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Relationship of Range of Movement Around Joints and Selected Physique Characteristics of Sprinters

Dr. Brij Kishore Prasad, Associate Prof. (HOD), Institute of Professional Studies, Gwalior,M.P.

ABSTRACT

Modern age is characterized by the progress which is being made in all fields of human endeavor. This applies to the world of games and sports too. Scientific investigations of the performance of sportsmen are playing a vital role in this matter. Endurance, strength, speed, agility and flexibility in addition to skill are the basic factors for achieving excellence in performance, sportsmen concentrate on the development of physical and motor fitness components as a part of preparation for their participation in respective sports.Running, the classical athletic sport, can be considered both simple and difficult : simple because it is an instinctive natural skill performed at some time or other by all, but the most unfortunate: difficult in its mechanical complexity. Running movement is brought about by a combination of forces: internally, muscular force, producing a change in ground reaction as well as overcoming resistance due to muscles, viscosity, the tension of fascia, ligaments, tendons, etc. Running speed is the product of length and frequency of stride. Yet these factors are always interdependent, and maximum running efficiency exists only when they are in correct proportion, depending mainly on the weight, build, strength, flexibility and coordination of the runner. In sprinting as the body moves over the foot the thigh's backward motion is momentarily related, while flexion increases at the knee and ankle and the heel drops to touch the ground lightly.

Introduction: Human motor performance is a composite of many variables. In addition to flexibility structure of the body plays a dominant role in sprinting performance. The specific measurement of the limb lengths, circumference, breadths and body build indices can reveal the relationship between the anthropometry of the athlete and his motor performance. A person built like a grasshopper, with a light body and a relatively long legs to the length and mass of the body is built to jump.Anthropometry measurements consist of making external measurements of the human body. The results can be used to appraise body build, nutritional status and posture. Anthropometry measurements consist of objective measurements of structures and functions of the body. The measurements of structure include items such as weight, height, length of the limbs, depth and width and circumference of the different parts of the body. The measure of human body indicates the size of the body. It plays a dominant role at higher level of sports competitions. After examining the Montreal Olympic athletes, Carter and Other concluded that jumpers were heavier and calf girths were more than the sprinters and distance runners. The long distance runners had smaller upper arm and fore arm girths than sprinters or jumpers but larger bi-iliac breadth than sprinters. They could not find any significant differences in age, height, sitting height, upper extremity length and bi- acromial breadth.

In running and jumping, when the foot is on the ground, contraction of the ankle extensors moves the leg, not the foot; contraction of the knee extensors moves the thigh, not the leg. The extra length added to the leg by the extension of the foot increases the effectiveness of the leg action in walking, running, jumping and kicking.

Speed is one of the most important components of physical fitness. The importance of speed can be understood as the skill of running as it was very important to early man's pursuit of wild games for food. Man's ability as a warrior was often determined by his accomplishment in his speed of running, jumping and throwing.Scientifically speaking sprinting involves complex patterns of movement and is not so cumbersome as it appears. It is effected by leg swing, propulsive force, body balance, frequency of stride and length of stride. As the body is moving forward quite fast, the legs also should swing faster in order to form a base under the moving center of gravity.Speed was understood in early days of Olympic competitions as running a distance as quickly as possible. It has been on the programme from the very beginning of the modern Olympics. There was no sophisticated training means for the development of speed and athlete used to exhibit what ever he gained through daily physical work and what ever speed characteristics he inherited from parents. As the saying goes that "Sprinters are never made, they are born." In ancient days the saying used to carry weightage which is now being modified as sprinter is born with some inherent speed but he can be shaped as a still better runner as a result of training. Along with it, the concept of speed has also changed. Speed is now understood as covering shorter distance in which maximum effort can be sustained.

Cureton suggested that flexibility aids in gaining a long stride in running. Great flexibility in the ankles, hips and trunks may overcome some of the disadvantages of possessing legs which are not extremely long. Short legs and flexible joints are a poor combination for running performance. Keeping the rate of leg movement constant the speed of running can be increased by lengthening the stride.

Gangadharan conducted a study on selected anthropometric measurements i.e. height, chest girth, upper arm girth, upper arm girth, thigh girth, calf girth and weight of 60 athletes of different sports and concluded that volleyball players were significantly taller than basketball and hockey players. The groups did not differ significantly in any other anthropometric measurements undertaken in the study.

Hoffman in his study aimed to look for the best relation between the leg length and frequency of a sprinter's stride, taking into account the length of his legs. The measurements were taken exclusively during competition. The results showed that the leg length is connected more with athletes running ability than his height.

Speed plays a vital role for sprinters, to give good performance, he must possess acceleration speed, sprinting speed, speed of movement and reaction time. There is no doubt regarding the contribution of acceleration speed, sprinting speed and speed of movement to bring about better performance on the part of sprinters. A thorough analysis shows that results in most of the sports events are achieved by quickly accelerating the body which means the speed per unit time is increased as far as possible. Acceleration is concerned with the attainment of maximum speed in the shortest possible time.

Procedure

For the purpose of this study twelve male sprinters of Lakshmi Bai National Institute of Physical Education, Gwalior were selected. The age of the subjects ranged from seventeen years to twenty five years. All the sprinters had participated in the All India Inter University Athletic Meet. All the subjects were residing in the campus of the college and were following their regular schedule of training in Physical Education activities as per the programme of the institute.

The data for the study was collected at Lakshmibai National Institute of Physical Education, Gwalior (M.P.), India, by administering the following tests with regard to -

(a) Range of movement
(b) Physique characteristics and
(c) Speed.

S. No.	Test Administration	Equipment / Formula	Purpose
1	Range of Movement at Ankle Joint	Goniometer	To Measure the range of movement at ankle joint during plantar flexion
2	Range of Movement at Shoulder Joint	Yard sticks, Flexomeasure case	To measure the range of movement at shoulder joint
3	Extension in splitting the leg apart (Side-Split Test)	Flexomeasure case with yard stick and ruler guide inserted.	To measure leg flexibility
4	Hip, back flexion and extension of hamstring muscle. (Modified Sit and Reach Test)	Yard Stick	To measure the range of movement of hip joint.
5	Stature	Stadiometer	To measure the standing height.
6	Sitting Height	Anthropometer	To measure the sitting height
7	Weight	Weighing Machine	To measure body weight
8	Leg Length	Steel Tape	To measure the leg length
9	Upper Leg Length	Steel Tape	To measure the upper leg length
10	Fore Leg Length	Steel Tape	To measure the foreleg length
11	Lower Extremity Length	Anthropometer	To measure the lower extremity length
12	Arm Length	Steel Tape	To measure arm length
13	Upper Arm Length	Steel Tape	To measure upper arm length
14	Fore Arm Length	Steel Tape	To measure fore arm length
15	Foot Length	Rod Compass	To measure foot length
16	Shoulder Width	Sliding Caliper	To measure shoulder width
17	Hip Width	Anthropometric compass	To measure hip width
18	Foot Breadth	Rod Compass	To measure foot breadth
19	Chest Breadth	Anthropometer	To measure chest breadth
20	Thigh Girth	Steel Tape	To measure thigh girth
21	Calf Girth	Steel Tape	To measure calf girth
22	Percentage of Body Fat	Skinfold Caliper	To obtain percentage of body fat.
23	Crural Index	$\frac{\text{Fore Leg Length}}{\text{Thigh Length}}$	
24	Brachial Index	$\frac{\text{Fore Arm Length}}{\text{Upper Arm Length}} \times 100$	
25	Chest Stature Index	$\frac{\text{Chest Breadth}}{\text{Stature}} \times 100$	
26	Skelic Index	$\frac{\text{Leg Length}}{\text{Sitting Height}} \times 100$	
27	Leg Foof Index	$\frac{\text{Foot Length}}{\text{Lower Extremity}} \times 100$	
28.	Speed Test	Standard track, Clapper and two stop watch	To measure speed

Table 1

The Table 1 shows the purpose of the test administrated and the equipments and forumula used inorder to get the data. 28 tests were done on all the subjects in order to get the initial data.

Analysis of Data and Results

The relationship between the range of movement around joints and selected physique characteristics on sprinting ability was found out by using pearson's product movement correlation coefficient. The level of significance was set at 0.05.

Relationship of various range of movement and physique characteristics to the sprinting ability are shown in Table 2

Table 2

S.No.	Various Correlated	'r'
1	Range of movement at ankle joint with sprinting ability	0.101
2	Range of movement at shoulder joint with sprinting ability	-0.328
3	Extension in splitting the leg apart (side-split test) with sprinting ability	-0.171
4	Hip, back flexion and extension of hamstring muscle. (Modified Sit and Reach Test)	0.685*
5	Stature with sprinting ability	0.111
6	Sitting Height with sprinting ability	0.227
7	Weight with sprinting ability	0.147
8	Leg Length with sprinting ability	-0.140
9	Upper Leg Length with sprinting ability	-0.388
10	Fore Leg Length with sprinting ability	0.160
11	Lower Extremity Length with sprinting ability	0.255
12	Arm Length with sprinting ability	0.188
13	Upper Arm Length with sprinting ability	0.635*
14	Fore Arm Length with sprinting ability	0.289
15	Foot Length with sprinting ability	-0.140
16	Shoulder Width with sprinting ability	0.306
17	Hip Width with sprinting ability	0.060
18	Foot Breadth with sprinting ability	0.412
19	Chest Breadth with sprinting ability	-0.089
20	Thigh Girth with sprinting ability	-0.003
21	Calf Girth with sprinting ability	-0.259
22	Percentage of Body Fat with sprinting ability	0.451
23	Crural Index with sprinting ability	0.351
24	Brachial Index with sprinting ability	0.587*
25	Chest Stature Index with sprinting ability	-0.187
26	Skelic Index with sprinting ability	-0.385
27	Leg Foof Index with sprinting ability	-0.383

*Significant, r = 0.05(10) = 0.576

The findings in table 2 show that the co-efficient of correlation between range of movement at hip, back, flexion and extension of hamstring muscles and sprinting ability (0.685), between upper arm length and sprinting ability (0.635) and Brachel Index with sprinting ability (0.587) was significantly related, because the obtained value were more than the required value of 0.576 to be needed for significance at 0.05 level of confidence, as all other selected variables obtained low or negative correlation values in relation to required value needed at 0.05 level of confidence.

Finally the table 2 revealed that the hip, back flexion and extension of hamstring muscles, upper arm length and Brachel index negatively contributed to the sprinting ability.

The findings reveled that the co-efficient of correlation between hip, back flexion and extension of hamstring muscles and sprinting ability (0.685); upper arm length and sprinting ability (0.635); and Brachel Index with sprinting ability (0.587) were significantly related because the obtained values were more than the required values of 0.576 to be needed for significance at 0.05 level of confidence, with respect to relationship between range of movement at ankle joint and sprinting ability (0.101); range of movement at shoulder joint and sprinting ability (-0.328); extension in splitting the leg apart and sprinting ability (-0.171); stature and sprinting ability (0.111); sitting height and sprinting ability (0.227); weight and sprinting ability (0.147); leg length and sprinting ability (-0.140); upper leg length and sprinting ability (-0.388); fore leg length and sprinting ability (0.160); lower leg length and sprinting ability (0.255); arm length and sprinting ability (0.188); fore arm length and sprinting ability (0.289); foot length and sprinting ability (-0.140); shoulder width and sprinting ability (0.306); hip width and sprinting ability (0.060); foot breadth and sprinting ability (0.412); chest breadth and sprinting ability (-0.089); thigh girth and sprinting ability (-0.003); calf girth and sprinting ability (-0.259);percentage of fat and sprinting ability (0.451); crural index and sprinting ability (0.351); chest stature index and sprinting ability (-0.187); skelic index and sprinting ability (-0.385); leg foot index and sprinting ability (-0.383), an insignificant correlation was obtained.

Conclusions: Based upon the findings and anlysis of the result the following conclusions can be drawn

1. Hip, back flexion and extension of hamstring muscle contribute negatively towards sprinting ability
2. Upper arm length and brchel index contribute negatively towards sprinting ability.
3. Range of movement at ankle joint, range of movement at shoulder joint; extension in splitting the leg apart; stature; sitting height; weight; leg length; upper leg length; fore leg length; lower leg length; arm length; fore arm length; foot length; shoulder width; hip width; foot breadth; chest breadth; thigh girth; calf girth; percentage of fat; crural index; brachial index; chest stature index; skelic index and leg foot index do not contribute significantly either positively nor negatively towards sprinting ability.

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Effectiveness Of Physical Fitness Trainning Programmes On The Lung Function Of Sedentary Students.

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Abstract:

The purpose of the study is to examine the effects of physical fitness programmes that are covered in the academic program of physical education department on the lung function measured through Vital Capacity of sedentary students. Twenty sedentary male students studying in different colleges of the Swami Ramanand Teerth Marathwada University Nanded, Maharashtra(India) had attended the study voluntarily the mean age of these students were 20.3 $\pm$ 2.66, height were 172.33 $\pm$ 5.99 cm. the weight were 69.29 $\pm$ 4.01 Kg.Tests at the beginning of 2009-2010 academic year in this study, vital capacity was taken from the sedentary students. The applied training programme was planned for twelve weeks, 5 days a week and 60 minutes in a day, as the statistical techniques. Mean scores and standard division were take and paired t-test was applied. The significant effects of physical fitness training programme on vital capacity ($t= 4.30$, $p=<.05$) was found in sedentary students. In the study it was found there is a significant increase in the vital capacity. According to the result, I conclude that physical fitness training programme in physical education department is academic programme.It is are not only beneficial to increase the lung function and to improve physical fitness of sedentary students but also to improve the lung functions of players of various sports disciplines and general people.

Introduction: Whether an individual is associated with lifestyle diseases or not, lung function is important components of a healthy lifestyle. There are many benefits of sound lung function: a better functioning of respiratory system and an improved physiological and psychological well- being. The sound lung related benefits are especially important for people associated with lifestyle disorders who are at greater risk on asthma, coronary artery diseases, arteriosclerosis, cerebral vascular disease, renal diseases, ocular disease and other health problems (Armstrong 1991, Maynard 1991). Various authors (Armstrong 1991 and Maynard1991) have reported that regular exercise has improved the cardio vascular system, decreased some of the risk factors leading to a cardiovascular disease, promoted fat loss, increased muscle mass, increased glucose intake by cells and enhanced well- being of the sedentary students. In other research (Clausen J P 1997) physical fitness was noted to improve cardiovascular fitness and work capacity, while decreasing resting and exercise blood pressure, as well as peripheral vascular resistance. Finally, physical fitness has been shown to decrease the risk of cardiovascular disease and improve total cholesterol and high density lipoprotein levels (Milesis et. al. 1976).Exercise also means total caloric expenditure promotes fat loss, and increases lean body mass (Maynard 1991)

The importance of physical fitness programmes is linked to a higher quality of life as well as academic achievements. It is well- documented that regular physical activity in childhood and adolescence improve strength & endurance, health build, healthy bones & muscles, hips control weights, reduce anxiety and stress, increases self- esteem and may improve cardio reparatory function. Physical fitness is recognized as an important component of health (Yitzhak 2000) and it may be important for the performance of functional activities and quality of life (Salmon, Owen, Crawford, Bauman, Sallis (2003). Low physical fitness may result in high physical strain during the performance of activities (Bruining et. al. 2007). As a consequence, activity levels may decrease due to fatigue and discomfort, exacerbating low physical fitness.

Participation to physical activities is rapidly decreased specially in the college and university education. Academic education in the universities focuses on the specialization in preferred fields. Sinku (2009) implied that physical education and sports lessons in Swami Ramanand Teerth Marathwada University. Physical fitness has an important role in the education of new generation in the frame of physical and mental health and now a days

it is treated as a piece of education in the developed societies and education programmes. The study regarding the physical fitness programmes can be placed in a special order in the subject of physical education, Sports sciences and medical sciences. In this context, fitness program applications that are covered by the study in the field of physical education departments have an important role. Therefore ,this study endeavors to examine the effects of health related physical fitness programmes that are covered in the academic programme of physical education department on the resting heart rate, reparatory rate, vital capacity and breath holding capacity.

Materials and Methods

Subjects: Twenty sedentary students from various colleges of Swami Ramanand Teerth Marathwada University Nanded, voluntary to participate in the physical fitness training programmes. Exclusion criteria were the presence of chronic medical conditions such as asthma, heart disease or any other condition that would put the subjects at risk when performing the experimental tests. The subjects were free of smoking, alcohol and caffeine consumption, antioxidant supplementation and drugs during the programmes. They completed an informed consent document to participate in the study. The age, height, weight, vital capacity, of all subjects were measured in physical education department laboratory. All 20 acted as experimental group for physical fitness training programmes with no control groups.

Applied training programme

A training programme was planned for 12 weeks, 5 days a week and 60 minutes a day. Exercise that use large muscles groups that can be maintained continuously and are aerobic in nature. These exercises include walking, running, jogging, climbing, jumping row and cross country. There was training programmes in the academic schedule of physical education department. The exercise session should consist of the following procedure: Warm - up period will be approximately 10 min., this was combine callisthenic – type stretching, exercise and progressive aerobic activity. However, cool down period was 5 to 10 min.

Parameters measurements

The lung function was measured by using Vital capacity through spirometer in liters and the spirometer was placed on such a height that all subjects could tested in standing position. The inner dial of the spirometer was set on zero mark of the beginning of the test. The subject was requested to take the breath before starting the test and after exhalation the spirometer was put in the subject's mouth, taking precaution that no air escapes through the edges of the mouth piece. The students exhaled slowly and steadily while bending forward slightly until the maximal volume of air could be exhaled without taking in second breath. The students were instructed to blow out air only through the mouth not through the nose. Each student was provided a trail before the final tests.

Statistical analysis

Statistical technique used for analyzing the collected data in the study was't' value. All the values obtained before and after performing 'Health related physical fitness programme'. The Student paired t' test was used to compare parameters within groups. P value of less than 0.05 indicates a significant difference.

Results

The mean age of these students were 20.3 $\pm$ 2.66, height were 172.33 $\pm$ 5.99 cm. the weight were 69.29 $\pm$ 4.01 Kg.Tests at the beginning of 2009-2010 academic year in this study, vital capacity was taken from the sedentary students

Table 1 Statistical information of before and after fitness training programme with respect to vital capacity among sedentary students.

Stages	No.	Means	S.Ds.	t-values
Before fitness programmes	20	2150	431	4.54*
After fitness Programmes	20	2931	637	

***Significant**

The data obtained before and after health- related fitness programme with respect to vital capacity were analyzed by t statistics are presented in table 3. Table 1 depicts that mean of vital capacity before fitness programme was 2150 & after fitness training programme was 2931. The t statistics show that there was significant increase in vital capacity after physical fitness training programme.

Discussion :Depending on the physical fitness training programme, significant increase lung capacity of the sedentary students. Milesis et,al. (1976) also found that vital capacity increased due to physical training. The increase in vital capacity after training programme is in conformity with a study of Jyoti (2010), Salmern, Owen, Growferd, Baumam, Sallis (2003) who concluded that the endurance training can influence on Vital capacity. if the vital capacity of the students is high then more amount of oxygen could be inhaled and maximum of CO2 could be exhaled (Fringer, , and Stull 1974, Clusen 1977). Sound lung capacity provides purity ofthe blood and this give more energy to the sedentary students and more capacity of the sedentary students to hold breath in itself.Physical fitness training certainly increased the cardio- respiratory efficiency of the students. (Fringer and Stull 1974).Finally, physical fitness training programme has an important role for sedentary students to feel themselves better and achieve their academic performance.

Conclusions: It is found that the physical fitness training programme in the physical education schedule has beneficial effects in on the improvement of lung function of sedentary students besides, it may be also concluded that the results of the present study indicate that trainees get experience in their occupation, be happier and this is important to improve their knowledge owing to communicating mutually. In this perceptive, physical fitness makes education more active and effective in physical education colleges that educate students in movement basis..

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A COMPARISON OF MEN'S AND WOMEN'S VARSITY SWIMMING INJURIES

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ABSTRACTThe primary aim of the investigation was to compare the Men's and Women's Swimming injuries at varsity level with regard to various stages viz. injuries with respect to location, injuries in different strokes, nature of injuries, and injuries occurred during training and competition.**METHODS :**Information on injuries were collected from different universities team which were participating in All India-varsity Aquatic tournament held at Kerela University Trivendrum from 25 to 29 Feburary-2008, by questionnaires prepared by Cromwell F.J.Walsh Gromley for Elite Gaelic footballers (2000). It was modified by the investigator and utilized for present study. T-ratio was utilized to compare the injuries. The Swimmers were asked to recall injuries over the preceding three years**RESULTS :**In this study total 150 questionnaires were administered. Out of 150 questionnaires 75 belong to Men's Swimmers and 75 belong to Women's Swimmers. In all 222 injuries out of 150 players were found out over the period, 123 and 99 injuries found out in Men's and Women's Varsity Swimmers respectively. Significant injuries difference were found between Men's and Women's varsity swimmers ($t=4.57$, $P<.001$). While comparing injuries to Men's and Women's swimmers with respect to location. Significant injuries difference were found in Shoulder ($t=5.4$, $P<.001$), Knee ($t=7.66$, $P<.001$) and Back ($t = 4$, $P < .001$). No significant injuries differences were found between training and competition period as combined sample ($t=1.75$), while considering the injuries in competition period separately, significant injuries difference were found between men's and women's swimmers ($t=6.13$, $P<.001$). When the difference of injuries considering with respect to strokes significant injuries difference were found in Back Strokes ($t = 6.5$, $P <.001$) and butterfly ($t=6.09$, $P<.001$). However, no significant differences were found in Breast Strokes ($t = 1.66$) and Crawl ($t = 1.23$)**CONCLUSION** :The Men's varsity swimmers have got more injuries than the Women's varsity swimmers, significant injuries difference were found in Shoulder, Knee and back. Mean while, significant injuries difference were found in Back stroke and Butterfly stroke to Men's and Women's swimmers.The results of the research provide a useful insight into the injuries in swimming.

KEY WORDS : Incidence, Stroke, Sustained, Anatomical Site, Sex etc

INTRODUCTION : Swimming is one of the most popular aquatic sports in the world. It is the act of propelling the body through water. Swimming injuries may be classified as either acute or due to overuse. Acute injuries are relatively rare as there is a lack of bodily contact and swimming is at a relatively slow speed. Careless behavior in the pool environment can nevertheless, carry significant danger. Neck injuries with subsequent paralysis and death have been reported when swimmers and divers misjudges the water depth while diving in.This should not occur in those who have mastered the correct, shallow competitive dive slips while running on wet pool sides can result in heavy falls on the hard tilled surfaces with consequent injury. The acute injuries that do occur in hands or catching fingers on the modern anti wave lane ropes can cause temporary impairment. Acute muscle strain can occur following failure to perform an adequate warm up.The majority of injuries that effect swimmers causing disruption to training and performance are chronic in nature.

METHODS : Two group of swimmers were targeted; Men's and Women's varsity swimmers. Who were regularly participating for three years in All India inter-varsity swimming tournament aged between 17 to 25 years.Information on injuries were collected from 150 swimmers who were participating in All India Inter-varsity Aquatic tournament which was held in Kerla University Trivendrum form 25 Feburary to 29 Feburary 2008. A questionnaire was prepared by Cromwell F.J.Walsh Gromely (2000) for elite Gaelic football players and it was modified by the investigator. r-ratio was computed to compare the injuries between Men's and Women's varsity swimmers.

RESULTS: A total of 222 out of 150 Swimmers sustained injuries in varsity Men's and Women's swimmers. Their age range was 17 to 25 years. The mean (S.D.) age of Men's and Women's swimmers was 23.33 (1.78) and 23.10 (1.66) years, their height was 172.54 (8.33) cm. and 158.66 (7.78) cm., their weight was 62.25 (85.33) kg. and 54.99 (4.78) kg., their training duration was 3.98 (.88) hours and 2.33 (.42) hours and their competition in one year 9.98 (3.33) and 5.28 (2.28) respectively.The results of swimmer's injuries are shown in table I to IV

TABLE – I:Mean Scores, Standard Deviation and t-ratio of injuries to Men's and Women's Swimmers.

Swimmers	No	Mean	S.Ds.	S.Ed.	t-ratio
Men's (123)	75	1.64	.52	.07*	4.57*
Women's (99)	75	1.32	.43		

***** Significant at .001 level.

With regard to injuries of Men's and Women's varsity swimmers obtained the mean values of 1.64 and 1.32 respectively, which are given in Table-1.The obtained t=4.57 was significant at .001 level, which means that Men's and Women's varsity swimmers had differed in their injuries in favour of Men's varsity swimmers.

TABLE – II:Mean Scores, Standard Deviation and t-ratios of injuries to Men's and Women's Varsity Swimmers with respect to Location.

Sr. No.	Location	Swimmers	No.	Mean	S.Ds.	S.Ed.	t-ratios
1)	Shoulder	Men's	47	.62	.20	.05	5.4*
		Women's	35	.35	.13		
2)	Knee	Men's	34	.45	.16	.03	7.66*
		Women's	22	.22	.08		
3)	Back	Men's	19	.25	.09	.02	4*
		Women's	17	.14	.07		
4)	Others	Men's	22	.29	.11	.03	1.33 NS
		Women's	25	.25	.10		

*Significant at .001 level., NS = Not significant

As Table-II Clearly indicates that significant injuries difference were found with regard to location of which Shoulder (t=5.4, p<.001), Knee (t=7.66, P<.001) and Back (t=4, P<.001) while Others (t=1.33), not significant injuries difference were found between Men's and Women's varsity swimmers

TABLE – III: Mean Scores, Standard Deviation, and t-ratios of injuries between competition and training period to Men's and Women's Varsity Swimmers.

	Competition		Training		Total	
	Men's	Women's	Men's	Women's	Men's	Women's
Number	26	32	49	43	92	58
Means	2.07	1.15	1.40	1.44	1.42	1.56
S.Ds.	.72	.32	.39	.48	.49	.52
S.Ed.	.15		.09		.08	
t-ratios	6.13*		.44 Ns		1.75 Ns	

***** Significant at .001 level, NS = Not significant

As Table III shows that, no significant difference of injuries were found between training and competition of Men's and Women's varsity swimmers as combined sample; (t=1.75),

TABLE – IV:Mean Scores, Standard Deviation and t-ratios of injuries to Men's and Women's Varsity Swimmers

Sr. No.	Stroke	Swimmers	No.	Mean	S.Ds.	S.Ed.	t-ratios
1)	Breast Stroke	Men's	21	1.47	.57	.15	1.66 NS
		Women's	22	1.22	.42		
2)	Back Stoke	Men's	18	1.66	.62	.16	6.5*
		Women's	16	.81	.29		
3)	Butterfly	Men's	10	1.9	.63	.21	6.09*
		Women's	08	.62	.21		
4)	Crawl	Men's	26	1.65	.59	.17	1.23 NS
		Women's	29	1.86	.68		

***** significant at .001 Level, Ns = Not significant

As Table IV shows that, injuries differences were found with respect to Back Stroke (t=6.5, P < .001) , and Butterfly (t=6.09, P < .001) of Men's and Women's Varsity swimmers, while Breast Stroke (t = 1.66) and Crawl (t = 1.23) were found not significant injuries differences between Men's and Women's varsity swimmers.

DISCUSSION : This study reveals that the Men's varsity swimmers suffered more injuries as compared to Women's varsity swimmers. This may be due to the Men's varsity swimmers spend more time in training and competition period. While compare the injuries difference with respect to location significant injuries difference were found in shoulder ($t = 5.4$, $P < .001$), Knee ($t = 7.66$, $P < .001$) and Back ($t = 4$, $P < .001$) in favour of Men's varsity swimmers. While comparing injuries between training and completion period significant injuries difference were found during completion ($t = 6.13$, $P < .001$). Men's swimmer was found to have got more injuries as compared to Women's swimmers.

CONCLUSION : Despite the limitations of this study, the results provide a useful insight into the nature, location and outcome of injuries in swimming at highest level. It is the first study to examine exclusively problem such as injuries to Men's and Women's swimmers. This research provides a platform for further research in the field of Physical Education, Sports and Sports Medicine. Finally, injuries are very serious problem for competitive swimmers.

ACKNOWLEDGEMENTS : We are immensely indebted to the organizing committee and the players of All India Inter-varsity Aquatic tournament who spared much of their valuable time and provided all possible help whenever required by me.

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Effect Of Physical Exercise On Reaction Time Among Mentally Retarded (Mr) Students

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Abstract

The purpose of the present study was to find out the effect of physical exercise on reaction time among mentally retarded students. For this purpose, ten male mentally retarded students studying from I standard to V standard, in the G.V. Special School for Mentally Retarded, Chidambaram were selected. The training period for this study was six days in a week for eight weeks. During the training period all the selected mentally retarded students were undergone the free hand calisthenics exercise. Prior to and after the training period the subjects were tested for audio and visual reaction time. The collected data were analyzed by applying student 't' test and the level of significance was fixed at 0.05 level of confidence. The result of the study has shown that there was a significant improvement in audio and visual reaction time after the free hand calisthenics exercise after eight weeks. It was concluded the physical exercise would improve the audio and visual reaction time of mentally retarded students

INTRODUCTION:Different definitions of disability are introduced for various purposes and, as such, they have been based on various criteria. No single universal standard exists in the world in order to evaluate disability. In common parlance, different terms such as disabled, handicapped, crippled, physically challenged are used interchangeably, but all these terms have their individual meaning. In medical, disability is defined based on physical fitness, limitation of physical functions whether locomotor, sensory, or affecting special organ. Sociologist defines disability as a capacity to perform personal and social obligations or to evoke unfavorable social attitude. Under education, child is considered disabled based on physical conditions preventing full participation's childhood activities. Vocational professional defines disability based on limitations in terms of employment. Thus how you define disability depends on the purpose for which you want to define disability.

There are six categories of handicaps namely, 1. locomotor handicap, 2. hearing handicap, 3. visual handicap (blindness and low vision), 4. mentally handicap, 5. cerebral palsy and 6. leprosy. As per the survey by Sirajuddin Mohamed *et al*, the total disabled person in India is 2,19,06,769, which as 2.13% of the total Indian population. 75% of them were living in rural areas, 49% were literates and 34% were employed. In Tamilnadu, the total of 16,42,497 disabled person are living as per the census of 2001.

Mental retardation (MR) is a generalized disorder appearing before adulthood, characterized by significantly impaired cognitive functioning and deficits in two or more adaptive behaviors.. It has historically been defined as an Intelligence Quotient score under 70. Once focused almost entirely on cognition, the definition now includes both a component relating to mental functioning and one relating to individuals' functional skills in their environment. As a result, a person with a below-average intelligence quotient (BAIQ) may not be considered mentally retarded. Syndromic mental retardation is intellectual deficits associated with other medical and behavioral signs and symptoms. Non-syndromic mental retardation refers to intellectual deficits that appear without other abnormalities.

Mental retardation is a subtype of intellectual disability, although that term is now preferred by most advocates in most English-speaking countries as a euphemism for MR. However, intellectual disability is a broader concept and includes intellectual deficits that are too mild to properly qualify as mental retardation, too specific (as in specific learning disability), or acquired later in life, through acquired

brain injuries or neurodegenerative diseases like dementia. Intellectual disabilities may appear at any age. Developmental disability is any disability that is due to problems with growth and development. This term encompasses many congenital medical conditions that have no mental or intellectual components, although it, too, is sometimes used as a euphemism for MR.

Calisthenics are a form of dynamic exercise consisting of a variety of simple, often rhythmical, movements, generally using minimal equipment or apparatus. They are intended to increase body strength and flexibility with movements such as bending, jumping, swinging, twisting or kicking, using only one's body weight for resistance. They are usually conducted in concert with stretches. Calisthenics when performed vigorously and with variety can benefit both muscular and cardiovascular fitness, in addition to improving psychomotor skills such as balance, agility and coordination.Coordination makes an important contribution to sports and games. It makes the precision and economy of any motion or sequence of motion involved in muscular activity. These engaged practically in physical education, sports and dance, either as teachers or as participants, often maintain that the development of coordination is an important factor in the accomplished performance of wide range of physical activities.

Coordinative abilities, which are pre-requisites for performance, determined by the mechanisms involved in the control and regulation of movement. This abilities are dependent upon the coordinative processes of central nervous system and on the functional capacity of the various sense organs important for movement control and regulation. Coordinative abilities help faster and effective learning and also help to achieve high level performance.

METHODS

In this study it was to find out the effect of physical exercise on audio and visual reaction time among mentally retarded students. To achieve the purpose of the present study, ten mentally retarded male students studying from I standard to V standard in G.V. Special School for Mentally Retarded, Chidambaram were selected as subjects. They underwent calisthenics (free hand) exercises for six days per week for eight weeks. The calisthenics exercises were given during morning (8 to 9 AM) and evening (3 to 4 PM) sessions. The audio and video reaction time was assessed by using the electronic reaction timer. The collected data prior to the experiment and after the experiment were analyzed by using paired sample 't' test. The level of significance was fixed at 0.05 level of confidence.

ANALYSIS OF THE DATA

The 't' ratio was used to determine the differences, if any, among the pre-test and post-test means on selected criterion variables separately. The level of significance was fixed at .05 level of confidence to test the 't' ratio obtained.

Table – I

Mean Standard Deviation and 't' ratio of Physical Activity Group on Audio and video Reaction Time (in seconds)

	Mean Values	Standard Deviation	Standard Error of Mean	't' ratio
Audio Reaction Time				
Pre-test	36.1120	2.47804	0.78362	6.597*
Post-test	34.0430	2.38734	0.75494	
Visual Reaction Time				
Pre-test	76.6750	2.0842	0.65908	4.436*
Post-test	73.9940	2.38750	0.74599	

* Significant at .05 level of confidence. (The table value required for significance at .05 level with df 9 is 2.26).

RESULTS

Table - I showed that the mean and standard deviation value for audio reaction time is 36.1120 ± 2.47804 and 34.0430 ± 2.38737 and the 't' ration is 6.597, which was significant difference between pre and post test means at 0.05 level of confidence with df 9 is 2.26 and it shows that there was a significant improvement in the audio reaction time. In the visual reaction time pre-test mean and standard deviation is 76.6750 ± 2.0842 and post-test mean and standard deviation is 73.9940 ± 2.38750 and the 't' ratio of 4.436 which was significant at 0.05 level of confidence with df 9 is 2.26 and it shows that there was a significant improvement in the visual reaction time. The result of the present study indicates that there was a significant improvement in audio and visual reaction time after the eight weeks of calisthenics exercise.

CONCLUSIONS

1. It was concluded from the result of the study that there was a significant improvement in audio and visual reaction time after the eight weeks of physical exercise.
2. It was a also concluded from the result of the study that six days per week for eight weeks of training period will help to improve the mentally retarded students on audio and visual reaction time.
3.

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The exercises were given:

1. Neck rotation
2. Arms rotation
3. Sideward Lunges
4. Forward bend
5. Sideward bend
6. Toe touches
7. On the spot run
8. Jumping jacks
9. Sit-ups
10. Push-ups
11. Relaxing the whole body

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A Study on the Listenership Perception towards FM Radio Channels in Hyderabad City

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Abstract:FM Radio is one of oldest and cheapest mode of entertainment and informative channel in India. It helps corporate to design advertisement messages at regional language, flexible& easy to change the advertisement message and for better integrated marketing message.With the view to understand the popularity and listenership of FM Radio Channels in Hyderabad city in south India. This survey has been carried out. The focus target of this survey has mainly been youngsters. among a population samples has been selected based on the correct information provided and based on the age between 20 years to 35 years only. survey through questionnaires. The study puts efforts to know about the effectiveness of the programmes offers by various channels. Simple statistical tools are used to arrive at the conclusion.**Key words**: FM Radio, channels, youth.

Introduction: Radio has made a comeback in the lifestyles of Indians. Radio has the reputation of being the oldest and the cheapest medium of entertainment in India. The radio industry has been completely reshaped by the various private players that entered the sector after the government allowed foreign investment into the segment and opened the licenses to the private players .The Indian government has already given 338 licenses for FM radio channels in 91 big and small towns and cities. The current size of the radio market is India is Rs 300 crores and is expected to achieve the highest growth rate of 32 per cent in coming years. The quality of the sound and the music has improved significantly with the emergence and use of satellite radio. All India Radio (AIR) - the national service provider owned and operated by the Ministry of Information and Broadcasting under the Government of India.

Purpose of the Study:To know the attitude of the listener towards radio(Age, Gender, Occupation, Time, RJ of the program)The study was undertaken to ascertain the radio listenership effectiveness of various program of various channels among the youth.

Research Methodology: Research methodology is the process of solving the problem systematically by research. The objectives of the study are to solve the problem by using available data.

SAMPLE SIZE: It is to the extent of 150 samples for the study but of which it is scrutinised based on the age and completion of the questionnaires of which 102were valid it is round figure to 100 for the connivance of the research calculation respondents for the market research

Data analysis and interpretation:Table 1: Shows number of respondents listens to radio

Type of respondents	Number of respondents	Percentage
YES	100	100%
NO	0	0%

With a view to find the respondents who listens FM radio in general are 100% and 0%, not interested.

Table 2: Shows number of respondents listens to radio based on gender

Type of respondents	Number of respondents	Percentage
Male	60	60%
Female	40	40%

With a view to find the respondents listens to radio based on gender, male are 60% and 40% are female.**Table 3: Shows listeners' occupation.**

Type of Respondents	No. of respondents
House wife	23
Call centres and BPO	34
Corporate	24
Self Employed	16
Professionals	03

With a view to find that FM radio listeners occupation house wives are 23%,call centres are 34%,self employed are 16%, professional practices are 3%and other corporate are 24%.

Table 4: shows listens to radio through FM radio tuner set that is available.

Type of Respondents	No. of respondents
HOUSE-TV	02
HOUSE-FM Set	20
CAR	32
Mobile Phone	43
INTERNET	03

With a view to find that FM radio tuner set they use are in HOUSE-TV set is 2%, HOUSE-FM Set –is 20%,CAR is 32%, Mobile Phone is 43% and INTERNET is 3%.

Table 5: shows respondents habit of listening& selection of station of FM radio

Listening habit and selection to radio station	No. of respondents
Selective stations	15
Single station	05
Switching frequencies	80

With a view to find that FM radio tuner set they use respondents habit of listening& selection of station of FM radio are selective stations are 15%,single station are 5% and switching frequencies often to 80%.

Table 6: shows selection of FM radio based on various programme they offer

	RADIO STATIONS					
PROGRAMS	**91.1 Radio city**	**92.7 Big**	**93.5 Red**	**98.3 Radio mirchai**	**101.9 Rainbow**	**102.8 vividbharathi**
Movie gossips	(14%)	(12%)	(24%)	(29%)	(16%)	(5%)
Celebrity interviews	12%	15%	23%	20%	25%	5%
Culture	15%	10%	5%	5%	15%	50%
Educational programs	6%	2%	2%	2%	50%	38%
Sports	10%	15%	23%	20%	25%	7%
Music programs	12%	13%	5%	5%	15%	50%
Comedy fillers	11%	10%	10%	4%	15%	50%
Songs	15%	10%	5%	5%	25%	40%

With a view to find that FM radio station effectives of the programmes offered by various radio station .

1.Movies gossips: respondents are satisfied with Radio City(91.1) to 14%,Big(92.7) to 12%,RedFM(93.5) to 24%,Radio Mirchai (98.3) to 29%, Rainbow(101.9) to 16% and vividBharathi (102.8) to 5%.

2.Celebrity interview: respondents are satisfied with Radio City(91.1) to 12%,Big(92.7) to 15%,RedFM(93.5) to 23%,Radio Mirchai(98.3) to 20%, Rainbow(101.9) to 25% and vividBharathi (102.8)

3.Cultural: respondents are satisfied with Radio City(91.1) to 15%,Big(92.7) to 10%,RedFM(93.5) to 5%,Radio Mirchai(98.3) to 5%, Rainbow(101.9) to 15% and vividBharathi (102.8) to 50%.

4.Educational programs: respondents are satisfied with Radio City(91.1) to 6%,Big(92.7) to 2%,RedFM(93.5) to 2%,Radio Mirchai(98.3) to 2%, Rainbow(101.9) to 50% and vividBharathi (102.8)

5.Sports updates : respondents are satisfied with Radio City(91.1) to 10%,Big(92.7) to 15%,RedFM(93.5) to 23%,Radio Mirchai(98.3) to 20%, Rainbow(101.9) to 25% and vividBharathi (102.8) to 7%.

6.Musical programs: respondents are satisfied with Radio City(91.1) to 12%,Big(92.7) to 13%,RedFM(93.5) to 5%,Radio Mirchai(98.3) to 5%, Rainbow(101.9) to 15% and vividBharathi (102.8)

7.Jokes and comedies: respondents are satisfied with Radio City(91.1) to 11%,Big(92.7) to 10%,RedFM(93.5) to 10%,Radio Mirchai(98.3) to 04%, Rainbow(101.9) to 15% and vividBharathi (102.8)

8.Songs: respondents are satisfied with Radio City(91.1) to 15%,Big(92.7) to 10%,RedFM(93.5) to 05%,Radio Mirchai(98.3) to 05%, Rainbow(101.9) to 25% and vividBharathi (102.8) to 40%.

Conclusion:FM Radio is oldest and cheapest mode of advertisement and informative channels in India. With the view to understand the popularity and listenership of FM Radio channels program effectiveness study conducted through surveying youth.The FM Radio is enjoyed by the all the respondents. It consists of mix of Male (60%) and female (40%). Their occupations are housewives (23%), call centres (34%), self employed (16%), professional (3%) and corporate (24%)FM Radio tuner set used by the respondents in Television(2%),FM Radio(20%),Car(32%), Mobile phone(43%) and internet(3%)FM Radio tuner frequently switched over is more often among majority of the respondents (80%) and less frequently (20%).

Effectiveness of the programmes i) Movies gossips: respondents are satisfied with Radio City (91.1) to 14%, Big (92.7) to 12%,RedFM(93.5) to 24%,Radio Mirchai (98.3) to 29%, Rainbow(101.9) to 16% and vivid Bharathi (102.8) to 5%. (ii) Celebrity interview: respondents are satisfied with Radio City(91.1) to 12%,Big(92.7) to 15%,RedFM(93.5) to 23%,Radio Mirchai(98.3) to 20%, Rainbow(101.9) to 25% and vividBharathi (102.8) to 5%.(iii) Cultural: respondents are satisfied with Radio City(91.1) to 15%,Big(92.7) to 10%,RedFM(93.5) to 5%,Radio Mirchai(98.3) to 5%, Rainbow(101.9) to 15% and vividBharathi (102.8) to 50%.(iv)Educational programs: respondents are satisfied with Radio City(91.1) to 6%,Big(92.7) to 2%,RedFM(93.5) to 2%,Radio Mirchai(98.3) to 2%, Rainbow(101.9) to 50% and vividBharathi (102.8) to 38%.(v)Sports updates : respondents are satisfied with Radio City(91.1) to 10%,Big(92.7) to 15%,RedFM(93.5) to 23%,Radio Mirchai(98.3) to 20%, Rainbow(101.9) to 25% and vividBharathi (102.8) to 7%.(vi)Musical programs: respondents are satisfied with Radio City(91.1) to 12%,Big(92.7) to 13%,RedFM(93.5) to 5%,Radio Mirchai(98.3) to 5%, Rainbow(101.9) to 15% and vividBharathi (102.8) to 50%.(vii)Jokes and comedies: respondents are satisfied with Radio City(91.1) to 11%,Big(92.7) to 10%,RedFM(93.5) to 10%,Radio Mirchai(98.3) to 04%, Rainbow(101.9) to 15% and vividBharathi (102.8) to 50%.(viii)Songs: respondents are satisfied with Radio City(91.1) to 15%,Big(92.7) to 10%,RedFM(93.5) to 05%,Radio Mirchai(98.3) to 05%, Rainbow(101.9) to 25% and vividBharathi (102.8) to 40%.

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Determination of frequencies of referee's football injuries in different degrees

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ABSTRACT:
Aim: injury is an integral part at sports. Athletes and also referees encounter to injury. The aim of this study was a determination of frequencies of referee's football injuries in different degrees.
Methodology: This study carried a descriptive method. The subjects were a sixty football referees in 4 degrees: international, national, one degree and second degree. In order to data analysis we performed descriptive statistics (average, standard deviation, variance, graph-drawing and frequency tables). The statistical analyses were carried out by using SPSS software.
Results: The range of referee's duration was between 4.5 to 18.5 years. In addition, they were doing physical activity, at least for 2 sessions in a week. The apparatus of research was a questionnaire that included of twenty three questions. The most of injuries related to one's degree referees (123). After it, national (77) and second degree's referees (60) had most amounts of injuries. In addition, least of injuries were related to international referees (22).
Conclusion: As for results were shown in this research, it can say that likely reefers degree have a significant effect on the amount and segment of injuries. Also, this research shown that likely all of referee's degrees must be considered to care of self-lower body because, most of injuries in referees happen on the lower body. In addition, recommended to football referees especially, one's degree referees to improve the physical fitness, their exercises should be done with suitable intensity and diversity.

Key word: sport injuries, international football referees, national football referees.

Introduction:

The referee, with his two assistant referees, plays an important role in the game of football. The ''big count'' of the Federation International Football Association (FIFA) revealed over 840 000 registered referees and assistant referees in 2006 [1]. Some studies reporting the injury profile of football referees have been published recently, but they have focused exclusively on elite referees at the international degree or at the national degree [2, 1]. A complete survey of all 71 officials of the two top divisions of the Swiss Football League revealed an incidence of match injuries of 3.5 per 1000 match hours, and almost 90% of the referees reported musculo-skeletal complaints in the last year. In the retrospective study of male (n = 5123) and female (n = 581) referees selected for the FIFA World Cups 2006 and 2007, a lower injury rate and fewer complaints were reported; however, the data collected prospectively during the competitions showed a substantially higher incidence of match injuries (20.8 and 34.7 per 1000 match hours, respectively) [1,3]. Similar to the case for players, the number of elite referees is small when

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compared with the number involved in amateur football. In Switzerland, the 71 referees officiating in the two top divisions represented 1.6% of 4452 registered referees (including 105 female referees) of the Swiss Football Association (SFA) during the season 2005/2006. Moreover, the 204 male and female referees selected for the recent FIFA World Cups represented only 0.02% of all registered referees in the 208 National Member Association of FIFA worldwide [5,1]. In view of the lack of research in amateur football referees, the aim of the present study was to investigate the incidence of injury and musculo-skeletal complaints in a representative sample of all amateur football referees in one country.

Method of research

A total of 60 referees were licensed to officiate in the different leagues of the IRAN in the season 2011-2012. Based on the leagues, they were classified into four groups: international, national, grade one and grade two. The apparatus of research was a questionnaire that include of twenty three questions.

The retrospective part of the study was carried out during the league in 2011-2012 seasons. On the first day, the 60 preselected referees were asked to complete a questionnaire on injuries and musculoskeletal problems. During the first day, a physiotherapist conducted brief personal interviews with each and every of the 60 final preselected referees to confirm and complete the questionnaire data. Although the referees were explicitly informed that the data would be treated in complete confidence and only used for scientific purposes, it was considered possible that some referees might have thought their answers would influence their chances of selection and hence played down or did not declare their injuries and problems. All definitions used, methods applied and variables assessed were in accordance with the recent consensus statement on injury definition and data collection procedures in studies of soccer injuries and have been described in detail by Bizzini et al (2011). The five-page questionnaire covered the referee's characteristics of the referee such as socio-demographics, refereeing qualifications, experience, injuries and musculoskeletal.

Descriptive data are reported as the mean, standard deviation, variance, graph-drawing and frequency tables (α =0.05). The statistical analyses were carried out using SPSS V.18.

Result and Discussion:

The range of referee's duration was between 4.5 to 18.5 years. In addition, they were doing physical activity, at least for 2 sessions in a week. The most of injuries related to one degree referees (123). After it, national (77) and two degree (60) referees had most amounts of injuries. In addition, least of injuries related to international referees (22). This data was shown in table 1 and figure 1.

Injuries prevalent in lower limb																		
Type of injury	Total		Foot		Ankle		Posterior Shin		Anterior Shin		Knee		Posterior femur		Anterior femur		Gluteus	
	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount
Livid and swilling	100	49	10	5	45	22	10	5	10	5	0	0	14	7	10	5	0	0
Cramp	100	145	12	17	0	0	18	26	15	22	3	4	12	18	19	28	21	30

Table 1- The amounts of injuries prevalent in lower limb

The protocol adopted in the present study was the same as that previously described for studies on Swiss elite referees and referees selected for the 2006 FIFA World Cup to enable comparison with these earlier studies [1, 5]. The five female referees officiating in the top two divisions of the Swiss Football League reported (retrospectively, over their career) two hamstring strain injuries in training and no match injuries, and headache was the most prevalent problem. Despite the small number of subjects, this tends to concur with some of the findings of the present study.The limitations of the retrospective design, especially the associated recall bias for career data, have been discussed in these publications [1]. The referees included in the present study were similar in age, height, weight, years of experience, and weekly training hours to the 91 referees involved in an international youth football 5-day tournament

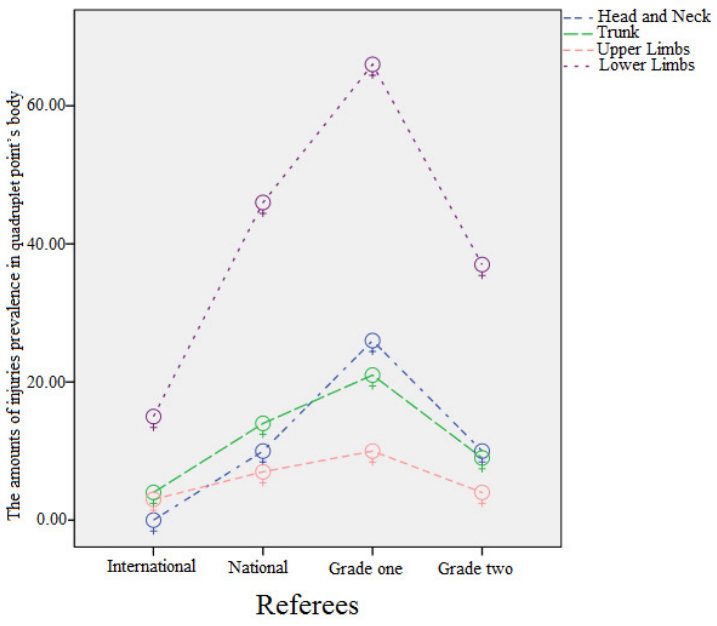

Figure. 1- The amounts of injuries prevalent in Quadruplet point's body

As for of results that shown this research, can be say that likely reefers degree and level of competitions have a significant effect on the amount and segment of injuries. Also, this research shown that likely all of referee's degrees must be consideration to care of self-lower body because, most of injuries in referees happen on the lower body. In addition, recommended to football referees especially, one's degree referees that to improve the physical fitness, their exercises should be done with suitable intensity and diversity.

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Shaping A Future Physical Education Classroom : Global Perspective

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INTRODUCTION: This paper examines the new ideas to shape future physical education classroom in global perspective. The defining outskirts that outline the limitations of our classrooms are shifting in the 21st century. The prompt progressions in technology have found their way into our classrooms globally and now seem ordained to intimidate the elementary tools of physical education. The conventional means of communication as we know it today are on the edge of disappearance as the new emerging technologies begin to replace them. With the reconstitution of international scene the traditional concept underlying the different approaches having determined the content, method and objectives of physical education and sports are no longer attuned to present day reality. In response to these reform initiatives, educators are being asked to master new skills and responsibilities and to change their practice. The rationale behind acceptance of future classroom that the model of physical education classroom was accepted according to the prevailed need. The traditional ways of organizing physical education in our classroom is leading towards the greater/growing lack of interest in young people, as it is not linked with latest technology development. At present scenario, with the inclusion of ICT and modern technology paved the challenging technology in our classrooms. The physical education teacher must view this challenge as an ideal opportunity to elevate the learning of physical education to a higher platform. This paper attempts to explore the possible ways in which information and communication technology can be integrated with physical education in classroom. It will cover some ways in which ICT can be utilised in the physical education classroom today with the prevailing technological infrastructure. A model of such a programme will be shared.

Keyword: Information and communication technology, Emerging practices, Technology – mediated Learning, Physical education classroom, Online learning and instructions.

THE ROLE OF ICT IN PHYSICAL EDUCATION

The information and communication technology is an integral part of today's educational world. ICT refers to the production, collection, processing, storage and delivering of information and the process and devices that makes all the above mentioned activities possible. ICTs- information and communication technologies are defined as a "diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information". These technologies include computers, the internet, broadcasting technologies (radio and television), and telephony. ICT's greatly facilitate the acquisition and absorption of knowledge, offering the developing countries unprecedented opportunities to enhance educational systems, improve policy formulation and execution, and widen the range of opportunities. The new communications technology promises to reduce that sense of isolation, and to open access to knowledge in ways unimaginable not long ago. With the increased widespread use of ICTs in the educational systems, physical education cannot avoid accepting ICT and innovative methodologies in the learning and teaching initiatives in our classrooms.

ICT & Physical Education Classrooms

In the process, the sports educators are engaged to improve professional competence, enhance career progression, and keep abreast of new technology and practices in physical education classrooms;

1. The new information and communication technologies can provide effective initiatives to physical educators by facilitating the learning process and instruction delivery.

2. The physical education teaching profession will evolve from an emphasis on teacher-centered to student-centered interactive learning environments.
3. Recent developments of innovative technologies have provided new possibilities to physical education profession and promoting global collaboration and networking in physical education.
4. Technology has the potential to transform the professional environment for physical educators in physical education classrooms;
5. The new technology will impact not only on the teaching and learning process but also on the ways and opportunities physical educators learn.
6. This will convert traditional learning environment into new learning environments means in physical education classrooms;
    a. Single sense stimulation into multisensory stimulation;
    b. Single path progression into collaborative work;
    c. Information delivery into information exchange and ;
    d. Reactive response into proactive/planned action.

Retrospective perspective of technology in physical education classroom in the last decade of 20th century, since the emergence of the Internet as a mainstream technology, there have been extreme views about the role of technology, that it is a panacea that will enable creation of learning of objects which is revolutioning how physical education is delivered and received. There are three major elements of technology-supported learning in physical education classrooms which are famous as technology-mediated learning physical education;

1. First is technical infrastructure in physical education classrooms of physical education learning in terms of networks, smart boards, internet connectivities of campuses and classrooms.
2. The second element is a course management system (CMS) which is widely accepted at an institutional level in terms of online communications hub for posting of class syllabi, materials, etc.
3. Third for those institutions that have a mission of outreach, and therefore there is a rapid increase in the online physical education courses and programs which are alternatives distance learning. In present scenario the technology oriented learning in physical education still finding difficulties to alternate the traditional methods due to:
    a. Non-availabilities of proper physical education course contents/e-Contents.
    b. Non-adoption of new form of online digital content.
    c. Least interest of physical education course developers to develop online physical education courses using course management systems.

With advances in information and communication technology, there is great scope of using computers and other technical tools to support curriculum and teaching in many ways/technology based academic engagement (TBAE):

a. Multipath progression
b. Collaborative learning and assessment
c. Multi-sensory stimulation
d. Active participation and evaluation
e. Proactive and planned feedback

a. ICT – Driven Physical Education Classroom

Formal education program	Online courses & programs	Distance education program

Pictorial, visual, video, digital demonstration, animated program, digital stimulation of laboratory activities

b. Elements of Technology Supported Learning (Technology Mediated Learning) in Physical education Classrooms

Technical infrastructure	Course management system

The ICT can be used in the following academic engagement for professional development of physical education classroom:

c. Projects, Lectures & Theory

E-lectures, power point presentation, online notes, mentoring through chatting, multi-media, online open discussion, teleconferencing and web surfing

d. Practice Teaching Lessons

Model lesson plan, web surfing for data projection and designing, production and delivery of collected material

e. Counseling, Guidance, Diashops and Seminars

E-mentoring via e-mail, teleconferencing, chats, projections through OHP/projector, webinars and LCD/LED projectors

f. Assessment and Assignment

Online feedback access, displaying model paper online, online system of assignment and evaluation

Conclusion : We, as physical educators will have to make an intangible change in our approach. Even the traditionally recognised setting of the physical education classroom will have to adapt to this 'paradigm shift' in the way learning and teaching. It is indeed difficult to conceive the possibility of physical education amalgamating with ICT without losing its essence, as the two are very diverse and conflicting entities. A main concern would be on how to address the need to maintain the level of physical activity and participation in an ICT environment that is void of 'high psychomotor density'. Apart from re-engineering the way learning and teaching in physical education, the ICT physical education classroom can enhance and redefine professional development of physical educator. Another issue that arises would be on whether ICT could lead to 'Edutainment instead of Education'.

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Influence Of Physical Training Programme On Selected Skill Related Variables Among College Men Cricketers

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AbstractThe purpose of the study was to find out the influence of physical training programme on selected skill related variables such as field ability and batting ability among college men students. To achieve this purpose of the study, thirty men students studying in the J.B Institute of Engineering & Technology Hyderabad, Andhra Pradesh, India were selected as subjects at random. The age of the subjects were ranged from 18 to 24 years. The selected subjects were divided into two equal groups of fifteen subjects each, such as physical training group (Group I) and control group (Group II). The physical training group (Group I) underwent physical training programme for three days per week for twelve weeks. Group III acted as control in which they did not undergo any special training programme apart from their regular curricular activities. All the subjects of two groups were tested on selected criterion variables such as fielding ability and batting ability at prior to and immediately after the training programme by using subjective rating method for each variable with three experts respectively. The analysis of covariance (ANCOVA) was used to analysis the significant difference, if any between the groups. The level of significance to test the 'F' ratio obtained by the analysis of covariance was tested at .05 level of confidence, which was considered as an appropriate. The results of the study revealed that there was a significant difference between physical training group and control group on selected skill related variables such as fielding ability and batting ability. Significant improvements on selected criterion variables were also noticed due to physical training.

Introduction :Physical fitness refers to the organic capacity of the individual to perform to normal task of daily living without undue tiredness or fatigue having reserves of strength and energy available to meet satisfactorily and emergency demands suddenly placed upon him.Cricket is a deceivingly demanding sport; players spend a long day on their feet, there are periodic fast sprints when batting, chasing down a ball, and bowling, plus various dynamic movements such as leaping, throwing, and turning quickly.In the sport of cricket, batting is the act or skill of hitting the cricket ball with a cricket bat to score runs or prevent the loss of one's wicket. A player who is currently batting is denoted as a batsman, while the act of hitting the ball is called a shot or stroke. The terms batsman or specialist batsman are also used generically to describe players who specialize in batting.Fielding in the sport of cricket is the action of fielders in collecting the ball after it is struck by the batsman, in such a way as to either limit the number of runs that the batsman scores or get the batsman out by catching the ball in flight or running the batsman out. Cricket fielding position can be broken down into offside and leg side parts of the field

Methodology :The purpose of the study was to find out the influence of physical training programme on selected skill related variables such as field ability and batting ability among college men students. To achieve this purpose of the study, thirty men students studying in the J.B Institute of Engineering & Technology Hyderabad, Andhra Pradesh, India were selected as subjects at random. The age of the subjects were ranged from 18 to 24 years. The selected subjects were divided into two equal groups of fifteen subjects each, such as physical training group (Group I) and control group (Group II). The physical training group (Group I) underwent physical training programme for three days per week for twelve weeks. Group III acted as control in which they did not undergo any special training programme apart from their regular curricular activities. All the subjects of two groups were tested on selected criterion variables such as fielding ability and batting ability at prior to and immediately after the training programme by using subjective rating method for each variable with three experts respectively. The

analysis of covariance (ANCOVA) was used to analysis the significant difference, if any between the groups. The level of significance to test the 'F' ratio obtained by the analysis of covariance was tested at .05 level of confidence, which was considered as an appropriate.

Analysis of the Data:The influence of physical training on each skill related variables were analyzed separately and presented below.

Fielding Ability

The analysis of covariance on fielding ability of the pre and post test scores of physical training group and control group have been analysed and presented in Table I.

TABLE I

ANALYSIS OF COVARIANCE OF THE DATA ON FIELDING ABILITY OF PRE AND POST TESTS SCORES OF PHYSICAL TRAINING GROUP AND CONTROL GROUP

Test	Physical Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	6.12	6.14	Between	0.014	1	0.014	1.07
S.D.	0.11	0.11	Within	0.389	28	0.013	
Post Test							
Mean	8.23	6.16	Between	2.32	1	2.32	70.30*
S.D.	0.084	0.10	Within	0.934	28	0.033	
Adjusted Post Test							
Mean	8.19	6.15	Between	1.29	1	1.29	35.83*
			Within	0.981	27	0.036	

* Significant at .05 level of confidence.

(The table value required for significance at .05 level of confidence with df 1 and 28, 1 and 27 were 4.20 and 4.215 respectively)

The table I shows that the pre-test mean values on fielding ability of physical training group and control group are 6.12 and 6.14 respectively. The obtained "F" ratio of 1.07 of pre-test scores is less than the table of 4.20 for df 1 and 28 required for significance at .05 level of confidence on fielding ability. The post-test mean values on fielding ability of physical training group and control group are 8.23 and 6.16 respectively. The obtained "F" ratio of 70.30 for post test scores is greater than the table value of 4.20 for df 1 and 28 required for significance at .05 level of confidence on fielding ability.

The adjusted post-test mean values of physical training group and control group are 8.19 and 6.15 respectively on fielding ability. The obtained "F" ratio of 35.83 for adjusted post-test means is greater than the required table value of 4.215 for df 1 and 27 required for significance at .05 level of confidence on fielding ability.The results of the study indicated that there was significance between the adjusted post-test means of physical training group and control group on fielding ability.

Batting Ability

The analysis of covariance on batting ability of the pre and post test scores of physical training group and control group have been analysed and presented in Table II.

TABLE II

ANALYSIS OF COVARIANCE OF THE DATA ON BATTING ABILITY OF PRE AND POST TESTS SCORES OF PHYSICAL TRAINING GROUP AND CONTROL GROUP

Test	Physical Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	6.88	6.91	Between	0.08	1	0.08	0.321
S.D.	1.142	1.134	Within	6.99	28	0.249	
Post Test							
Mean	8.39	6.94	Between	69.11	1	69.11	45.77*
S.D.	1.001	1.131	Within	42.19	28	1.51	
Adjusted Post Test							
Mean	8.41	6.93	Between	89.55	1	89.55	142.36*
			Within	16.987	27	0.629	

* Significant at .05 level of confidence.

(The table value required for significance at .05 level of confidence with df 1 and 28, 1 and 27 were 4.20 and 4.215 respectively)

The table II shows that the pre-test mean values on batting ability of physical training group and control group are 6.88 and 6.91 respectively. The obtained "F" ratio of 0.321 of pre-test scores is less than the table of 4.20 for df 1 and 28 required for significance at .05 level of confidence on batting ability. The post-test mean values on batting ability of physical training group and control group are 8.39 and 6.94 respectively. The obtained "F" ratio of 45.77 for post test scores is greater than the table value of 4.20 for df 1 and 28 required for significance at .05 level of confidence on batting ability.The adjusted post-test mean values of physical training group and control group are 8.41 and 6.93 respectively on batting ability. The obtained "F" ratio of 142.36 for adjusted post-test means is greater than the required table value of 4.215 for df 1 and 27 required for significance at .05 level of confidence on batting ability.The results of the study indicated that there was significance between the adjusted post-test means of physical training group and control group on batting ability

Conclusions

Based on the results of the study, the following conclusions were drawn. .There was a significant difference between physical training group and control group on fielding ability.There was a significant difference between physical training group and control group on batting ability. And also it was found that there was a significant improvement on selected criterion variables such as fielding ability and batting ability due to physical training.

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Participation Motives And Gender Difference In Taekwando Players

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Abstract

The purpose of the present investigation was to determine whether differences in participation motives exist between male and female Taekwondo players. The participants included youth (12 to 18 years) taekwondo male (n = 50) and female players (n = 50). Independent groups t – tests were completed for each subscale of Participation Motivation Questionnaire (Gill et al., 1983) for male and female Taekwondo players. The mean difference for Participation Motivation Questionnaire (PMQ) subscale scores for male and female Taekwondo players were not significantly different. The relationship between sex of participants and the PMQ was assessed to determine which motives were significant in differentiating between males and females. It can be seen that only five of the 40 items significantly differentiated male and female participants.

Key words: Motivation, Participation Motivation, Taekwondo,

INTRODUCTION

A great deal of young people's structured physical activity that might have health-enhancing effects will come through sport and physical education (PE). It has been argued that describing the reasons young people give for being physically active through sport and PE - 'participation motives' - is a useful starting point for understanding their motivation (Biddle, 1997). Research has found that a number of motives exist, including fun, social aspects, and skill development (Biddle, 1998). Indeed, Gill, Gross and Huddleston (1983) assessed the major participation motives through the Participation Motivation Questionnaire (PMQ). The PMQ is a 30-item questionnaire describing the possible reasons for sport participation.There has been research into participation factors in relation to general sport and exercise - both competitive and recreational, as well as research in to those participation factors that specifically relate to martial arts.In contrast to competitive sports, taekwondo is a martial art focused on developing and mastering predefined techniques at different levels and not competing with, or against others. However, taekwondo also includes tournaments, where competitive aspects are displayed directly against others in sparring, or indirectly in patterns or board breaking.Furthermore, taekwondo has been trialed as a competitive sport in the 1996 Olympic games. Therefore, it does have some competitive elements. Compared to exercises like bodybuilding or aerobics that also have competitive opportunities, taekwondo concerns more than developing the body. It incorporates “mental training and techniques of unarmed combat for self defense as well as health” (Choi Hong Hi, 1995). Furthermore, taekwondo is also different to other sports and exercise because individuals progress through a predefined structure of belt ranks and learn self-defense. Thus taekwondo participants may have different motives compared to those in other sports and exercises. Therefore, taekwondo may also change and develop different motivational orientations (Weiss & Chaumeton, 1992).

MATERIAL AND METHODS

Participants

The participants who volunteered for this study were 100 males (N=50) and females (N=50) aged 9-18 years (mean=13.88, SD=1.45) from) from five professional taekwondo clubs of Kanpur city of Uttar Pradesh.

Measurement Instruments

The Participation Motivation Questionnaire (Gill et al., 1983) was used to determine what motivated male and female young taekwondo players to participate in Taekwondo. The inventory was created to gain more information on why individuals participate in sports using the following subscales: Achievement/Status, Team, Fitness, Energy Release, Other, Skills, Friends and Fun. The questionnaire is a 30 item inventory using a 3- point Likert scale to determine the motives of sport participation (3 = Very Important, 2 = Somewhat Important and 1 = Not Important at All).

Procedure

Consent to administer the questionnaire was obtained from the Director of the Taekwondo/Karate Club or Academy. The Director organized a meeting with the instructors of the Club. The objectives of the study, the nature of the questionnaire, the meaning of each item and how the questionnaire should be administered were explained to the instructors, who then agreed to administer it. The students were asked to read the covering letter before they completed the questionnaire to inform them of the objectives of the study, the nature of the questionnaire, how to complete it and the way in which the results of the research will be used to promote Taekwondo. Instructors assisted the younger subjects (less than 12 years) to complete the questionnaire when necessary by explaining the meaning of any item which they did not understand. Subjects were thanked for their assistance and the questionnaires were returned to their instructors after their completion.

RESULTS

Table Descriptive statistics for the Participation Motivation Questionnaire PMQ

GROUP	M	SD	MIN.	MAX.	N
MALE TAEKWONDO PLAYERS					
Achievement	2.170	0.42	1.69	3.00	50
Team	2.491	0.40	1.67	3.00	50
Fitness	2.460	0.502	1.33	3.00	50
Energy Release	2.007	0.45	1.20	3.00	50
Others	1.776	0.57	1.00	3.00	50
Skill	2.286	0.53	1.67	3.00	50
Friends	2.186	0.47	1.00	3.00	50
Fun	2.756	0.34	2.33	3.00	50
FEMALE TAEKWONDO PLAYERS					
Achievement	2.090	0.37	1.43	2.86	50
Team	2.505	0.42	1.67	3.00	50
Fitness	2.430	0.505	1.00	3.00	50
Energy Release	2.140	0.52	1.20	3.00	50
Others	2.064	0.69	1.00	3.00	50
Skill	2.168	0.57	1.33	3.00	50
Friends	2.255	0.53	1.50	3.00	50
Fun	2.576	0.34	2.33	3.00	50

Table – 2 Independent Groups t – ratio Comparing Mean Participation Motivation Scores for Male and Female Taekwondo Players

Group	Mean	N	Mean Difference	t - ratio
Achievement				
MTP	2.170	50		
FTP	2.090	50	0.08	0.771
Team				
MTP	2.491	50		
FTP	2.505	50	- 0.14	0.789
Fitness				
MTP	2.460	50		
FTP	2.430	50	0.30	0.821
Energy Release				
MTP	2.007	50		
FTP	2.140	50	- 0.133	0.134
Others				
MTP	1.776	50		
FTP	2.064	50	-0.288	0.011
Skills				
MTP	2.286	50		
FTP	2.168	50	0.118	0.433
Friends				
MTP	2.186	50		
FTP	2.255	50	-0.069	0.284
Fun				
MTP	2.756	50		
FTP	2.576	50	0.18	0.290

$t_{.05}$ (98) = 1.980
*MTP – Male Taekwondo Players FTP – Female Taekwondo Players

Table 3 Means And Standard Deviations of Top five Participation Motives (N=100)

ITEM	MEAN	SD	RANKING
I Want to be Physically Fit	2.73	1.02	1
I Want to Improve My Skills	2.56	0.97	2
I Like to Have Fun	2.12	0.92	3
I Want to go to Higher Levels	1.65	0.94	4
I Like Being on a Team	1.23	0.90	5

Table 4 Ranking of Motives by Sex Groups (N=100)

ITEM	OVERALL	GROUPS	
		MALE	FEMALE
I Want to be Physically Fit	1	2	1
I Want to Improve My Skills	2	1	2
I Like to Have Fun	3	3	3
I Want to go to Higher Levels	4	4	5
I Like Being on a Team	5	5	4

Discussion

A total of two independent groups t – tests were used to determine differences in participation motives among young male and female Taekwondo players. The mean differences of the PMQ (Gill et al., 1983) subscale scores for male and female Taekwondo players were not significantly different ($p < .05$). In addition, the relationship between sex of participants and the PMQ was assessed to determine which motives were significant in differentiating between males and females. It can be seen that only five of the 40 items significantly differentiated male and female participants.

Male and female young Taekwondo players were found to be motivated to participate in Taekwondo for almost similar reasons. The male and female young Taekwondo players were highly motivated by fitness; desire to learn new Skill and fun

Flood and Hellstedt (1991) found similar results in which teamwork was a high motivator for male college athletes. The results were similar to Brodkin and Weiss (1990), was indicated that adult participants reported health and fitness, fun, and friends as the highest motivators to participate in swimming. Ebbeck, Gibbons, and Loken – Dahle (1995) noted that fitness, enjoyment of the activity, mastery of the activity, stress relief, and self concept were the highest motivators for participation within physical activity for adults. The male and female young karate players were less motivated by Other, Energy Release, and Achievement. Kolt, Driver and Giles (2004) also reported that Energy Release was not a strong motivator for adults.

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Doping in sport socio-economical, administrative and legal analysis

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Introduction: The starting point for legal analysis is the supposition that the economic importance of professional sport supports the creation of a doping-prone environment and may eventually force athletes to use doping. So, two separate issues are at stake: - the economic importance of sport leads to a doping-prone environment; - economic pressures upon an individual athlete may lead him or her to use doping. Our analysis starts with the economic importance of sport. Sport has indeed become an important economic activity. The economic value of sport is nowadays reflected in legal writing, where the subject of 'sports law' has been considered as being predominantly economic law. This would mean that the economic importance of sport raises a multitude of legal questions. Within the bounds of this research study, however, not every legal aspect of sport which has economic importance is dealt with, but only those legal aspects of sport which are relevant for a process through which economic pressures may lead to the use of doping.It appears that the two above-mentioned issues, albeit closely linked, start from very different perspectives. The first issue, i.e. whether the economic importance of sport creates a doping-prone environment, starts from a very wide perspective. Here it is not the individual athlete, but the whole "business of sport" and the economic pressures involved, which stands in the spotlight. The second issue, i.e. whether a athlete uses doping as a result of economic pressures, centers upon the position of the individual athlete and the economic pressures to which he/she is subject. If the legal analysis started from the first perspective, i.e. that economic pressures lead to a doping-prone environment, the business of sport as a whole would have to be studied. From a legal point of view, the question then would be whether the law contains sufficient safeguards against the development of a doping-prone environment as a result of economic pressures. In order to illustrate what could be the subject of such a study, reference can be made to the extreme situation, which existed in Eastern Europe, in particular in the former GDR, before the fall of the Berlin Wall.

Governments had created an environment which pervaded the whole organisation of sport within the State and which was directed to the improvement of sporting performance through all sorts of means, one of which was the use of doping. In this environment, the use of doping was almost inevitable for the individual athlete. The steps taken at an international level during that period to stop competition by individual athletes who were using doping were partly ineffective because of the system which existed within the State. The role of the individual athlete in that system was insignificant. If the person had refused to use doping, he or she would in all probability have been replaced by another athlete. A study into the environment of sport during the Cold War would need to do research into the societal structure as a whole, existing within certain states.

In recent times, almost all European states have become democracies and adhere to the principles of a free market economy. However, it is also possible that in a democratic, free market economy there is a structure, which exists independently from the individual athlete, and which encourages the use of doping. Nevertheless, it would appear that in a democratic, free market economy, the individual is responsible for his own acts. Leaving aside exceptional circumstances, the individual athlete is responsible for the use of doping, as he will either have taken doping himself or consented to the administration thereof by others. With respect to legal responsibility, the behaviour of the individual athlete lies at the root of the use of doping.

In the sections above, concluded that elite sport has become an important economic branch of business with big economic interests. Economic theory has shown that to prevent excesses, it is important to regulate a branch of business like this. This means that all parties involved should be stimulated to prevent doping use. In this legal part of our study, we analyse whether and to what extent this is happening, knowing that "the law" is the last resort. This approach does not rule out the possibility that there exists a doping-prone environment, which cannot be influenced by the individual athlete. However, it appears that if such an independent structure did exist, it would automatically have some sort of effect upon the situation of the individual athlete. Therefore, a study into the legal position of the individual athlete will, in all probability, offer some clues as to the existence and nature of a dopingprone environment.

The term "sports law" here is used to refer to the private law of the sporting world itself (which is association law in the wider context of public law), i.e. the rules and regulations of the national and international sports organisations. Secondly, and more specifically, with regard to the individual athlete's legal position the following preliminary observations should be made: public law (national legislation, the Council of Europe Anti-Doping Convention, which is treaty law) and "sports law"(doping rules and regulations) with respect to the general ban on doping and its enforcement and control will not be taken into account in this legal analysis. Research into the legal situation is undertaken in another EU research project entitled "Legal Comparison and the Harmonisation of Doping Rules", covering public legislation on doping in the EU Member States, as well as the sanctions regimes in the national and international sports organisations. From a general, penal law perspective, it may be said that stricter sanctions regimes will, in theory, have a more preventive and repressive effect on the individual athlete, and the sport society as a whole, as to the use of doping than more liberal regimes. In principle, this effect will be even stronger if there is national anti-doping legislation in a country parallel to the rules and regulations of the sporting world. A similar observation can be made as to the enforcement and control aspect, when, in addition to or instead of sports controlling bodies, public or semi-public bodies are also competent and operational in this respect.

A third, general observation that should be made in this context is that differences between national legislations in criminal matters (sanctions and their enforcement) basically make the struggle against doping relatively more or less difficult, according to the actual number of differences, if the sanctions imposed on athletes in one State are not taken over by other States. The same is true in the case that sanctions imposed by national sports bodies are not automatically valid abroad. Apart from possible relevant (national and international) sporting rules and regulations, this finally brings us to the more specific branches of public law to be researched, since they may be relevant to the legal position of athletes from the perspective of economic pressures on them to use doping, and their protection against such pressures. Generally speaking, a professional athlete is likely to enter into one or two types of contract to generate income, i.e. a "labour contract" or a so-called "sponsoring contract". In general, a contract is considered to be a labour contract when the relationship between the contracting parties implies that one party, the employer, has the authority to decide for the other party, the employee, what tasks the employee should perform for the employer. Labour contracts are, in most jurisdictions, subject to special legislation and may also be subject to special provisions, which are agreed upon by the employer and trade unions. The other type of contract, the sponsoring contract, is not, in most jurisdictions, treated as a special form of contract and is subject to the general rules of the law of contract. In a sponsoring contract, the emphasis is not upon the participation in sports events by the athlete, but on the athlete's promotional activities. It should be noted, however, that not all professional athletes enter into a labour contract. In some types of sport, athletes are independent agents, working for their own account. A wellknown example is professional tennis players. A athlete may indeed, on the basis of a contractual relationship, receive remuneration for participating in sports events, but this contractual relationship is not necessarily equivalent to the relationship between an employee and an employer, which is typical of a labour contract. Because of this, German writers use the more general term "Sportleistungsvertrag",which literally is a "contract for performing sports activities". By using this term, it is made clear that the contract for performing sports activities does not need to be a labour contract. The"'sports performance contract" can be a labour contract; in other cases, there will be a contract to provide certain services, e.g. to take part in a certain sports event against remuneration. In terms of Community law, the athlete is sometimes a 'worker', and in other cases, a provider of services. Contractual relationships as described above will often exist between a athlete and a sports club.

Conclusion: In continental legal systems, these “clubs” are often incorporated as “associations” (e.g. the Belgian “association sans but lucratif”54, the Dutch”vereniging” or the German “Verein”). In common law systems, a “club” is not a legal entity and is based on a contract between the members. Such “clubs” may decide to incorporate as a “company” or as a “friendly society”. The sports club can pay the athlete for participating in sports events under the name of the club, as is the case in, for instance, professional football. In some cases, the sports club itself does not pay the athlete for participating in events. However, Even if the sports club does not provide a direct source of income for the athlete, it can still be significant for the athlete, as he may only be able to gain access to organised sports through a sports club.
Contractual relationships are nowadays mostly regulated by national legislation, not by international instruments. With respect to contracts entered into by athletes, the expectation is that the effectiveness of mandatory national legislation in the domain of civil law will increasingly be impaired by the international mobility of athletes. With respect to employment contracts, only mandatory legislation enacted by the state where the athlete habitually carries out his work will offer protection in an international setting. With respect to other contracts, e.g. service contracts, the international effect of mandatory legislation appears to be guaranteed only when contained in a Community instrument ..

Generally speaking, a professional athlete will not be able to participate in top sports events without some aid of others. Athletes will have the assistance of one or more trainers, who help them to improve their performance. Athletes will probably from time to time require medical or paramedical treatment. The athlete may also have a “manager”, who will assist him in handling the economic transactions, which result from participating in sports. In some cases, the persons who support the athlete will mainly be provided by his or her sports club, and will be shared with other athletes; in other instances, the assistants to the athlete will be chosen by the athlete himself and may only assist him and no other athletes. Now, it may happen that someone assisting an athlete introduces him/her to the use of doping substances to improve his/her performance. This raises questions as to the professional and other requirements, which may be imposed with respect to the persons who support an athlete. Are there any professional requirements imposed with respect to the coaches and other assistants of the athlete? And if such requirements are in force, which authority imposes these requirements and sees to the observance thereof? A parallel may be drawn with certain professions, such as accountants, lawyers and, particularly, the medical professions, which have developed standards or codes of conduct for people exercising these professions.

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Biomechanical Analysis Of Spiking In Volleyball

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ABSTRACT: The purpose of this study was to identify, analyze and compare the kinematic parameters involved in short set and high set front row spike in volleyball. Eight interuniversity male volleyball players participated in this study as subjects. Spiking action was filmed by a digital video camera operated at 24fps. Power DVD software was used to analyze the selected kinematic parameters of the recorded movements. The results indicated that the short set front row spike had a greater approach speed and shorter spike time than that of high set front row spike. The high set front row spike, on the other hand, had a greater mean values for approach length, vertical velocity, raising of Cg. and ball impact height than those of short set front row spike. **KEY WORDS:** volleyball, front row spike, kinematic etc

INTRODUCTION: Volleyball is one of the most popular games of the world. The game has a number of fundamental techniques of which the spike is one of the most difficult to master but demanding for high performance. The athlete is expected to jump and hit the ball with maximum force and accuracy at the approximate peak of the jump. Analysis of this technique has become the focus of attention of biomechanical research for last a few decades. Prsala (1982) identified four phases of the spike technique: the approach, preparation, hitting, and landing. The approach involves two or three controlled running strides, a transitional last step to prepare for the transfer of horizontal momentum to vertical momentum, and a double footed vertical jump. In the preparatory phase, the striking arm is swung upward in an abducted and laterally rotated position. The elbow is flexed at approximately 90 degrees and the wrist is hyper- extended. During hitting phase, the shoulder is elevated; the upper arm is inwardly rotated and adducted; the forearm is extended at the elbow and the wrist is flexed. The athlete absorbs the downward momentum by flexing the joints of the lower extremities when landing. Coleman et al. (1993) studied on ten male international male volleyball players who spiked the ball in the front row at the 1991 World Students Games. They reported the mean vertical velocity of the centre of mass (COM) at take off was 3.59 m/s and height of the jump was 0.62m. Saunder (1980) studied the effects of approach speed on one and two-foot vertical jump performances. He found that vertical velocities of two-foot jump peaked when the approach speed was up to 50-60 % of maximum sprint speed and the vertical velocities of one-foot jumps were up to 60-70 % of maximum sprint speed. It is important to understand the mechanical factors, which contribute to the successful spiking action. The purpose of this study was to analyze the selected kinematic factors - length of approach, approach speed, vertical velocity at take off, angle of COM at take off, spike height and spiking time in front row spike performed by male volleyball players.

METHODS:

Eight university level male volleyball players representing Visva-Bharati and Kalyani universities at Inter-University Volleyball tournaments were selected as subjects for the present study. The mean age, height and weight of the subjects are presented Table -1.

Table-1: Mean age, height and weight of the subjects (n=8)

parameter	minimum	maximum	mean±sd
Age (year (kg)s)	**19.00**	**25.00**	**22.00± 2.00**
Height (cm)	**185.00**	**170.00**	**178.00 ± .04**
Weight	**58.70**	**79.18**	**65.09 ± 6.83**

The front row spiking action of the subjects was filmed by a video camera operated at 24fps. Each subject performed five front row spikes for short and high set ball. Experimental set up has been shown in Figure-1. Only the successful spiking action was analyzed to measure the selected kinematic parameters with the help of appropriate software. Approach length, speed of approach, vertical velocity at take off for spiking, lifting of cg., vertical height achieved for spiking and the duration of flight were the selected kinematic parameters for analysis.

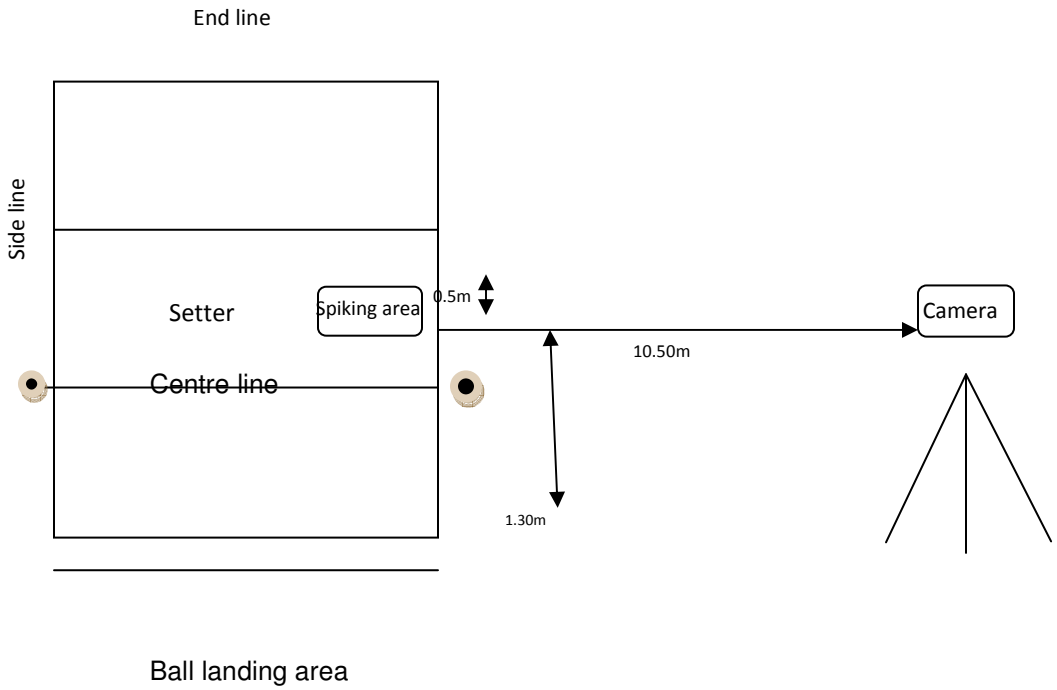

Figure 1 Experimental set up

RESULTS AND DISCUSSION:

Table - 2 presents selected kinematic parameters for eight subjects for front row spike for short set and high set ball.

Table 2: Selected kinematic parameters for front row spike

Subject	Spike	Approach Length(m)	Approach Speed(m/s)	Vertical Velocity(m/s)	SpikeTime (s)	Raisingof Cg. (m)	Greatest Height(m)
1	Short	3.12	3.94	2.16	0.34	1.22	3.74
	High	3.50	3.36	2.88	0.34	1.42	3.85
2	Short	3.17	3.45	3.60	0.35	1.05	3.45
	High	4.32	3.70	2.16	0.35	1.38	3.51
3	Short	3.85	4.01	2.16	0.34	1.26	3.99
	High	4.14	3.01	2.16	0.36	1.41	4.08
4	Short	3.35	3.65	3.60	0.29	1.05	3.69
	High	3.75	3.57	4.32	0.34	1.60	3.84
5	Short	3.38	4.05	3.60	0.29	1.38	3.75
	High	4.45	4.64	4.76	0.35	1.32	3.87
6	Short	3.03	3.16	4.32	0.29	1.20	3.69
	High	3.70	2.48	5.04	0.35	1.20	3.90
7	Short	3.15	3.02	4.32	0.35	0.99	3.75
	High	3.73	2.48	3.60	0.36	1.38	3.96
8	Short	3.56	3.56	2.88	0.32	1.32	3.72
	High	3.40	2.26	4.32	0.35	1.46	3.84

The approach length for high set ball spike was greater than that for the short set spike. In order to test whether the difference between mean values of different parameters between two types of spiking was statistically significant, t-test was used. The results have been shown in Table 3.

Table 3: Testing significance of difference between short set and high set front row spike

	Short Set Spike (N=8) Mean	S.D	High Set Spike (N=8) Mean	S.D	Calculated "t"-Value	P value	Remarks
Approach Length(m)	3.36	±0.32	3.88	±0.38	2.86	0.024	Significant
Speed of Approach(m/s)	3.60	±0.39	3.19	±0.79	1.87	0.104	Not Significant
Take of Velocity(m/s)	3.33	±0.86	3.66	±1.14	0.93	0.379	Not Significant
Spiking Time(s)	0.32	±0.03	0.35	±0.01	3.21	0.014	Significant
Raising of Cg.(m)	1.18	±0.14	1.40	±0.11	2.96	0.021	Significant
Greatest Height Reached(m)	3.72	±0.15	3.85	±0.16	7.04	0.000	Significant

Required value for being significant **– 0.05 = 2.36 and 0.01 = 3.50**

From table values it is clearly seen that the difference in mean values between two types of spiking was statistically significant for approach run, spiking time, raising of cg and the vertical height achieved during spiking only. The mean difference was not statistically significant for speed of approach and take-off velocity.Difference in approach run might be due to the fact that greater approach run was required for increasing the vertical reaction force from the ground to achieve higher vertical velocity for high set ball. It is clearly noted that there was differences in mean values of speed of approach for short and high set ball spiking but this difference was not statistically significant. This result was perhaps due to the fact that in this case the length of approach was considerably small in the case of spiking. The vertical velocity was greater for high set ball spike than that for short set ball spike. The mean vertical velocity for front row spiking was 3.49m/s which is similar to the values reported by Samson and Roy (1976) with 3.5m/s and Colemal et al. (1993) with 3.59m/s. For high set ball front row spike greater raising of Cg was perhaps because of the fact that the ball was set more than 4ft. above the net for spiking high set ball. In order to get the ball and to spike it forcefully, the spikers had to achieve the greater vertical heght than the short set ball spiking. The achieved vertical height was more for high set ball spike than the short set ball spike. Similar results have been reported by other leading researchers. The mean vertical height for front row spiking in this study was 3.78m and the ball impact height for the front row spiking was 3.28m as reported by Masanao Masumura et al. (2007). The short set ball spike had a shorter spike time than that of the high set ball front row spike. The mean spike time for front row spiking was 335ms which was very similar to the value reported by Chenfu Huang et al. (1999) as 342ms for one foot spike and 403ms for two foot spike.

CONCLUSIONS:

On the basis of the results obtained in the present study, the following conclusions were drawn:

i. The short set front row spike involves a greater approach speed and a shorter spike time than those of high set front row spike.
ii. The high set front row spike has a greater rising of Cg. than that of short set front row spike.
iii. The high set front row spike has a greater vertical velocity and ball impact height than short set front row spike.

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A Comparative Study Of Anthropometric Variables Between Residential And Non-Residential School Students Of Chandigarh

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Abstract: *The purpose of the study was to compare the Anthropometric Variables (body weight, body height, sitting height, chest circumference, upper arm girth, elbow diameter, wrist diameter, thigh circumference, knee diameter, calf circumference and ankle diameter) of Residential and Non-Residential School Boys. To achieve the objective of the study twenty five (N=25) residential school boys (Jawahar Navodaya Vidyalaya, Sector-25, Chandigarh) and twenty five (N=25) non-residential school boys (New Public School, Sector-18, Chandigarh) were selected randomly as subjects of the study. The age of the subjects ranged between 14-16 years. To determine the significant difference between the mean scores of residential and non-residential school boys on selected anthropometric variables't' test was employed with the help of SPSS software. The level of significance was set at .05. Results of the study revealed that there were significant differences obtained on Anthropometric variables (body weight, height, sitting height, calf circumference, thigh circumference, knee diameter, wrist diameter and elbow diameter) between residential school and non-residential school boys. There were no significant differences on chest circumference, upper arm circumference, forearm circumference and ankle diameter between residential school and non-residential school boys.*

Keywords: *Anthropometric Variable, Residential School, Non-Residential School.*

INTRODUCTION

In the modern highly scientific, sophisticated and technologically developed society, sports has assumed multi-dimensional significance and it is better understood today than ever before. Sport has acquired an immense popularity and in view of its scientific organization, it has become a worldwide phenomenon. Besides numerous factors responsible for the dismal performance of sports persons, the physique or body composition, including the size, shape and form plays a significant role. The other factors responsible for performance of sportsman in any discipline depends upon proficiency of skill, training, motivation and various other components of anthropometric variables such as age, sex, and other body measurements.

The scientists have been of the view that anthropometric measurements of sportsman have for more significant role to play in their performance, than the practices and techniques used by a person or a team. The research findings indicate that a high level of technique perfection has less to do with the success of an individual or a team in modern competitive sports, if it is restricted by physical and anthropometric limits. For centuries, measurements of body size and proportions have been studied because the relationship between these measurements and body functions and beauty. Because of the present value of the anthropometry as well as the significance of the previous findings, it is an important

aspect of physical educationist's measurement and is concerned to be the most important aspect by some authorities. The teacher of physical education will recognize that the great value affixed to anthropometrical measurements lies largely in research and the subsequent implications for teaching rather than the general utility of this measurement directly in teaching, relating to body build, certain relationships have appeared between body type and various performance abilities. Knowledge of this will enable the teacher to direct student's interest to appropriate activities in addition to general use of indicating developmental needs. The study was focused to compare the "Anthropometric of Residential and Non-Residential School Boys. It was hypothesized that there would be no significant differences between residential and non-residential school boys on the above anthropometric variables.

MATERIAL AND METHODS

The subjects selected for the present study were 25 residential school boys and 25 non-residential school boys from Chandigarh. The students were selected randomly from Jawahar Navodaya Vidyalaya, Sector-25, Chandigarh and New Public School, Sector-18, Chandigarh. The age of the subjects ranged between 14-16 years. In consultation with experts and considering tester's competency and even feasibility criteria in mind, especially of equipments reliability and time factor, the following anthropometric variables were selected for the study namely: weight, height, sitting height, thigh circumference, chest circumference, upper arm girth, forearm girth, wrist diameter, elbow diameter, knee diameter, calf circumference and ankle diameter. In order to examine the hypothesis of the present study Mean, SD and independent sample t- test were employed to compare the mean scores of residential and non-residential school boys. Level of significance was set at .05.

A. Elbow Diameter Measurement

B. Wrist Diameter Measurement

C. Knee Kiameter Measurement

D. Weight Measurement

RESULTS AND DISCUSSION

The comparison between residential and non-residential school boys on selected anthropometrical variables were statistically analysed using 't' test. The data pertaining to the same in presented table 1.

Table -1

COMPARISON OF SCORES ON ANTHROPOMETRIC VARIABLES BETWEEN RESIDENTIAL (R) AND NON-RESIDENTIAL (NR) SCHOOL BOYS

Variables	Group	N	Mean	SD	MD	SE	't'
Weight	R NR	25 25	46.00 52.48	7.466 12.62	6.48	2.933	**2.209***
Height	R NR	25 25	157.7 162.6	7.42 9.14	4.92	2.355	**2.089***
Sitting Height	R NR	25 25	61.20 67.56	10.11 6.21	6.36	2.37	**2.67***
Chest Circumference	R NR	25 25	28.52 30.17	2.07 4.02	1.65	.902	**1.83**
Upper Arm Circumference	R NR	25 25	8.76 9.86	.908 4.36	1.09	.891	**1.229**
Fore Arm Circumference	R NR	25 25	8.10 8.59	.750 1.22	4.96	.287	**1.725**
Elbow Diameter	R NR	25 25	6.25 7.17	.533 .755	.924	.184	**4.99***
Wrist Diameter	R NR	25 25	4.87 5.29	.383 .474	.416	.121	**3.41***
Thigh Circumference	R NR	25 25	14.64 18.13	2.01 2.16	3.49	0.591	**5.9***
Knee Diameter	R NR	25 25	8.77 9.30	.339 1.17	.528	.244	**2.16***
Calf Circumference	R NR	25 25	11.46 12.56	1.52 1.44	1.108	0.419	**2.63***
Ankle Diameter	R NR	25 25	6.35 6.34	.467 .736	.0080	.174	**.046**

Significant at .05 level

't'$_{.05}$ (48) = 2.02

It has been depicted from the mentioned table-1 that there were significant differences obtained on Anthropometric variables (body weight, height, sitting height, calf circumference, thigh circumference, knee diameter, wrist diameter and elbow diameter) between residential school and non-residential school boys. From the above table that the calculated 't' value in case of residential and non-residential school boys on anthropometrical variables were found to be statistically significant as the value obtained were 2.209, 2.089, 4.99, 5.9, 2.16 and 2.63. There were no significant differences obtained on chest circumference, upper arm circumference, forearm circumference and ankle diameter between residential school and non-residential school boys. From the above table that the calculated 't' value in case of residential and non-residential school boys on anthropometrical variables were not found to be statistically significant as the value obtained were 1.83, 1.229, 1.725 and 0.046. The probable reason could be that the subjects of this study were during growth period and their anthropometric variables

differed because of their diet, daily routine, home environment and way of living differences. Hence, the residential and non-residential school boys were differed significantly.

CONCLUSION

On the basis of the obtained results from the present analysis it may be concluded that non-residential school boys are superior in their anthropometric variables than their counterparts. Henceforth, the anthropometric variables like body weight, height, sitting height, calf circumference, thigh circumference, knee diameter, wrist diameter, elbow diameter of residential school and non-residential school students could be differentiated.

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A Study On Speed Among Lawn Tennis Players And Table Tennis Players Of Junior Colleges In Hyderabad

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Introduction: Tennis is a athletically challenging sport. It requires flexibility, strength, power, agility, speed, body composition, and aerobic & anaerobic fitness. Players must train train to the best of their ability. There is an array of training equipment for tennis, some to strengthen a specific area in a player's athletic needs. But there are some products that are more basic, and can help any player training at any age. For a trainee to be at their athletic peak is crucial in succeeding at tennis. And this equipment is sure to help anyone who wants to be better.Tennis training aids will assist you in training for tennis. They can come in the form of raquets, balls, and many other things.Speed plays very important role in the performance of Tennis.

Table tennis also known as **ping-pong**, is a sport in which two or four players hit a lightweight, hollow ball back and forth using table tennis rackets. The game takes place on a hard table divided by a net. Except for the initial serve, players must allow a ball played toward them only one bounce on their side of the table and must return it so that it bounces on the opposite side. Points are scored when a player fails to return the ball within the rules. Play is fast and demands quick reactions. A skilled player can impart several varieties of spin to the ball, altering its trajectory and limiting an opponent's options to great advantage.

Speed is a key component of Physical fitness which is very important for Table and Lawn Tennis Players for giving the high level of performance in competition.Speed is the performance pre requisite to do motor actions under given conditions in minimum of time. Speed is the quickness of movement of a limb, whether this is the legs of a runner or the arm of the shot putter. Speed is an integral part of every sport and can be expressed as any one of, or combination of, the following: maximum speed, elastic strength and speed endurance.

METHODOLOGY:

AIM: To find out the Speed between Male Table Tennis and Male Lawn Tennis Players .

SAMPLE: The sample for present study consists of 20 Male table Tennis Players and 20 Male Table Tennis Players between the age group of 16 to 18 years of Junior Colleges in Hyderabad.

TOOLS: 50 Meter Run is used to collect the data for speed.

PROCEDURE OF DATA COLLECTION: The Table Tennis and Lawn Tennis Players are made to run 50 Meters in each batch of two members. The timing is taken by the Qualified Officials at Nizam College Grounds, Hyderabad.

50 Meters Run:

Purpose: To measure the speed among the Table Tennis and Lawn Tennis Players.

Equipment: Two stop watches or one with a split second timer.

Description: It is preferable to administer this test to two players at a time. Both have to take standing start position behind the starting line. The starter will use the command on your marks and gun will be fired.

Rules: The starter may take any position behind the starting line. On the command on your marks and gun fire the student runs as fast as he can across the finishing line. Do not slow up until you across the finish line. Then he may down slow gradually.

Scoring: The score is the elapsed time to the nearest tenth of a second between the starting signal and the instant the student crosses the finish line.

RESULTS AND DISCUSSION:

Table – I is showing the speed among the Table Tennis and Lawn tennis Players.

Table - I

Test Item	Group	Number	Mean	Std. Deviation	Std.Error Mean	t	df	Sig.(2tailed)
50 M Run	Lawn Tennis	20	7.11	0.24	0.08	-1.81	38.00	0.09
50M Run	Table Tennis	20	7.39	0.46	0.15			

It was found that the average speed of Lawn Tennis Players are 7.11 and Table Tennis Players are 7.39. Lawn Tennis Players are having good speed compare to the table tennis players because the Lawn Tennis Players are playing in the court and Table Tennis Players are playing on Table.

Conclusions:

It is concluded that Lawn Tennis are having good speed compare to the Table Tennis Players. Speed Training must be given to all Lawn Tennis Players and Table Tennis Players to enhance the performance.

Recommendations:

The similar studies can be conducted on different sports and games at school and University level.

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Effect Of Yoga On Cardio Respiratory System And Body Composition Of School Going Children

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ABSTRACT: The aim of the present study was to investigate the effect of yoga on Cardio Respiratory system and Body Composition of school going children. Sixty students age ranging from 14 to 16 years of Seva Bharati Sikhayatan, Kapgari, West Bengal were selected as the subject of the study. The subject was randomly distributed in two groups. One group is designated as experimental group and other one as control group.The study was restricted to the following variables: Vital Capacity, Resting Pulse Rate, Breath Holding Time, Blood Pressure and Body Composition.Sarvangasana, Halasana, Naukasana, Bhujangasana, Dhanurasana, Ustrasana, Gomukasana, Paschimatasana, Ardha-Matsyendrasana, Savasana and Pranayama was used for Yogic training. Analysis of covariance was applied to study the effect of Yoga on Cardio Respiratory System and Body Composition and are significant at $P<0.05$. A long term effect of yoga proved useful and significant differences was observed in Vital Capacity, Resting Pulse Rate, Breath Holding Time, Blood Pressure and Body Composition.

Key Words: Yoga, Cardio Respiratory System, Body Composition

Introduction: Cardiovascular problem and heart diseases are common problems of modern times. Many conditions like improper diet, lifestyle, sleeping pattern and negative thinking trigger heart diseases and affect the cardiovascular health. These problems are witnessed now not only in the old-age but also the young generations are falling prey to such impairments. The way of life today needs to be changed to improve the cardiovascular health.Yoga is India's precious gift to the World. Yoga is holistic, preventive as well as curative for all heart related problems. Modern medicines and drugs are expensive and have various side effects. These are in fact more curative rather than preventive. In turn, yoga is easy to learn and has many benefits. Yoga is an economical and alternative system of healing. It helps in relieving stress, enhancing health and improving fitness. It is today being widely used to prevent and treat various diseases of the heart. It results in wholesome healing. The Yogic way of life helps in the prevention of cardiovascular diseases and, in fact, helps in improving the cardiovascular health. Our body, mind and spirit are intricately interrelated and constantly influence one another. The science of yoga that is holistic has been designed to have subtle effect on our whole being, body, mind as well as spirit. The all-pervasive stress and stress-induced disorders like hypertension and angina are fast growing epidemics and bane of today's modern society. The science of yoga is the best method for prevention as well as management of stress and stress-induced disorders.To improve your cardiovascular health, a complete yoga program should be a way of your life. Four main parts; First involves exercises (Asanas), especially the Sun salutation set of yoga exercises are recommended. At least 4-5 cycles a day help to strengthen the health of the heart and help to prevent heart attack. Second, breath control (pranayama) – proper breathing through the expansion of lungs; Third, sleep control (yoga nidra) – time and lastly mind control (meditation). Yoga training promotes emotional and physiological balances which invariably have an effect on the cardiovascular health. The benefits are enhanced heart health, lowered blood pressure, reduced chronic stress, boosted immune system and overall improvement in the cardiovascular health of an individual. Also there is an improved management of day to day stress, improvement of cardio respiratory functions and overall fitness. In the following ways, Yoga can be used to improve cardiovascular health (Patricia October 8, 2008).

Therefore it will be worthwhile to investigate the effect of yoga on cardio respiratory system and body composition of school going children who may be selected at an early age and might be systematically nurtured for full manifestation of sports potentialities through Yogic practices for enhancing health and upliftment of overall fitness and thereby such study is being undertaken.

Method and Materials: Out of One hundred and twenty, sixty male students age ranging from 14 to 16 years of Seva Bharati Sikhayatan, Kapgari, West Bengal were randomly selected as the subject of the study. The subjects were assigned at random to experimental and control group. Each group consists of thirty students. The study was conducted for a period of 12 weeks in the month of July to September. Sixty subjects were assembled in the gymnasium of Seva Bharati Mahavidyalaya, Kapgari, West Bengal in the morning for five days a week for 45 minutes. The variables undertaken under Cardio Respiratory System are Vital Capacity, Resting Pulse Rate, Systolic, Diastolic and Total Body Fat Percentage. The following Asanas was administered during the training to study the effect of yoga on Cardio Respiratory System and Body Composition are (a) Sarvangasana, (b) Halasana, (c) Naukasana, (d) Bhujangasana (e) Dhanurasana, (f) Ushtrasana, (g) Gomukhasana, (h) Paschimatanasana (i) Ardha-matsyendrasana, (j) Savasana, (k) Pranayama – Vastrikasana and Anulom – Vilom. The data for various cardio-respiratory variable and body composition was collected twice, once before the start of the study and next after the completion of twelve weeks of experimental treatment. In order to investigate the existence of significant effect of yoga on cardio respiratory system and body composition of students of Seva Bharati Sikhayatan, Kapgari, West Bengal in pre and post test result's the analysis of covariance statistics was used.In case of existence of significant difference, the post hoc test (L.S.D test) was used in order to investigate the significant difference between the pair group means. For testing the mean difference, the level of significance was set at 0.05 level of confidence.

Table-1

Analysis of covariance for Vital Capacity of Tribal school going children under experimental and control group categories

Mean	Experimental	Control		SS	DF	MSS	F ratio
Pre test	3.33	3.36	A	0.02	1	0.02	0.07
			W	14.93	58	0.26	
Post Test	3.65	3.34	A	1.44	1	1.44	5.57*
			W	15.01	58	0.26	
Adjusted Post Test	3.67	3.33	A	1.73	1	1.73	29.15*
			W	3.38	57	0.06	

* Significant at 0.05 level of confidence.

F.05 (1,58) = 4.00 A = Among mean variance.

F.05 (1,57) = 4.00 W = within group variance.

Table-2

Analysis of covariance for Resting Pulse Rate of Tribal school going children under experimental and control group categories

Mean	Experimental	Control		SS	DF	MSS	F ratio
Pre test	70.03	70.40	A	2.02	1	2.02	0.27
			W	428.17	58	7.38	
Post Test	68.17	69.87	A	43.35	1	43.35	4.19*
			W	599.63	58	10.34	
Adjusted Post Test	68.35	69.68	A	26.46	1	26.46	9.04*
			W	166.92	57	2.93	

* Significant at 0.05 level of confidence.

F.05 (1,58) = 4.00 A = Among mean variance.

F.05 (1,57) = 4.00 W = within group variance.

Table-3

Analysis of covariance for Systolic Blood Pressure of Tribal school going children under experimental and control group categories.

Mean	Experimental	Control		SS	DF	MSS	F ratio
Pre test	118.00	117.73	A	1.07	1	1.07	0.02
			W	2717.87	58	46.86	
Post Test	113.87	117.17	A	163.35	1	163.35	4.24*
			W	2233.63	58	38.51	
Adjusted Post Test	113.76	117.27	A	185.24	1	185.24	22.46*
			W	470.05	57	8.25	

* Significant at 0.05 level of confidence.

F.05 (1,58) = 4.00 A = Among mean variance.

F.05 (1,57) = 4.00 W = within group variance.

Table-4

Analysis of covariance for Diastolic Blood Pressure of Tribal school going children under experimental and control group categories.

Mean	Experimental	Control		SS	DF	MSS	F ratio
Pre test	73.27	73.07	A	0.60	1	0.60	0.02
			W	1587.73	58	27.38	
Post Test	70.33	73.87	A	96.27	1	96.27	4.19*
			W	1334.13	58	23.00	
Adjusted Post Test	69.00	72.03	A	109.27	1	109.27	26.24*
			W	1237.39	57	4.17	

* Significant at 0.05 level of confidence.

F.05 (1,58) = 4.00 A = Among mean variance.

F.05 (1,57) = 4.00 W = within group variance.

Table-5

Analysis of covariance for Total Body Fat of Tribal school going children under experimental and control group categories.

Mean	Experimental	Control		SS	DF	MSS	F ratio
Pre test	18.07	18.85	A	8.92	1	8.92	0.91
			W	570.11	58	9.83	
Post Test	16.48	18.57	A	65.56	1	65.56	5.06*
			W	752.00	58	12.97	
Adjusted Post Test	16.77	18.29	A	34.45	1	34.45	4.39*
			W	447.65	57	7.85	

* Significant at 0.05 level of confidence.

F.05 (1,58) = 4.00 A = Among mean variance.

F.05 (1,57) = 4.00 W = within group variance.

Discussion of findings: The analysis of variance was used for findings the effect of selected yogic asanas and Pranayama on cardio-respiratory system and body composition on male students of Seva Bharati Sikhayatan, Kapgari, West Bengal. It was observed that there was significant differences in vital capacity, resting pulse rate, Breadth holding time, Blood pressure and Total Body Fat Percentage of Body Composition.Yogic exercise involves physical, mental and spiritual task in a comprehensive manner. It brings about the behavioural changes. Yoga in long duration affects hypothalamus and brings about decrease in the systolic and diastolic BP through its influence on vasomotor centre, which leads to reduction in sympathetic tone and peripheral resistance. The relaxation and exercise components of yoga have a major role to play in the treatment and prevention of high blood pressure (hypertension) and body composition. There are many poses in Yoga that can improve the health of the heart by improving blood circulation. They also help in the removal of toxic waste from the body and regulate the hormones to keep us healthy. Pranayama, an important part of Yoga, if practiced regularly under the guidance of a trained practitioner, can help control breathing and is an effective cardiovascular yoga exercise. Breathing, in turn, can help regulate the flow of blood and relax a perturbed mind (Raphaelhager 2009).This study is in strong consonance with the findings of “Bharshankar”, “Murugesan”.

Conclusions and Recommendations

It was concluded that twelve weeks of Yoga training programme through Asanas and Pranayama was found to be effective in bringing about significant improvement in respect to Vital Capacity, Resting Pulse Rate, Breadth Holding Time, Blood Pressure and Total Body Fat Percentage of Body Composition.It is recommended that a similar study may be undertaken for female students at various age levels.It is further recommended that a similar study may be under taken by selecting a large sample of athletes, cardiac patients etc.Additional studies may be conducted specifically and extensively on other Yogic Kriyas, Bandh, other pranayama methods etc.

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The Effect of Aquatic Plyometric practice Training on explosive Power improvement in the Basket Ball Players.

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Abstract: With application of Aquatic Plyometric Training on Basketball players was improved explosive Power while in Jump Shot in the Basket ball shooting. The high intensity of aquatic plyometric training gives several changes in physical fitness. The purpose of this study was to find out the improvement of explosive power in basket ball players by practice of 5 weeks aquatic plyometric Training. Subjects were randomly assigned to two groups. That is control group (n=10) and experimental group (n=10). The data pertaining to selected physical fitness variable were analyzed by applying the analysis of covariance (ANCOVA) in between initial & final for control group and experimental group.

Introduction: Plyometric Training used in training method to develop speed, explosive power, explosive reactivity, strength and endurance. Present days Aquatic Plyometric Training very popular to achieving significant fitness in physical power. In this study basket ball players were get improvement in explosive power by adopting Aquatic Plyometric Training. While jump and shoot the basket, players were executing explosive power. Main purpose of this aquatic plyometric training to adopted from water fitness education to rehabilitate injuries while jumping and landing in improving explosive power training (Aukerman, 2008; Reilly, Dowzer, & Cable, 2003). Water Fitness education is much more than a method to rehabilitate injuries due to land exercises (Aukerman, 2008; Reilly, Dowzer, & Cable, 2003). Water Fitness education is a bold application of physiological physics even greater than the sand workouts performed by Herchel Walker which transfer to land with benefits (Sanders, 2000). The benefits of water fitness exercise gives weight less body, skeletal muscle sourness, decrease injuries in the joints, increases the action of fast twitch fibers in the muscles, improve the explosive power and speed, adopt rapidly eccentric to concentric contraction, increases in blood circulation work, reducing body fat and increases testosterone level. By the following positive results aquatic plyometric high intensity training is best method to improving explosive power in the basket ball players.

Methodology: The purpose of the study was to analyze the effect of aquatic plyometric training on basket ball players on selected physical fitness (explosive power). In this study has been carried following steps of methods as taken.

Selection of subject: This study was conducted on a total sample of 20 basket ball players randomly at the age of 15 to 18 years, which are divided into two group {Control group (n=10) and Experimental group (n=10)} .

Selection of Variable: On selected subjects to find out the physical fitness of explosive power.

Selection of Training: Control group was went daily in sand plyometric training, in addition special aquatic plyometric Training was given to Experimental group day after day up to 5 weeks **Selection of Test:** Sergeant Vertical jump test of lower body, vertical explosive power was measured by means of the sergeant vertical jump test according to the method (Johnson & Nelson, 1979).

Test Administration: Explosive power was measured by means of the Sergeant Vertical jump test methods. The participant took off from two feet with no preliminary steps or shuffling. Participants used an arm swing and jumped as high as possible, leaving a chalk mark on the measuring board with the inner hand. This distance was then recorded as maximum jump height. The difference between the reach and maximum jump height was then calculated and recorded to the nearest cm. **Statistical Analysis**: The study was designed to find out the influence of aquatic plyometric Training on selected physical fitness variables among basket ball players. The subjects of two groups were tested on selected criterion variables i.e. physical fitness changes (explosive power) and prior and after training period. The analysis of covariance (ANCOVA) was applied to find out the variance in each criterion variables. The level of significance to test and 'F'- ratio, obtained by the analysis of covariance was fixed at .05 level of confidence. The analysis of Physical fitness changes (explosive power) and prior and after training shows in the Table No. I **Table -I**

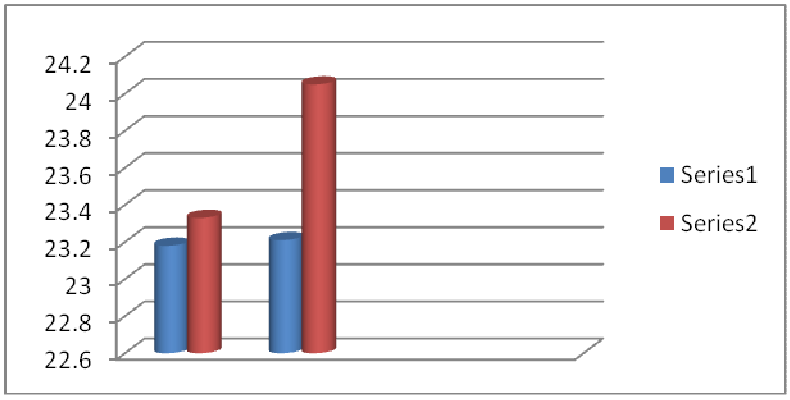
The analysis of Physical fitness changes (explosive power) and prior and after training

	Control Group	Experimental Group	Sources of Variance		Sum of squares	Mean square	F'- ratio
Pre-test							
Mean	23.18	23.33	Between		0.11	0.11	**0.11**
SD	1.25	0.70	With in		18.48	1.03	
Post-test							
Mean	23.21	24.05	Between		3.56	3.50	**5.12**
SD	0.93	0.72	With in		12.52	0.70	
Adjusted Post-test							
Mean	23.20	24.05	Between		3.55	3.55	**4.82**
			With in		2.52	0.74	

*Significant at 0.05 level of confidence. The value for significance at 0.05 with df land 18 and land 17 are 4.41 and 4.45 respectively.

The mean values of control group and experimental group were graphically represented in Fig.1

Figure -I



Series 1 Control Group, Series 2 Experimental Group

Table – 1 indicated that the pre-test mean of explosive power between control group and experimental group were 23.18, ± 1.25 and 23.33, ± 0.70 respectively. The obtained 'F' ratio of 0.11 indicated that the pre-test means was not significant at 0.05 level of confidence.The post-test mean of explosive power between control group and experimental group were 23.21, ± 0.93 and 24.05, ± 0.72 respectively. The obtained 'F' ratio of 5.12 indicated that the post-test means was significant at 0.05 level of confidence. The adjusted post-test mean of explosive power between control group and experimental group were 23.20 and 24.05 respectively. The obtained 'F' ratio was 4.82 and it was greater than the tabulated 'F' ratio for degree of freedom 1 and 17 was 4.45. It was concluded that there was significant improvement after the experimental period.

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Relationship Of Reaction Time And Speed Of Movement To Performance In 100 Metre Run And Between Speed Of Movement To Performance In Long Jump And Shot-Put

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Introduction : General motor ability may be defined as present acquired and innate ability to perform motor skills of fundamental nature, exclusive of highly specialized sports or gymnastic skills and it encompasses several components, namely arm-eye co-ordination, muscular power, agility muscular strength, muscular endurance, flexibility speed and foot-eye co-ordination. Development of these components enables an individual to perform well in such basic activities as running, jumping, climbing, throwing and dodging. An individual with high level of general motor ability possesses the basic motor qualities necessary to achieve excellence in a number of activities, may still be unable to perform well in a particular sport unless he has developed the specific skills of that sport through long hours of practice. Strength, speed, endurance, agility, reaction time, and speed of movement are general components of performance in track and filed events, but because a person possesses these basic physical components, it does not make him an expert in all tract and field events because the technique of different tract and field events varies. General motor ability assists a sportsman in learning the specific skills and forms a solid base over which he can development excellence in various athletic performances.

Review of Related Literature : Lotter (5) studied two movements basic to sport skills, a modified baseball throw, and a foot kick on 105 college men. Individual differences in ability to move an arm or leg quickly were found to be uncorrelated with reaction time for these movements. There was only a moderately high correlation between the reaction ability of the right and left legs and between right and left arms. The reliability of individual differences was high in all of the measures.Huntley (3) selected 161 first, second and third grade students to study the effects of selected activities upon physical fitness and motor ability. Three experimental activity programmes; basic movement, rhythmic activities, and gymnastic were selected. Prior to this each student was tested for agility, body reaction time and hand reaction time. Means, standard deviations, correlated 't' values and significance levels were computed. It was concluded that body reaction time is affected by participation in basic movements and rhythmic activities.

Henery and Whitely (7) found relationship between individual differences in strength, speed and mass in an arm movement. Two experiments were performed on college men in which lateral arm movement of approximately 90 degrees involving about four feet of hand travel, was made at maximum speed. The movement time the effective arm mass and static dynamometer strength of the muscles were measured for each subject. It was concluded that there is no significant correlation between static strength in action, speed and mass in an arm movement.

Methodology : Out of one hundred and twenty seven men athletes who participated in 21st All India National Awards Competition for Physical Fitness, thirty men athletes were selected at random as subjects for this study. The subjects belonged to different States and Union Territories of India. The boarding and lodging arrangements were made in the hostel of L B Stadium, Hyderabad. The ages of the subjects ranged between 15 and 23 years.The physical variables chosen for this study were tests for auditory Hand Reaction time was measured with the help of electronic reaction time apparatus and Speed of Movement was measured using Nelson's Movement Time Test. The tests were administrated to the subjects in the Research Laboratory of Osmania University College of Physical Education,

Hyderabad. Performance of the subjects in selected track and field events, namely 100-meter Run, Long Jump and Shot-put as recorded during the competition was obtained.

The data in selected motor qualities, namely Reaction Time and Speed of Movement were correlated with performance in 100-meter Run, Long Jump and Shot-put, employing Product Moment Method for finding out correlation. The level of significance chosen was .05

Findings :

To compute correlation between performance in 100-metre Run and reaction time and between performances in 100 metre Run, Long Jump and Shot-put with Speed of Movement, the Product Moment Method was used. The co-efficients of correlation thus obtained presented in Tables 1 and 2.

TABLE 1

RELATIONSHIP OF PERFORMANCE IN 100 METRE RUN WITH REACTION TIME

Variables	Co-efficient of Correlation
100 metre Run and Reaction Time	- .0163*

* Not significant at .05 level of confidence. The value of 'r' required to be significant at .05 level with 28 degrees of freedom is 0.361

The analysis of the data clearly reveals that there is no significant relationship between performance in 100 metre Run and Auditory Reaction Time. Therefore, it may be concluded that performance in sprinting events is not markedly affected by the reaction of an organism to an auditory stimulus.

TABLE 2

RELATIONSHIP OF PERFORMANCE IN 100 METRE RUN LONG JUMP AND SHOT-PUT WITH SPEED OF MOVEMENT

Variables	Co-efficient of Correlation
100 metre Run and Speed of Movement	- 0.0163*
Long Jump and Speed of Movement	- 0.3352*
Shot-put and Speed of Movement	- 0.2819*

* Not significant at .05 level of confidence.

The value of 'r' required to be significant at .05 level with 28 degrees of freedom is 0.361.

It is quite evident from Table 2 that speed of movement and performance in 100-metre Run, Long Jump and Shot-put are not significantly retated to each other.

Discussion : The statistical analysis of data shows that Reaction Time (auditory) and Speed of Movement are not significantly related to performance in 100 metre Run. Speed of Movement and performances in Long Jump and Shot-put are also not significantly reated to each other.

Reaction Time is the ability of an individual to respond to a stimulus as quickly as possible, where as Speed of Movement can be defined as the rate at which a person can propel parts of his body through space. Even though these two variables have an important part to play in contributing to better performance in track and field events, yet there is a limit to which these two variables can contribute. The other components of physical and motor fitness, namely Strength (explosive and maximum), Sprinting Speed, Endurance, Agility, Flexibility and Co-ordinative Ability and the technical aspect play more significant role in achieving better performances in track and field events. The Reaction Time depends upon the nerves and nerve processes and its role ends as soon as the individual executes the first movement and thereafter for the entire duration of running other motor qualities continue to affect the performance for much longer duration.Speed of Movement on the other hand, depends upon nerves and muscles for bringing about quick contraction which results in movements. In events like 100 metre Run, and Long Jump, it has a limited role, whereas in Shot-put which is performed from limited area, it is presumed to contribute to better performance. But from the results of this study, it appears that this variable does not seem to contribute to performance in 100 meter Run, Long Jump and Shot-put, therefore the role of other motor qualities and efficient technique may once again be emphasized for the better performance in the events mentioned above.

Conclusion :

Within the limitations of the present study the following conclusions may be drawn :

1. Auditory Reaction Time does not contribute significantly to performance in 100-metre Run.
2. Performance in 100-metre Run, Long Jump and Shot-put are not significantly influenced by Speed of Movement.
3. As Reaction Time and performance in 100-metre Run and Speed of Movement and performances in 100-metre Run, Long Jump and Shot put are not significantly related, therefore, during training sessions greater emphasis should be laid on components of physical and motor fitness and improvement of technique to improve performance in above track and field events.

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A Study on the participation of Girls Athletes of Hyderabad District in Andhra Pradesh during the years 2002 to 2011

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Abstract: Track and field is one of the oldest of sports. Athletic contests were often held in conjunction with religious festivals, as with the Olympic Games of ancient Greece. Track and Field as a modern sport started in England during the 19th century.The Purpose of the present study to find out the participation of girls athletes of Hyderabad District during the year 2002 to 2012 during the A.P.Inter District Athletics Championships at Junior Level. The data was collected from records of the Hyderabad District Athletics Association for participation of Girls at Junior level in the A.P. Inter District Athletics Championships. The Age Group of Junior Girls include 14 Yrs, 16 Yrs, 18 Yrs and 20 Years. It is concluded that the girls participation has decreased a lot in last ten years. It is due to less achievement motivation, interests, desire etc in Sports and games.

Key Words: Track and field, Junior Girls, participation etc.

Introduction:

Track and field is one of the oldest of sports. Athletic contests were often held in conjunction with religious festivals, as with the Olympic Games of ancient Greece. Track and Field as a modern sport started in England during the 19th century. English public school and University Students gave the sport impetus through their inter class meets, or meetings. In 1849 the Royal Military Academy at Sandhurst held the first organized track and field meet of modern times.Not until the 1860s, however did the sport flourish. In 1866 the First English championships were held by the newly formed Amateur Athletic Club, which open the Competition to all gentlemen amateurs, specifically, athletes who received no financial compensation for their efforts. Although meets were held on the North American Continent as early as 1839, track and field first gain popularity in the late 1860s after the formation of the New York Athletic club in 1868.The Amateur Athletic Union of the United States, an association of track and field clubs,was formed in 1887 and has governed the sports in the United States since then.

There is an international consensus that participation in athletics for girls has lot of benefits in physical, psychological and sociological growth of girls. The following factors effect the participation of girls in sports.

1. Biological 2. Hereditary 3. Age 4. Motivation 5. Percieved barriers 6. Attitudes 7. Peer group

8. Family 9. Culture 10. Type of activity 11. Independent mobility

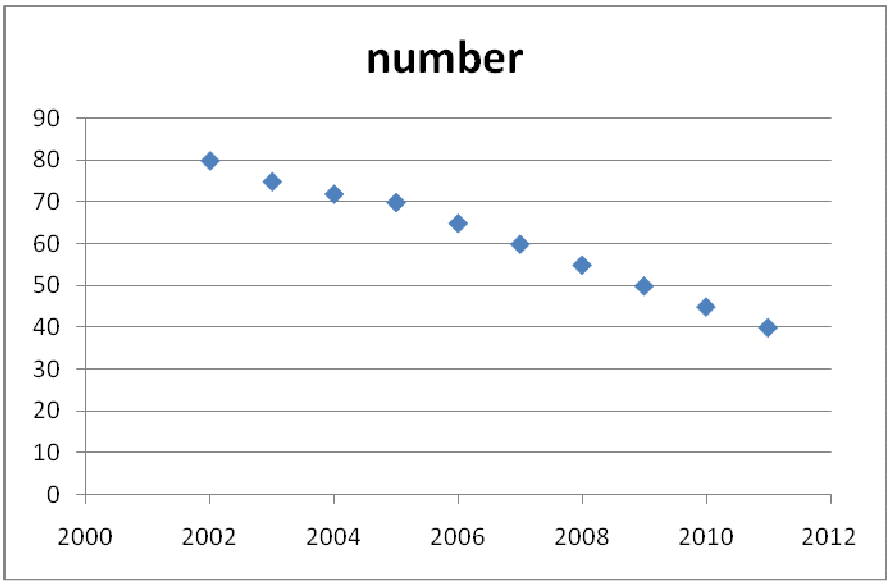
Purpose:

The Purpose of the present study to find out the participation of girls athletes of Hyderabad District during the year 2002 to 2012 during the A.P.Inter District Athletics Championships at Junior Level.

Method: The data was collected from records of the Hyderabad District Athletics Association for participation of Girls at Junior level in the A.P. Inter District Athletics Championships between the year 2002 to 2011. The Age Group of Junior Girls include 14 Yrs, 16 Yrs, 18 Yrs and 20 Years.
Results and Discussion: Table I: Participation of the Girls of Hyderabad District in Athletics during the years from 2002 to 2011 in the A.P.Inter District Junior Athletics Championships

Table - I

Year	Number of Athletes
2002	80
2003	75
2004	72
2005	70
2006	65
2007	60
2008	55
2009	50
2010	45
2011	40



The participation of the Girls in Athletics of Hyderabad District has reduced from 80 in the year 2002 to 40 in the year 2011 due to Lack of interest and attitude towards participation in the Athletics,

Conclusions: It is concluded that the girls participation has decreased a lot in last ten years. It is due to less achievement motivation, interests, desire , attitude etc in Sports and games.

Recommendations: It is recommended that similar studies can be conducted in different sports and games in India to find out the participation of girls students in sports and games.
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A Research Paper in Physical Education the Place of Health Education in the Curriculum

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Introduction:

Health is a multidimensional concept because it is shaped by biological, social, economic and cultural factors. Health is not merely the absence of disease but is influenced and shaped by the access to basic needs like food security; safe water supply, housing, sanitation and health services. Within this broader definition of health, individual health is intrinsically interrelated with social factors. Therefore while individual health is important it is necessary to delineate its linkages with the physical, social and economic environment in which people live. Children's health is an important concern for all societies since it contributes to their overall development. Health, nutrition and education are important for the overall development of the child and these three inputs need to be addressed in a comprehensive manner. While the relationship between health and education is seen more in terms of the role that the latter plays in creating health awareness and health status improvements, what is not adequately represented in the debates is the reciprocal relationship between health and education, especially when it comes to children. Studies have shown that poor health and nutritional status of children is a barrier to attendance and educational attainment and therefore plays a crucial role in enrollment, retention, and completion of school education. (Rana, K & Das, S: 2004; World Bank: 2004).

Within the overall framework both yoga and physical education are seen as routes for achieving not merely physical fitness but for psychosocial development as well. There are broadly four areas that are related to health, yoga and physical education. These are:

1. Personal health, physical and psycho-social development

2. Movement concepts and motor skills

3. Relationships with significant others

4. Healthy communities and environments

In order to address these four areas there is need to identify topics that are covered in various school subjects, co-curricular subjects and also government programs like the school health and mid day meal initiatives. We recognize that the curriculum design for this subject is challenging both in terms of content and evaluation.

While addressing the health needs of children, it is important to examine the available data on causes of mortality and morbidity across the concerned age groups and also the variation it presents across caste/class; gender and regions. This is important for evolving a curriculum and syllabus that addresses the real life situations and experiences of school going children factoring in the variations across states, class/caste and gender. A review of available macro data and studies shows that the major cause of mortality and morbidity among children are a group of disease conditions like diarrhoea, pneumonia and fevers that are related to poor living conditions and lack of access to basic needs. The burden of infant mortality, maternal and child mortality are being borne disproportionately by the schedule

caste and tribes as compared to other caste groups. (IIPS: 2000) An important cause for the above mentioned communicable diseases are the prevalence of under nutrition among children. The NFHS data show that 53 percent of children in rural areas are underweight in India and this varies across states. In some states this figure is as high as 60 percent who are underweight especially among the schedule tribes in the poorer states. The extent of stunted growth of children is also of concern and has consequences for schooling. The age specific data on major causes of mortality shows that low birth weight, respiratory infections and anemia are the major causes of mortality for under-five age group. Respiratory infections and anemia become the major causes for the age group 5-14. Respiratory infections especially tuberculosis becomes the major cause of mortality for females after the age of 15. (Shiva & Gopalan, 2000; p. 162)

In the United Kingdom, school health services are provided through the Local Education Authorities with grants from the Ministry of Education. The National Health Service provides free medical care to all school children. In the former Soviet Union, it was apart of the comprehensive scheme for children from birth until the child completes elementary education. Almost all schools with more than eight hundred children had full time doctors and nurses. In France there is a comprehensive programme for providing school health services until the university level with the required compliment of staff. After the World War II, as a part of its post war reconstruction effort, Japan regarded school health services as an integral part of school education. The school health programme included regular medical check ups, school lunch programme and health education inputs. This programme was a co-operative effort between the school, Ministry of Education, Health Centers and other medical agencies. These countries represent examples where health input is an important constituent of the subject area of health and physical education.

A framework for school health services was put forward in the Report on Post-War Educational Development in India, which was issued by the Central Advisory Board in 1944. This report recommended that school health service should be under the administrative control of the education department. The Bhore Committee that provided the blueprint for health services development in independent India devoted a substantial section on the need and importance of school health programme for school going children. They recommended that the school health programme must be a part of the general health services and should not have dual administrative control viz. between the education and health departments, but should be under the control of the latter. They were of the opinion that a dual administration will result in the duplication of personnel and infrastructure. (GOI: 1946; p.l 11).

The Bhore Committee, which was set up around the time of independence, clearly spelt out the duties of a school health service and even today it represents the most comprehensive view of this programme. According to the committee, the duties of a school health service are: "(1) Health measures, preventive and curative, which include (a) the detection and treatment of defects and (b) the creation and maintenance of a hygienic environment in and around the school, and (2) measures for promoting positive health which should include: (a) the provision of supplementary food to improve the nutritional state of the child, (b) Physical culture through games, sports and gymnastic exercises and through corporate recreational activities and (c) health education through formal instruction and practice of the hygienic mode of life." (GOI: 1946; p 112)

This comprehensive definition is valid even in the present context and therefore the group recommends that it be adopted as a working definition for this subject area. Thus the major components that have to be included in the school health programme are medical care, hygienic school environment, and school lunch, health, yoga and physical education. The School Health Programme has to be a coordinated effort between the education and health departments with the latter providing preventive, curative and promotive services at all levels of schooling. As far as health education was concerned the Bhore Committee opined that: "Formal classroom instruction in health matters should, in respect of the primary school children, be reduced to the minimum. What is essential is that hygienic habits be inculcated." (GOI: 1946; p. 112) This recommendation is valid even today and therefore should be a guideline for evolving syllabus.

In 1958, the school health division was established in the Ministry of Health Welfare in order to strengthen health education programmers for young people. This division served as a resource center for the NCERT, the Department of Education and the Directorate of Adult Education. There have been efforts

to integrate health education into school curricula with the Central Bureau of Health Education playing an important role in collaboration with the NCERT. This integrated perspective to school health provided a synergistic approach between health and education, rather than seen as separate programmers. This integrated vision was subsequently lost both conceptually and in practice. Instead of the school health programme being integrated with the curriculum of health and physical education it became a 'vertical' programme of the Health Ministry while teachers in schools dealt with health education and physical education separately. A review of the policy and curricular documents of the Ministry of Education shows that up to the late 1960s there was a comprehensive approach to the subject than during the later years where it gets fragmented into physical education and health education with little or no reference to the necessity of school lunch or medical check ups. An intensive pilot project was undertaken by the National Institute of Health and Family Welfare (NIHFW) and it came up with a number of suggestions. It stressed on the need for school health education to be intensified, sanitation in schools to be improved, nutritional programmes for the children and medical services to be provided.

Conventional thinking places undue emphasis on the role of health education that stresses on behavioral change as a means to improving the health status of people. Health education is not merely giving information about diseases, their transmission and prevention but needs to relate it to the kind of health problems that children and their communities face. The causes of these diseases are not merely biological but have a strong social and environmental dimension as well. Given the multi-causal understanding of health, many of the health education concepts are being dealt by various subjects in the school curriculum that includes environmental studies, language, social sciences, science, and physical education, yoga and population education. This then calls for greater interaction and coordination between the subject teachers that cover topics concerned with health and physical education. It also needs to be graded according to the developmental needs and intellectual ability at different levels of schooling. What is important and significant to note is that while this subject area was given the status of a compulsory subject, in real terms it is treated as an area that is less important than the core subjects. As a result neither physical education nor health has been treated as an important subject nor have innovative methods been incorporated for transacting the curriculum. The experience of health education has been disappointing because there is a lot of information being given regarding the 'dos and don'ts' in matters related to food intake, water and sanitation. The messages are universal and do not factor in the varied socio-economic and cultural contexts in which children live. For example, there is a substantial portion of syllabus in health education at the middle and higher levels to anatomy, physiology and environmental hygiene which lays excessive responsibility on individuals rather than the social aspects that determine health. This kind of an approach assumes that children are not aware and need to be educated about how to promote health and there fore very little of real life experiences are incorporated into this area which would make the process a more joyful and meaningful experience for children.

In recent times a great deal of importance has been given to adolescent health in school curricula and been dealt with as a co-curricular area. The thrust for this area has come from the Reproductive and Child Health and the HIV/AIDS programmes and a number of modules have been tried and tested for creating awareness among adolescents by NGOs. The group strongly recommends that the auricular area must guide the scope and determine the appropriateness of the design, materials and pedagogy that are prescribed by health programmes as interventions in the school curriculum. This is critical because several of these programmes are tied to external funding and decisions are made at the central and state levels.

Apart from adolescent health a comprehensive mental health programme should be part of the school health programme that includes health instruction at all grade levels, easily accessible health services, a healthful, nurturing and safe environment, and interaction with families and community organizations. The aim of school-based interventions is to provide an experience that will strengthen the children's coping abilities to counter environmental stress and disadvantages with which they have had to cope in growing up.3 There are a few initiatives that have introduced programmes for stress management in children and early identification of emotional and mental difficulties in schools but these are not part of the curriculum of 'Health and Physical Education'. An example of this is the VIMHANS project in urban and rural schools in Delhi.

There is a growing recognition of the examination related stress and its effect on children. These concerns are complex and need to be addressed in different forums and levels. While it is important to

identify and provide skills and support for children to deal with stress, it is necessary to recognize that stress cannot be dealt by only dealing with children, parents and teachers. What is required is the reform of the examination system, which is an administrative and political decision. There are additional inputs being made under the National Population Education Programme, one of the major thrust being Adolescent Reproductive and Sexual Health. These concerns have been encapsulated in an emerging curriculum. Although efforts are on to ensure School-based mental health interventions may be environment-centred or child-centred and one may lead to the other. The school environment refers to the "living and learning" climate of the school. Environment-centred approaches aim at improveng the educational climate and providing opportunities for the child to connect with a healthy school programme where they will find healthy role models. This positive mental health atmosphere includes the structure of the school day, the structuring of playground activities, the physical structure of the school and the classroom decoration. The Child Development and Adolescent Health Centre of VIMHANS, New Delhi has initiated a project for a comprehensive school mental health programme in urban and rural government schools in and around Delhi. Government of India, Director General of Health Services and WHO sponsor this project and is implemented in schools. It is a comprehensive project because it addresses the needs of children, adolescents and their caregivers (Vimhans: 2004). This is an important aspect of school health and this is an innovative programme that needs to be studied and documented in some detail. This center has also been running programmes to deal with exam-induced stress among school children, which also needs to be reviewed. It is important to explore similar initiatives in other states where other institutions may have also addressed these concerns.Based on the conceptual framework the National Focus Group committee has worked towards evolving the overall and specific objectives for this subject area. The subject shall continue to be a compulsory subject from primary to secondary stages, and as an optional subject at the higher secondary stage. However, it needs to be given equal status with other subjects, a status that it is not being given presently. In order to transact the curriculum effectively it is essential to ensure that the minimum essential physical space and material equipments are available in every school, and that the doctors and medical personnel visit the school regularly. Teacher preparation for this area needs well-planned and concerted efforts. This subject area, consisting of health education, physical education and yoga must be suitably integrated with the elementary and secondary pre-service teacher education courses. The potential of existing physical education and yoga training institutes may be adequately reviewed and utilized. Similarly there needs to be a review and formulation of appropriate syllabi and teacher training for the transaction of yoga in schools. It is also essential to ensure that these concerns are integrated in the activities of National Service Scheme(N.S.S.), Scouts and Guides and National Cadet Corps (N.C.C.).

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A Comparative study of Agility among Basket Ball and Hand Ball Women Players of Osmania University

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Introduction: In Sports agility is often defined in terms of an individual sport, due to it being an integration of many components each used differently .Agility is the ability to change the body's position efficiently.

Basketball is a team sport the objective being to shoot a ball through a basket horizontally positioned to score points while following a set of rules. Usually, two teams of five players play on a marked rectangular court with a basket at each width end. Basketball is one of the world's most popular and widely viewed sports.In early December 1891, Dr. James Naismith a physical education professor and instructor at the International Young Men's Christian Association Training School(YMCA) (today, Springfield College) in Springfield, Massachusetts, USA), was trying to keep his gym class active on a rainy day. He sought a vigorous indoor game to keep his students occupied and at proper l

Hand Ball is a team sport where two teams of seven players each (six players and a goal keeper) pass and bounce a ball trying to throw it in the goal of the opposing team. Hand ball game has origins from ancient Greece. The Team hand ball game as we know it today was formed by the end of the19th century in Northern Europe. The Dane Holger Nielsen drew up the rules for the modern hand ball. Hand ball is played on a court 40 Meters long by20 meters wide with a dividing line in the middle and a goal in the center or either end.

STATEMENT OF PROBLEM:

To find out the agility among Basket Ball and Hand Ball Players of Osmania University.

SAMPLE: For the present study 20 Female Basket Ball Players and 20 Female Hand Ball Players are taken for the study of Osmania University for the year 2011-12.

TOOL:

To measure the agility the Shuttle Run is used.

Delimitations: The study is delimited to 20 Female Basket Ball and 20 Female Hand Ball Players of Osmania University, Hyderabad and Shuttle Run of AAPHER Youth fitness Test are taken for study.

Procedure of Data Collection:

SHUTTLE RUN

Purpose: To measure the agility.

Facilities and Equipment: Two lines parallel to each other are marked on the floor thirty feet apart. Since the student must over run both of these lines, it is necessary to have several feet more of floor space at either end. A block of wood 2 by 2 by 4 inches and a stopwatch are needed.

Procedure: The subject stands at one of the lines with the 2 blocks at the other lines. On the signal to start, the student runs to the blocks, takes one and returns to the starting line, and places the block behind that line. He then returns to the second block, which is carried across the starting line on the way back. Two students can run at the same time if 2 timer are available, or if 1 test administrator has a split second timer, and of course, if there are 2 sets of blocks. Two trials are permitted. If the student starts first at one line and then at the other, it is not necessary to return the blocks after each race. Sneakers should be worn or the students may run bare footed.

Instructions: On the signal "Go" run as fast as you can to the next line and pick up a block. You should return the block over the second line where you place it on the floor. Do not throw it. Return for the second block, and this time you may run across the starting line as fast as you can without placing the blocks on the floor.

Scoring : The score is the elapsed time recorded in seconds and tenth of seconds for the better of 2 trials.

Testing Personnel : One trained tester can administer this test and record the score and time. If he has a split-second timer, he may have two students running at the same time. If two regular stop watches are available. Two timers can be used.

Results and Discussion:

Table – I

Test	GROUP	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Shuttle Run	BasketBall Players	20	15.30	0.57	0.18	2.54	38.00	0.02
Shuttle Run	HandBall Players	20	16.58	1.21	0.38			

Table I found that Basket Ball are having good agility compare to Hand Ball Players because the Basket Ball are involved more in short running and agility type of Movements in game.

Conclusions:It is concluded that Basket Ball female Players are having good agility compare to Hand Ball female Players.

Recommendations: It is recommended that Basket Ball and Hand Ball Players must be given good training for speed and agility for the development of performance in sports. Similar studies can be conducted on different sports and games.

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History of Marathon Race

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Introduction: Track and field is one of the oldest of sports. Athletic contests were often held in conjunction with religious festivals, as with the Olympic Games of ancient Greece.The **marathon** is a long-distance running event with an official distance of 42.195 kilometres (26 miles and 385 yards) that is usually run as a road race. The event was instituted in commemoration of the fabled run of the Greek soldier Pheidippides a messenger from the Battle of Marathon (the namesake of the race) to AthensThe marathon was one of the original modern Olympic events in 1896, though the distance did not become standardized until 1921. More than 500 marathons are held throughout the world each year, with the vast majority of competitors being recreational athletes.

The modern Athens Marathon commemorates the run of the soldier Pheidippides from a battlefield at the site of the town of Marathon, Greece, to Athens in 490 B.C., bringing news of a Greek victory over the Persians. Legend has it that Pheidippides delivered the momentous message "Niki!" ("victory"), then collapsed and died, thereby setting a precedent for dramatic conclusions to the marathon. When the modern Olympic games were inaugurated in 1896 in Greece, the legend of Pheidippides was revived by a 24.85 mile (40,000 meters) run from Marathon Bridge to Olympic stadium in Athens. Traditionally the final event in the Olympics, the first organized marathon on April 10, 1896 was especially important to all Greeks. Greece was hosting those first modern Olympic Games. The Greeks had yet to win a medal, and had one final chance to bring glory to their nation. Twenty-five runners assembled on Marathon Bridge. The starter mumbled a few words and fired the gun, and the race was on. "The excitement of the crowd waiting at the finish line at the newly constructed replica of Athens' ancient stadium was beyond description" writes the Greek historian Quercetani. Spiridon Louis, a Greek postal worker from the village of Marusi and veteran of several long military marches, crossed the finish line a full seven minutes ahead of the pack. His time was 2 hours, 58 minutes, 50 seconds for the 40 kilometer distance (average pace of 7:11 minutes per mile). When it was all over nine runners finished, 8 of them Greeks. The host nation was ecstatic, and the marathon was born

Pheidippides giving word of victory at the Battle of Marathon to the people of Athens

Discussion:

When the idea of a modern Olympics became a reality at the end of the 19th century, the initiators and organizers were looking for a great popularizing event, recalling the ancient glory of Greece. The idea of organizing a marathon race came from Michel Bréal, who wanted the event to feature in the first modern Olympic Games in 1896 in Athens. This idea was heavily supported by Pierre de Coubertin, the founder of the modern Olympics, as well as the Greeks. The Greeks staged a selection race for the Olympic marathon on 10 March 1896 that was won by Charilaos Vasilakos in 3 hours and 18 minutes (with the future winner of the introductory Olympic Games marathon coming in fifth). The winner of the first Olympic Marathon, on 10 April 1896 (a male-only race), was Spyridon "Spyros" Louis, a Greek water-carrier. He won at the Olympics in 2 hours 58 minutes and 50 seconds.

The women's marathon was introduced at the 1984 Summer Olympics (Los Angeles, USA) and was won by Joan Benoit of the United States with a time of 2 hours 24 minutes and 52 secondsSince the modern games were founded, it has become a tradition for the men's Olympic marathon to be the last event of the athletics calendar, with a finish inside the Olympic stadium, often within hours of, or even incorporated into, the closing ceremonies. The marathon of the 2004 Summer Olympics revived the traditional route from Marathon to Athens ending at Panathinaiko Stadium, the venue for the 1896 Summer Olympics.

The current world record time for men over the distance is 2 hours 3 minutes and 38 seconds, set in the Berlin Marathon by Patrick Makau of Kenya on 25 September 2011, an improvement of 21 seconds over the previous record also set in the Berlin Marathon by Haile Gebrselassie of Ethiopia on 28 September 2008.The world record for women was set by Paula Radcliffe of Great Britain in the London Marathon on 13 April 2003, in 2 hours 15 minutes and 25 seconds

Conclusions:

Fitness and dietary experts say marathons increasingly are the exercise equivalent of crash diets, with similarly disappointing results. There's no evidence that running a marathon leads to lasting weight loss, marathon researchers say.The benefits of marathon running include decreased risks of hypertension, high cholesterol and diabetes. People who run regularly have been found to have lower rates of all-cause mortality and disability.But marathon running is not risk-free, the 90 percent athletes are prone to injury.It makes it easy to stay fit. It’s a fun way to spend some time and those who run consistently can maintain a healthy weight and fitness level. This is probably the biggest of benefits of marathon running. You can do it anywhere. You don’t have to worry about when the gym will be open or if the kids will sleep in long enough to leave you alone for some exercise time in the morning. You can grab a jog any time of day and just about anywhere you can walk. You can control your blood pressure. Running is an excellent way to keep blood pressure low and stabilized, another big one on the list of benefits of marathon running. You’ll have powerful lungs, and it keeps you from smoking. It’s hard to be a smoker who can run a marathon, so gaining lung strength keeps a lid on the smokes for most people.You can’t beat the rush afterwards. Most runners find the adrenaline rush to be something that keeps them coming back. It’s a natural high that’s addictive. It will keep your diet in check. This is one of the benefits of marathon running that many people find very valuable because it’s hard to keep a proper diet. Runners don’t do well on high fat diets because it makes them sluggish. Eating a healthy diet comes easier. You have a chance to help others. Probably the most important on the list of benefits of marathon running, many marathons fundraise for good causes, so running in them supports their causes tremendously.You lessen your risk for a heart attack. People who run more than 50 miles per week lessen their risk of a heart attack, more so the older you are. The famous Marathons are London Marathon, Boston Marathon, Beijing Marathon, Mumbai Marathon etc.

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A Study On The Physical Fitness Among Chess And Yoga Players Of Hyderabad

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Abstract: Physical fitness comprises two related concepts: general fitness a state of health and well-being, and specific fitness a task-oriented definition based on the ability to perform specific aspects of sports or occupations. Physical fitness is generally achieved through correct nutrition, exercise, and enough rest.Chess is a two-player board game played on a chessboard, a square-checkered board with 64 squares arranged in an eight-by-eight grid. It is one of the world's most popular games, played by millions of people worldwide at home, in clubs online, by correspondence, and in tournaments. Yoga is a physical, mental, and spiritual discipline, originating in ancient India.The goal of yoga, or of the person practicing yoga, is the attainment of a state of perfect spiritual insight and tranquility while meditating on the Hindu concept of divinity. The Sanskrit word yoga has the literal meaning of "yoke", from a root yuj meaning to join, to unite, or to attach.The aim of the present study was to study the difference in Physical Fitness among Chess and Yoga Players of Osmania University. 15 Male Chess Players and 15 Male Yoga Players between the age group of 19 Years to 21 Years of Hyderabad were taken for the Study. The AAPHER Youth Fitness Test consisting of 6 Items of 50 yard run, standing broad jump, pull ups,situps,shuttle run and 600 yard were used for the Study. It was found that Yoga Players have good Physical Fitness compare to Chess Players. This study shows that the Yoga Players are good because they do good Physical Training compare to Chess Players they are not involved minimum physical exercises daily.

Key words:Physical fitness, yoga, chess, Physical training etc.

Introduction:Physical Fitness is a level of health in which you have muscular endurance, muscular strength,flexibility, cardiovascular endurance and lean body composition. Physical fitness is achieved by the regular movement of muscles through a variety of exercises. Maintaining Physical Fitness is a life-long process and should always be part of your lifestyle. People with disabilities can also reach a measure of Physical fitness by doing exercises appropriate for their conditions.

Chess is a two-player board game played on a chessboard, a square-checkered board with 64 squares arranged in an eight-by-eight grid. It is one of the world's most popular games, played by millions of people worldwide at home, in clubs, online, by correspondence, and in tournaments.Each player begins the game with sixteen pieces: one king, one queen, two rooks, two knights, two bishops, and eight pawns each of these types of pieces moving differently. Pieces are used to attack and capture the opponent's pieces. The object of the game is to checkmate the opponent's king by placing it under threat of capture ("check") which cannot be avoided. In addition to checkmate, the game can be won by the voluntary resignation of one's opponent, which may occur when too much material is lost, or if checkmate appears unavoidable. **Yoga** is a physical, mental, and spiritual discipline, originating in ancient India.The goal of yoga, or of the person practicing yoga, is the attainment of a state of perfect spiritual insight and tranquility .The Sanskrit word *yoga* has the literal meaning of "yoke", from a root *yuj* meaning to join, to unite, or to attach. As a term for a system of abstract meditation or mental abstraction it was introduced by Patañjali in the 2nd century BC. Someone who practices yoga or follows the yoga philosophy with a high level of commitment is called a yogi or yogini

STATEMENT OF PROBLEM:

To find out the Physical fitness among Chess and Yoga Players of Hyderabad District

SAMPLE:

For the present study 15 Male Yoga and 15 Male Chess Players were taken for the study of Hyderabad

TOOL: To measure the Physical fitness the AAPHER Youth fitness test are used for the study.

Procedure of Data Collection: The AAPHER Youth Fitness Test consisting of 6 items i.e. pull-ups, situps, standing broad jump, shuttle run, 50 Yard Dash and 600 Yard Run/walk were used for study.

RESULTS AND DISCUSSION: Table – I

Test Items	GROUP	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
50 Y	Yoga	15	8.01	0.23	0.07	-1.80	28.00	0.09
	Chess	15	8.29	0.45	0.14			
600 Yard	Yoga	15	1.64	0.19	0.06	-0.36	28.00	0.72
	Chess	15	1.68	0.20	0.06			
SBJ	Yoga	15	2.24	0.11	0.04	3.62	28.00	0.00
	Chess	15	2.15	0.05	0.02			
Pull Ups	Yoga	15	12.00	0.94	0.30	-4.71	28.00	0.00
	Chess	15	8.20	1.14	0.36			
Shuttle Run	Yoga	15	15.48	1.20	0.37	2.53	28.00	0.02
	Chess	15	14.10	0.56	0.17			
Sit Ups	Yoga	15	26.40	2.63	0.83	4.35	28.00	0.00
	Chess	15	20.80	2.92	0.92			

In Table I it was found Yoga Players are good in 50 Yard Dash, 600 Yard Run, Standing Broad Jump, Pull Ups and situps and Chess Players are good in Shuttle run

Conclusions:It is concluded that Yoga Players are having good Physical fitness to Chess Players.

Recommendations: It is recommended that Yoga and Chess Players must be given Physical fitness training in the ground to achieve the good physical fitness. Similar Studies can be conducted on females and also other sports and games.

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A Comparative study of Speed among Kabbadi and Kho Kho Players of Osmania University

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Abstract:
Kabbadi derived from two words Kai means hand pidi means catch. Two Teams occupy opposite halves of a field and take turns sending the raider into the other half, in order to win points by tackling members of the opposing team, the raider then tries to return to his own half , holding his breath chanting “kabbadi, kabbadi” during the whole raid. Kho Kho played by team of twelve players who try to avoid being touched by members of the opposing team, only nine players of the team enter the field.Speed is to do motor actions under given conditions in minimum of time...The Purpose of the the present study to find out the level of Speed among Male Kabbadi and Male Kho Kho Players of Hyderabad in India.The sample for the present study is Male Twenty Kabbadi and Male Twenty Kho Kho Players from various colleges of Osmania University in India. The subjects of the study between the age group of 19 Years to 22 Years. The data will be collected separately from Kabbadi and Kho Kho Players. The Subjects will be tested in 50 m for speed.This study shows that Kho Kho Players are having the good speed compare to the kabbadi players.It is concluded that Male Kho Kho Players are having good speed compare to Male Kabbadi Players.

Key Words: Speed, kabbadi etc

Introduction:

Speed like Strength and endurance is a conditional ability. Speed ability primarily signifies the ability to execute motor movements with high speed. Speed is the performance prerequisite to do motor actions under given conditions in minimum of time. Speed abilities trainable to a very limited extent due to its marked dependence on the functioning of the central nervous system.Endurance like strength is a conditional ability. It is primarily determined by energy liberation process. The ability of the human body to maintain a certain level of energy production forms the physiological basis of endurance. Endurance is directly or indirectly of high importance in all sports.

Kabbadi derived from two words Kai means hand pidi means catch.Kabbadi is a South Asian team sport. In Two teams occupy opposite halves of a field and take turns sending a "raider" into the other half, in order to win points by tackling members of the opposing team; the raider then tries to return to his own half, holding his breath and chanting "kabaddi, kabaddi, kabaddi" during the whole raid.Raider must not cross the lobby unless he touches any of his uponent.If he does so then he will be declared as out.Each time when a player is out, the opposing team earns a point. A team scores a bonus of two points, called a *loan*, if the entire opposing team is declared out. At the end of the game, the team with the most points wins.

Kabbadi Players in action.

Kho Kho is an Indian and Pakistani sport played by teams of twelve players who try to avoid being touched by members of the opposing team, only 9 players of the team enter the field. Kho Kho and Kabaddi, in spite of popular misconception, are not the same. Each team consists of 12 Players but only 9 Players take the field.Kho kho playground is rectangular. It is 29 meters in length and 16 meters in width. There are two rectangles at the end. One side of the rectangle is 16 meter and the other side is 2.75 meters. In the middle of these two rectangles, there shall be two wooden poles. The central lane is 907.50 cm long and 30 cm X 30 cm on the lane.

Kho Kho Match in progress.

Significance: The present study will bring the true facts of the level of Speed among Male Kabbadi and Male Kho Kho Players of Hyderabad in India.

Experimental Design: The sample for the present study is Male Twenty Kabbadi and Male Twenty Kho Kho Players from various colleges of Osmania University in India. The subjects of the study between the age group of 19 Years to 22 Years. The data will be collected separately from Kabbadi and Kho Kho Players. The Subjects will be tested in 50 m for speed .

Results: This study shows that Kho Kho Players are having the good speed compare to the kabbadi players.

Discussion: Table - I

	GROUP	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
50 M	Kho Kho Players	20	7.41	0.24	0.08	-1.81	18.00	0.09
50 M	Kabbadi Players	20	7.69	0.46	0.15			

In Table No.1 for 50 M Run to assess the speed the Mean score of Kho Kho Players is 7.41 and Kabbadi Players are 7.69. The average speed of Kho Kho Players is 7.41 Sec. compare to Kabbadi Players is 7.69 sec. There is a difference of 0.28 Sec between Kho Kho Players and Kabbadi Players.

Conclusions: It is concluded that due to the Kho Kho Players are having good Speed compare to Kabbadi Players.

Suggestions: It is suggested that Kho Kho and Kabbadi Players must be given training for speed for the development of their performance.

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Anthropometric And Nutritional Profile Of Selected Volleyball Players"

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Introduction

Provision of sufficient nutrients and energy to meet metabolic needs for optimal functioning of the body constitutes what one refers to as a 'nutritionally adequate' diet. In the development and maintenance of top physical performance, diet plays a vital role, a fact recognized long before nutrition became a science of its own. Despite intense interest and effort in research related to optimal performance, the dietary regime to support such achievements requires a level of nutrition knowledge and practice that may not be present. Factors effecting requirements for and availability of nutrients include physical and nutritional status, age and genetic make-up of individuals. These are further compounded by man's ability to adapt according to his needs, thus making effective analysis of the relationship of diet to optimal performance much more difficult than it has been envisaged.Volleyball is a sport that alternates aerobic and anaerobic activity, thus requiring muscular strength and power capability. The athlete must possess flexibility, strength, power, agility and aerobic fitness to practice it. In the light of the above, the objective of the present study was to assess the anthropometric and nutritional profile of selected volleyball athletes in the city of Guntur.

Materials and Methods

Selection of Sample:

The study was conducted on volleyball players of Guntur city, belonging to the age group of 18-22 years. The samples were selected purposively for the study.The nutritional status of subjects was assessed by nutritional anthropometry, hemoglobin estimation and diet survey. The anthropometric data were further used for computing BMI, by the formula expressed as the ratio of weight in kgs to height in square meters. Further individuals were classified into different classes based on WHO (2002) classification for Asian adults. The abdominal obesity was judged by waist to hip ratio.

Diet survey was conducted to elicit the information regarding dietary habits, through 24 hours dietary recall method was employed and the nutrient intake was computed for all the subjects and compared with RDA (ICMR, 2004). The raw food equivalents of cooked foods were computed from the standardized cups.

Blood Hb levels were estimated using Sahil's hemoglobinometre as it was convent to use in the stadium premises and their mean Hb levels were compared with WHO standards.

Results and Discussion

Anthropometric Profile:

The anthropometric measurements such as Height, Weight, Waist circumference, Hip circumference, Waist-to-hip ratio, mid upper arm circumference (cm), Hemoglobin of the selected Volleyball Players are given in table 1. The mean height of the volleyball was 183.34 cms. And mean body weight was 70.21 kg with a mean BMI of 20.82.

Table No1: Mean anthropometric and bio chemical measurement of subjects.

Anthropometric and Hemoglobin parameters	Mean
Height (cm)	183.34
Weight (kg)	70.21
BMI	20.82
Waist circumference (cm)	79.60
Hip Circumference (cm)	90.65
Waist-to-hip ratio	0.82
Mid upper arm circumference (cm)	27.90
Hemoglobin (g/100ml)	12.88

The waist (79.6 cm) and hip circumference (90.65 cm), waist to hip ratio (0.82) and mid upper arm circumference (27.9 cm) were within the normal range which may be because, the volleyball players need to develop strength and good body positioning to withstand contact in game and hence gaining lean body mass is crucial for volleyball players. Fleck (1983) mentioned that among all sports volleyball, Basketball and Rowing players have lean body mass higher than the athletes of other sports modality. The mean hemoglobin level of volleyball players was 12.88 g/100ml which was considered as less because; the hemoglobin level of a sportsmen should be > 14 g/100 ml (Nickerson et al, 1990). Care has to be taken to overcome this deficiency because iron deficiency anemia impairs work capacity and results in reduced resistance to infection. It was also found that many athletes have iron deficiency anemia and suggested systematic screening and adequate treatment.

The data on classification of volleyball players based on BMI is presented in table II, and it is clearly noticed that around 66 percent of the players were in the normal category (BMI 18.5 – 24.9). About 19 percent were under weight (BMI <18.5) this may be due to the adolescent age group. Around 9 percent of them were over weight i.e., BMI >25 percent, followed by obese grade I (BMI >30) who were around 6 percent. None of them were found to be in obese II group (BMI >35).

Table II: Distribution of subjects according to body mass index (N=36)

BMI Classes	Presumptive Diagnosis	Frequency	Percentage
< 18.5	Under Weight	6	18.75
18.5 – 24.9	Ideal BMI	21	65.62
>25.0 – 29.9	Over Weight	3	9.37
>30.0 – 34.9	Obese grade I	2	6.25
>35.0 – 39.9	Obese grade II	-	-

Body Mass Indix (WHO, 2002) >40.0 Grade III

Our Indian athletes face several barriers to achieve a good nutritional status mainly because of cereal based and vegetarian food habits when compared with non vegetarian food habits of other western countries. Other reasons may be increase in price of food, tonic, sports supplements and medicines and also due to lack of nutrition knowledge, dietary extremism, poor practical skills in choosing or preparing meals, athletics are lagging behind in building sound endurance capacity. Athletes with less than optimal

nutritional status results in decreased endurance capacity and hence compromise their physical performance.

NUTRIENT INTAKE:

Mean food adequacy of the Volleyball players are presented in the table III. The habit of eating fruits, eggs and sweets every day hence, adequacy was more than 100 percent for pulses, fruits, fats and oils, sugars and egg. Mean intake of cereals was 439g which was below the SDA (Suggested Dietary Allowance) level which is 550g with mean percent adequacy of 80 percent.

Most of the players believed that milk, fruits and non-vegetarian foods were proper food choices for increasing their strength rather than eating vegetables (10.85g and 83.62g) was below the SDA level (150g and 200g) with mean percent adequacy of around 7 percent and 42 percent respectively. The mean percent adequacy for roots the tubers was around 68 percent with mean intake of 102g which was below the SDA level (150g). The inadequate consumption of food groups by the Volleyball players in the present study may be due to lack of awareness about SDA.

The sportsperson's diet should be high in carbohydrate, low in fat and moderate in protein. Around 60-70 percent of total energy should be derived from carbohydrates. 25-30 percent from fat and 10-15 percent from protein.

Volleyball players in the present study, had a marginal nutrient intake of energy (table IV) as the diet provided 51 percent of calories from carbohydrate, 10 percent from protein and 35 percent from fat, which adhere closely to the recommendations of Satyanarayana et al. (1985). The percent of total energy from fat were higher than the recommendations where as carbohydrates and protein were lower than the recommendations, this may be due to excess consumption of fats and oils and also inadequate consumption of milk and animal foods by the subjects as observed in the table III.

The mean percent of adequacy of players for niacin and iron was less than 50 percent while thiamine, riboflavin and calcium was less than 80 percent when compared to the intake of folic acid, potassium and zinc which was more than 90 percent. This may be because of low intake of green leafy vegetables and other vegetables (Table III). More than 90 percent adequacy of folic acid, potassium and zinc may be due to regular consumption of foods like fruits, curds, cereals and pulses.

Table III : Mean food adequacy of Volleyball players (N=36)

Food Groups (g)	SDA	Intake	% Adequacy
Cereals	550	438.83	79.78
Pulses	40	79.09	197.72
Green Leafy Vegetables	150	10.85	7.23
Other Vegetables	200	83.62	41.81
Roots and Tubers	150	101.54	67.69
Fruits	150	135.58	90.38
Milk	750	566.54	75.50
Fats and Oils	50	90	180
Nuts and Oil Seeds	NA	46.93	--
Sugars	80	95.70	119.62
Egg	100	98.75	98.75
Animal Foods	250	182.22	72.80

*** SDA** (Suggested Dietary Allowance) **Source:** Satyanarayana et al. (1985)

Table IV: Mean percent adequacy of nutrients by subjects (N=36)

Nutrients	RDA	Actual Intake	% Adequacy
Energy (kcal/d)	4320	3546	82
Protein (g/d)	100-120	95	86.36
Fat (g/d)	NA	140.83	--
Carbohydrates (g/d)	250-1200	452.27	62.38
Retinal (ug/d)	900	747.12	83.01
Ascorbic acid (mg/d)	100-120	71.35	64.86
Folic acid (ug/d)	400	385.12	96.28
Thiamine (mg)	3-4	2.57	1.42
Riboflavin (mg)	3-4	2.3	65.71
Niacin (mg)	40-50	22.35	49.60
Zinc (mg/d)	11	10.1	91.81
Iron (mg/d)	50-75	26.11	41.77
Potassium (mg/d)	2000	1935.56	96.77
Calcium (mg/d)	1000	794.58	79.45

*RDA-Recommended Dietary Allowance.

Low intake of iron by athletes was reported by Tingler and Schiller (1989).Sohni and Singh (1997) observed inadequate nutrient intake of riboflavin (67.71%) and iron (41.77%) by sportsmen and women.

The other limiting nutrient observed was niacin in which the diet of 6 subjects did not meet the RDA. The role of niacin, as a control agent that aids in converting protein to glucose and oxidizes glucose to release controlled energy, makes it an important component in the diet of sportsmen.

Supplementation is necessary only if the diet is unbalanced, however, judging from the overall results, the deficiency was probably due to inadequate intake of food sources rich in niacin by some subjects during the centralized training period. It was also interesting to note that the percentage contribution of protein, fat and carbohydrate to total energy intake of the subjects corresponds well to healthy eating guidelines of 10-15% for protein, 25-30% for fat and 60-70% for carbohydrates.

Summary and Conclusion

The study revealed that, most of the volleyball players in the present study have tall, muscular, well balanced physique however; the players had varying anthropometric variables depending on the genetic variation and most of them were having BMI ranged between 18.5-22.9. Volleyball players were having average hemoglobin level. They were in the habit of consuming high calorie foods.

With regard to foods and nutrient intake it can be concluded that, all the volleyball players were having marginal food intake and the adequacy was very less for green leafy vegetables and other vegetables. Whereas it was comparatively high for pulses, fruits, fats and oils, sugars and egg. Therefore, the mean percent adequacy of players for niacin and iron was less than 50% while thiamine, riboflavin and calcium was less than 80% when compared to the intake of folic acid, potassium and zinc which was more than 90%, it may be due to regular consumption of foods like fruits, curds, cereals and pulses. Low intake of food revealed that there is a need to improve the dietary practices of volleyball players.

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Survey Of Physical Fitness Among School Boys Of Rayalaseema Region Of Andhra Pradesh And The Influence Of Intensive Physical Activity Programme On Them

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ABSTRACT: Health and physical fitness have a vital role in the life of men from time immemorial. The progress of the Nation lies in the hands of the people, who are healthy and physically fit. Every individual should develop physical fitness for a happy and effective living. In order to get physical fitness one has to involve in physical activities. The main objective of the present study was to find out the status of physical fitness among school going boys of Rayalaseema region of Andhra Pradesh. The result of the study indicated that there was significant difference an selected physical fitness variables due to the influence of intensive physical certificates programme when compared with control group.

INTRODUCTION: Physical activity is essential for the development of wholesome personality of a child which would depend upon the opportunities provided for wholesome development of the mental, physical, social and spiritual aspects. Hence a well organized and properly administered physical education programme for school children is very essential. Physical activity throughout the ages has been acclaimed for health and recreation. It provided fun and enjoyment. It also provided youthful exuberance and the elderly care. Physical activity and movements are as old as human existence. It played numerous roles from struggle for existence to struggle for excellence. Health, Fitness and performance are poorly correlated phenomena. Health is generally defined as the freedom from disease, fitness strictly relates to a man's ability to meet the demands of his environment and excellence in performance.

STATEMENT OF THE PROBLEM: The purpose of the study was to Survey the Physical Fitness among School boys of Rayalaseema region of Andhra Pradesh and thereafter to find out the Influence of Intensive Physical Activities Programme on them.

Selection of subjects: The aim of this study was to survey of physical fitness among school boys of Rayalaseema Region of Andhra Pradesh and the influence of intensive physical activities programme on them. The Rayalaseema Region of Andhra Pradesh consists of 4 districts namely, Chitoor, Karnool, Anadhapur and Kadapa. To achieve the purpose of the study 35 high schools were selected at random keeping in view the strength of students on roll. From the total population of 15,000 belongs to 35 schools, only 3030 subjects were drawn randomly.

Selection of Variables : Physical fitness is an essential factor for performance, and it requires the ideal combination of numerous abilities which are to be developed to a certain extent. **Fleishman** (1964) was identified the dimension underlying human performance in two categories. They are 1. Physical proficiency (fitness) area and 2. the psychomotor domain. The factors of strength, power, speed, agility, co-ordination, cardio vascular endurance and flexibility constituted the physical proficiency area. A more limited phase of physical fitness is 'motor fitness'. It is gauged by performance and this performance is based on a composite of many variables. The most commonly mentioned fitness, variables are strength, endurance, power, speed, agility, balance, flexibility and stamina.

Table -1ANALYSIS OF VARIANCE OF THE MEAN DIFFERENCE OF SUBJECTS BELONGING TO DIFFERENT AGE GROUPS (12 to 15 years)

Sl. No.	Test Items	Sources of Variance	df	Sum of Square	Mean Square Variance	'F' Ratio
1	Pull-Ups	Between Within	3 3026	1122.49 22764.38	374.16 7.52	49.74*
2	Bent Knee Sit-Ups	Between Within	3 3026	2362.12 61184.06	787.37 20.22	38.94*
3	Shuttle-Run	Between Within	3 3026	751.56 4393.64	250.52 1.45	172.54*
4	Standing Broad Jump	Between Within	3 3026	1.70 278.56	0.57 0.09	6.14*
5	50 Yard Dash	Between W ithin	3 3026	900.74 3863.28	300.25 1.28	235.17*
6	600 Yard Run / Walk	Between Within	3 3026	3684698.55 4161808.04	1228233.80 1375.35	893.03*

*** Significant at 0.05 level of Confidence**

(The table value required for significance at 0.05 level of Confidence with df 3 and 3026 are 2.60)

DISCUSSION ON FINDINGS: The result of the study "Survey of Physical fitness among school boys of Rayalaseema Region of Andhra Pradesh have been discussed in this chapter.In the beginning of the study it was hypothesized that Physical fitness level of high school boys of twelve to fifteen years of age would not be the sameThe perusal of analysis of data revealed that three different scales for presenting physical fitness norms were constructed for school boys of Rayalaseema Region, Andhra Pradesh. These three different scales were prepared because each scale had its own characteristics as follows:Percentile scale can be used as ready reckoned to compare one's performance with others in the group but it is not a standard scale. Hull scale is compromise between 6 – sigma scale and T- scale and it is a standard scale which can be used for the same group which covers the whole population.T–scale is the best commonly used for all standard score scales and it provides for the grading of performances outside normal eye where performance may even be higher or lower as compared to the population considered but its ends are seldom or never utilized.

These three scales were prepared separately for different items of AAHPERD Youth Fitness Test based on various age groups considered in this study. Age wise norms were supported by the findings of the first phase of this Chapter in which various age groups showed significant difference in their performance on different items of physical fitness.

The age wise differences, however, were not consistent for different items and for different ages. The mean performance of students belonging to the age group 15 year was significantly superior than 12and 13 year age groups in Pull – Ups, Bent – Knee Sit – Ups, Shuttle run ,50 yard dash and 600 Yard run/walk. However, mean gains differences among 15 year age group, 14 year age group and 13 years age group were not found statistically significant in standing broad jump. The mean gain obtained by 14 years age group was significantly superior to 12 and 13 years age groups in pull-ups, sit ups shuttle run 50 Yard Dash and 600 Yard run and Walk. However, the mean gain made by 14 years age group and 13 Years Were Not Found Statistically Significant In Standing Broad Jump.

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The effect of physiological variables on swimming performance of different age group swimmer

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Abstract:Sport from an inspirable part of the system of physical education. The purpose of the study is the effect and analyzes the variations on selected physiological variables on performance of different age group swimmer. The present study was conducted on 100 male subjects from different age group swimmer in Bangalore. The age of the subject were ranging from 13 to 19 years and 20 to 26 years. Tests were conducted for physiological variables were conducted at the stadium, 20 to 26 years age group showed superior performances in many of the psychological components, they still need regular practice, stadium, and Indoor stadium wherever adequate facilities were available to conduct the tests. Hence it was concluded that, through the 20 to 26 years age swimmers showed superior performances in many of the physiological components and 13 to 19 years age group swimmers need hard work and professional determination and devotion to improve in strength, flexibility and power resting pulse rate and body fat percentage to attain perfect level of sportsmanship.

Introduction: Physical education offers opportunity in competitive situation for physical, social, emotional and moral development. Sport from an inseparable part of the system of physical education. Sports and games are the best ways to earn social recognition and acquire a status in the modern society. The term motor ability is used synonymously with general athletic ability. There are many factors that contribute to successful performance in athletic skill. In most of the advanced and developed countries, the awareness for motor learning and skill developed among children is very much scientific and prolonged which perhaps helped them to level of general fitness with motor abilities like power, speed, agility, balance, reaction time etc. are essential qualities required to be develops in the players. For specific physiological systems of the body to be fit, they must function well enough to support the particular game that the player is playing since different games make different demands upon the organism with respect to neurological, respiratory, and circulatory and temperature regulating functions. Physiological systems are highly adaptable to exercise. The response of each system is discrete. Hard work is necessary to improve the fitness and swimming performance of the temperature regulation mechanism. Each task has its major physiological components & fitness for the task requires effective functioning of appropriate systems.

Swimmers need Proper training induces specific and identifiable physiological effects on variable like, vital capacity, and pulse rate, breath holding, blood pressure, cardio respiratory endurance etc. A physically fit person tends to have lower pulse rate & blood pressure level after a given amount of work than does an untrained person. Regular exercise reduces the body's ability to utilize oxygen which helps to fuel body functions and it effects on swimming performance.

Statement of the problem: The effect of physiological variables on swimming performance of different age group swimmer

Significance of the Study: The study would be of great significance as it would provide an opportunity to the physical educators, coaches and athletes as it would be able to scientifically understand and assess the changes in physiological variables. This study may bring out information about the vital Physiological variables status among selected different age group swimmer on their swimming performance. This knowledge reflects the functional status of the swimmer with which, a comprehensive and effective training loads can be formulated.

Hypothesis of the study: There would be a significant comparison on selected physiological variables effect on swimming performance of different age group swimmer

Research Methodology: The present study was conducted on 100 male subjects from swimmer. The age of the subject were ranging from 13 to 19 years and 20 to 26 years.
Data Collection: The research scholar followed the following method for collection of data. Tests were conducted for physiological variables were conducted at stadium and Demonstration of all the test was given to the subjects and all effort were made by the researcher to ensure accuracy and uniformity in conducting the tests.
Analysis of the data: Physiological tests are analyzed and the results are discussed here
Table I: Shows the Mean and SD scores effect of physiological variables on swimming performance of different age group swimmer**.**

Variables	**13-19 years**		**20-26 years**		't'
	Mean	**SD**	**Mean**	**SD**	
Resting pulse rate	68.23	3.00	68.47	3.46	1.84
Systolic blood pressure	116.87	3.47	117.13	2.59	2.00*
Dialostic blood pressure	76.23	2.57	76.60	3.32	3.08**
Vital capacity	4.09	0.61	3.99	0.51	3.33**
Body Fat percentage	16.74	2.26	16.86	2.28	0.042

*Significant at 0.05 level and ** Significant at 0.01 levels

In physiological test, it is observed that there is no significant difference between in testing pulse rate and body fat percentage of different age group swimmer. In blood pressure (both systolic and dialostic) and vital capacity significant difference between in testing pulse rate and body fat percentage of different age group swimmer. 13-19 years were found to be better than 20-26 years age group of swimmer.

Conclusion: Hence it was concluded that though the 20 to 26 years swimmer showed superior performances in many of the physiological components and 13 to 19 years age swimmers they still need regular practice, hard work and professional determination and devotion to improve in strength flexibility and power resting pulse rate and body fat percentage to attain perfect level of sportsmen ship.

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Effect Of Plyometric Training And Saq Training Followed By Detraining On Selected Bio-Motor Abilities Of Acharya Nagarjuna University Hand Ball Players

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Abstract:*The purpose of the study was to examine the effect of Plyometrics training and SAQ training followed by detraining on selected Bio-motor abilities of Acharya Nagarjuna University hand ball players. For the study, thirty male university level hand ball players , were selected as subjects. The selected bio motor variables were Explosive strength, Speed, Speed endurance , Strength endurance and Agility which were tested by using vertical jump, 30 meters dash, , 400 meters run, sit ups, and shuttle run respectively. The training seasons were pre-season, in season and off season. Analysis of covariance was applied to find out the level of significance which was fixed at 0.05 levels. Results showed that SAQ training and Plyometric training helped to improve bio motor abilities. It is revealed that agility and speed endurance were developed through SAQ training and two weeks of detraining program makes significant improvement in the bio motor variables****.***

Introduction

Hand Ball is the most popular game in the world. It is played all over the world round the year. Since the game has become more professional and more competitive, it requires a high degree of fitness combined with supreme skill level. Fitness for hand ball cannot be determined by a single parameter, since the game demands a large ensemble of physical, physiological and psychological capabilities. Fitness profiles are likely to vary within the playing season; and the emphasis placed on different components of fitness will change with the stage of the season. Variables linked with fitness are influenced not just by training regimes but also by the stimulus provided by competing regularly.

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 2 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. (Dawson 2003)

In modern training scenario, Plyometric training has been using a very result oriented tool in developing the speed and quickness of our soccer players. In plyometric exercises, a muscle is rapidly contracted and lengthened, and then immediately contracted and shortened further. Plyometric exercises force the muscles to contract rapidly from a full stretch position. (Donald A. Chu)

In the simplest of terms, plyometrics are exercises or drills that involve a jumping movement, sometimes referred to as "jump training." Examples of these types of exercises include skipping, bounding, jumping rope, hopping, lunges, jump squats, sprinting, and clap push-ups. Three components of soccer that can be improved through plyometric training are speed, agility, and quickness (SAQ).

METHOD: The purpose of the study was to examine the effect of Plyometrics training and SAQ training followed by detraining on selected Bio-motor abilities of University level hand ball players. To achieve this purpose, thirty male hand ball players from Acharya Nagarjuna University between 19 and 22 years of age were selected as subjects. The biomotor variables (dependent variables) selected for the study were speed, explosive strength, speed endurance, strength endurance, and agility which are stated in table 1.

Table 1

S. No	Criterion variable	Test items	Unit of Measurements
1	Explosive strength	Vertical jump	Centimeter
2	Speed	30 meters dash	Seconds
3	Speed endurance	400 meters dash	Seconds
4	Strength endurance	Bent knee sit-ups	Seconds
5	Agility	Shuttle run	Seconds

The season of training period was divided into three. 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. After the training session, the minor games based on the hand ball skill were given to the subjects. 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. The subjects of SAQ group, Plyometric group and control Group were made to undergo their training programs. The third training season was in the closed-season, which consisted of two weeks. The subjects of SAQ group, Plyometric group and control Group were made to undergo the minor games. Each work out session was lasted for 60-75 minutes. After the first half of the training five minutes were given as the rest period. The data collected was analyzed statistically by using Analysis of covariance (ANACOVA) to find out the significance difference. In all conditions the significant level was fixed at 0.05 levels.

Results & Discussion:

Table 2

DESCRIPTIVE STATISTICS OF EXPLOSIVE STRENGTH

Groups		pre test	post test	De training	No	F
CON	Mean	52.9	53.9	54.2	10	*12.9726
	SD	4.33	2.68	3.58		
SAQ	Mean	53.4	54.6	54.20	10	
	SD	2.91	2.50	2.20		
PLMTS	Mean	53.90	56.7	58.20	10	
	SD	2.68	1.57	1.47		

*Significant at .05 level of confidence

'F' value required at 0.05 level=3.37

Table 3

DESCRIPTIVE STATISTICS FOR SPEED (30 METERS)

Groups		Pre test	Post test	De training	No	F
CON	**Mean**	4.34	4.31	4.31	10	*13.2134
	SD	.14	.14	.13		
SAQ	**Mean**	4.28	4.27	4.28	10	
	SD	6.7	0.14	0.14		
PLMTS	**Mean**	4.36	4.26	4.24	10	
	SD	.14	7.9	7.18		

*Significant at .05 level of confidence

'F' value required at 0.05 level=3.37

Table 4

DESCRIPTIVE STATISTICS FOR SPEED ENDURANCE (400 METERS)

Groups		Pre test	Post test	De training	No	F
CON	**Mean**	58.41	56.59	57.41	10	*13.0025
	SD	3.01	2.32	2.04		
SAQ	**Mean**	56.96	55.7	56.55	10	
	SD	.77	.76	.57		
PLMTS	**Mean**	58.39	56.88	58.19	10	
	SD	2.07	1.45	1.59		

*Significant at .05 level of confidence

'F' value required at 0.05 level=3.37

Table 5

DESCRIPTIVE STATISTICS FOR STRENGTH ENDURANCE (SIT UPS)

Groups		pre test	post test	De training	No	F
CON	**Mean**	55.6	56.9	57.2	10	*13.0044
	SD	5.04	4.38	3.12		
SAQ	**Mean**	56.3	58.00	57.1	10	
	SD	3.23	2.16	2.18		
PLMTS	**Mean**	53.1	56.3	55.6	10	
	SD	3.90	2.71	1.95		

*Significant at .05 level of confidence

'F' value required at 0.05 level=3.37

Table 6

DESCRIPTIVE STATISTICS FOR AGILITY

Groups		pre test	post test	De training	No	F
CON	Mean	14.47	14.40	14.39	10	*12.9962
	SD	.33	.27	.26		
SAQ	Mean	14.48	14.20	14.20	10	
	SD	0.23	0.13	0.13		
PLMTS	Mean	14.89	14.80	14.91	10	
	SD	.61	.58	.58		

*Significant at .05 level of confidence

'F' value required at 0.05 level=3.37

The results of the study indicate that after the six weeks period of training programme strength endurance ability improved in both SAQ and plyometric training group. The study also indicate that after the completion of six weeks period of hand ball training programme leg strength ability improved for both SAQ group and Plyometric group. The Plyometric group hand ball players have improved the leg strength ability significantly, when compared with the SAQ group hand ball players. Further the study showed that in the case of plyometric training the speed has developed better than the SAQ training group. The reason for the development of the plyometric group was that the speed is the product of stride length and the stride length has basically depends on the explosive strength. So the result of the present study indicates that the strength is the main factor for the development of speed.

The study also indicated that after the six weeks period of training programme, improvement has been noted on agility for SAQ group and plyometric training group hand ball players, whereas the SAQ Group have improved the agility significantly, when compared with the plyometric training group.

Conclusion:

The results also showed that SAQ group were better in agility. The training of six week remarkably influenced for SAQ group in term of agility. It also indicated that the SAQ training is better for the development of agility but for the acceleration speed the plyometrics training is better because the strength is the basic requirement of the speed.

The present study gives a clear information is that SAQ training and Plyometric training will improves the biomotor abilities of hand ball players. Speed, explosive strength, and strength endurance were develop through the plyometrics and Agility and speed endurance were developed through the SAQ training.

The another fact has shown that in the two weeks detraining program had made a significant improvement in the bio motor abilities like explosive strength, speed, strength endurance and agility. The reason may be that the two week of detraining was a short period to diminishing the performance and the subjects were actively continue the hand ball training during the detraining period. The last reason is that the two week period of detraining is the right time for better recovery of the highly intensive anaerobic training program.

Biomotor abilities like explosive strength, speed and strength endurance show better improvement in plyometrics training group, speed endurance and agility show better improvement in plyometrics training.

Speed endurance can be developed within six weeks. Speed endurance can be developed only after the development at speed and strength. Further speed is a natural ability and the development will be only is marginal amount. Since there is a significant improvement in speed, consequently a significant improvement in speed endurance also. The results of the present study shows that there is a significant improvement in speed and speed endurance for both experimental group.

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Impact Of Plyometric Training On High Jump Performance Of Untrained Boys And Girls

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ABSTRACT

Globally it is accepted that Jumping is the basic activity of human body. Jumping is an important skill for many athletes. This skill can be performed well if your muscles are stronger and flexible. In Track and Field, high jump is one of the field events in which the competitors must jump over a horizontal bar placed at measured heights without the aid of certain devices. plyometric training"is a combination of strength and speed" and helps in the development of explosive power of the muscles which are useful in the high jump. The main purpose of the present study was to find out the influence plyometric training on the high jump performance of untrained boys and girls .**Method:** A total of 20 boys 20 girls of 6^{th} to 9^{th} class between the age group of 11 to 14 years were selected from Z.P.H.S of Mamunure, Khammam dist., A.P. as subjects . These subjects(10boys+10girls) under went plyometric training consists of hoping, jumping and bounding for six weeks. Each day they performed plyometric exercises for one hour according schedule as well as high jump practice in any style. But the control group of 20 subjects (10boys+10girls) did not practice plyometric exercises except high jump practice in these six weeks of time. A pre and post test was conducted for both the groups in boysand girls at the end of six weeks of program. The difference between groups were assessed by using 't' test and the level of significance was fixed at 0.01.In the High Jump performance the magnitude of increase in experimental group was 7.82% and the control group was 3.37%. Therefore the experimental groups performance was better than the control group. Te significance level was higher $t(8)= 3.991, p<0.01$. **Results:** The results indicate that the post test means were significantly better than the pre test means and their t ratios all are significant in girls and boys experiment group confirming that the the plyometric training produced a reliable increase in the high jump performance of both girls and boys., **Conclusion :**The results from the study are very encouraging and demonstrate the benefits of short term plyometric training program for young high jumpers. It is concluded that the use of plyometric training program in school have more benefit to improve the high jump performance of young boys and girls .

Key words: Plyometric training, Track & Field, explosive power, untrained.

Introduction: It is forgone conclusion that Jumping is considered as one of the basic activity of human body. Jumping is an important skill for many athletes. This skill can be performed well if your muscles are stronger and flexible. In Track and Field, high jump is one of the field events in which the competitors must jump over a horizontal bar placed at measured heights without the aid of certain devices. The conversion of momentum from a fast run to a vertical jump requires great strength of the related muscle groups. In high jump event the main objective is to jump high. How high ad how well you jump depends almost entirely on what you do on the ground and very little on what you do in the air. The explosive leg power, strength and flexibility are key ingredients to maximize the performance vertically in the air. To jump ones highest height requires an ignorance of all caution, a desperate reckless explosion upward without regard for possible muscle or tendon strain and with no thought of an economical clearance of the bar or any other aspect of technique. Such controlled recklessness is possible only when a person has abundant of strength and flexibility of muscles, as well as an attitude, developed through a period of hard training. Explosive type strength is defined as the individuals neuromuscular system's ability to show signs of strain in the shortest time possible (Verhošanski,1979). The concept of explosive type strength is connected with the reactive abilities of the neuromuscular apparatus (Verhošanski, 1979,). In the definition of explosive type strength, Zaciorski introduced the concept of reversible strength, a strength which consists of two phases: the eccentric phase (the stretch) and the concentric phase (theshortening). The concentric phase is added to the previous muscle stretch in the shortest time interval

possible (Zatsiorsky, 1995,).In the theory of strength training, the specific training for the increase of explosive type of strength is referred to as "plyometric training". which is a combination of strength and speed" (Marullo, 1999).The fundamental principle of the plyometric method lies in the speed of the shift from and to the eccentric and concentric muscle contractions. "The key to this lies in the time needed for one muscle to shift from a state of flexibility (the stretch) into a state of shortening (the return to its original position). This points to the fundamental principle of plyometric training: the measurement, the extent of the stretch (the degree), determines the use of the strength that allows flexibility and the transformation of chemical energy into energy used to move muscles" (Kostić, 1999).The muscle elasticity feature and the miotatic reflex (the stretch reflex) play an important role in the plyometric method. The reflex to stretch muscles includes the SSC (the stretch shortening cycle). In order for us to obtain a quality eccentric-concentric contraction, three important requirements need to be met: 1.The timely activation of the musculature just prior to the eccentric contraction, 2. The short duration of the eccentric contraction, 3.The instantaneous shift between the stretching phase and the shortening phase (Komi & Gollhofer, 1997)

Based on the requirements as stated by Komi & Gollhofer (1997), it is concluded that the amortization phase during a depth jump has to be as short as possible.The duration of the amortization phase for top athletes is between 120 and 150 ms(Schmidtbleicher in Berger et al., 1984).One of the major requirements for using the plyometric training method is a basic strength training. Young high jumpers do not require a high basic strength level. Once we have stabilized the basic strength, the next problem is the eccentric strength of the leg muscles. It is quite limiting, especially during any training consisting of high volume and increased force exercises. Without the adequate eccentric muscle strength, a high speed shift from the eccentric to the concentric mode proves to be ineffective. If the amortization phase lasts a long time, and if the movements are slow, the shift from eccentric to concentric muscle movement, the eccentric strength levels will not be adequate, and the training itself should be reduced in volume and intensity (Kosti1999).

Jumps represent a constant exchange between the forces of production and reduction, leading to the merging of these forces by means of all three joints of the lower extremities (Kosti, 1999). When it comes to individuals who have not been in sports training and children, the strength of their vertical jump musculature is inadequate for them to be able to manage their own body weight in the eccentric phase of the depth jump at greater heights (Weineck, 1990). Due to this fact, while practicing vertical jumping with children, depth jumps at a lesser height are recommended, as well as "reactive" exercises on the ground(Letzler & Letzler, 1990).The maximal height of the depth jump is often cited as an important criterion for the proper jump technique, as cited in Schmidtbleicher & Gollhofer (1985). **METHOD:** A total of 20 boys 20 girls of 6^{th} to 9^{th} class between the age group of 11 to 14 years were selected from Z.P.H.S of Mamunure, Khammam dist., A.P. as subjects . They were divided into two groups of 10 each as plyometric training group and control group for each of the boys and girls section. These subjects(10boys+10girls) under went plyometric training consists of hoping, jumping and bounding for six weeks. Each day they performed plyometric exercises for one hour according schedule as well as high jump practice in any style. But the control group of 20 subjects (10boys+10girls) did not practice plyometric exercises except high jump practice in these six weeks of time. Every day all subjects followed the warm up protocol before commencing the training program and cool down exercises after finish the training. A pre and post test was conducted for both the groups in boysand girls at the end of six weeks of program. The difference between groups were assessed by using 't' test and the level of significance was fixed at 0.01.

Results and Discussion:

Table -1

Table showing the Pre and the Post test performance of the girls

Group	Test	Mean(e)	SD(e)	SEM(e)	M.Increase %	t	p
Experimental	Pre	81.2	10.67	3.3757			
Experimental	Post	94	9.36	2.9589	15.76	4.394	<0.01 Sig
Control	Pre	75.6	10.35	3.2734			
Control	Post	80.4	10.08	3.1874	6.34	4.096	<0.01 Sig

The table 1 shows that in high jump performance for the girls the magnitude of increase in experimental group was 15.76% and the control group was 6.34%. Hence the performance of the experimental group in girls section was good when it was compared to the control group. The significance level was higher t(8)= 4.394,p<0.01.

Table -2
Table showing the Pre and the Post test performance of the boys

Group	Test	Mean(e)	SD(e)	SEM(e)	M.Increase %	t	p
Experimental	Pre	97.1	9.31	2.94562			
Experimental	Post	104.7	6.13	1.93821	7.82	3.991	<0.01 Sig
Control	Pre	87.8	8.53	2.69897			
Control	Post	91.9	9.76	3.08689	3.37	3.392	<0.01 Sig

In the High Jump performance the magnitude of increase in experimental group was 7.82% and the control group was 3.37%. Therefore the experimental groups performance was better than the control group. Te significance level was higher t (8)= 3.991,p<0.01.
The results indicate that the post test means were significantly better than the pre test means and their t ratios all are significant in girls and boys experiment group confirming that the the plyometric training produced a reliable increase in the high jump performance of both girls and boys.,

CONCLUSION :
The results from the study are very encouraging and demonstrate the benefits of short term plyometric training program for young high jumpers. It is concluded that the use of plyometric training program in school have more benefit to improve the high jump performance of young boys and girls .

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Comparative Analysis Of Selected Anthropometric And Physical Fitness Variables Among Football Players In Relation To Position Play

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A B S T R A C T

An attempt has been made to study to find out the significant differences in the selected anthropometric measurements such height, weight, arm length, leg length calf girth and thigh girth and physical fitness such as speed, agility, flexibility, endurance of university football players. The subjects were 45 university football players of Bangalore University, Tumkur University and University of Mysore who have represented at South Zone Inter-University Football Championship, 2011-12 were selected. The height, weight, arm length, leg length, calf girth and thigh girth were tested accordingly. Physical fitness variable viz., Speed tested by 30 Mtrs. Run with Standing Start, Agility tested by 4 x 10 Mtrs Shuttle Run; Flexibility tested by Sit and Reach Test and Endurance tested by 1000 Mtrs. Run/Walk. To determine the significance of the differences between the group means in different variables for the defenders, mid-fielders and attackers of football players, the one-way analysis of variance (F Ratio) was used. The significant was set at 0.05 level of confident. The results found that defenders, mid-fielders and attackers had significant differences in anthropometric measurements such as calf girth and physical fitness i.e. agility among defenders, mid-fielders and attackers of football players. The study was also indicates that defenders, mid-fielders and attackers had no significant differences in anthropometric measurements such as height, weight, arm length, leg length and physical fitness variables such as speed, flexibility and endurance of football players. The midfielders had better thigh girth than attackers and defenders. The attackers had superior agility than midfielders and defenders.

Keywords : anthropometric, physical fitness

INTRODUCTION :

Football is the most popular and most attended spectacular game in the world. It is a vigorous, fast and skilled game for the well conditioned sportsmen, who must possess strength, speed, agility, balance, flexibility, endurance, coordination and many other undefined qualities for dribbling, kicking, passing and shooting at the goal. For playing better football, physical fitness is needed, but there is need for good strength in respect of good height and weight. Football is a fast moving field game involving players of varying body types. It requires a unique mix of physical, mental and technical skills. The success or failure of an individual athlete/player depends on the blending of physical ability, conditioning, training mental preparation and the ability to perform well under pressure. (William F. Straub, 1972)

Speed and agility have already been seen as two of the most important and differentiating performance related physical fitness components for soccer play, but it is ball control however, that is the most defining characteristic. Flexibility is often said to be one of the most crucial components of physical fitness, as a sufficient degree of flexibility is required to prevent injury, as tight muscles may predispose an athlete to muscle sprains and tendon injuries (Maud and Foster, 2006). On the other hand it has also

been said that highly extensible muscles, which do not possess the necessary coordination and stability, may lead to joint dislocations and ligamentous sprains (Ekstrand and Gillquist, 1983). The existing literature in the field of football shows that endurance, speed, agility, maximum leg strength, upper body strength, leg power, muscular endurance, flexibility, coordination, reaction time are important prerequisites for efficient football performance, whereas excess body fat proves to be a hindrance. (Uppal and Roy, 1985). For this reason, it is important to understand the differences in the anthropometric and physical fitness variables among football players in relation to positional play.

METHODOLOGY

Sample: The subjects were 45 university football players of Bangalore University, Tumkur University and University of Mysore who have represented at South Zone Inter-University Football Championship, 2011-12 were selected. The study was being delimited to selected anthropometric measurements i.e. height, weight, arm length, leg length and thigh girth, physical fitness components i.e. Speed tested by 30 Mtrs. Run with Standing Start, Agility tested by 4 x 10 Mtrs Shuttle Run; Flexibility tested by Sit and Reach Test and Endurance tested by 1000 Mtrs. Run/Walk The subjects were contacted personally and their sincere cooperation was solicited. Respondents were called to a common place where they are not busy. Necessary instructions were giving to the subject before the administration of each test.

Statistical Procedure: To determine the significance of the differences between the group means in different variables for the defenders, mid-fielders and attackers of football players, the one-way analysis of variance (F Ratio) was used. The significant was set at 0.05 level of confidence. To see the significant difference between the means, Scheffe's Post Hoc test was applied.

RESULTS AND INTERPRETATION OF DATA :

The results pertaining to the significant difference between the means of selected anthropometric measurements and physical fitness variables of defenders, midfielders and attackers of football players by using One-way Analysis of Variance are presented in the following tables.

Table-1

Significance of mean differences in Anthropometric Measurements and Physical Fitness among defenders, midfielders and attackers of football players in relation to positional play.

Variables	Sources of Variables	Sum of Squares	Degree of Freedom	Mean Squares	F Ratio
Anthropometric Measurements					
Height	Between Groups	28.578	2	14.289	0.239^{NS}
	Within Groups	2515.333	42	59.889	
	Total	2543.911	44		
Weight	Between Groups	48.133	2	24.067	0.475^{NS}
	Within Groups	2126.667	42	50.635	
	Total	2174.800	44		
Arm Length	Between Groups	16.844	2	8.422	2.850^{NS}
	Within Groups	124.133	42	2.956	
	Total	140.978	44		
Leg Length	Between Groups	11.911	2	5.956	1.031^{NS}

Variables	Sources of Variables	Sum of Squares	Degree of Freedom	Mean Squares	F Ratio
	Within Groups	242.533	42	5.775	
	Total	254.444	44		
Calf Girth	Between Groups	7.244	2	3.622	6.339*
	Within Groups	24.000	42	0.571	
	Total	31.244	44		
Thigh Girth	Between Groups	7.600	2	3.800	1.765^{NS}
	Within Groups	90.400	42	2.152	
	Total	98.000	44		
Physical Fitness					
Speed	Between Groups	0.175	2	0.087	0.304^{NS}
	Within Groups	12.077	42	0.288	
	Total	12.252	44		
Agility	Between Groups	3.408	2	1.704	3.859*
	Within Groups	18.546	42	0.442	
	Total	21.954	44		
Flexibility	Between Groups	1.681	2	0.841	0.305^{NS}
	Within Groups	115.711	42	2.755	
	Total	117.392	44		
Endurance	Between Groups	0.256	2	0.128	0.223^{NS}
	Within Groups	24.147	42	0.575	
	Total	24.403	44		

NS=Not Significant; * Significant at 0.05 level.

According to the analysis of data presented in Table-1, it was evident that there was no significant difference among defenders, midfielders and attackers of football players in anthropometric measurements except in calf girth which showed significant difference among football players. The calculated F ratios were (height=0.239; weight = 0.475; arm length=2.850; leg length=1.031 and thigh girth =1.765). Height, Weight, arm length, leg length and thigh girth were not found statistically significant at 0.05 level of confidence and tabulated F value was 3.23 at 0.05 level. However, calf girth was found statistically significant difference among defenders, midfielders and attackers of football players. The calculated F ratio of 6.339 which was greater than the tabulated F value of 3.23 at 0.05. To find out the paired mean differences where F ratio was significant, the Scheffe's post hoc test was used and the data pertaining to this is presented in the Table-2.

From the above table, it was further evident that there was no significant differences among defenders, midfielders and attackers of football players in physical fitness variables except in agility which showed significant difference among the groups. The calculated F ratios were (speed=0.304; flexibility=0.305 and endurance=0.223). The speed, leg power, strength, flexibility and endurance were not found statistically significant at 0.05 level of confidence and tabulated F value was 3.23 at 0.05 level. However, Speed, flexibility and endurance were not found statistically significant differences among the defenders, midfielders and attackers of football players. The calculated F ratio 3.859 which was greater than the tabulated F value of 3.23 at 0.05 level. To find out the paired mean differences where F ratio was significant, the Scheffe's post hoc test was used and the data pertaining to this is presented in the Table-2.

Table-2

Significant difference among defenders, midfielders and attackers of Football Players in the paired means of calf girth and agility.

Variables		Play position of Football Players			Mean Difference
		Defenders	Midfielders	Attackers	
Anthropometric Measurements	Calf Girth	12.933	13.866		0.933*
			13.866	13.666	0.733*
		12.933		13.666	0.200
Physical Fitness	Agility	10.426	10.251		0.175
			10.251	9.775	0.476
		10.426		9.775	0.651*

* Significant difference between mean.

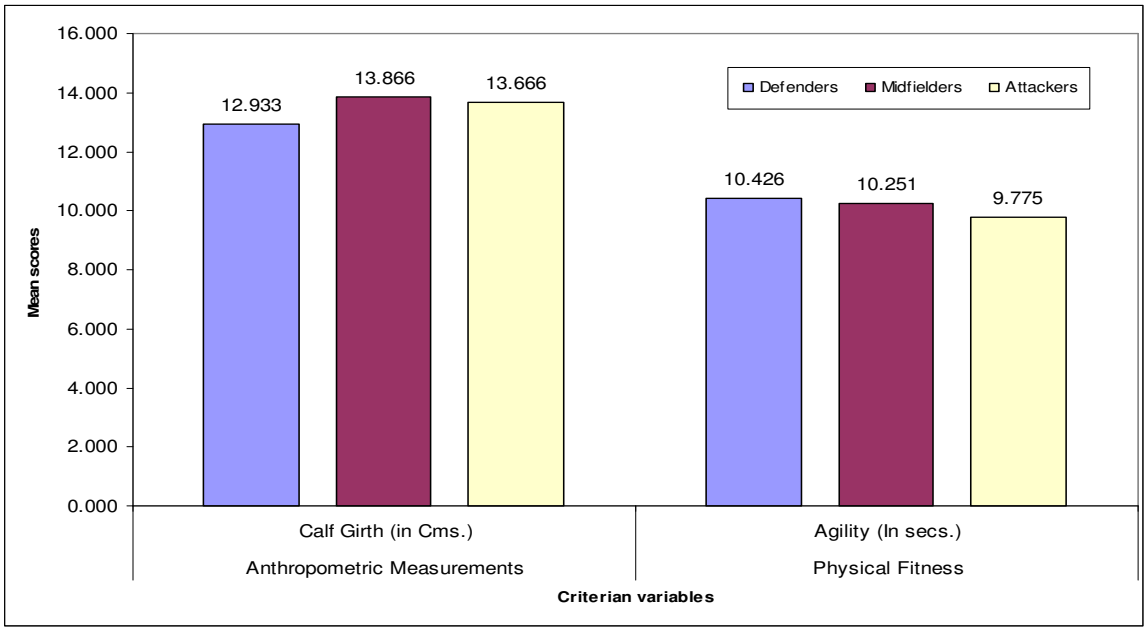
The Scheffe's test results revealed that

- There was significant difference in calf girth between defenders and midfielders; and midfielders and attackers of football players but there was no significant difference between defenders and attackers of football players.
- There was a significant difference in agility between defenders and attackers of football players but there was no significant difference between defenders and midfielders; and midfielders and attackers of football players.

The illustration has been presented in Fig.1.

Fig.1

Graph showing comparison mean scores of criterion variables among defenders, midfielders and attackers of football players.



DISCUSSION OF RESULTS :

The aim of the present study was to find out the significant differences in the selected anthropometric measurements and physical fitness variables among university football players in relation their play position such as defenders, midfielders and attackers. It was hypothesized that there will be no significant differences in the selected anthropometric measurements and physical fitness variables among university football players in relation to their play position such as defenders, midfielders and attackers. Findings of the study clearly indicated that there were significant differences in calf girth and agility among defenders, midfielders and attackers of football players. The result concluded that thigh girth of midfielders had better than attackers and defenders and the agility of attackers had superior than midfielders and defenders respectively. The rest of the variables were insignificant difference.

CONCLUSION :

Findings of the study revealed that the differences in calf girth and agility among university football players in relation their play position such as defenders, midfielders and attackers. The thigh girth of midfielders had better than attackers and defenders and the agility of attackers had superior than midfielders and defenders respectively. The rest of the variables were insignificant difference.

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Impact Of Socio-Economic Status On Will To Win Of Sportsperson

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Introduction: Since the competitive sport is characterized by a spirit of dedication, sacrifice and intensity for maximum performance aiming for victory, it ought to be complemented by the will to win. Will to win can be described in sport as a force or an instinct to excel. In sport, such a feeling of will power should be based on factors like pursuance of objectives, imposing upon one clear-cult objectives and deeds for being energetic. It must be supplemented with self-sufficiency to have creativity in the direction of set objectives. Timely decisions are needed to have the solution of problems to carry out with determination a long-term struggle for achieving the objectives. Maintaining self-command over feelings and activities under irritation, severe strain, fatigue or failures are the key factors for acquiring appropriate will to win is required in sport.

Will to win is defined as the extent to which a person desires to reach some standard of excellence or to defeat an opponent. Individual high in will to win should be very competitive and should feel that winning is the major reason for competing. Winning or loosing should affect their sense of self-esteems, there is some similarity between the Will to Win concept and need achievement (Atkinson, 1961) and to lesser extent internal locus of control (Rotter, 1966). Will to win is also related to competence (White, 1959) and some aspect of aggression. People with high will to win feel that winning is extremely important and that it is the main reason for competing. The athlete high in will to win competes compete mainly to be first and may have something of a "win at all costs" attitude, low will to win indicates that the competitor cares less about winning per se or competes for other reasons. Further, the outcome of the contest seen is less consequential to self-esteem or personal identity.

Methodology:

In view of above, the paper makes an empirical attempt to understand the socio-psychological correlates with the Will to win of the sportsmen. A sample of 400 sports in the range of 19 to 25 years having equal representation of male (200) and female (200) and also sports men from high socio-economic background and low socio economic background are studied.

Results and discussion:

Table Showing the Mean, SD and 't' values of Will to Win of High and Low SES Sportsmen

Variables	High SES	Low SES
Mean	8.85	7.94
SD	2.35	2.44
t-value	2.64*	

** Significant at 0.05 level.

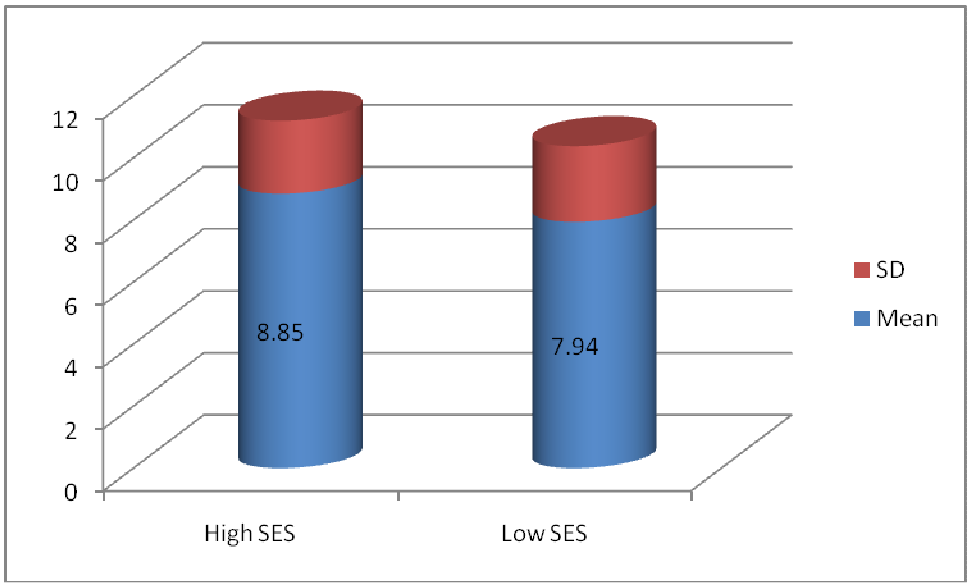

Table-reveals the mean, SD and 't' values of Will to Win of low and high SES sportsmen. On the dimension of Will to Win, the high and low SES sportsmen mean scores is 8.85 and 7.94 respectively. The obtained 't' value is 2.64 which is significant at 0.05 level. The higher mean score of high SES sportsmen clearly indicate that they are having high will to win, whereas the lower mean score of low SES sportsmen suggest that they possess low will to win. The obtained 't'value reveals that there is a significant difference in Will to Win between the high and low SES sportsmen. Therefore, the hypothesis that there is a significant difference in Will to Win between low and high SES Sportsmen is accepted at 0.01 level. This is because, the high SES sportsmen are having self positive image, good nutrition, proper education, high self confidence, rich exposure in sport competitions and better training facilities. Under these conditions he would he having more confidence in his capabilities and the exposure to different sport events and competitions would instill a high sense of Will to Win among them. Thus, the hypothesis that there is a significant difference in Will to Win between low and high SES sportsmen is accepted.

Conclusions:

Will to win among the sportsmen is very important factor that is related to varieties of social, economic and psychological background of them. If they have good social and economic status and provided healthy psychological environment in the family as well as in society, they are likely to grow emotionally intelligent individuals. Due to strong self esteem, they do develop will to win the games whatever they play. This has a bearing on better performance. Hence, government and responsible authorities should think positively to enhance their socio- economic condition in order to develop high self esteem and will to win and optimistic attitude among sportsperson.

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The effect of Yoga Practices on emotional and health adjustment traits of personality.

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Introduction:

Personality is best understood in terms of internal and external influences. At every moment our genes, our experiences, environment and our free will determine our personality. In the western perspective, the various personality theories fall into five major perspectives the Psychoanalytic perspective which defines personality in terms of the dynamics that underlie behavior, the Trait perspective which defines personality in terms of behaviors, the Humanistic perspective which pays attention to the growth potential of people, the social cognitive perspective which emphasizes the ways in which our personalities are influenced by our environment and the Evolutionary perspective which asserts that the patterns of behavior seen in a species is a product of evolution. In the Indian perspective, the essence of human personality is the self, which in conjunction with the gross physical and subtle bodies becomes subject to experience pleasure and pain. Self-realization is the goal of human life according to Indian psychology.

Education has a big role to play in the personality development of a student. Education to be complete must have five principal aspects relating to the five principal activities of the human being: the physical, the mental, the emotional, the intellectual and the spiritual. All these aspects are looked into in our ancient system of yoga.

YOGIC TRAINING:

Yogic training is a system of psycho-physical training that has its goal the uncovering of mystical consciousness. Yoga a timeless pragmatic science evolved over thousands of year dealing with the physical, moral being of man as a whole

Problem: To assess the effect of Yoga Practices on emotional and health adjustment traits of personality of professional college's students.

Hypothesis: There would be no significant difference in the personality traits of yogic practitioners and non practitioners.

OBJECTIVES OF THE STUDY: To assess the effect of yogic practices and non practices on Psychological traits of Professional college students.

Methodology: The purpose of the study is to investigate the "The Effect of Yogic Practices on Personality Traits of Professional College Students"

Psychological Variables:

s1. Practices and non practices of Yoga are Independents Variables.

2. Personality traits are Dependents variables.

Tools.

Personality scale constructed by Cattle 16 P.F Scale has used.

The Sample:

Yogic Practitioners	Non Practitioners	Total
100	100	200

To select the 100 Girls of Yoga Practitioners and 100 non practitioners and total sample of 200 Girls from Professional colleges of Karnataka state women's university and Gulbarga university the method of Purposive random sampling technique has been used in the present study

Collection of Data: The standardized questioners are administered on yoga practitioners and non practitioners and data have been collected from Basaveshawar Physical Education professional college, Bagalkota.

Statistical Techniques:

1. "t", test, has used to assess its effects on selected personality traits of professional college students.
2. **Analysis of data and Results:**

The hypothesis t is postulated on the rationale that the yoga practitioners with a positive personality traits would be more emotionally stable,

Table –2

Table showing the Mean, SD and t values of personality and emotional adjustment of practitioners and non practitioners.

Variables	Practices		Non Practices	
	Personality	Adjustment	Personality	Adjustment
Mean	54.35	10.46	27.40	15.49
SD	11.65	7.45	3.31	4.93
T value	35.80**		22.42**	

** Significant at 0.01 level

The above table presents the mean, SD and t values of personality and emotional adjustment of yoga practitioners and non practitioners. The yoga practitioners have the mean score of 54.35 on personality and 10.46 on emotional adjustment when compared to the non yoga practitioners who have the mean scores of 27.40 on personality and 15.49 on emotional adjustment respectively. The comparative analysis of the mean scores of both groups suggest that the yoga practitioners are having the positive personality traits and good emotional adjustment when compared to the non yoga practitioners who lacks the positive personality traits and less emotionally adjusted. The obtained t value for the practitioners and non practitioners groups are 35.80 and 22.42 respectively, which are significant at 0.01 levels. The analysis of the above table is quite clear that the good personality yoga practitioners are emotionally good adjusted than their counter parts; hence the above-mentioned hypothesis is accepted.

Conclusions

The present reveals that regular practice of the various techniques had a beneficial effect on the personality traits at the physical, mental, emotional levels. The regular practice of yoga techniques produces a progressive relaxation of the psychological process within oneself and cultivates skills of mastery over the emotion and interpersonal efficiency, and also develop heartedness and sympathetic attitudes toward human being. Thus the personality development takes the direction of increased openness towards the environment and increased spontaneity.

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