamburg (2001) found that satisfaction with the product, satisfaction with the sales process, and satisfactory after-sales services to positively impact on customer loyalty. Mi Lau (2006) in his study concluded that three brands of fashion or beauty of design and brand promotion are key factors. Fashion brand effects on brand loyalty of very loyal consumers. Bourne, Mark research (2005) showed that all factors are considered in choosing the brand somewhat important, while quality has the greatest impact on brand choice and then, brand awareness is important.

Methodology

The present study compared the strategy of the route survey and will be implemented in the field. The means of data collection, is a questionnaire that includes 3 factors of the desired quality, brand, price, brand, reputation and brand awareness measure and the beauty of sports brands. In order to ensure the validity of the questionnaire, the number of teachers have a sports management degree. To ensure the reliability of the research, the pilot implementation of the 30 participants were used and its reliability is calculated using Cronbach's alpha reliability coefficient.The study sample consisted of all the sports brands and foreign customers and vendors in the streets of Monirieh, in Tehran. Because our statistical community is infinite in 260 randomly selected customers and suppliers. To analyze the data, SPSS version 20 statistical package was used.



- Is there any difference between foreign and domestic sportswear brands in terms of product quality from the consumer's perspective?
- Is there any difference between foreign and domestic sportswear brands in terms of product prices from the consumer's perspective?
- Is there any difference between foreign and domestic sportswear brands in terms of design and beauty product from the consumer's perspective?

Statistical Analysis:

To assess the assumptions and determine the significance of differences between foreign and domestic sports brand, since the questionnaires between independent and normally distributed Runaways and given the fact that the data are parametric, to analyze and achieve the data, the results of T test were used.

Table (1): Evaluate the significance of domestic and international sports brands in terms of product quality

	SD	Mean	Number	Group
T= 4.646 F=58 sig=0.00	7.99288	48.9000	260	Internal
	8.28931	58.6667	260	External

As indicated in the above table, the average quality of local products from the point of view of 48 clients and customers from the perspective of the average quality of foreign products is equal to 58. As a result, the average quality of foreign products is higher from the view point of most customers. Also, according to the results obtained from the above table, as the level of significance obtained sig. in the T test is equal to 0 and less than 1 percent therefore, we concluded that there is significant differences in the level of 99 percent for the quality of domestic and foreign products from the customer perspective.

Table (2): Evaluate the significance of domestic and international sports brands in terms of price

	SD	Mean	Number	Group
T= 11.673 F=58 sig=0.00	7.17122	102.5667	260	External
	3.99943	85.0667	260	Internal

As indicated in the above table, the average price of local products from the customer's perspective is 85, and the average price of foreign goods from the consumer's perspective is equal to 102. As a result, the average international product prices is greater than domestic products from the consumer's perspective. Also, according to the results, since the sig. is above the level of significance is derived from the independent T-test against 0 and is less than 1%, so we concluded that between domestic and foreign price levels from the consumer's perspective, there are significant differences in the level of 99 percent.

Table 3: Evaluation of significant differences between foreign and domestic sports brands in terms of design and beauty product

	SD	Mean	Number	Group
T= 10.847 F=58 sig=0.00	8.86487	110.555	260	External
	4.78635	73.9087	260	Internal

As indicated in the above table, from the standpoint of consumers, the beauty of domestic products equals to 73 and the beauty of foreign products is equal to 110. As a result, the average international product design and aesthetic point of view of the customer is greater than the local products. Also, according to the results because of the above sig, the significance level is obtained from the independent T-test against 0 and is less than 1%, so we concluded that between designs and beauty of domestic and foreign products from a consumer's perspective, there are significant differences in the level of 99 percent.

Conclusion:

Our findings indicate that for buyers and customers, there is a significant difference between quality, price and interior and exterior designs and beauty products. The results of the data survey showed that the average quality and design beauty of foreign products is higher than domestic products. There is a difference between quality, price of domestic and foreign designs and beauty of products. Although the average price of foreign products is higher than domestic products but the quality and beauty of foreign products is greater than domestic products. Perhaps one of the factors that attract customers towards foreign products will also be the same factor. But since according to consumer nationalism and protection of domestic producers is important that can lead to economic growth, therefore, it is recommended that the domestic manufacturers improve their product quality.

In addition, notice to manufacturing the quality products with nice design and good fit to the needs of domestic consumers and use the effective methods of promotion and public relations in the introduction of appropriate products encourage customers to purchase these types of products that can convert non-domestic consumers sporting goods to loyal customers. So pay attention to the beauty, material and prices to suit the needs of consumers and ensure that the mechanisms of consumer demand handle the product.

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