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## Personality Traits, Need Patterns And Locus Of Control Of Karnataka And Maharashtra Kabaddi Players

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### **ABSTRACT**

The present study is to find out the differences in personality traits, need patterns and locus of control of Karnataka and Maharashtra state level Kabaddi players as a focal point and differences due to sex as a subsidiary interest. For the purpose of present study a total number of 126 Kabaddi players were selected from National championship held at Bangalore. The samples were drawn on the principle of random sampling technique. Subjects were equally matched. The subjects were in the age range of 24 to 35 years with mean age of 26.5 years. Standardized tests and questionnaires of Cattell's 16 PF Questionnaire, Sanghi's Need Pattern Scale (SNPS) and Sanjay Vohra's Locus of Control Scale (LOC) were used. There is a significant difference between the Kabaddi players of Karnataka and Maharashtra on personality factors B, C, E, F, G, M, Q1 and Q2. The female Kabaddi players have scored significantly high on personality factor Q1 than the male Kabaddi players. There is significant difference between the Kabaddi players of Karnataka and Maharashtra in locus of control. There is significant gender difference in locus of control females believed that their behavior is influenced by powerful person and chance factor while male player's behavioral outcomes are attributed to internal self. The Karnataka Kabaddi players have higher need for aggression, achievement, power and affiliation than the Maharashtra Kabaddi players. The Maharashtra Kabaddi players have high need for security than Karnataka Kabaddi players. There is significant differences in the need pattern between the male and female Kabaddi players.

**INTRODUCTION:** Personality development is the outcome of a process of interaction between genetic inclinations and environmental conditions. The human being by nature first tries to accommodate himself with the environment around him and then he starts striving to establish his superiority over it. The process of personality development is however, not static. It is a continuous process and prone to natural flexibility. It undergoes many stages of transformation and modification. This, in a way, provides an explanation to the nature of individual differences.

Sports activities affect the process of personality development in ways more than one. Social and environmental pressures, biological factors, frustration and tension in life are to be managed with full attention to develop mature form of personality. The psychological approach of teaching, in this regard, has been suggested as that of a coach who, while training his athletes tries to understand their personal and emotional problems, motivates their behavioral tendencies and inspires the best of their personality to come out. It has been propounded that only an individual centered culture can nurture the utmost level of personality development but such a pre-condition seems rarely possible.

**STATEMENT OF PROBLEM** The problem formulated for the present study was to find out the differences in personality traits, need patterns and locus of control of Karnataka and Maharashtra state level Kabaddi players as a focal point and differences due to gender as a subsidiary interest.

### **MATERIALS AND METHODS**

**Sample and sample design** For the purpose of present study a total number of 126 Kabaddi players were selected from National championship held at Bangalore. The samples were drawn on the principle of random sampling technique. Subjects were equally matched. The subjects were in the age range of 24 to 35 years with mean age of 26.5 years.

Table 1

Sample Design and Sample Composition of  
Karnataka and Maharashtra state level Kabaddi players.

Sl. No.	Name of the Country	No. of Players
1.	Karnataka Kabaddi players	63
2.	Maharashtra Kabaddi players	63
Total		126

## Tools

Following standardized tests and questionnaires were used in the present study to measure personality traits, need patterns and locus of control of Karnataka and Maharashtra state level Kabaddi players. Cattell's 16 PF Questionnaire. Sanghi's Need Pattern Scale (SNPS).

Sanjay Vohra's Locus of Control Scale (LOC).

## Scoring

All the three questionnaires/ tests were scored according to the instructions given in the manual for each questionnaire separately. The scoring was done manually. After completing the scoring of 126 Kabaddi players they were statistically analyzed to answer the problems and objectives formulated for the present research.

Statistical analysis The obtained raw data was subjected to appropriate statistical analysis to find out the answer to the objectives, and to enable the testing of possible differences regarding personality traits, need patterns and locus of control of Karnataka and Maharashtra state level Kabaddi players been stated. The specific methods and statistical techniques used are Mean, Standard deviation and 't' test.

## RESULTS AND DISCUSSION:

The present study attempts to examine the differences in Personality Traits, Need Patterns and Locus of Control of Kabaddi players belonging to two states Karnataka and Andhra Pradesh. It was assumed that the Kabaddi players of one state differ from those of another state in these selected variables. The study also analysis the sex differences in personality, need patterns and locus of control of both Karnataka and Maharashtra players. Finally the data were subjected to statistical analysis and are reported in the following tables, Table 2Mean, SD and t-value of Personality Traits of Kabaddi Players belonging to two States (N = 126)

State		Karnataka	Andhra Pradesh	't' value
A	M	3.36	3.61	1.28
	SD	1.24	1.79	
B	M	4.12	3.01	5.45**
	SD	1.34	1.84	
C	M	5.36	4.41	4.61**
	SD	1.71	1.54	
E	M	5.68	4.76	4.63*
	SD	1.43	1.70	
F	M	4.92	5.48	2.95*
	SD	1.32	1.66	
G	M	5.39	6.12	3.58**
	SD	1.53	1.69	
H	M	5.86	6.01	0.80
	SD	1.33	1.60	
I	M	5.22	5.53	1.46
	SD	1.77	1.64	
L	M	5.89	5.97	0.41
	SD	1.64	2.01	
M	M	6.12	6.82	2.81*
	SD	1.56	2.30	
N	M	6.14	6.34	0.97
	SD	1.57	1.68	
O	M	5.12	5.28	0.79
	SD	1.61	1.59	
Q1	M	6.26	4.98	5.65**
	SD	1.65	1.92	
Q2	M	5.70	6.31	2.32*
	SD	2.19	1.96	
Q3	M	4.42	4.68	1.07
	SD	1.76	2.05	
Q4	M	5.48	5.35	0.50
	SD	1.26	2.57	

\* Significant at 0.05 level.

\*\* Significant at 0.01 level.

Table 2 presents sixteen primary personality factors scores of Karnataka and Maharashtra Kabaddi players. It is noticed that the mean score on primary personality factor 'B' (Low v/s high intelligence) of Karnataka Kabaddi players (4.12) is higher than Maharashtra players (3.01). The t-value (5.45) is significant, thus both state Kabaddi players are average in intelligence.

Similarly, the Karnataka Kabaddi players have scored higher mean than the Maharashtra players on personality factors "C" (Emotional stability v/s Emotional upset) "E" (Assertive v/s humble) "F"

(Enthusiastic v/s sober) “G” (Rule bound v/s Evading rules) “M” (Imaginative v/s practical) and “Q1” (Experimenting v/s conservative). The t-values on these performance factors are significant. Thus, both the state Kabaddi players are average on all these personality factors.

Table 3

Mean, SD and t-value of Personality Traits of Kabaddi Players belonging to two Gender (N = 126)

Sex		Male	Female	t' value
A	M	3.97	3.53	2.05*
	SD	1.71	1.68	
B	M	3.92	3.77	0.64
	SD	2.02	1.62	
C	M	4.79	5.16	1.75
	SD	1.63	1.71	
E	M	5.22	5.42	0.93
	SD	1.67	1.70	
F	M	5.12	5.28	0.78
	SD	1.72	1.50	
G	M	5.86	5.81	0.25
	SD	1.56	1.53	
H	M	6.07	5.65	2.18*
	SD	1.60	1.20	
I	M	5.63	5.52	0.50
	SD	1.62	1.80	
L	M	6.12	5.69	2.15*
	SD	1.76	1.87	
M	M	6.50	6.44	0.26
	SD	1.82	1.77	
N	M	6.38	6.12	1.25
	SD	1.66	1.62	
O	M	5.56	5.14	2.03*
	SD	1.60	1.66	
Q1	M	5.41	5.90	2.04*
	SD	1.88	1.90	
Q2	M	6.01	6.24	0.87
	SD	2.06	2.11	
Q3	M	4.49	4.61	0.49
	SD	1.89	1.93	
Q4	M	5.48	5.39	0.54
	SD	1.62	1.56	

\* Significant at 0.05 level.

Table 3 presents results of the Kabaddi players belonging to two gender it is noticed that the mean score of male Kabaddi players (6.07) is higher than the female Kabaddi players (5.65) on personality factor 'H' (Shy, v/s socially bold). The obtained t-value (2.18) is significant. Thus both male and female Kabaddi players are average on this factor but according to the scores of male players it seems that male players more socially bold than the female Kabaddi players. Similarly the male Kabaddi players have scored higher mean than female Kabaddi players on the personality factors “A” (Reserved v/s Outgoing, warm), “L” (Trusting v/s Suspicious) and “O” (Placid v/s apprehensive). The t-values on these performance factors were significant. Thus male and female Kabaddi players are average on all these personality factors.

Table 4

Mean, SD and t-value of Need Patterns of Kabaddi players belonging to two states (N = 126)

Country		Security	Aggression	Achievement	Power	Affiliation
Karnataka	M	3.23	3.82	4.49	4.74	4.49
	SD	1.30	1.64	1.29	1.57	1.50
Andhra Pradesh	M	3.98	3.27	3.53	4.16	3.37
	SD	1.56	1.47	1.16	1.40	1.32
t-value		4.11**	2.79**	6.18**	3.08**	6.26**

\*\* Significant at 0.01 level.

The results in table 4 reveal that the scores of Maharashtra Kabaddi players (3.98) are higher than the Karnataka Kabaddi players (3.23) on security. The t-value (4.11) is significant at 0.01 level. This reveals that there is significant difference between the players of two states in the need for security. It appears that Maharashtra Kabaddi player's aspire for the higher security in greater degree depending upon their personal as well as social needs. Where as the need for security is lower with regard to Karnataka Kabaddi players. In the area of need for aggression the mean score of Karnataka Kabaddi players (3.82) is higher than the Maharashtra Kabaddi players (3.27). The t-value (2.79) is significant to suggest profound difference in need for aggression between the two states obviously the

Karnataka Kabaddi players have higher need for aggression which is a necessary component in Kabaddi game. The need for achievement of Karnataka Kabaddi players is relatively higher than the Maharashtra Kabaddi players. The mean score of Karnataka Kabaddi players is 4.49 and that of Maharashtra Kabaddi players is 3.53. The t-value 6.18 is significant. This clearly reveals that the need for achievement is significantly higher in Karnataka Kabaddi players than Maharashtra Kabaddi players. The Karnataka Kabaddi players have higher need for power and affiliation than Maharashtra Kabaddi players. This is evident through the higher mean score of Karnataka Kabaddi players on these two needs. The significant t-value on these two needs. Thus results clearly bring out that the need pattern of Karnataka Kabaddi players are significant from Maharashtra Kabaddi players. The Karnataka players have higher need for aggression, achievement, power and affiliation. Where as Maharashtra Kabaddi players higher need for security. This clearly depicts the cultural, social, political and emotional differences of the persons living in two different states, which under line the basic aspects of Kabaddi performance of players.

Table 5

Mean, SD and t-value of Need Patterns of Kabaddi Players belonging to two Gender (N=126)

Sex		Security	Aggression	Achievement	Power	Affiliation
Male	M	4.80	4.31	4.56	4.11	3.30
	SD	1.49	1.71	1.13	1.39	1.56
Female	M	3.96	3.29	3.51	3.15	4.38
	SD	1.39	1.63	1.31	1.40	1.43
t-value		6.46**	6.80**	10.5**	8.00**	7.71**

\*\* Significant at 0.01 level.

The results in table 5 reveal that the scores of male Kabaddi players (4.80) are higher than the female Kabaddi players (3.96) in security. The t-value (6.46) is significant at 0.01 level. This reveals that there is significant difference between the players of two genders in the need for security. It appears that male Kabaddi player's aspire for the higher security in greater degree depending upon their personal as well as social needs. Where as the need for security is lower with regard to female Kabaddi players. In the area of need for aggression the mean score of male players (4.31) is higher than the female Kabaddi players (3.29). The t-value is (6.80) significant to suggest profound difference in need for aggression between the two genders obviously the male Kabaddi players have higher need for aggression which is a necessary component in Kabaddi game. The need for achievement of male players is relatively higher than the female Kabaddi players. The mean score of male Kabaddi players is 4.56 and of female Kabaddi players 3.51. The t-value is significant. This clearly reveals that the need for achievement is significantly higher in male Kabaddi players than the female Kabaddi players. The male Kabaddi players have higher need for power than female Kabaddi players. This is evident through the higher mean score of male Kabaddi players on the need for power. The t-value is significant on the need for power. Thus the results clearly bring out that the need pattern of male Kabaddi players are significant from female Kabaddi players. The male players have higher need for security, aggression, achievement and power. Where as female Kabaddi players higher need for affiliation. This clearly depicts the cultural, social, political and emotional differences of the persons belonging in two different genders.

Table 6

Mean, SD and t-value of Locus of Control of Kabaddi players belonging to two States (N=126)

State		LOC-P	LOC-C	LOC-I
Karnataka	M	15.02	18.26	34.86
	SD	4.34	5.30	7.38
Andhra Pradesh	M	23.93	27.94	28.09
	SD	5.44	6.28	6.49
t-value		14.31**	13.07**	7.70**

\*\* Significant at 0.01 level.

The results given in table 6 clearly reveal that the scores of Maharashtra Kabaddi players (23.93) are higher than Karnataka Kabaddi players (15.02) in locus of control-P. The higher score of Maharashtra Kabaddi players indicate the fact that the individual behavior is controlled by the other powerful persons. The lower score of Karnataka Kabaddi players indicate the fact that the individual behavior is not controlled by the other powerful persons. The t-value of 6.85 is significant at 0.01 level which indicates that there is significant difference between the two states with regard locus of control - P.

The mean score of Maharashtra Kabaddi players (27.94) is higher than the Karnataka Kabaddi players (18.26) in locus of control-C. This clearly indicates the behavioral outcome of Maharashtra Kabaddi players is significantly influenced by the chance factor, fate and luck. The t-value (4.87) is significant at 0.01 level.



The mean score of Karnataka Kabaddi players (34.86) is higher than the Maharashtra Kabaddi player (28.09) in locus of control-I. This clearly indicates that the Karnataka Kabaddi players have individual ability to control their behavior. The t-value (3.69) is significant at 0.01 level. Therefore it can be concluded the Karnataka Kabaddi players have belief in their ability that controls their behavior. However, the Maharashtra Kabaddi players are found to be controlled by the powerful others and chance factor rather than their own ability.

Table 7

Mean, SD and t-value of Locus of Control of Kabaddi players belonging to gender (N=126)

Sex		LOC-P	LOC-C	LOC-I
Male	M	15.11	18.24	34.28
	SD	3.96	5.06	6.64
Female	M	22.64	28.34	29.09
	SD	4.88	5.59	6.14
t-value		13.39**	14.38**	6.42**

\*\* Significant at 0.01 level.

The results given in table 7 clearly reveal that the scores of female Kabaddi players (22.64) are higher than male players (15.11) in locus of control-P. Therefore it can be concluded the male players have belief in their ability that controls their behavior. However, the female Kabaddi players are found to be controlled by the powerful others and chance factor rather than their own ability.

### CONCLUSIONS:

The Karnataka Kabaddi players have significantly higher score on personality factors of 'B' (More intelligent, abstract thinking, bright), 'C' (Emotionally stable, faces reality, calm, mature), 'E' (Assertive, independent, aggressive, stubborn), and 'Q1' (Experimenting, critical, liberal, analytical, free-thinking) than of Maharashtra Kabaddi players. The Maharashtra Kabaddi players have higher scores on personality factors of 'F' (Happy Go Lucky, impulsively, lively, gay, enthusiastic, 'G' (Conscientious, preserving, staid, rule-bound), 'M' (Suspicious, self-opinion, hard to fool) and 'Q2' (Self sufficient, prefers own decision, resourceful) than of Karnataka Kabaddi players. The male Kabaddi players have significantly score higher on personality factor on 'A' (Outing, warm hearted, easy going, participating), 'H' (Venturesome, socially bold, uninhabited, spontaneous), 'L' (Suspicious, self-opinioned hard to fool) and 'O' (Apprehensive, worrying, depressive, troubled) than the female kabaddi players. The female Kabaddi players have scored significantly high on personality factor 'Q1' (Experimenting, critical, liberal, analytical, free-thinking) than the male Kabaddi players.

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## A Comparative of Physical Fitness among Athletes and Non-Athletes

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### **Introduction:**

The win-at-all-costs approach is well-documented in the literature of sports psychology. Vallerand and Losier (1994) suggest, "Playing to win at all costs may lead an athlete to cheat in order to reach his or her goal" (p.230). Furthermore, studies have shown that athletes point to their coach as having a heavy influence on their decisions to win-at-all-costs (Guivernau & Duda, 2002; Stephens & Bredemeier, 1996). The win-at-all-costs approach may lead athletes to sacrifice all for (the cause (Rudd & Mondello, 2006). The Canadian Sport for Life movement, which tries to improve the quality of sports and physical activity in Canada, published a 7-stage Canadian model of Long-Term Athlete Development (LTAD). They argue, "Athletes' environment is geared to the short-term] outcome-winning-and not to the process, and as an outcome there are bad habits developed from over competition focused on winning" (p-17).

Indeed, professional athletes will endanger their health and sometimes their future by competing when injured<sup>1</sup>. Some professional athletes are willing to use drugs in order to improve their performance and increase their chance of winning. Using drugs puts the athlete's health and future reputation at risk". In 1999, the Department of Industry, Science and Resources in Australia published a report on professional sports in Australia. The report mentions the common use of drugs in professional sports and the Australia's anti-drugs in sport programs.

### **Methodology:**

Aim and Objective of the study;

1. To find out the physical fitness among athlete and non-athlete.

### **Hypotheses:**

Athlete have significantly better physical fitness than the non-athlete.

### **Sample:**

For the present study 100 Sample were selected from Dr Babasaheb Ambedkar Marathwada University, Aurangabad, 50 subjects were athlete and 50 subject's non-athlete. The age range of subjects was 18-26 years Ratio were 1:1;

### **Tools:**

Physical Fitness:

Pune University Physical Fitness test was used for measuring Physical Fitness.

Procedures of data collection

For data collection first permission has been taken from respective sources than the despondence has been selected for data collection. Personal data sheet (PDS) has been given to collect the preliminary information with respect to subject's related variables then standardized test administer to the subjects. Before that rapport was established with subjects- And they have been told that their responses were kept confidential and the information is used for research purpose only.

### **Variable:**

Independent variable : 1) Players

a) Athlete

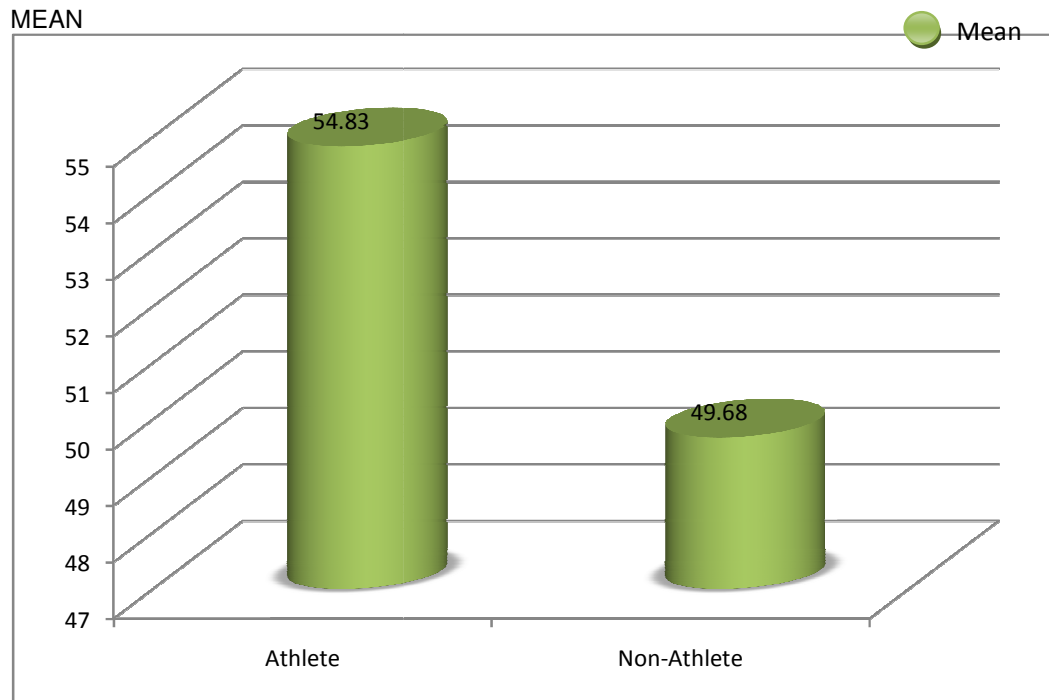
b) Non-Athlete

Dependent Variable : 1) Physical Fitness

## Statistical Analysis and Discussion

Athlete and non-athlete, Shows the mean S.D and t value of Physical fitness

Players	MEAN	SD	SEM	N	DF	't'	P
Athlete	54.83	3.74	0.53	50	98	7.31**	<0.01
Non- Athlete	49.68	3.29	0.47	50			



The result's related to the first hypothesis have been recorded In Table Mean of physical fitness score of the athlete is 54.83 and that of the non-athlete 49.68, The difference between the two mean is highly significant  $t' = 7.31$ ,  $df = 58$ ,  $P < 0.01$ . Thus the first hypothesis is confirmed athlete have significantly better physical fitness than the non-athlete.

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## **The study of participation and performance of Banjara Samaj from Kalamnuri Taluka of Higher Secondary School Boys Student**

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Dr. Manik M. Rathod, Asst. Prof., M.S.M.'s College of P. E, Khadkeshwar, Aurangabad.**

### **ABSTRACT**

A thousand year ago there were two continent namely goandwan and north lorosia were there. In that period India, Africa, Australia, South Africa, South America and Antarctica Ocean were the parts of goandwan contanent. am capable to build the northern region and western goandwan land and rest four direction of the continant. What do you think of ourself infront of me first you give the answer of my puzzle which I had asked you and there after you can go to your country. In today's world also we can see that villages are situated near the foot of the mountains. Due to the headache of re-development of villages there were no permanent markets, building and Bungalows. Due to this following reason they have taken the promise not to build the permanent houses till the year 1950 the village were made up of grass & wood. They had adopted the habit in living in temporary houses, so they were afraid of not making. Permanent houses. In behind of all this reason they were use to live in natural environment.

Today scheduled tribes development works on up to the last stage must have taken in hands, then this societies destroyment must be over. But this didn't happened. Because of this today these societies, social, educational and financial conditions are in critical condition.

There is banjara samaj in kalamnuri taluka. To see level of participation in the secondary school student of kalamnuri taluka and which level they played the games. And what all games and which level? What is the performance of the children in taluka, disitric,divisional, state & national level. The re-researcher had choosen this subject for the study.

**Limitation:** In kalamnuri taluka the banjara cast students teaching abilities are limited.

The problem to this study in kalamnuri taluka student is limited between 11<sup>th</sup> to 12<sup>th</sup> standard.

In kalamnuri taluka secondary school boye student participation level in the student is limited between 9<sup>th</sup> to 10<sup>th</sup> standard.

### **Importance:**

There is need of study of participation of higher secondary school student of kalamnuri taluka.

There is a need of study for the sports training given to the higher secondary school boys student of kalamnuri taluka.

To study the performance of the players of the Banjara cast (society) in Kalamnuri Taluka.

### **Assumption**

There is mass participation of the Banjara Society in Kalamnuri Taluka.

There is general performance among the players in Banjara cast student of Kalamnuri taluka.

11<sup>th</sup> to 12<sup>th</sup> standard boye student players participatated in more quantity.

There is not a sufficient arrangement in higher secondary boye school of kalamnuri taluka.

The sports training are not given in the higher secondary school of kalamnuri taluka.

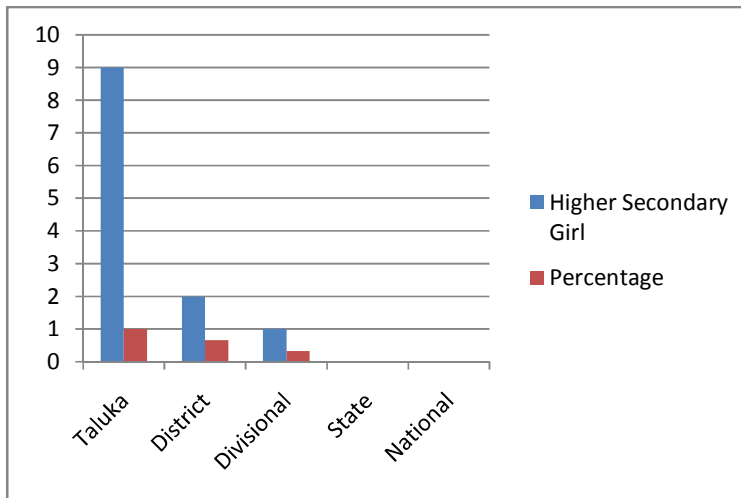
### **Methodology**

Researcher used the survey research method for presenting the research in the taluka of kalamnuri. There are 05 Higher secondary school. Kalamnuri is a taluka place, so researcher must keep this thing in mind and he used sunsign method and researcher get field questiongs from the teacher of that school as well as from the student of that school.

As well as from the period of 2009-2010 the researcher get all the information of the performance performed by the students in various levels and also get the records of attending the competition.

Researcher used the obsellation interview question for the collecting information and from the observation he noted all the information. On which state participation of students is done? Related to this middle school students suggestion

Levels	Higher Secondary Girl	Percentage
Taluka	09	100%
District	02	66.67%
Divisional	01	33.33%
State	00	00%
National	00	00%
Total	09	



If the question stand about the participation in the various stages of higher secondary school boye students then we can say that 100% student participate in taluka level. 22.22% in district level, 11.11% in divisional level and there is non participation for state and national level.

#### Results and Discussion:

If we see the dig we can conclude that the participation in taluka level, distric, divisional level is good there is no pair in self level and we sea that the student of Higher secondary school boye.

For the best performance of the student the physical teacher should take a advantage and he should motivate to the student, he should attend the best guide, best coach of particular game and also arrange some scholarship,Higher secondary boys student. In the kalamnuri taluka the use of the equipment of in the school is not completely so the P.T. should have complain knowledge about the use of equipment and they should have available of full set of equipment. In the rural area due to non coaching the student also don't get the knowledge about equipment and this in a most impression remain of the unlikeness of the game for that students as well as the interest, this performance and this participation is also in few quality and poor. So the Maharashtra gov. should be work on P.T. **training basic principal behavior and the action.**

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## Motivation Matters Challenges in Every Individual Performances

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**Introduction:** Start with good people, layout the rules, communicate with your employees, motivate them and reward them when they perform. **Management Matters:** If you have a team of people reporting to you, then supervising them takes time and needs both consideration and care. It does not matter whether the team is just a handful of people or an entire organization; the principles are the same. So too is the measurement that is applied. Your competences as a manager will be judged not solely on what you do yourself, though this is doubtless important, but on the combined performance of you and your team all of them, in all their aspects. And there is no doubt that people who are well motivated perform better than those who are not. The days of just telling people what to do, if they ever truly existed, are long gone. Staffs are more demanding of their employers than in the past. They want to know what is going on, they want to be consulted and they want to be involved. They want to feel that whatever they do it has some real worth and they preferably want it to have an element of enjoyment, certainly of satisfaction. When people are content in these kinds of ways they will perform well. So, if you motivate your people well, they will perform better than if you do not (and certainly better than when they feel management is actively antagonistic in some way). And the incentive for doing so is that a successful team not only gets the job done whatever that is but reflects well on whoever manages them also. Motivation increased efficiency, effectiveness and productivity, and make it more likely that whatever results are targeted will be hit. Conversely, its lack increases the time management takes, the endless checking up, argument and hassle that comes the manager's way when people are at a low ebb motivationally and thus take their eye to some extent off the ball.

Let us be clear. If a group of people is not motivated, the results can specifically include the following.

Increased:

Absenteeism

Waste of time - breaks, conversation (unrelated to work) and private tasks (from telephoning friends to surfing the internet).

Gossip and, at worst, active rumour-mongering or disruption of others;

Bucking of the system (eg. Embellishing claims for expenses);

Challenging of policy;

Bureaucracy.

Reduced :

Care, and thus lower quality of work;

Pace of work.

Willingness to take responsibility;

Level of creative contributions;

Punctuality (eg., being late for meetings or finding reasons to go home early);

Attention (eg to management instructions, leading to errors);

Maintenance of the organization culture.

This is a list to which you can doubtless add. The small details are important, and any combination of symptoms is possible. The net outcome in terms of results is clear. So too is the way the management job increases and become more difficult when motivation is low. The advantages of good motivation are also clear from the list above (absenteeism is reduced and so on). Again many combinations of advantages may come from it, and much of the success is the detail. For example, the well-motivated person one who is prepared to put himself or herself out that much more than others -can make a big difference to results and this can be multiplied by the number in the team. Being well motivated can also make work more fun, and do so for both motivated and motivator. All in all, motivating people, is a key aspect of any manager's job. It is not as many

sometimes be thought, just a good thing to do'-it is a tool, like any other, that can directly influence the achievement of results. The sample formula, shown below, makes the point: performance in all its aspects is inherently tied in with motivation. Any manager ignores the motivation of their people at their peril.

Performance — (Ability + Knowledge) X Motivational Feeling.

If you understand the motivation process, first in terms of the basic human psychology involved, and also by having an ordered and logical 'shopping list' of motivational possibilities that you might deploy, then what must be done becomes straightforward. It may still take time and effort, and it must still be fitted in with other matters. But certain individual actions can become routine - some things can benefit from becoming habit and in this way some activity can be fitted in without major time commitment. There can then remain time to take a creative view of the process too, for it needs more than routine action. Motivation should not simply satisfy people (sometimes with them hardly being aware that influence is being brought to bear), it should occasionally surprise them. Motivation is a core skill. Used well it allows managers, and their staff achieve more potentially much more. If you want to be judged a successful manager you must cultivate suitable motivational skills. The rewards are in the results that it helps ensure will follow. Within this context, management probably has a tougher job to do than at any time in the past. The fast pace of technology provides one major ongoing example with the job of coming to terms with and getting to grips with, new equipment and the processes it involves all the time. The information technology revolution is just a part of that. Managers under pressure, particularly what they see as unreasonable pressure, can respond by taking it out on those nearest them, and in the office this is their staff. Yet they may be under pressure too and the whole difficulty increases as relationships between the two parties decline. Though many, most even, thrive from being under some pressure, clearly too much pressure is ultimately likely to affect people's performance adversely.

Motivation in context: What is important is the relationship between this sort of reality, and the attitude taken to it and the process of motivation. It is easy to underrate the need to spend time motivating people and even easier to do so when you are under pressure and could perhaps do with a bit of motivation yourself. Allowing this to happen must be avoided. If times are tough, the pressure is on and still results must be achieved, that is surely precisely the time when you want your staff to be performing well, when you want them to be largely self-sufficient, and when-logically-they must be well-motivated. The time you spend on the process may be all sorts of things useful, desirable, a good thing but it is also costly and time effective. It works, motivating people has a direct link with results. So, ultimately, the reason for doing it and doing it well is to help you achieve the results you want. Given the support of your staff it can engender, it may even make your own life a little less stressful.

## **A study on the sports performance in relation to select personality factors of Sports persons**

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**Abstract:**Personality needs play predominant role in the selection, training and achieving high motivation and performance in various educational activities. The scientific evidence obtained from different investigations has revealed that apart from somatic and psychological variables etc. High level of sports performance and motivation depend upon their psychological make up. Aim of the study is a study on sports performance in relation to select personality factors of Sports persons, the study was initiated by randomly selecting a sample of 120 students who had studied in B.P.Ed in Gulbarga University, Gulbarga. The study was done using Kerala university personality scale with the sub scales such as test anxiety, self reliance, social skills, family relation, education environment, sports performance was taken in terms of the aggregate marks obtained by the subjects in their previous examination. For Comparison statistical analysis was done by calculating man, standard 't' table. It was concluded that personality factors are significantly related to the sports performance.

### **Introduction**

Sport psychology as a distinct field of study and research specifically dedicated to the understanding and modification of human behaviour in athletic-setting, the researchers (psychologists, physical educationists coaches) seriously began to take interest in the search for those psychological factors—both genetic and environmental—which seemed to have the strongest relationship with athletic performance. The major aim of these efforts was to diagnose and predict performance in the basis of various personality factors as well to improve trait extraversion introversion because it has been argued that this is the trait for which elite sports persons score higher than is expected (Eysenck, Nias and Cox 1982; Hardman, 1973), as compared with normative data. The personality needs play predominant role in the selection, training and achieving high motivation and performance in various educational activities. The scientific evidence obtained from different investigations has revealed that apart from somatic and psychological variables etc. High level of sports performance and motivation depend upon their psychological make up..

Personality is not just a collection of so man traits or characteristics. For instance, by only counting the bricks, how can be desirable the wall of a house, actually, personality is more this; it is an organization of psychological systems or some behaviour characteristics and functions as a unified whole. Just as an elephant cannot be described as a pillar only by examining its legs an individual personality can not be judged by only looking at his physical appearance or his socioability. The personality of an individual can be assessed only by going into all the aspects that compare his totality. The present study is concerned with the level of sports performance among the Sports persons and its relationship with select personality variables.

### **Hypothesis of the study**

There is significant relationship between select personality factors and sports performance.

There is a significant difference in the level of sports performance among Sports persons.

### **Research Methodology**

The study was initiated by randomly selecting a sample of 120 students who had studied in B.P.Ed in Gulbarga University, Gulbarga. The study was done using Kerala university personality scale with the sub scales such as test anxiety, self reliance, social skills, family relation, education environment, sports performance was taken in terms of the aggregate marks obtained by the subjects in their previous examination. For Comparison statistical analysis was done by calculating man, standard't' table.



## Discussion

Table 1: Mean, SD and critical ratio computed for sports performance scores of Sports persons grouped on the basis of select personality factors( n-Anxiety test)

Variable	Groups	M	SD	't'
Personality factors ( n-Anxiety test)	High	35.32	3.30	2.23
	Low	34.70	2.56	

\*Significant at 0.05 level of significance

The above table shows that Personality sub factor high test anxiety were found to higher mean score of sports performance than those having low test anxiety. The mean difference being statistically significant at 0.05 level indicates that test anxiety is positively related to sports performance.

Table 2: Mean, SD and critical ratio computed for sports performance scores of Sports persons grouped on the basis of select personality sub factor n-Self Reliance

Variable	Groups	M	SD	't'
n-Self Reliance	High	34.14	3.54	3.54
	Low	35.25	3.05	

\*Significant at 0.01 level of significance

The above table shows that the mean score of sports performance of Sports persons with high self reliance was found to be 34.14 while the pupils with low self reliance was found to be 34.70 and the mean difference between the two groups was found statistically significant at 0.01 level of significance. This indicates that self reliance is negatively related to sports performance.

Table 3: Mean, SD and critical ratio computed for sports performance scores of Sports persons grouped on the basis of select personality sub factor n-Social skills

Variable	Groups	M	SD	't'
n-Social skills	High	35.08	3.25	0.94
	Low	35.37	3.15	

The above table shows that Social skill of pupils was not found related to the sports performance.

Table 4: Mean, SD and critical ratio computed for sports performance scores of Sports persons grouped on the basis of select personality sub factor n-Family relation

Variable	Groups	M	SD	't'
n-Family relation	High	35.87	3.05	4.05
	Low	34.37	3.48	

\*Significant at 0.01 level of significance

The above table shows that students with high family relation were found to be more performance oriented than those with low family relation. The mean difference between high and low groups on this variable was found statistically significant at 0.01 level.

Table 5: Mean, SD and critical ratio computed for sports performance scores of Sports persons grouped on the basis of select personality sub factor n-Education environment relation

Variable	Groups	M	SD	't'
n-Education environment relation	High	35.85	2.96	4.33**
	Low	34.48	3.68	

\*\*Significant at 0.01 level of significance

The above table shows that students better in education environment relation were found to be more performance oriented than those with low school relation. The mean difference in a sports performance scores of the high and low groups was found statistically significant at 0.01 level.

**Conclusion:** It was concluded that the personality factors like anxiety and other similar undesirable ones are incompatible to effective performance on the part of the students, pupils having high test anxiety were found to have higher mean performance score than low group on anxiety as revealed in the presents study pupils having low self reliance have higher mean performance score than those having high self reliance. The natural phenomenon is supported by the finding that students who are better related to home and to education environment have higher mean performance scores than those who are less desirably related to them.

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## **A Study On The Environmental Awareness Among Primary School Teachers On The Basis Subjects, Region And Gender Of Gulbarga District**

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### **ABSTRACT**

Environment is the sum total of all conditions and influences that effect the development and life of organisms including human beings. The aim of the study is a study on the environmental awareness among primary school teachers on the basis subjects, region and gender of Gulbarga district for this investigation investigator has taken 180 samples in which rural, urban and male and female primary school teachers. The environmental awareness scale is developed by investigator. Results revealed that science teachers, have higher environmental awareness than social science and language teachers. Urban teachers have higher environmental awareness than rural primary school teachers.

### **INTRODUCTION**

Environment is the sum total of all condition and influences that effect the development and list of organisms the development and life of organisms including human beings from ancient times man has been serious minded about environment (prakrity) and its basic philosophy has been and of harmony with nature. Apart from the Vedic and Upanishad concepts of human dependence on nature, which are partly religious and signified. Partly aesthetic and ethical, there was a more exudes effort to understand nature and relate it to human well being by Buddhists, Jains, Hindus and Moguls. Further, our ancient literature is full of prayers/worships addressed to nature. Goods have been identified with nature. Wild animals and men, day, marat agni vaman, mitra, prithivi and usha are the mearnations nature. Nature is an embodiment of satyam. Shivam and Sudaram (truth, beauty and goodness) the five elements. Fire, water, air, earth and space have been considered to be the basic building books of this university and there is a threats of unity running through the world. Deterioration in my one element inevitable effects the other four elements. If the deterioration is for short term, it repairs itself and reverts to the original state but if the deterioration continues, the whole system including other life forms is thrown out of gear. If therefore goes without saying (Kaur et al., 2003) that the very existence survival and progress of man on earth depend on the quality of environment.

Hence, we want to secure the future of our environment, we have to create awareness about environment and attitude of caring and sharing of natural resources in the mind of those who are the future of our nation. It is the duty of teacher to promote and develop awareness and attitude about environment by identifying and using the most effective method. So the present study has taken.

### **AIM OF THE STUDY:**

A study on the environmental awareness among primary school teachers on the basis subjects, region and gender of Gulbarga district.

### **OBJECTIVES OF THE STUDY:**

To study the environmental awareness among the different subject primary school teachers.

To study the environmental awareness among the rural and urban primary school teachers.

To study the environmental awareness among the male and female primary school teachers.

### **HYPOTHESIS OF THE STUDY:**

There is significant difference between the social science language and science teachers in their environmental awareness.

There is a significant difference between rural and urban primary school teachers in their environmental awareness.

There is a significant difference between the male and female primary school teachers in their environmental awareness.

### **METHODOLOGY:**

The data for the present study were collected by administering an environmental awareness inventory developed by the investigators. The subject of the study consisted of 180 primary school teachers

selected using satisfied random sampling technique. Data were analyzed by through the statistical analysis.

## RESULTS AND DISCUSSION:

Table 1

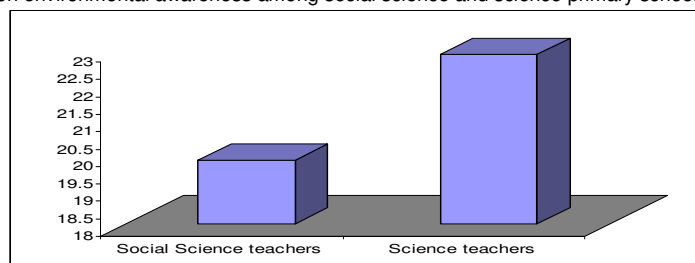
Mean, SD, 't' test on environmental awareness among social science and science primary school teachers

Variable	Group	N	M	SD	't'
Environmental awareness	Social Science teachers	60	19.82	4.69	8.40**
	Science teachers	60	22.86	4.48	

\*\* Significant 0.01 level of significance

Graph 1

Mean on environmental awareness among social science and science primary school teachers



The above table shows that mean science teachers scores is greater than social science teachers the obtained 't' value 8.40 is significant at 0.01 level of significance. Hence, there is significant difference between social science and science primary school teachers in their environmental awareness.

Table – 2

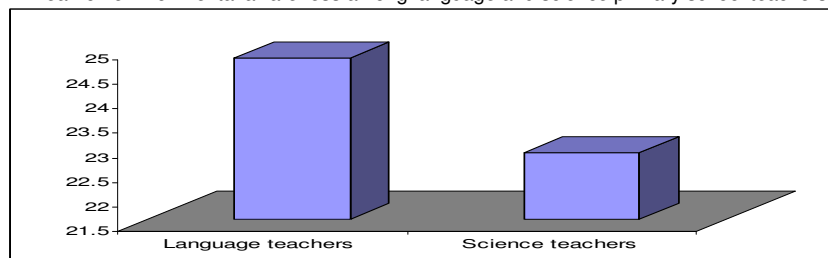
Mean, SD and 't' test on environmental awareness among language and science primary school teachers

Variable	Group	N	M	SD	't'
Environmental awareness	Language teachers	60	24.79	3.36	5.90**
	Science teachers	60	22.86	4.48	

\*\* Significant 0.01 level of significance

Graph – 2

Mean on environmental awareness among language and science primary school teachers



The above table shows that the obtained 't' value 5.90 is significant at 0.01 level of significance. Hence, there is significant difference between language and science teachers in their environmental awareness.

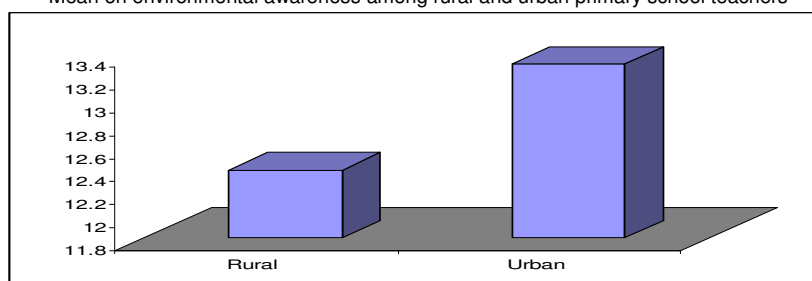
Table – 3

Mean, SD and 't' test on environmental awareness among rural and urban primary school teachers

Variable	Group	N	M	SD	't'
Environmental awareness	Rural	90	12.39	2.51	4.18**
	Urban	90	13.31	2.56	

\*\* Significant 0.01 level of significance

Graph – 3  
Mean on environmental awareness among rural and urban primary school teachers

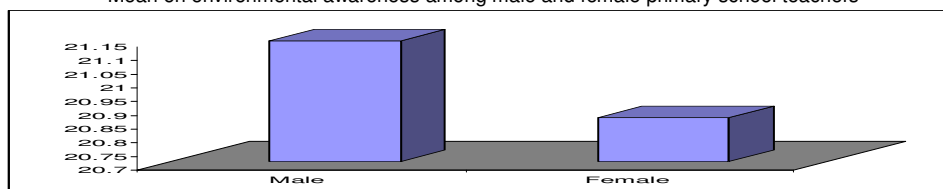


The above table shows that the obtained 't' value 4.18 is significant at 0.01 level of significance. Hence, there is significant difference between rural and urban primary school teachers in their environmental awareness.

Table – 4  
Mean, SD and 't' test on environmental awareness among male and female primary school teachers

Variable	Group	N	M	SD	t'
Environmental awareness	Male	90	21.14	6.53	0.37
	Female	90	20.86	5.11	

Graph – 4  
Mean on environmental awareness among male and female primary school teachers



The above table shows that the obtained 't' value 0.37 is not significant at 0.01 level of significance. Hence, there is no significant difference between male and female primary school teachers in their environmental awareness.

### CONCLUSION:

It was concluded that environment is the sum total of all conditions and influences that effect the development and life of organisms including human beings. Hence, the social science, language and science teachers differ significantly in environmental awareness. The science teachers have higher environmental awareness than the social science and language teachers. The teachers working in urban schools are more aware about environment and its related problem than the teachers working in rural areas and both male and female primary school teachers have equal environmental awareness.

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**Medial side foot length from the horizontal axis of the ankle and Foot area while standing plantar flexed as determinants in long jump performance among previously untrained school children**

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**Abstract**

**Background:**Take off part largely determines the long jump performance. Longer the time spent by the foot at the take off board and loss of force into the ground could lead to ineffective take off. Longer foot need more angular distance before it is cleared at the take off board and also the take off area of the foot becomes larger may also lead to the loss of force transmission due to force dissipation through the larger area of foot. This study was to analyze the correlation among the medial side foot length from the horizontal axis of the ankle, foot area while standing plantar flexed and long jump performance.**Methods:** 200 school boys in the age group of 12 to 14 years participated. Foot area while standing plantar flexed was measured by graph weighing method. Medial foot length was measured from the horizontal axis of the ankle ie centre of medial malleolus. All the subjects height was 5 ft and non obese without any prior regular athletic training. Partial correlation was applied to analyze the correlation. **Results:** Significant negative correlations were found between foot area and the performance( $r = -0.325$ ;  $P < 0.003$ ) and between foot area and performance ( $-0.418$ ) at 0.05 level of significance (0.1948). The negative correlation between foot area and the performance was found decreased slightly but remained significant ( $r = -0.263$ ;  $P = < 0.0087$ ) when the effect of foot area was removed through first order partial correlation. The negative correlation between foot area and performance was also found slightly reduced but still to significant level ( $r = -0.375$ ;  $P < 0.0001$ ), when the effect of foot length was removed through partial correlation of first order.

**Conclusion:** The long jump performance among the individuals decreases with the increase in the area of the foot and increase in length of the foot.

**Key words:** Foot area, ineffective take off, force dissipation, loss of force.

**Introduction:**The kinetics of the foot may play a vital role in performances like running, jumping and other sporting activities (Orendurff MS et.al. 2008) Different aspects of the foot like foot arch, length of the foot, forefoot and rear foot ratio and angle, structure of the metatarsophalangeal joint of the foot etc are important one which may play role in influencing the force factors of the performance of activities(Nachbauer W et.al. 1992 and Queen RM et.al. 2009). The very vital phase of the long jumping is take off and this phase certainly has lot of influence on the long jump performance. The take off from the ground needs ground reaction force created at the take off point. The force sent into the ground by the plantar flexion force of the foot may be one factor that influences much. But, the force generated from the muscles of the leg and sent through the foot into the ground must not be dissipated and lost to create an effective take off through effective ground reaction forces (Davis DS et.al. 2006, Ledoux WR et.al. 2002 and Nagano A et.al. 2005). The kinetics of the foot could lead loss of force generated leading to ineffective take off (Dorn TW et.al. 2011, Freychat P et.al. 1996 and Lees A et.al. 2005). The effective and precise transmission of the force generated at the foot contact point into the ground requires positive kinetics of the foot (Nigg BM. 2005).

**Methods:** Two hundred male school children in the age group of 12 to 14 years participated in the study. The individuals for the study were included on the basis individual acceptance and voluntary participation. The height of the individuals was also ranged between 148 cm to 152 cm and this restriction of height neutralized one factor that might influence the long jump performance. The two variables of foot kinetics correlated with the Long jump performance (X) were medial side foot length from the horizontal axis of the ankle (Y) and fore foot area while standing plantar flexed (Z). The medial foot length of the individuals was measured from the horizontal axis of the ankle ie from the centre of the medial malleolus to the tip of the big toe in centimeters. The fore foot area while standing plantar flexed was measured through the graph weighing method in square centimeters. The inked fore foot area was initially marked on the graph papers while the individuals stood on the planter

flexed position ie heel raised position. If the length of the foot is more the angular distance of the take off to the tip of the toe also increases and if the fore foot area while standing plantar flexed increases the ground reaction force may come down as the force dissipation or loss of force during the take off may be more. Zero order correlation and First order partial correlations were applied to analyse the correlational aspects of the long jump performance and other two independent foot kinetic variables.

Results: The zero order correlation as indicated in table 1 reveals that there are significant negative correlations between the long jump performance and the medial side length of the foot from the horizontal axis of the ankle (-0.325), and between Long jump performance and the fore Table 1. Zero order correlation between the three variables: Long Jump performance (X), Medial Foot length (Y) and Fore foot area while standing Plantar flexed (Z). Critical value of  $r = 0.195$

Correlated variables	Correlation (r)	P
XY	-0.325(Sig)	<0.0007
XZ	-0.418(Sig)	<0.00089
YZ	0.221 (Sig)	0.0013

Fig 1. Correlation scatter gram between long jump performance(X) and medial side foot length(Y).

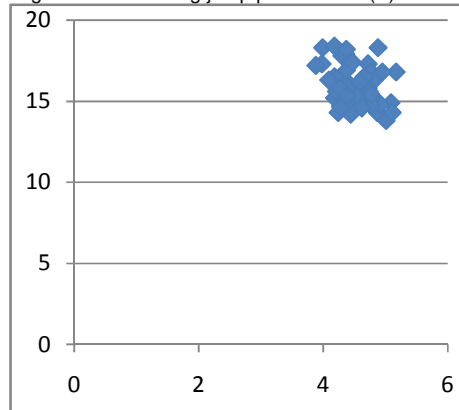
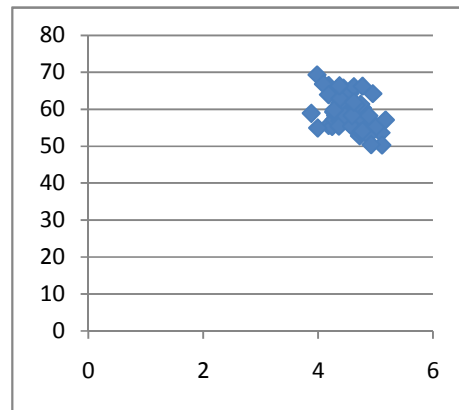


Fig 2. Correlation scatter gram between long jump performance(X) and fore foot area while standing plantar flexed(Y).



foot area while standing plantar flexed (-0.418). This initially indicates that the medial side length of the foot increases the long jump performance decreases and if the fore foot area while standing plantar flexed increases the long jump performance decreases and vice versa. When the effect of the fore foot area while standing plantar flexed was partialled out the negative correlation between the long jump performance and the medial side length of the foot from the horizontal axis of the ankle slightly reduced but the correlation was significnat (-0.263). When the effect of the medial side length of the foot from the horizontal axis of ankle was partialled out, the negative correlation between the long jump performance and the fore foot area while standing plantar flexed was also decreased slightly but still the correlation was significnat 9-0.375).

Table 2. First order Partial correlation for the three variables of the study (Critical value = 0.195)

Correlated variables	First order Partial Correlation @	P
XY.Z	-0.263(Sig)	<0.0087
XZ.Y	-0.375(Sig)	<0.0001
YZ.X	0.099 (N. Sig)	0.3295

**Discussion:** Foot kinetics play important part in channelizing the force elements during the take off. The force inserted into the ground at the take off point through the foot must not get dissipated or spread to get back the maximum ground reaction force and to insert maximum velocity in to the take off. The loss of force may lead to the loss of final velocity at the take off point and loss in the distance achieved in long jump. The minimum loss in ground reaction force makes the take off velocity maximum and the performance to maximum and vice versa. Longer the foot needs more time to complete the take off process and in the process may lose some portion of the force produced by the muscles of lower leg, as longer foot takes longer angular distance (Powell DW et.al. 2011 and Wong PL et.al. 2007). The results of the study indicated that there was negative correlation between the long jump performance and the medial side foot length from the axis of the ankle, which predicts that the longer the foot the long jump performance may get affected negatively. This could be because of more time needed to travel the longer angular distance before the take off which may cause to lose vital percentage of force into the ground and hence the ineffective ground reaction force ultimately. Another aspect of foot kinetics, ie foot area and the size of the foot may also sow significant influence on the long jump performance (Queen RM et.al. 2007). The foot area while standing plantar flexed (heel raised) is the area of the fore foot under pressure of body weight. This indicates the gross area from which the force is sent into the ground at the take off of long jump activity. If the area of the foot at this stage is more, there may be considerable loss of force that is generated by the muscles of the lower leg while sending into the ground. This loss of force show significant negative influence on the achieved ground reaction force (Cheung RT et.al. 2008 and Molloy JM et.al. 2009) at the take off and this could lead to the loss of final velocity of the body at the take off point. The foot area while standing plantar flexed indicates inter metatarsal distance and the strength of the muscles associated at the area of the foot. If the inter metatarsal distance is more the force that is sent into the ground through the fore foot might get dissipated and a lot of force might be lost making the take off most ineffective (Chuckpaiwong B et.al. 2008). This could lead to the loss of ground reaction force and loss of final velocity to the body at the take off point leading to considerable loss in long jump performance (Ridola C et.al. 2001). The study results also indicated that there was negative correlation between the long jump performance and the foot area while standing plantar flexed

**Conclusion:** The selected two aspects of foot kinetics have significant negative impact on the long jump performance. Longer the medial side foot length and larger the foot area while standing plantar flexed would cause negative influence on the ground reaction force achieved at the take off leading to loss in the long jump performance of the individuals.

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**A Comparative Study Of Physical Fitness Among Girls  
Hockey Players Of Sports Authority Of Andhra  
Pradesh And Sports Authority Of India.**

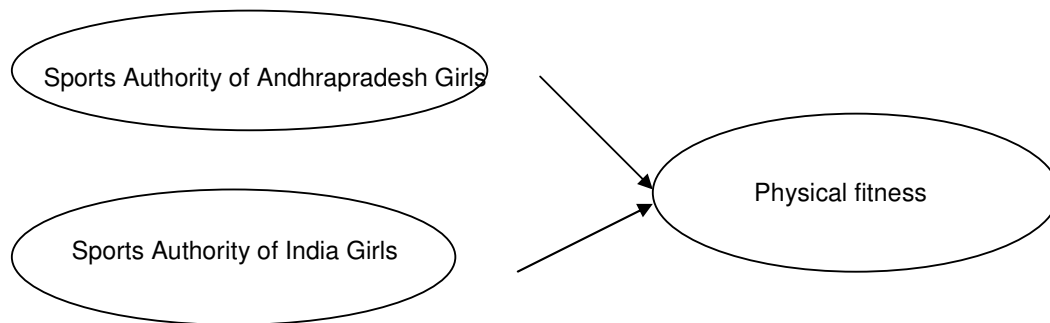
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**INTRODUCTION :**

Fitness is the term, which is widely used in the present day health conscious society. The people have realized the importance of fitness in day to day routines and also in achieving sports excellence. Fitness denotes a person status of physique in relation to its physical achievements. The latest scientific evidence also edict the fact that for internal or physiological soundness physical fitness is necessary. Modern physical educators divided the factor of fitness into skill related and Health related physical fitness. It is also an undesirable fact, that the health related physical fitness, which is main concern for physical educationists, is depended on the skill related physical fitness of an individual. It is also a high concern for a coach to develop various skills and for this the sportsperson's skill related physical fitness should be upgraded and developed. Physical fitness refers to the capacity of an athlete to meet the varied physical demands of their sport without reducing the athlete to a fatigued state. The components of physical fitness are: Strength, Endurance, Speed, Flexibility and Co-ordination.

**DESIGN OF THE STUDY:**



**TOOLS USED :** 1). 30 meters sprint: Standard Electronic Stop Watch  
2). 10x6m shuttle run Standard Electronic Stop Watch  
3). Bent & reach Measuring tape (inches / centimeters), 2 ft stool  
4). 2.4 km run Standard Electronic Stop Watch.

**SAMPLE OF THE STUDY :**

For this study 15 Girls from Sports Authority of Andhrapradesh and 15 Girls from Sports Authority of India were selected as the subjects. All the players were Specialized in Hockey and undergoing training at the different centers in Andhrapradesh.



Table Showing The Significance Of The Comparison Of Physical components Of Girls Hockey Players Of Sports Authority Of Andhra Pradesh And Sports Authority Of India.

Motor Components	Subjects	No. of Players	Mean	Standard Deviation	Standard Error
30 Mtrs sprint	S.A.A.P.GIRLS	15	5.1293	0.2085	5.385E-02
	S.A.I GIRLS	15	5.2533	0.2437	6.292E-02
10 X 6 m Shuttle run	S.A.A.P.GIRLS	15	16.7673	0.6904	0.1782
	S.A.I GIRLS	15	16.5347	0.3854	9.951E-02
Bent & Reach	S.A.A.P.GIRLS	15	15.6667	4.8648	1.2561
	S.A.I GIRLS	15	12.0667	2.5204	0.6508
2.4 KM run	S.A.A.P.GIRLS	15	11.1280	1.1530	0.2977
	S.A.I GIRLS	15	12.2733	1.3207	0.3410

The above table indicates that the comparison of all variables viz. 30 metres sprint, 10x6 meters Shuttle run, Bent and Reach and 2.4 km run in respect of Girls Hockey players of Sports Authority of Andhra Pradesh and Sports Authority of India.

The calculated value of Mean and Standard deviation on the above variable shows in (1<sup>st</sup> variable, 30 meters sprint) 5.1293 and 5.2533 respectively in respect of Girls Hockey players of Sports Authority of Andhra Pradesh and Sports Authority of India.

There is a little variation in the Mean value, as Sports Authority of Andhra Pradesh girls have less than Sports Authority of India girls and this can be interpreted that in this variable Sports Authority of Andhra Pradesh girls are better than Sports Authority of India girls.

The calculated value of Mean and Standard deviation on the above variable shows in (2<sup>nd</sup> variable, 10x6 meters Shuttle run) 16.7673 and 16.5347 respectively in respect of Girls Hockey players of Sports Authority of Andhra Pradesh and Sports Authority of India.

There is a little variation in the Mean value as Sports Authority of Andhra Pradesh girls have higher than Sports Authority of India girls and this can be attributed that in this variable Sports Authority of Andhra Pradesh girls are not better than Sports Authority of India girls.

The calculated value of Mean and Standard deviation on the above variables shows in (3<sup>rd</sup> variable, Bent and Reach) 15.6667 and 12.0667 respectively in respect of Girls Hockey players of Sports Authority of Andhra Pradesh and Sports Authority of India.

There is a little variation in the Mean value as Sports Authority of Andhra Pradesh girls have higher than Sports Authority of India girls and this can be explained that in this variable Sports Authority of Andhra Pradesh girls are better than Sports Authority of India girls.

The calculated value of Mean and Standard deviation on the above variables shows in (4<sup>th</sup> variable, 2.4 km run) 11.1280 and 12.2733 respectively in respect of Girls Hockey players of Sports Authority of Andhra Pradesh and Sports Authority of India.

There is a little variation in the Mean value as Sports Authority of Andhra Pradesh girls have less than Sports Authority of India girls and this can be explained that in this variable Sports Authority of Andhra Pradesh girls are better than Sports Authority of India girls.

## CONCLUSIONS :

Based on the results of the above study the investigator has drawn the following conclusions: Sports Authority of Andhra Pradesh Girls Hockey players have better average performance than Sports Authority of India Hockey players in speed.

This speaks that 30 meters sprint is speed event, which comes under sprinting distance. Hence Sports Authority of Andhra Pradesh Girls Hockey players are already having good speed can cover 30 meters sprint in less time compared to Sports Authority of India Hockey players. The reason is that Sports Authority of Andhra Pradesh training schedule includes mostly activities like strength training, explosive strength training and speed training.

Sports Authority of Andhra Pradesh Girls Hockey players are not having better average performance than Sports Authority of India Hockey players in 10x6mt shuttle run.

This speaks that Sports Authority of Andhra Pradesh Hockey players are not having good speed and agility. To improve speed and agility Sports Authority of India Girls Hockey players play the games which improves the agility like the kho-kho, handball basketball, Football, volleyball etc.

The average performance of Girls Hockey players of Sports Authority of Andhra Pradesh and Sports Authority of India are almost equal and there is no significant variation in Bent and Reach component. This speaks like that both are having good flexibility. To improve the flexibility in the body their training schedule includes stretching i.e. both individual and partner stretching, individual flexibility and partner flexibility.

The average performance of Sports Authority of Andhra Pradesh Girls Hockey players are higher than Sports Authority of India Hockey players in endurance.

To find out whether there is any significant difference among Girls Hockey players of Sports Authority of Andhra Pradesh and Sports Authority of India t-ratio was tabulated. The calculated value of t-ratio was higher than the table value required at 0.05 level of confidence.

The results of the study when compared with physical fitness of both the groups shows that both are not equal in physical fitness.

This speaks that Girls Hockey players of Sports Authority of Andhra Pradesh and Sports Authority of India does regularly two practice sessions in the morning and evening with each of two to three hour duration daily. Their training schedule includes to improve speed, strength, endurance, agility etc for achieving the high level of sports performance.

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## **Effect Of Green Tea And Oolong Tea Supplementation On Physiological And Psychological Variables among obese adult**

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Nutritional supplements are used for many purposes. They can be added to the diet to boost overall health and energy; to provide immune system support and reduce the risks of illness and age-related conditions, improve performance in athletic and mental activities and to support the healing process during illness and disease. However, most of these products are treated as food and not regulated as drugs.

**METABOLIC SYNDROME:** Metabolic syndrome, formerly known as “Syndrome X,” is a combination of medical disorders that increases a person's risk of developing coronary heart disease, atherosclerosis, stroke and type 2 diabetes. The syndrome's own risk factors include abdominal obesity, insulin resistance, elevated blood glucose, high triglycerides, high total cholesterol, low HDL cholesterol, high blood pressure, inflammation and excessive clotting factors in the blood. The root causes of metabolic syndrome are overweight/obesity, lack of physical activity and genetic factors. Considering our increasingly sedentary lifestyles and alarming rise in obesity rates, it's no surprise that metabolic syndrome is becoming more common in the United States, and currently affects some 50 million Americans. The good news is that a number of studies have found that green tea and oolong catechins can reduce many of the risk factors for metabolic syndrome. For example, The catechins have been shown to Reduce body fat, Lower blood sugar, Decrease triglycerides, Lower cholesterol, Lower blood pressure, And lessen the activity of clotting factors in the blood.

**GREEN TEA:** Green tea is an herb that differs from black and oolong teas because it is not fermented. Steaming fresh leaves at high temperatures produces the extract. It is rich in polyphenols, flavanols and catechins, the most widely studied is EGCG. This extract is a source of one of the highest levels of organically bound fluorine, a key mineral for bone health. Green tea serves as an antioxidant by reducing oxidative DNA damage, lipid peroxidation and free radical generation. It also provides a source of energy. There is a vast array of studies documenting the effects of green tea extracts, especially EGCG and other catechins, on gene expression leading to a restoration and maintenance of health. Joint health, heart health, cognitive and mental functions and chemoprevention are some of the attributes of dietary supplementation with these catechins

**INTRODUCTION OF OOLONG TEA:** Is a traditional Chinese tea (*Camellia sinensis*) produced through a unique process including withering under the strong sun and oxidation before curling and twisting? Most oolong productions, especially fine quality ones, involved unique tea plant cultivars that are exclusively used for particular varieties. In terms of degree of fermentation, it can range from 8% to 85%, depending on the variety and production style. The popularity of this tea category is closely tied to tea connoisseurs of south China and Chinese expatriates in Southeast Asia,

**OBESITY :** Obesity of people of all ages has reached pandemic levels worldwide during the past few decades. It is characterized by having a Body Mass Index (BMI) of at least 30.0. Clinical studies show that EGCG has numerous effects in the body that lead to weight loss. Green tea and oolong tea prevent fat from being made in cell lines, animal models, and humans. EGCG, the predominant antioxidant in green tea is generally proven to help prevent obesity. The most significant actions of EGCG in preventing obesity are the potential to inhibit proteins and enzymes that make fat and to promote proteins and enzymes that minimize fat production. Minimized carbohydrate absorption can help prevent weight gain. A combination of green, black and mulberry tea extracts were given to

healthy subjects as a blend. A high carbohydrate and high fat meal eaten while drinking the tea significantly prevented carbohydrate absorption.

**STATEMENT OF THE PROBLEM:** The purpose of the study was to find out the effect of green tea and oolong tea supplementation on physiological and psychological variables among metabolic syndrome patient

**SELECTION OF SUBJECTS:** To achieve the purpose of the study forty five adult aged men and women with metabolic syndrome people were selected from Chennai city. The age groups of the subjects were between 25 to 50 years. The subjects were divided into two equal groups namely, experimental group I and experimental group II, and each group consists of fifteen subjects

**SELECTION OF VARIABLES:** The significant of the study was to find out the effectiveness of the green tea and oolong tea supplementation on physiological variable and psychological variables among metabolic syndrome people.

**DEPENDENT VARIABLES: PHYSIOLOGICAL VARIABLES:** BMI, Waist hip ratio, Plasma glucose, Immunoglobulin, Calcium **PSYCHOLOGICAL VARIABLE:** Stress, Depression

#### **INDEPENDENT VARIABLE**

1. Experimental group I- fifteen selected subjects were supplemented with green tea
2. Experimental group II-fifteen selected subjects were supplemented with oolong tea
3. Control group-fifteen selected subjects were not given any supplements.

**EXPERIMENTAL DESIGN:** The subjects were selected for the purpose of the study through random group design consisted of pre and post test. The forty five subjects were divided into three equal groups and it was named as experimental group I, experimental group II and control group.

1. Experimental group I - green tea (20 grams / day) six weeks.
2. Experimental group II - oolong tea (20 grams / day) six weeks.
3. Control group III- were not given any supplementation

Pre test - Prior to the experiment, the lipid profile (Low Density Lipoprotein Cholesterol, High Density Lipoprotein Cholesterol, Blood pressure, Plasma glucose, Immunoglobulin, Calcium, Stress, Depression, and Body Mass Index were analysed. Post test – After six weeks of the supplementation again the lipid profile (Low Density Lipoprotein, High Density Lipoprotein), Blood Pressure, Plasma Glucose, Immunoglobulin, Calcium, Stress, Depression, and Body Mass Index were collected.

**STATISTICAL TECHNIQUE:** Analysis of co variance were used to find out the significant difference in values of the physiological and psychological variables between pre and post test. Scheffe's post hoc tests are the most standard and widely used standard statistical test and shall be deemed reliable. Scheffe's post hoc test is to be used to find out paired mean differences.

**TABLE I**  
**COMPUTATION OF ANALYSIS OF COVARIANCE OF TOTAL CHOLESTEROL (Scores in mg/dl)**

MEANS	EXP-I	EXP- II	CON	S.V	S.S	D.F	M.S	O.F	T.F
Pre test Mean	229	234.60	230.47	B	252.98	2	126.48	0.35	3.23
				W	15157.3	42	360.89		
Post test mean	202.46	226.67	194.93	B	8246.98	2	4123.4	5.57*	
				W	31090.0	42	740.24		
Adj.Post test Mean	204.17	224.32	195.58	B	6451.89	2	3225.9	5.71*	
				W	23154.2	41	564.74		

## DISCUSSIONS AND FINDINGS OF TOTAL CHOLESTEROL

This result indicated that the effect of green tea and oolong tea supplementation had significantly increased the total cholesterol among metabolic syndrome people. When compared with control group in terms of mean gains. Green tea and oolong tea has decreased total cholesterol among the control group. The further findings of the study indicated that combined oolong tea and green tea had significantly greater reduction in total cholesterol. During the supplementing period the result indicated that the green tea and oolong tea decreased the total cholesterol when compare to the control group because of the supplementing is influenced and utilized the total cholesterol. Results show that there was a vast significant difference in pre and post test among the metabolic syndrome people.

**TABLE II**  
**COMPUTATION OF ANALYSIS OF COVARIANCE OF IMMUNOGLOBIN A (Scores in mg/dl)**

MEANS	EXP-I	EXP-II	CON	S.V	S.S	D.F	M.S	O.F	T.F
Pre test Mean	190.66	199.80	210.7	B	3028.1	2	1514.	0.45	3.23
				W	141060.	42	3358.		
Post test mean	186.06	196.47	217.40	B	7640.7	2	3820.	1.21	
				W	132448.	42	3153.		
Adj.Post test Mean	194.78	197.00	208.1	B	1511.9	2	755.	1.59	
				W	19505.	41	475.		

## DISCUSSIONS AND FINDINGS OF IMMUNOGLOBIN A (IgA)

This result indicated that the effect of green tea and oolong tea supplementation had not significantly increased the Immunoglobulin A (IgA) among metabolic syndrome people. When compared with control group in terms of mean gains. Green tea and oolong tea has not increased Immunoglobulin A when compared to the control groups. The further findings of the study indicated that combined oolong tea and green tea had significantly greater reduction in Immunoglobulin A (IgA). During the supplementing period the result indicated that the green tea and oolong tea does not increase the Immunoglobulin A among the experimental group because of the supplementing is not influenced and utilized the Immunoglobulin A. Results show that there was a not significant difference in pre and post test among the metabolic syndrome people.

**TABLE III**  
**COMPUTATION OF ANALYSIS OF COVARIANCE OF IMMUNOGLOBIN B (IgB) (Scores in mg/dl)**

MEANS	EXP-I	EXP- II	CON	S.V	S.S	D.F	M.S	O.F	T.F
Pre test Mean	1008.0	913.07	792.27	B	350936.	2	175468	5.89*	3.23
				W	1251792.	42	29804.		
Post test mean	1009.0	893.93	805.40	B	312869.	2	156434	5.08*	
				W	1292139.	42	30765.		
Adj.Post test Mean	906.7	885.44	916.21	B	7233.80	2	3616.9	2.08	
				W	71238.4	41	1737.5		

## DISCUSSIONS AND FINDINGS OF IMMUNOGLOBIN B (IgB)

This result indicated that the effect of green tea and oolong tea supplementation had significantly increased the immunoglobulin B (IgB) among metabolic syndrome people. When compared with control group in terms of mean gains. Green tea and oolong tea has decreased Immunoglobulin A among the control groups. The further findings of the study indicated that combined oolong tea and green tea had significantly greater reduction in Immunoglobulin B (IgB). During the supplementing period the result indicated that the green tea and oolong tea has increase the Immunoglobulin B among the control group because of the supplementing is influenced and utilized the Immunoglobulin B. Results show that there was a significant difference in pre and post test among the metabolic syndrome people.

**TABLE IV**  
**COMPUTATION OF ANALYSIS OF COVARIANCE OF STRESS**  
(Scores in mg/dl)

MEANS	EXP-I	EXP- II	CON	S.V	S.S	D.F	M.S	O.F	T.F
Pre test Mean	18.26	17.87	16.13	B	38.58	2	19.289	2.09	3.23
				W	388.40	42	9.25		
Post test mean	8	17.47	7.73	B	922.13	2	461.07	31.10*	
				W	622.67	42	14.83		
Adj.Post test Mean	7.45	17.18	8.57	B	845.11	2	422.56	37.8*	
				W	457.25	41	11.15		

## DISCUSSIONS AND FINDINGS OF STRESS

This result indicated that the effect of green tea and oolong tea supplementation had significantly increased the stress among metabolic syndrome people. When compared with control group in terms of mean gains. Green tea increased stress among the experimental and control groups. The further findings of the study indicated that combined oolong tea and green tea had significantly greater increased in stress. During the supplementing period the result indicated that the green tea and oolong tea has increase the stress among the experimental group because of the supplementing is influenced and utilized the stress. Results show that there was significant difference in pre and post test among the metabolic syndrome people.

**TABLE V**  
**COMPUTATION OF ANALYSIS OF COVARIANCE OF DEPRESSION**  
(Scores in mg/dl)

MEANS	EXP-I	EXP- II	CON	S.V	S.S	D.F	M.S	O.F	T.F
Pre test Mean	26.3	25.38	26.30	B	8.46	2	4.232	2.36	3.23
				W	75.40	42	1.80		
Post test mean	25.1	25.33	25.23	B	0.41	2	0.20	0.10	
				W	89.98	42	2.14		
Adj.Post test Mean	24.79	25.95	24.92	B	11.01	2	5.51	17.58*	
				W	12.837	41	0.31		

## DISCUSSIONS AND FINDINGS OF DEPRESSION

This result indicated that the effect of green tea and oolong tea supplementation had significantly increased the basal metabolic rate among metabolic syndrome people. When compared with control group in terms of mean gains. Green tea and oolong tea has increased depression when compared to control groups. The further findings of the study indicated that combined oolong tea and green tea had significantly greater increased in depression

During the supplementing period showed that the green tea has increase the depression among the experimental group because of the supplementing is influenced and utilized the depression. Results show that there was significant difference in pre and post test among the metabolic syndrome people.

## CONCLUSION

1. The following conclusions were drawn within the limitation of this study
2. The obtained result shows that there was significant improvement in green tea with physiological and psychological variables among the metabolic syndrome people.
3. The obtained result shows that there was significant improvement in oolong tea with physiological and psychological variables among the metabolic syndrome people.
4. It was hypothesized that experimental group I would have significant effect on physiological and psychological variables greater than that of experimental group II

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## **A Comparative Study On Reaction Time And Movement Time Of Time Factor Games And Non Time Factor Games Among University Players Of Hyderabad**

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**Dr.V.Satyanarayana, Assoc. Professor, Dept. of Physical Education, OU**

The science of the human behaviour is really a group of sciences. On one side we find Physiology, studying the operation of the numerous organs and cells within the organism and at the other extreme we find the Social sciences, studying nations and groups of men. The middle science that focuses its attention upon the individual is Psychology. Sports Psychology is the scientific study of people and their behavior in Sports Context and practical application of that knowledge. Sports psychologist identify principles and guidelines that professionals can use to help others and children participate in and benefit from sports and exercise activities in both team and individual activity in both team and individual environment. It has two objectives in mind, one to understand how psychological factors affect and individual physical performance and two to understand how participation in sport and exercise affect a person's psychological development, health and well being. Sports psychology deals with increasing performance by managing emotions and minimizing the psychological effects of injury and poor performance. Some of the most important skills thought are goal setting, relaxation, visualization, self-talk, awareness and control, concentration, confidence, using rituals, attribution training and periodization

### **SIGNIFICANCE OF THE STUDY**

- The study may provide guidance to the physical education teachers and coaches to prepare training programmes.
- It may help the researchers who are interested in time factor and non time factor games.
- The study may add the quantum of knowledge in the area of sports.
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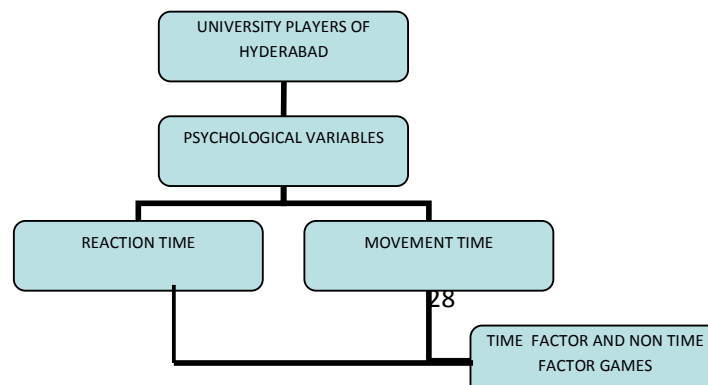
### **HYPOTHESES OF THE STUDY**

- Their may not be any significant difference between TFG and NTFG university players at Hyderabad in relation to their reaction time
- Their may not be any significant difference between TFG and NTFG university players at Hyderabad in relation to their movement time

### **OBJECTIVES OF THE STUDY**

- To find out the existing difference between TFG and NTFG university players at Hyderabad in relation to their Reaction time.
- To find out the existing difference between TFG and NTFG university players at Hyderabad in relation to their Movement time.

### **DESIGN OF THE STUDY**





## TOOLS USED

- Chronometer for Reaction Time
- Nelson Speed of Movement Test

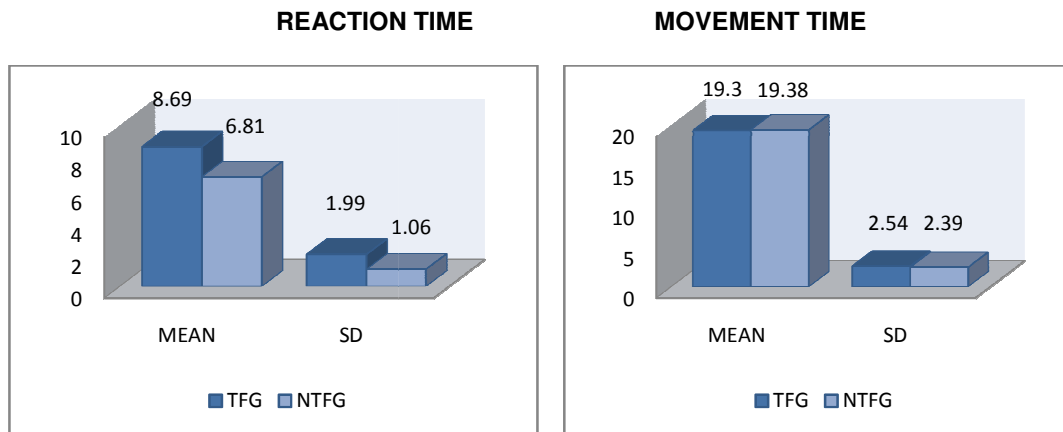
**SAMPLE OF THE STUDY** The sample was collected from Osmania University and JNTU, Hyderabad. The investigator has divided the games into Time Factor Games (TFG) - Hockey, Football Non Time Factor Games (NTFG) - Volley Ball, Lawn Tennis. 100 players of each TFG and NTFG were taken as sample

Table showing significant difference of TFG and NTFG in relation to their Reaction Time and Movement Time

Sl no	Variables	N	Mean		SD		t' ratio	P value
			TFG	NTFG	TFG	NTFG		
1	Reaction Time	50	8.69	6.81	1.99	1.06	5.91	0.01
2	Movement Time	50	19.30	19.38	2.54	2.39	0.61	0.10

Significant level at 0.05 value

GRAPH Showing the mean , sd, df and t values of TFG & NTGF University players at Hyderabad in relation to their reaction time and movement time



It was concluded that a significant difference was found between TFG and NTFG University players.

- In relation to their reaction time where in the players from non time factor games have shown better reaction time than time factor games.
- In relation to their movement time where in the players from time factor games have shown better movement time than non time factor game players.

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## Effect Of Yogic Practices And Physical Exercises On Blood Glucose And High Density Lipoproteins Among Diabetes Patients

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### ABSTRACT

The purpose of the study was to find out the effect of yogic practices and physical exercises on blood glucose and high density lipoproteins among diabetes patients. To achieve this purpose, 45 women diabetic patients were randomly selected as subjects. The age of the subjects ranged from 35 to 40 years. The subjects were divided into three equal groups of 15 subjects each in which group - I underwent yogic practices, group – II underwent physical exercises for five days per week for eight weeks and group - III acted as control who did not undergo any special training programme. The selected criterion variables such as blood glucose and high density lipoproteins were assessed before and after the training period. The collected data were statistically analysed by using Analysis of Covariance (ANCOVA). From the results of the study it was found that there was a significant decrease in blood glucose and increase in high density lipoproteins for both the training groups when compared with the control group.

### INTRODUCTION

Yoga is a practical aid, not a religion. Yoga is an ancient art based on a harmonizing system of development for the body, mind, and spirit. The continued practice of yoga will lead you to a sense of peace and well-being, and also a feeling of being at one with their environment. This is a simple definition. The practice of yoga makes the body strong and flexible, it also improves the functioning of the respiratory, circulatory, digestive, and hormonal systems. Yoga brings about emotional stability and clarity of mind. Think of this practice as being the means and tools to realign and rebalance your vehicle (body) on a regular basis. You take control and you can then become your body mechanic instead of having to pay someone else to do it (medical professionals). Since your body is finely tuned you will find that your chances for injuries and illnesses will drop as you are in a much more attuned state. You don't want for something major to happen to you before you decide to do something about it. That's reactive behavior and that's going to set you back big time, all you have to do is take action now ([www.yoga.org.nz](http://www.yoga.org.nz)).

Yoga is an ancient system of breathing practices, physical exercises and postures, and meditation intended to integrate the practitioner's body, mind, and spirit. It originated in India several thousand years ago, and its principles were first written down by a scholar named Patanjali in the second century B.C. The word yoga comes from a Sanskrit word, yukti, and means "union" or "yoke". The various physical and mental disciplines of yoga were seen as a method for individuals to attain union with the divine ([www.minddisorders.com](http://www.minddisorders.com)). Yoga has also been described as wisdom in work or skilful living amongst activities, harmony and moderation. "Yoga is not for him who gorges too much, nor for him who starves himself. It is not for him who steps too much, nor for him who stays awake. By moderation in eating and resting, by regulation in working and by concordance in sleeping and waking, yoga destroys all pain and sorrows".

Physical exercise is a bodily activity that develops and maintains physical fitness and overall health. It is often practiced to strengthen muscles and the cardiovascular system, and to improve athletic skills. Frequent and regular physical exercise boosts the immune system, and helps prevent diseases of affluence such as heart disease, cardiovascular disease. It also improves mental health and helps prevent depression ([www.wikipedia.org](http://www.wikipedia.org)). As lipids are insoluble, cholesterol cannot be carried in the blood in its original form. It has to be carried by protein molecules called lipoproteins, in which cholesterol is encompassed and carried to and away from the tissues. There are four types of

lipoproteins; based on their density they are named High-Density Lipoprotein (HDL), Low-Density Lipoprotein (LDL), Very Low-Density Lipoprotein (VLDL) and Chylomicrons. High-density lipoprotein (HDL) fraction cholesterol is believed to be protective against coronary heart disease. HDL carries lipids away from the tissues to the liver. They breakdown fatty deposits present in the arteries and they do not collect or adhere to the inner linings of the arteries. Hypertension is another major factor that brings for coronary, cerebral and veno-vascular disease. More than two thirds of all the stroke patients and more than half of all the heart attack cases are hypertensive. Frangmintham, veteran medical administrative studies have shown that among hypertensive, the mortality is twice as much and cardio vascular mortality is three times as compared to that among normotensive.

## METHODS

The study involves the experimentation of yoga practice and physical exercise on blood glucose and high density lipoproteins. Only women diabetes patients from Rajah Muthiah Medical College and Hospital, Annamalai University and aged between 35 and 40 years were selected. The selected forty-five subjects were randomly divided into three groups of fifteen each, out of which group - I (n = 15) underwent yogic practice, group - II (n = 15) underwent physical exercise and group - III (n = 15) remained as control. The training programme was carried out for five days per week during morning session only (6 am to 8 am) for eight weeks. Blood glucose and high density lipoproteins were measured by using Boehringer Mannheim kit method.

## ANALYSIS OF DATA

The data collected prior to and after the experimental periods on blood glucose and high density lipoproteins on yoga practice group, physical exercise group and control group were analysed and presented in the following table -I.

Table - I  
Analysis of Covariance and 'F' ratio for Blood Glucose and High Density Lipoproteins for Yoga Practice Group Physical Exercise Group and Control Groups

Variable Name	Group Name	Yoga Practice Group	Physical Exercise Group	Control Group	'F' Ratio
Blood Glucose (in mm Hg)	Pre-test Mean $\pm$ S.D	131.77 $\pm$ 1.12	131.26 $\pm$ 2.23	131.07 $\pm$ 1.51	0.312
	Post-test Mean $\pm$ S.D.	129.26 $\pm$ 1.86	128.51 $\pm$ 2.12	131.22 $\pm$ 1.86	10.58*
	Adj. Post-test Mean $\pm$ S.D.	129.55	128.99	131.29	21.26*
High Density Lipoproteins	Pre-test Mean $\pm$ S.D	40.90 $\pm$ 3.035	43.0 $\pm$ 4.32	44.10 $\pm$ 3.542	1.962
	Post-test Mean $\pm$ S.D.	42.60 $\pm$ 2.797	45.00 $\pm$ 4.57	43.10 $\pm$ 2.025	1.46
	Adj. Post-test Mean $\pm$ S.D.	44.04	44.728	41.932	35.14*

\* Significant at .05 level of confidence. (The table value required for significance at .05 level of confidence with df 2 and 43 and 2 and 42 were 3.21 and 3.22 respectively).

Further to determine which of the paired means has a significant improvement, Scheffé S test was applied as post-hoc test. The result of the follow-up test is presented in Table - II.

Table - II  
Scheffé S Test for the Difference Between the Adjusted Post-Test Mean of Blood Glucose and High Density Lipoproteins

Adjusted Post-test Mean of Blood Glucose				
Yoga Practice Group	Physical Exercise Group	Control Group	Mean Difference	Confidence interval at .05 level
127.672		129.837	2.165*	1.1755
127.672	128.491		0.819	1.1755
	128.491	129.837	1.346*	1.1755
Adjusted Post-test Mean of Blood Glucose				
44.04		41.932	2.108*	1.6301
44.04	44.728		0.688	1.6301
	44.728	41.932	2.796*	1.6301

\* Significant at 0.05 level of confidence.

## Results

The training intensity for yogic practice and physical exercise is shown in appendices. Before applying the experiment all the subjects of the yoga practice, physical exercise and control groups were attended the pre-test, which was conducted a day prior to the commencement of the training and the data were collected on blood glucose and high density lipoproteins. After eight weeks of training the post-test was conducted one day after the training period to find out any changes in the criterion variables.

The analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the experimental groups and control group on selected criterion variables separately. In all the cases, .05 level of confidence was fixed to test the significance, which was considered as appropriate. Since there were three groups were involved in this study, the Scheffé S test was used as pos-hoc test and it is shown in Table - II.

After applying the analysis of covariance, the result of the study showed that there was a significant difference among yoga practice, physical exercise and control groups on the changes in blood glucose and high density lipoproteins after eight weeks of training. The criterion variables such as, blood glucose was decreased for both the yoga practice group and physical exercise group and high lipoproteins was significantly increased after the yoga practice and physical exercise. Further, comparing the adjusted post-test means of all the criterion variables, such as, blood glucose and high density lipoproteins, both the training groups were significantly decreased the level of blood glucose and increased the level of high density lipoproteins after the respective training period. Basically the yoga practice and physical exercise has tremendously changed the biochemical parameters.

## Appendices

### Selection of Asanas

The experimental factor selected is the yogasanas and it's been innumerable. So, the scholar consulted with experts in the field of yogasana, than selected the following yogasanas:

Yogasanas: Suryanamaskar, Ardhasalabhasana, Vakrasana, Paschimatsasana, Dhanurasana, Mayurasana Padmasana, savasana Pranayama: Ujjaiyi, Bhastrika, Nadisudhi, Omkar

### Physical Exercises

#### Warming up

**Physical Exercises:** Neck rotation, Arms forward and back ward rotations, Flexed arm forward and back ward rotations, Trunk Twists, Squat Thrusts, Sideward lunges, Opposite toe touches, Slide leg raising, Sit-ups, Push-ups, Heels Raise.

#### Cool Down

## Reference:

Swami Vishnu Devananda, *The Sivananda Companion to Yoga*, (New York: Fireside Book, Simon and Schuster, 2000), p. 10.

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## Resistance Exercise Training Programme And Its Impact On Total Cholesterol Of Women Graduates

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**Abstract** Resistance exercise training (RET) is gaining broad acceptance as a complement to endurance exercise in the prevention of cardiovascular risk factors. This article reviews the most current and reliable literature regarding the biological mechanisms of RET for young women subjects. Forty female graduates (n=40) were randomly selected as subjects and their age ranged between 21 and 26 years. The selected subjects were randomly assigned into two equal groups such as experimental group (EG) and control group (CG) with twenty subjects each (n=20). The experimental groups underwent their respective experimental treatment for eight weeks three days per week and a session on each day. Control group was not engaged to any specific training apart from their curriculum. Total cholesterol was taken as variable for this investigation. The pre and post test were conducted one day before and after the experimental treatment. Analysis of covariance (ANCOVA) was used to analyze the collected data. The results revealed that the experimental group (EG) produced significant improvement ( $p \leq 0.05$ ) due to resistance training on total cholesterol when compared to control group (CG).

**Key Words:** Resistance training, exercise, total cholesterol

**Introduction** The adaptational changes and health implications of resistance exercise are very dynamic and variable to each individual. For long-lasting change, there needs to be a systematic administration of a sufficient stimulus, followed by an adaptation of the individual, and then the introduction of a new, progressively greater stimulus. Resistance training has become the most widely accepted method for improving muscular strength and power (Kraemer & Ratamess, 2004). Youth sports have become more popular and in many ways, more competitive. Many young athletes and parents are seeking way to achieve a competitive edge. Many precious studies have explored the effect of different resistance training frequencies on developing muscle strength and size of adolescents (American college of sports medicine, 2000). While the literature supports the efficiency of resistance training (Ramsay *et al.*, 1990 and Sewall & Mischeli, 1986) two or three times per week. Resistance training may be isotonic in design. This means that some part of the body is moving against some type of force. Heart rate is acutely elevated immediately following a workout and affected by the amount of resistance, the number of repetitions and the muscle mass involved in the contraction (small vs. large mass exercises) (Fleck, 1988). Interestingly, in terms of chronic adaptations, there appears to be a reduction in heart rate from resistance training, which is considered beneficial (Stone *et al.*, 1991). Cholesterol is a waxy **steroid** of fat that is produced in the liver or intestines. Total cholesterol is the sum of all the cholesterol in the blood. It is used to produce hormones and cell membranes and is transported in the **blood plasma** of all **mammals** (Emma, 2009). In addition, cholesterol is an important component for the **manufacture** of **bile acids**, **steroid hormones**, and **vitamin D**. Cholesterol is an important and necessary for mammals, high levels of cholesterol in the blood can damage arteries and are potentially linked to diseases such as those associated with the cardiovascular system (Pearson *et al.*, 2003). The liver is the major production factory for cholesterol (about 70%). High cholesterol levels are strong indicators of those individuals that are prone to coronary heart disease (Olsin, 1990). Elevated total cholesterol is a risk factor for coronary heart disease. The build-up of plaque in the artery may lead to narrowing (high blood pressure) or complete blockage (heart attack) of the vessel (Tymoczko, 2002). As levels rise above 180 mg/dl, the risk for developing coronary heart disease increases (American heart association,

2008). A reduction of 1% is shown to reduce the risk for coronary artery disease by 2% for levels over 200 mg/dl (Gordon et al., 1995). Resistance exercise helps to reduce the cholesterol level (Lyndon et al., 1999 & Durak et al., 1990). Two types of cholesterol: Good cholesterol or high density lipoprotein (HDL) and a bad cholesterol or low-density lipoprotein (LDL). In this study, moderate intensity of resistance training was applied to normalize the level of cholesterol in body.

**Methods** The purpose of this study was to examine the impact of resistance exercise training on total cholesterol of young women. Forty (n=40) students from arts and science colleges, Pathanamthitta district, Kerala, India were selected as subjects and the age of students were between 21 and 26 years. The selected subjects were randomly divided into two equal groups of twenty subjects each (n=20). The groups were one experimental group (EG) and one control (CG). During the training period, the experimental groups underwent their respective training programme for eight weeks 3 days per week and a session on each day apart from their regular activities. Control group (CG), who did not participate in any specific training apart from their regular activities. Moderate intensity (60-70%) of resistance was used in this experimentation. Total cholesterol was selected as dependent variable for this study. It was measured by Oxidase enzymatic method using Boehringer Mannheim kit. These are the exercise used as a resistance 1.bench press 2. half squat 3.push press 4. heel raises 5.arm curl 6.leg curl 7.leg press 8. military press 9.sit ups 10. medicineball exercise. The pre and post test were conducted one day before and after the experimental treatment.

**Data analysis:** Mean and standard deviation were calculated for total cholesterol for each training group. And the data were analyzed by using analysis of covariance (ANCOVA). All analysis was carried out using SPSS version (Field, 2000) and statistical significance was fixed at 0.05.

## Results

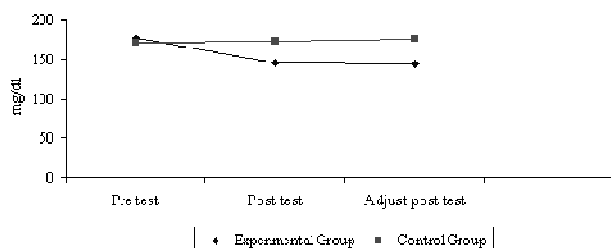
Table - I  
ANALYSIS OF COVARIANCE ON CHOLESTROL OF EXPERIMENTAL GROUP AND THE CONTROL GROUP

Test		Experimental Group	Control Group	SOV	SS	df	MS	F ratio
Pretest	Mean	176.15	170.55	B	313.6	1	313.6	1.007
	SD	15.55	19.53	W	11839.5	38	311.57	
Post test	Mean	145.65	171.50	B	6682.23	1	6683.23	18.5*
	SD	17.90	20.05	W	13723.55	38	361.15	
Adjusted Post test	Mean	143.01	174.14	B	9445.47	1	9445.47	110.35*
				W	3167.16	37	85.6	

F = (df 1, 38) (0.05) = 4.10 & (0.01) = 7.35; (P ≤ 0.05) & (P ≤ 0.01), F = (df 1, 37) (0.05) = 4.11 & (0.01) = 7.37; (P ≤ 0.05) & (P ≤ 0.01).

Table I shows that the pre test mean of experimental and control groups are 176.15 and 170.55 respectively. The obtained F ratio of 1.007 for pre test mean is less than the table value 4.10 for df 1 and 38 required for significance at 0.05 level and table value 7.35 for df 1 and 38 required for significant at 0.01 level. The post tests mean of experimental and control groups are 145.65 and 171.50 respectively. The obtained F ratio of 18.5 for post test mean is higher than the table value 4.10 for df 1 and 38 required for significance at 0.05 and table value 7.35 for df 1 and 38 required for significant at 0.01 level. The adjusted post test mean of experimental and control groups are 143.01 and 174.14 respectively. The obtained F ratio of 110.35 for adjusted post test mean is higher than the required table value 4.11 for df 1 and 37 required for significant at 0.05 and 7.37 for 0.01 level. The result of the study indicated that there was significant differences between the adjusted post tests mean of resistance training group and control group on cholesterol at 0.05 and 0.01 levels.

**Figure 1: The pre, post and adjusted post test mean values of experimental group and control group on Total Cholesterol**



## Discussion

The association between high serum cholesterol levels and the incidence and severity of coronary heart disease (CHD) is so pronounced in epidemiological studies that the National Heart, Lung, and Blood Institute recognizes this association as causal (Expert Panel, 1993). Recent overviews have indicated that a 1% reduction in a person's total serum cholesterol level yields a 2 to 3% reduction in the risk of coronary heart disease (Manson et al., 1992). Aerobic endurance exercise has been well established as a means for favorably altering high density lipoprotein cholesterol (HDL-C). Studies that do show a positive result, typically involve higher volumes emphasizing multisegment exercises. Hurley et al. (1987) reported a 13% increase in HDL cholesterol following 16 weeks of heavy strength training. Wallace et al. (1989) and Johnson et al. (1982) both reported positive changes in lipid profiles, but only during the highest volumes of training. Goldberg et al. (1984) showed that a program emphasizing high volume with short rest periods increased HDL while decreasing LDL and serum triglycerides. Epidemiological research has decisively demonstrated that low concentrations of total cholesterol and low-density lipoprotein cholesterol (LDL-C), and high levels of high-density lipoprotein cholesterol (HDL-C) are associated with a decrease in coronary heart disease (Kannel, 1983). Lower concentrations of blood triglycerides and LDL-C, along with higher levels of HDL-C have been observed with endurance-trained individuals (Mariane et al. 2001 and Pollock & Wilmore, 1990). Several investigators have reported favorable changes in blood lipids and lipoproteins following a strength training intervention (Kokkinos & Hurley, 1990 and Braith & Stewart, 2006)). It is evident from a number of the adaptations that occur with resistance training that there are several health-related benefits. Resistance training has been shown to reduce factors associated with coronary heart disease, diabetes and osteoporosis (Kohl et al. 1992 and Manning et al. 1991). Heart rate is acutely elevated immediately following a workout and affected by the amount of resistance, the number of repetitions and the muscle mass involved in the contraction (small vs. large mass exercises) (Fleck, 1988, Prabhakaran et al, 1999 and Thomas et al. 1999). Interestingly, in terms of chronic adaptations, there appears to be a reduction in heart rate from resistance training, which is considered beneficial (Stone et al., 1991). Most recently, the positive health benefits of physical activity have gained high recognition attributable to the medical report on health and physical activity. From the results of the present study and literature, it is concluded that the dependent variables such as total cholesterol was significantly reduced due to moderate resistance training.

## Conclusion

Physical exercise is the performance of some activity to develop or maintain physical fitness and overall health. Prevailing evidence supports the concept that physical activity can help slow the progression of coronary heart disease (CHD). As health and fitness practitioners, designing exercise programs that alter the individual's total cholesterol in a positive way is an important component to be included in program objectives. Until specific recommendations based on further research are developed, we recommend resistance training exercises with moderate intensity are the best method to normalize cholesterol level. In summary, total cholesterol can be improved during the age between 21 and 26 years of female youngsters and favour the prescription of moderate intensity resistance training programme during the initial adaptation period. It is concluded that there was a significant improvement on total cholesterol level due to moderate resistance

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## **Relationship Of Selected Anthropometric Measurements Between BMI And WHR In Tribals Boys Of Age 6 Through 9 Years**

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### **Abstract:**

The purpose of the study was to assess the selected anthropometric measurements among the boys aged 6 through 9 years. For this purpose a total of 200 boys aged 6 through 9 years were selected randomly (50 boys in each age group). The anthropometric variables selected were weight, height, waist circumference and hip circumference. To find out the relationship between BMI (Body Mass Index) and WHR (Waist- Hip Ratio) for each age group namely- 6, 7, 8, and 9 year tribal boys, and product moment correlation was calculated at 0.05 level of significance. There was significant relationship between BMI and WHR in 9 year tribal boys whereas, no significant relationship was obtained in 6yr, 7yr, and 8yr age group tribal boys.

**Keywords:-** Anthropometric measurements, BMI, WHR

### **Introduction**

We know that the healthy people constitute a healthy nation. The strength of a nation rests upon the health of its people and future of the health of the people depends, to a large extent, on what is done to promote, improve and preserve the health, as health is a fundamental human right. To be a good man is the first requisite to success in life and to be a nation of healthy citizens is the first condition to national prosperity. The natural question that arises is what is health? And on what it depends? (Singh et. al., 2000).

Adequate nutrition during early years of life is of paramount importance for growth, development and long-term health through adulthood. It is during infancy and early childhood that irreversible faltering in linear growth and cognitive deficits occur. Poor nutrition during this critical period contributes to significant morbidity and mortality. Long-term consequences include reduced work capacity, impaired intellectual performance and increased risk of chronic diseases. The quality of infant and young child feeding is, therefore, fundamental for achieving optimal growth and development and the very survival of children.

Anthropometry is the study/assessment of body composition in living people and indicates health and nutritional status. It is used to predict performance, health and survival (World Health Organization [WHO], 1995; Thomas & Bishop, 2007). Anthropometric measurements can be used to detect moderate and severe forms of malnutrition (both under and over nutrition), and are of particular use when chronic protein and energy imbalances have occurred although cannot identify specific nutrient deficiencies (Gibson, 2005). Both under- and over-nutrition carry significant health implications (discussed later) and increase the risk of morbidities and mortality, thus costs. Hence, early detection and regular monitoring of patients' nutritional status is a necessity.

Methods of assessing body composition in population studies were recognized as possible means of assessing and monitoring nutritional statuses approximately 50 years ago, by Fletcher in 1962, and subsequently recommended for use within the clinical setting (Blackburn, 1977 cited in Bastow, 1982). Types of anthropometric measurements include weight and height, and as a result Body Mass Index (BMI) (kg/m<sup>2</sup>) can be calculated, as well as head circumference (cm) and supine length (cm) in infants all of which are used to assess body

size. Body composition, which can be further subdivided to measure the two major components of body mass (body fat and fat free mass), can be measured by using anthropometric measurements such as skin fold thickness, waist-to-hip ratio (WHR), waist circumference (WC), mid-upper arm circumference (MAC) and mid-upper arm muscle circumference (MUAMC) (Gibson, 2005).

When standardized methods (Lohman & Roche, 1988) and calibrated equipment are implemented measurements are often quick, easy and reliable (Gibson, 2005). Technological advancements allow the use of portable more scientific and accurate equipment. Anthropometry is said to be the single most portable, universally applicable, inexpensive and non-invasive method available to assess the proportions, size and composition of the human body (Gibson, 2005). Guidelines for anthropometric use within various populations and settings have been produced. WHO (1995) describes the use of anthropometric measurements in reflecting population-level health, social and economic status as well as use throughout the life cycle in terms of individual assessment. Similarly, NICE (2006) recommend the use and frequency of use of anthropometric measures such as weight, BMI, mid- arm circumference and triceps skinfold thickness when monitoring patients requiring nutritional support. NICE further recommends the use of BMI and WC measurements when assessing overweight patients (i.e. those patients classified as having a BMI  $<35\text{kg/m}^2$ ).

### **Objective**

To assess the relationship in selected anthropometric measurements. BMI (weight and height) and WHR (waist circumference and hip circumference) among tribal boys aged 6 through 9 years.

#### **Hypothesis**

It was hypothesized that there will be a significant relationship in selected anthropometric measurements (weight, height, BMI, waist circumference, hip circumference, and WHR) among tribal boys aged 6 through 9 years.

### **Methodology**

For the purpose of the present study 200 tribal boys aged 6 through 9 years were selected randomly (50 boys in each age group) from CBSE Board School of District-Bilapur, Chhattisgarh. Prior consent from the subject as well as permission from the concerned authorities of the school was obtained. The purpose of the study was explained to the school authorities and the subjects who in turn agreed voluntarily to undergo the testing programme.

### **Criterion Measures**

The following criterion measures were under taken for the purpose of the study:

- Weight was measured with the help of weighing machine.
- Height was measured with the help of anthropometric rod.
- Waist and Hip circumference measured with the help of steel inch tape.

### **Statistical Analysis**

To find out the relationship between BMI (Body Mass Index) and WHR (Waist Hip Ratio) for each age group namely- 6, 7, 8, and 9 year tribal boys, product moment correlation was calculated and the level of significance was checked at .05 level.

## Results

The data was analyzed by employing product moment correlation. The calculations were performed using the SPSS 16.0 software and the findings pertaining to Product moment correlation between BMI and WHR for each age group is depicted in Table no 1.

Table 1  
Correlation between BMI and WHR

Age	Variables	Calculated Values of Product Moment Correlation
6 years	BMI & WHR	.029
7 years	BMI & WHR	.071
8 years	BMI & WHR	-.020
9 years	BMI & WHR	.363*

Significant at 0.05 level

Table No. 1 indicates the calculated values of product moment correlation of BMI & WHR for all groups selected for the purpose of the study. Further, it is evident from the table that the significant relationship between BMI & WHR were obtained for boys of 9 year age group only since the calculated value 0.363 obtained was significant at .05 level. Whereas, no significant relationship were obtained for age groups of 6, 7, and 8 years.

## Conclusions

There was significant relationship between BMI and WHR in 9 year tribal boys whereas; no significant relationship was obtained in 6yr, 7yr, and 8yr age group tribal boys.

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## The Importance Of Physical Education In Early Stages Of School Life

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Today, education programs at all levels face intense criticism, and physical education programs are no exception. In fact, as school budgets shrink and administrators cut "frills," physical education may be one of the first programs to go. If we are to secure a place for physical education in the school curriculum, we must answer two questions: (1) what are the physical, psychological, and intellectual effects of physical education upon the total development of the child? And (2) given these effects, can physical education be considered a frill?

### THE PHYSICAL BENEFITS OF PHYSICAL EDUCATION:

Recent research has shown that degenerative diseases begin in early childhood. As Kaercher (1981) wrote, "There's increasing evidence in youngsters of high cholesterol in the blood, high blood pressure, obesity and other conditions that are associated with heart disease, stroke and other disorders" (p. 20). Bucher (1982) stated that medical specialists blame deaths due to heart disease, cancer, and stroke largely on "changes in lifestyle characterized by factors over which doctors have little or no control" (p. 13).

Research suggests that regular physical activity, begun in childhood, may help prevent degenerative diseases. According to Hanson (1974), "The necessity of physical activity for a growing child is well-documented in terms of growth and fitness needs. Physical activity increases muscle tone, improves respiration and circulation, benefits digestion, aids in controlling obesity, promotes rehabilitation after illness and surgery, and stimulates proper growth and development. Physical benefits alone could be sufficient reason for supporting physical education programs..." (p. 2). Reiff (1977, p. 26) reported that high school students involved in an eight-week program of physical activity showed gains in fitness.

In addition, Fentem and Bassey (1982) pointed out that "Exercise is a valuable adjunct to dietary control in prevention and treatment of obesity because it increases energy expenditure and improves energy balance" (p. 2).

Studies indicate that children in free play settings will not engage in physical activity vigorous enough to produce physical benefits or enhance health, thus supporting the need for physical education (Reiff 1977, p. 26).

### PSYCHOLOGICAL AND SOCIAL BENEFITS OF PHYSICAL EDUCATION

Physical activity enhances a person's life both socially and psychologically. Studies have shown that physical activity may modify anxiety and depression (Sachs 1982, p. 44). Layman (1972, p. 5) gave evidence that poor physical condition predisposes individuals to poor mental health. Hanson (1974, p. 2) stated that "physical activity contributes to the general feeling of well-being .... It is an avenue for expression of anger, aggression and happiness. . . A means for discovery of self as well as a social facilitator." Moreover, according to Espenschade (1960), "The status of the elementary school child with his peers is dependent to a great extent on his motor skills and his behavior in game situations" (p. 3). Clarke (1982, p. 10) added to these statements, suggesting that the child's realization of personal and social effectiveness relies heavily on guidance within the physical education experience. Guidance helps the individual adopt desirable modes of behavior and improve interpersonal relationships.

## **MENTAL AND INTELLECTUAL BENEFITS OF PHYSICAL EDUCATION**

Research shows a positive relationship between physical activity and academic achievement. In one study, begun in 1951 in an elementary school in Vanes, France, the school day was divided so that four hours were devoted to academics and one to two hours to physical education, art, music, and supervised study (Bailey 1976). By 1960, not only were health, fitness, discipline, and enthusiasm superior in the experimental program, but academic performance also surpassed controlled classes. Similar experiments in Belgium and Japan produced comparable results (Carlson 1982, p. 68), illustrating the importance of physical education to a successful academic program.

## **ACADEMIC BENEFITS AND PHYSICAL EDUCATION**

A study was conducted in Trois Rivières, Ontario, Canada with 546 primary school students who received an additional five hours per week of physical education (additional time was taken from academic subjects, with the exception of English). At the end of six years and throughout the last **five** years of the study, the children in the experimental group (extra physical education) had consistently better academic grades and achievement in physical education as compared to their counterparts in the control group.

## **LANGUAGE SKILLS CAN BLOSSOM IN PHYSICAL EDUCATION CLASS**

Want to teach your preschooler the difference between near and far, left and right, blue and purple? Ensure that physical education is part of his or her early curriculum. According to a preliminary study of kids aged 4-6 from groups as varied as special education, Head Start, and a typical preschool, the physical education environment helps kids - even those with speech or language delays - to understand language concepts and apply appropriate labels. Since speech and language problems are fairly common among preschoolers and since correcting these problems early is essential to a child's later academic success, these findings have particular significance.

Physical education classes provide a natural opportunity for children to learn concepts like around, over and under, front and behind, and above and below. They also learn about such things as speed, distance, height, shape, color, direction, and position - concepts which lend themselves to a physical learning experience.

Even children whose cognitive or language abilities were impaired showed improvements when language skills were taught during physical education classes without sacrificing the physical skills they're teaching or requiring additional time.

Fortunately for teachers, the study also found that language skills can easily be implemented into physical education classes without sacrificing the physical skills they're teaching or requiring additional time.

## **SPORTS CAN ACCELERATE BONE GROWTH**

Osteoporosis, a painful, disfiguring disease affecting 25 million people in the United States alone. 80% of who are women, continues to make headlines as researchers learn more about risk factors, possible treatments, and preventive measures.

With no ready "cure" for osteoporosis, and no luck in reversing the disease, the medical community has redoubled its efforts at prevention. A likely formula for risk reduction in women includes physical activity combined with adequate calcium intake and sufficient estrogen levels. And according to researchers at Purdue University, earlier in life, rather than later, may be the best time to ward off this debilitating disease.

By examining the physical activity history of 204 minimally-active women aged 18-31, they were able to determine that previous activity, especially participation in high school sports, significantly and positively affects bone growth.

In fact, high school athletic activity, but not occupational and leisure activity over a five-year period, correlated with bone mineral density in the hip. Because osteoporosis is the most common cause of hip fracture, often leading to permanent disability, loss of independence or death, efforts to build bone in this region are particularly needed. And since research suggests that bone growth in the hip may reach its peak by age 16, high school physical activity may represent the best, if not last, line of defense.

## **FEELINGS OF COMPETENCE LINKED TO EXERCISE BEHAVIORS IN KIDS**

Numerous reports, including Healthy People 2000 and the recently released Surgeon General's Report on Physical Activity and Health, have established the benefits of an active lifestyle for people of all ages. Unfortunately, little is known about what motivates folks, kids in particular, to

participate in the types of moderate-to-vigorous physical activities stressed in the objectives of these documents.

Careful study of this issue, however, is beginning to yield some clues. So, how can we get kids to exercise regularly? Not, it appears, just by stressing the importance of an active lifestyle. Consider this: When researchers asked a group of 11-15 year olds whether participation in a fitness program was more or less important than alternative activities like taking music lessons, watching TV or videos, or playing with friends, fitness programs got high marks. Surprisingly, however, the value that kids placed on fitness activities in comparison to other pursuits had no relation to their level of activity.

The best predictor of exercise behavior in kids, researchers found, was something called "perceived competence". Kids who felt good about their fitness abilities were more likely to participate in the type of moderate-to-vigorous physical activity necessary to improve their health and fitness. And although the solution to helping kids feel more capable may not be as simple as it seems, the results of the study also suggest a place to start: kids' beliefs were closely related to whether they thought their parents viewed them as competent.

### **The Effect Of Physical Education On Children's Development Of Wholesome Recreation Habits**

The importance of wise use of leisure time was supported as early as 1918 in the Seven Cardinal Principles of Secondary Education (National Education Association). Children need recreational skills and a positive attitude toward exercise to enhance their use of leisure. Indeed, "Research indicates that motor skills learned in physical education classes may be the stimulus for increased activity during leisure time (Seefeldt 1977, p. 3). Gilliam and others demonstrated that physical education programs involving vigorous activities encourage participants to use leisure time more actively (p. 3). Thus, physical education can play a major role in promoting an active, healthy lifestyle.

### **CONCLUSION**

Research indicates that regular physical education, included in children's school curricula, produces physical, psychological, and intellectual benefits. Physical education may help prevent degenerative disease, improve overall physical condition, maintain emotional balance, promote a sense of social effectiveness, contribute to academic performance, and establish positive recreation habits. Therefore, physical education must not be considered a curricular frill; rather, it must be supported as an integral part of comprehensive education.

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Stevens, Tara A.; Yen To,; Sarah Stevenson,; Marc Lochbaum,. "The importance of physical activity and physical education in the predic

**“Evaluation Of Anthrpometric Characterstics, Body Composton And  
Somatotyping Of Volleyball And Basketball Players”**

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**Abstract:**

The purpose of the study was to compare the Anthropometric Characteristics, Body composition and Somatotype in male intercollegiate Basketball players and Volleyball players of the Karnatak University, Dharwad st: Karnataka. Sixty three players (volleyball N=36 and basketball N=27) of age group 18-25 years were selected from different colleges affiliated to Karnatak University, Dharwad st: Karnataka, India. All the participants were assessed for height, weight, breadths, girths and skin fold thickness. An independent samples t-test revealed that basketball players had significantly higher height ( $p<0.01$ ), weight ( $p<0.01$ ) and body surface area ( $p<0.01$ ) as compared to volleyball players. The basketball players were also found to have significantly greater biceps ( $p<0.01$ ) and suprailiac ( $p<0.01$ ) skin fold thicknesses, calf circumference ( $p<0.05$ ), percent body fat ( $p<0.01$ ), total body fat ( $p<0.01$ ), fat free mass ( $p<0.05$ ) and endomorphic component ( $p<0.05$ ) as compared to volleyball players. Volleyball players had significantly greater body density ( $p<0.01$ ) as compared to basketball players. It is concluded that, in most of the parameters there were significant differences between basketball and volleyball players. The basketball players showed better anthropometric measurements and somatotyping scores.

**Key words:** Anthropometric Characteristics, Body Composition, Somatotyping, Basketball & Volleyball players

**INTRODUCTION:** The identification of physical characteristics in a sport modality contributes to its success and enables to spot differences among athletes of different modalities, which is of great interest for both sport coaches and scientists. Sports performance is based in a complex and intricate diversity of variables, which include physical (general and specific conditions), psychological (personality and motivation) and body (body morphology, anthropometry and body composition) factors. The relationship between morphological variables and sports performance is the object of study of anthropometry and is an important element to be analyzed. Basketball and volleyball are most popular sports in the world, played practically in every nation at varying levels of competence. Successful participation in these sports requires from each player a high level of technical and tactical skills and suitable anthropometric characteristics. All ball games require not only technical and tactical skills, but also a great deal of comprehensive abilities including physical, technical and mental abilities. Among them, physical abilities of the players are more important as these have marked effects on the skill of players and the tactics of the teams because ball games require repeated maximum exertion such as dashing and jumping (Tsunawake, 2003). To achieve higher levels of performance both volleyball and basketball players need such physical abilities. To evaluate these physical abilities, the anthropometric measurements, parameters of the body composition such as the percent body fat (% FAT); fat-free mass (FFM) and somatotype components are often used. Studies on the physical characteristics of the human body to-date indicate that the morphological characteristics of athletes successful in a specific sport differ in somatic characteristics from the general population.

Basketball and volleyball players are typically taller than the other game players (Rahmawati et al., 2007). Basketball and volleyball require handling the ball above the head; therefore, having a greater height is an advantage in these sports (Kansal et al., 1986). Higher body mass however, is a hurdle

for volleyball players in achieving good jumping height (Bandyopadhyay, 2007). Various researchers suggested that different body size, shape and proportions are beneficial in different physical activities (Malhotra et al., 1972; Kansal et al., 1986; Sidhu et al., 1996). Several studies on the anthropometric characteristics and somatotype of basketball and volleyball players have been reported in literature (Fleck et al., 1985; Hakkinen, 1993; Hosler et al., 1978; Spence et al., 1980; Sallet et al., 2005; Apostolidis et al., 2003; Gualdi and Zaccagni, 2001; Pelin et al., 2009; Morques and Marinho, 2009; Gabbett, 2008); however, similar studies in the context of India are limited. The present study has been conducted on inter- collegiate male volleyball and basketball players of Karnataka university to evaluate their selected physical characteristics along with somatotype thus fills up already existing void of literature in Indian concern.

## OBJECTIVES OF THE STUDY

The aim of this study was to investigate the anthropometric characteristics body composition and body types of basketball and volleyball players, also evaluate their selected physical characteristics.

## MATERIALS AND METHODS

The present study was conducted on 63 young male subjects in this 36 volleyball and 27 basketball players. Age groups of the subject were 18-25 years & were randomly selected from the different colleges affiliated to Karnatak University, Dharwad st: Karnataka, India. Irrespective of their caste, religion, dietary habits and socioeconomic status. The age of each subject was calculated from the date of birth as recorded in his institute. The weight of subjects was measured by using Digital Weighing machine to the nearest 0.5 kg. The height of the subjects was measured with stadiometer to the nearest 0.5 cm. Body surface area (BSA) and body mass index (BMI) were calculated by the following formulae:

$$\text{BODY SURFACE AREA (m}^2\text{)} = (\text{Body mass in kg})^{0.425} \times (\text{Body Height in cm})^{0.725} \times 0.007184$$

(DuBois and DuBois, 1916)

$$\text{BODY MASS INDEX (Kg/m}^2\text{)} = (\text{Body mass in kg}) / (\text{Stature in m}^2) \text{ (Meltzer et al., 1988)}$$

Skin fold thickness measurements of the subjects were measured by slim guide skin fold caliper. Girths were taken with the Gulic tape to the nearest 0.5 cm. Widths of body parts were measured by using Harpendon caliper. Somatotype was determined from the following equations (Heath and Carter, 1990)

$$\text{Endomorphy} = 0.1451 \times -0.00068 \times x^2 + 0.0000014 \times x^3 - 0.7182$$

Where,

x = The sum of triceps, subscapular and supraspinale skin folds.

$$\text{2. Mesomorphy} = 0.858(A) + 0.601(B) + 0.188(C) + 0.161(C) - 0.131(E) + 4.5$$

Where,

A = Humerus breadth (cm)

B = Femur breadth (cm)

C = Corrected arm girth [Arm-girth (cm) - (Triceps SF (mm)/10)]

D = Corrected calf girth [Calf girth (cm) - medial calf SF (mm) /10]

E = height (cm)

$$\text{3. Ectomorphy} = (\text{Height (cms)} \times \text{Weight (kgs)}) - 0.333$$

**Percentage body fat** is estimated from the sum of skin folds was calculated using equations of Siri (1956) and Durnin and Womersley (1974).

The regression equations for the prediction of body density from the log of the sum of skin fold thickness at four sites in mm are as follows:

$$\text{For 17 to 19 years age group: Body Density (gm/cc)} = 1.1620 - 0.0630 (X)$$

(Durnin and Womersley, 1974)

$$\text{For 20 to 29 years age group: Body Density (gm/cc)} = 1.1631 - 0.0632 (X)$$

(Durnin and Womersley, 1974)

Where,



$X = \log (\text{Biceps} + \text{Triceps} + \text{Subscapular} + \text{Suprailliac})$   
 $\% \text{ Body Fat} = [4.95 / \text{Body density} - 4.5] \times 100$  (Siri, 1956)  
 $\text{Total Body Fat (kg)} = (\% \text{ Body fat} / 100) \times \text{Body mass (kg)}$   
 $\text{Lean Body Mass (kg)} = \text{Body mass (kg)} - \text{Total body fat (kg)}$

### Statistical analyses

Values are presented as mean values and SD. Independent samples T - tests were used to test if population means estimated by two independent samples differed significantly. Data was analyzed using SPSS Version 16.0 (Statistical Package for the Social Sciences, version 16.0, SSPS Inc, Chicago, IL, USA).

## RESULTS

Table 1. Physical Parameters of the volleyball and Basketball Players

Variables	Basketball		Volleyball		T-Value
	Mean	SD	Mean	SD	
Height (CM)	183.44	5.19	181.25	6.15	2.85 **
Weight (KG)	69.40	7.70	65.02	7.58	3.28 **
BMI	22.62	2.33	21.78	2.35	1.41
BSA	2.04	0.09	1.94	0.10	3.95 **

( \*\* Indicates  $P < 0.01$  )

The descriptive statistics for physical parameters of volleyball and basketball players shows in Table-1. Mean body height of basketball players was significantly higher than those of volleyball players ( $p < 0.01$ ). Basketball players also had significantly greater weight ( $p < 0.01$ ) as compared to volleyball players. No statistically significant difference was observed between the basketball players and the volleyball players in relation to BMI. BSA was significantly higher in basketball players than those of volleyball players ( $p < 0.01$ ).

Table 2. Different skin folds measurements of the volleyball and Basketball Players.

Variables	Basketball		Volleyball		T-Value
	Mean	SD	Mean	SD	
Biceps (MM)	4.88	1.25	4.00	1.17	2.89 **
Triceps (MM)	7.48	1.31	8.69	3.43	1.73
Sub Scapular (MM)	12.55	3.04	11.38	3.66	1.34
Suprailliac (MM)	14.77	2.96	9.03	5.45	4.94 **
Calf (MM)	13.07	3.57	11.19	3.97	1.94

( \*\* Indicates  $P < 0.01$  )

The descriptive statistics for skin fold measurement values are depicted shown in Table 2. Both biceps ( $p < 0.01$ ). and suprailliac skin folds ( $p < 0.01$ ) measurements were observed to be significantly higher in basketball players than volleyball players. The differences observed between the two groups for triceps, subscapular and calf skin fold measurement were not statistically significant.

Table 3. Breadth & Girths measurements of the volleyball and Basketball Players.

Variables	Basketball		Volleyball		T-Value
	Mean	SD	Mean	SD	
Bi-Humerous Breadth	69.77	3.45	70.45	6.49	0.49
Bi-Femur Breadth	102.66	5.89	100.03	6.99	1.58
Upper arm Girth	27.00	1.33	26.33	1.88	1.56
Cal Girth	36.66	2.28	35.50	2.10	2.09 **

(\*\* Indicates  $P < 0.01$  )

In table-3 descriptive statistics of diameters and circumferences are shown. There was no significant difference between basketball players and volleyball players in bihumerus and bi-femur diameters. Since arm and calf circumference measurements reflect the bone, muscle and fat mass of the limbs, these two variables have also been evaluating. No significant difference was observed in upper arm circumference between the two groups, but calf circumference ( $p < 0.05$ ) was significantly higher for basketball players when compared to volleyball players.

Table 4. Body Compositions of the volleyball and Basketball Players.

Variables	Basketball		Volleyball		T-Value
	Mean	SD	Mean	SD	
Body Density	1.062	0.004	1.068	0.009	3.13**
Percentage of Body Fat (kg)	15.95	2.12	13.30	4.01	3.10 **
TF (kg )	12.67	2.11	9.88	3.75	3.46 **
FFM (kg)	66.72	6.59	63.13	5.39	2.37 *

( \* Indicates  $P < 0.05$ . \*\* Indicates  $P < 0.01$ )

In table-4 volleyball players were found to have significantly greater body density ( $p < 0.01$ ) when compared to basketball players. The basketball players were observed to have significantly higher percent body fat ( $p < 0.01$ ) and total body fat ( $p < 0.01$ ) when compared to volleyball players. Fat free mass (FFM) was also significantly greater in basketball players ( $p < 0.01$ ) than those of volleyball players.

Table 5 Somatotyping volleyball and Basketball Players.

( \* Indicates  $P < 0.05$  )

Variables	Basketball		Volleyball		T-Value
	Mean	SD	Mean	SD	
Endomorphy	3.21	0.51	2.68	1.05	2.37 *
Mesomorphy	2.91	1.14	3.06	1.11	0.51
Ectomorphy	3.40	1.30	3.57	1.41	0.50

In table-5 descriptive statistics of players were significantly higher ( $p < 0.01$ ) than those of volleyball players. In relation to mesomorphy and ectomorphy, no significant differences were observed between the two groups.

## DISCUSSION

The primary aim of this study was to examine the anthropometric characteristics body composition, and body types of basketball and volleyball players. In the present study the anthropometric characteristics of the athletes have not been evaluated in relation to their performance, but were instead compared with each other. This study indicates the existence of differences among the players of different games.

The overall results show that basketball players were taller and heavier as compared to the volleyball players. Similar findings were found in the studies on Turkish male athletes (Pelin et al., 2007) and Malaysian male athletes (Nudri et al., 1996) which reported that the height of basketball players was greater when compared to other sports groups.

The basketball players were also reported to have greater body fat percentage, skin fold measurements, FFM and endomorphic component as compared to volleyball players. These results show that basketball players were taller, heavier and fatter as compared to their counterparts. On average, the basketball players of the present study are considerably taller and heavier than the State level players studied by Sodhi (1976) and top ranking Indian basketball players (Sodhi, 1980). On the other hand, they are considerably shorter and lighter when compared to their international counterparts (Sallet et al., 2005; Apostolidis et al., 2003). Because the basketball and volleyball require handling the ball above the head, having a greater height is an advantage in basketball and volleyball games (Kansal et al., 1986). Lower height of Indian basketball players might be the one of the reason for their dismal performances at the international level. In volleyball, teams compete by manipulating skills of spiking and blocking high above the head.

Therefore, the presence of tall players is an indispensable factor in the success of a team. The volleyball players in the present study have greater height and weight than the volleyball players from West Bengal studied by Bandyopadhyay (2007) whereas they are shorter and lighter than their international counterparts (Gualdi and Zaccagni, 2001; Morques and Marinho, 2009; Gabbett, 2008). The present data regarding the % fat of the players is approximately accords with the proposal that percentage fat value among basketball and volleyball players should be within the range of 6-15% (Wilmore and Costill, 1999).

The volleyball players have higher body fat percentage than the volleyball players from West Bengal studied by Bandyopadhyay (2007). The basketball players in the present study have higher percentage body fat than the elite level Greek basketball players (Sallet et al., 2005) and French professional basketball players (Apostolidis et al., 2003). An increased fat weight will be detrimental in volleyball and basketball because in these sports, the body is moved against the gravity (e.g. Volleyball spiking, blocking) or propelled horizontally (as in basketball) as the additional body fat adds to the weight of the body without contributing to its force production or energy producing capabilities. Higher fat free mass was reported among the overseas players than the Indian volleyball and basketball players who will therefore achieve better performance. Greater fat content and lower FFM among Indian volleyball and basketball players act as a hindrance in their performance.

This might be due to lower training levels and thus low level of physical fitness. Constituents of diet may also be one of the reasons for greater fat content and lower FFM among the Indian players. The somatotyping scores of basketball players in the present study are 3.2-2.9-3.4 and they are reported as endo-ectomorphic. The results in present study are not in line with those of Hebbelinck and Ross (1974) who reported an ecto-mesomorphic somatotype as the prototype for basketball players. The basketball players in the present study have greater endomorphic component and lower mesomorphic component than those of the top ranking Indian basketball players studied by Sodhi (1980) and Turkish basketball players studied by Pelin et al. (2009). The somatotyping scores of volleyball players in the present study are 2.6-3.0-3.5 and they are reported as meso-ectomorphic. The present results are not in agreement with those of Gualdi and Zaccagni (2001) who reported volleyball players as balanced mesomorphs. On the other hand, the somatotyping scores of volleyball players in the present study are in conformity with Indonesian volleyball players showed the mesomorphicectomorph somatotype, with a somatotype score of 2.4- 3.5-3.7 (Rahmawati et al., 2007).

### **Conclusion**

From this study we have to know that there were significant differences in most of the anthropometric characteristics between the volleyball players and basketball players. On average, compare to the volleyball players, basketball players were taller and heavier. The basketball players also had higher body surface area, calf circumference and FFM than the volleyball players. Where compared to volleyball players the percentage body fat, biceps and suprailiac skin folds, total body fat and endomorphy were also higher in basketball players. Whereas the body density was greater among the volleyball players. It is concluded that, in most of the parameters there were significant differences between basketball and volleyball players. The basketball players showed better anthropometric measurements and somatotyping scores.

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## **Effects Of Selected Yogasanas, Pranayama And Meditation On Physiological Variables Of Male Students**

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**Abstract:** The purpose of the study was to find out the effects of selected yogasanas, pranayama and meditation on Physiological variables of male students, such as Breath Holding Time and Forced Vital Capacity. To achieve the purpose of this study forty male students were selected from Tagore Arts College, Lawspet, Puducherry, India, at random and their age ranges from 18 to 23 years and all of them healthy and normal. They were divided into two groups and designed as Experimental and Control group twenty male students each. The experimental groups underwent a twelve weeks of yogasanas, pranayama and meditation training were given. The control group were not allowed to participate in any of the training programme except their routine physical education classes. The collected data were analyzed by using analysis of covariance (ANCOVA). The results of the study showed that yoga training can be an effective training programme to increase the Breath Holding Time and Forced Vital Capacity of male students.

### **Introduction**

Yoga is a systematic practice for the realization of higher perceptions. It is the science of life and an ideal way of living, providing rhythm to the body, melody to the mind, harmony to the soul and thereby symphony to life. In short, yoga is a way to achieve total health, peace, bliss and wisdom. Physical, mental and spiritual aspects of yoga help to make one's life purposeful, useful and noble. Thus yoga is an art, science and philosophy, which influence the life of man at each level. Therefore, the effects of yoga must be felt in every movement of our day-to-day lives. Asana posture improves general physiological fitness of adolescents. Yoga is a holistic system of teaching skills which many activities person seeks, such as control over the mind, control over the body, good breathing habits, and relaxations under pressure, highly developed concentration skills and the ability to focus on the present study. The present study was to find out the effects of selected yogasanas, pranayama and meditation on physiological variables of male students.

### **Methodology**

Subjects for the present study were taken from forty male students were selected from Tagore Arts College, Lawspet, Puducherry, India, at random and their age ranges from 18 to 23 years and all of them healthy and normal. The study was conducted during the year 2010-2011, The selected subjects were divided into two groups and designed as Experimental group and Control group twenty male students each. The experimental groups underwent a twelve week of yogasanas, pranayama and meditation training. The control group was not allowed to participate in any of the training programmes, except their routine physical education classes. A qualified physician examined the subjects medically and declared that they were fit for the study. The duration of the training period was 12 weeks with five days per week. On every day the training was practiced approximately 45 min

under the instruction and supervision of the investigator. The analysis of covariance (ancova) was applied to find out significant difference if any between experimental and control group. In all cases 0.05 level of confidence was utilized to test the significance.

## Result of the study

The pre test and post test mean, standard deviation and the adjusted post test mean of the data on Breath Holding Time is presented in table- I

	Control group	Experimental group	SOV	SOS	df	MS	'F'
Pre -T	46.71	52.67	BW	354.38	1	354.38	0.89
SD	14.83	24.10	W	15218.59	38	400.49	
Post-T	51.47	100.58	BW	24112.03	1	24112.03	34.26*
SD	12.33	35.43	W	26741.43	38	703.72	
Adjusted post-T	53.85	98.19	BW	19221.04	1	19221.04	41.75*
			W	17033.07	37	460.35	

\*Significant at 0.05level. Requires table value at 0.05 level of significance for 1 & 37 degrees of freedom = 4.104. 1&38 degrees of freedom = 4.096.

The statistical analysis from table-II shows that the pre-test means of experimental and Control group, are 46.71, and 52.67, respectively. The obtained 'F' ratio 0.89 for pre test is less than the table value of 4.09 for 1 and 38degrees of freedom at 0.05 level. The post test means of experimental and Control group are 51.47 and 100.58 respectively. The obtained 'F' ratio 34.26 for post test is more than the table value of 4.09 for 1 and 38degrees of freedom at 0.05 level. The adjusted post-test means of experimental and Control group are 53.85 and 98.19 respectively. The 'F' ratio obtained for adjusted post-test 44.79 is also more than the table value of 4.09 for 1 and 38degrees of freedom at 0.05 level. It reveals that there is significant change on Forced Breath Holding Time as result of experimental training. Since the result has revealed that there is a significant difference.

The pre test and post test mean, standard deviation and the adjusted post test mean of the data on Forced Vital Capacity is presented in table I

	Control group	Experimental group	SOV	SOS	df	MS	'F'
Pre -T	2.89	2.95	BW	0.04	1	0.04	0.21
SD	0.39	0.48	W	7.35	38	0.19	
Post-T	2.99	3.23	BW	0.59	1	0.59	2.97
SD	0.34	0.53	W	7.66	38	0.20	
Adjusted post-T	3.02	3.20	BW	0.34	1	0.34	10.63*
			W	1.18	37	0.03	

\*Significant at 0.05level. Requires table value at 0.05 level of significance for 1 & 37 degrees of freedom = 4.104. 1&38 degrees of freedom = 4.096.

The statistical analysis from table-I shows that the pre-test means of experimental and Control group, are 2.89, and 2.95, respectively. The obtained 'F' ratio 0.21 for pre test is less than the table value of 4.09 for 1 and 38degrees of freedom at 0.05 level. The post test means of experimental and Control group are 2.99 and 3.23 respectively. The obtained 'F' ratio 2.97 for post test is also lesser than the table value of 4.09 for 1 and 38degrees of freedom at 0.05 level. The adjusted post-test means of experimental and Control group are 3.02 and 3.20 respectively. The 'F' ratio obtained for adjusted post-test 10.63 is more than the table value of 4.09 for 1 and 38degrees of

freedom at 0.05 level. It reveals that there is significant change on Forced Vital Capacity as result of experimental training. Since the result has revealed that there is a significant difference.

### **Discussions on findings**

The above results indicated that the experimental groups had significant changes in Breath Holding Time and Forced Vital Capacity due to the twelve weeks of yogic practices when compared to control group. The effects of yogic practices might be the reason for the improvement of Breath Holding time and Forced Vital Capacity. Results are conformity with the studies of Birkel and Chandrabose also with the study.

### **Conclusions**

From the results of the study the following conclusions were drawn: There was a significant difference between experimental group and control group on selected criterion variables.

1. The result of the study have shown that the Breath Holding Time could significantly increase in the post test experimental group when compared to the post test control group after the twelve weeks of yogasanas, pranayama and meditation practice.
2. The Physiological variables of Forced Vital Capacity there is no significant increase in the post test experimental group after the twelve weeks of yogasanas, pranayama and meditation practice. But there is a significant change in the adjusted post test mean.

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## Effect of Interval Circuit Training on Motor Fitness and Volleyball Skill Performance of Male Volleyball Players

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**ABSTRACT:** The study was conducted to find out the effect of interval circuit training on selectee motor fitness variables and volleyball skill performance of male volleyball players. For the purpose of the study 30 male volleyball players, aged between 18 to 22 years, from the department of Physical Education, Annamalai University, were selected as subjects. They were randomly divided into two groups, viz, experimental and control group, both consisted of 15 subjects each. The motor fitness variables were explosive power, cardio-respiratory endurance and muscular strength. The volleyball skill performance of the subjects was assessed using Brady volley test and Russel Lange serving test prior to and after the experimentation. The experimental group underwent interval circuit training programme for three days per week for eight weeks. The data was statistically treated with ANCOVA ( $P \leq 0.05$ ) and the results indicated that the interval circuit training significantly helped to improve the explosive power, cardio respiratory endurance and muscular strength ( $P \leq 0.05$ ) and also volleyball skill performance such as volleying ability and serving ability.

**Key words:** Interval Circuit Training, Motor Fitness, Volleyball

### INTRODUCTION

Training and technique are very important in developing or improving a sport skill. Generally as the adaptation to training takes place, the efficiency of the skill improves. Circuit training, like strength, flexibility and mental skills training have now become an important ingredient in the total programme, particularly where strength and endurance are essential in the sport. The aim of circuit training is to condition the athlete to move at high velocity, employing maximal power when needed. In order to do this, the neuromuscular system must be conditioned to very fast movements and training need to be very specific.

Circuit training is a type of exercise program where one does a series of timed exercises at a fairly rapid pace, with a brief period of rest in between each exercise. Circuit training workouts may target the entire body or just one specific area, such as the arms, legs, or chest. In addition, circuit training workouts may focus on strength training, aerobics, or a combination of the two; the possibilities are virtually limitless. Circuit training usually consists of discontinuous exercise involving exercising for a fixed number of repetitions using a series of stations involving light resistance training. Each station usually involves an equal exercise: rest ratio lasting between 60-120 sec. In essence, circuit training is similar to a combination of aerobic and resistance exercise (McCarthy et al, 1995; Maiorana et al, 2002; Park et al, 2003; Takeshima et al, 2004).

Studies show that circuit training is the most time efficient way to enhance cardiovascular fitness and muscle endurance and that it helps to achieve their goals and maintain them longer than other forms of exercise. Previous researches have also proved that light-resistance circuit training produces marked reduction in body fat both in athletes and sedentary individuals (Mosher et al, 1998; Dolezal and Potteiger, 1998; Balducci et al, 2004; Chtara et al, 2005). The purpose of this study was to find out the effect of interval circuit training on motor fitness and volleyball skill performance of male volleyball players.



## METHODOLOGY

To achieve this purpose thirty male volleyball players from the department of physical education, Annamalai University were selected as subjects, of which fifteen each as experimental group and control group. The subjects were taken in the age group between 18 and 22 years. The selected dependent variables namely muscular strength, cardio respiratory endurance, explosive power and volleyball skill performance variables namely Brady volley test and Russell Lange serving test were assessed using standard tests and procedures, prior to and immediately after the training protocol.

### Training Protocol

The experimental group subjects underwent interval circuit training program for three days a week for eight weeks. The participants performed the following exercises namely squat jumps, Burpees, dumbbell squat and swings, tuck jumps, squat thrusts, fast feet on box, jumping jacks, alternating split squat respectively.

### Experimental Design and Statistical Procedure

The experimental design used for the present investigation was random group design involving thirty subjects. Analysis of covariance (ANCOVA) was used as a statistical technique to determine the significant difference, if any, existing between pretest and post test data on selected dependent variables. The level of significance was accepted at 0.05 level.

## RESULTS AND DISCUSSIONS

The results of the analysis regarding the impact of interval circuit training on selected motor fitness and volleyball skill performance and it is presented in table-I.

Table I: Analysis of Covariance on Selected motor fitness and volleyball skill performance of interval circuit training Group and Control Group

Variables	Groups	Adjusted Mean	SOV	Sum of Squares	df	Mean Square	'F' ratio
Muscular strength	Experimental	38.73	B	223.72	1	223.72	89.39
	Control	32.88	W	67.57	27	2.503	
Cardio respiratory endurance	Experimental	2618.66	B	171153.3	1	171153.3	31.46
	Control	2487.33	W	146890.3	27	5440.38	
Explosive power	Experimental	55.67	B	38.76	1	38.76	30.05
	Control	49.47	W	34.73	27	1.29	
Brady volley test	Experimental	43.71	B	32.78	1	32.78	25.49
	Control	40..02	W	34.71	27	1.29	
Russell Lange serving test	Experimental	33.76		401.14	1	401.14	73.87
	Control	30.42		146.51	27	5.43	

Required table value for significance at 0.05 level of confidence for df of 1 and 27 is 4.21

The findings of the study shows that significant difference existing between interval circuit training group and control group on muscular strength, cardio respiratory endurance, explosive power, Brady volley test and Russell Lange serving test, since the obtained 'F' ratio of 89.39, 31.05, 25.49 and 73.87 respectively were greater than the required table value of 4.21 for significance at 0.05 level of confidence for df of 1 and 27. Hence it is concluded that eight weeks of interval circuit training can produce significant changes on muscular strength, cardio respiratory endurance, explosive power, Brady volley test and Russell Lange serving test performance.

Based on the statistical analysis of the data it is concluded that eight weeks of interval circuit training can produce significant changes on muscular strength, cardio respiratory endurance, explosive power, serving test performance as in Brady volley test and Russell Lange.

Kaikkonen and others (2000) observed significant improvement on cardiovascular and muscular fitness due to the effect of a 12-week low resistance circuit weight training.

Gettman and others (1978) conducted a study to determine the changes elicited by circuit weight training and running (RN) programs conducted 3 days per week for 21 weeks. It was concluded that the circuit weight training program was most specific in improving strength and changing body composition and aerobic capacity.

Baquet *et al.* (2004) carried out an investigation as to analyze the effect of seven week interval training programme on physical fitness components of adolescent children and the results pointed out significant improvement in standing broad jump and 20 meter shuttle run. This indicates that the interval training programme resulted in the improvement of aerobic performance and explosive power of the subjects. This is also similar to the findings of the present study.

## CONCLUSIONS

The results of this study demonstrated that, interval circuit training has significant impact on muscular strength, cardio respiratory endurance, explosive power, Brady volley test and Russell Lange serving test performance. Hence it is suggested that the adaptational changes of interval circuit training are very dynamic and variable to each individual.

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## Effect Of Varied Intensities Of Weight Training On Selected Speed And Strength Parameters

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**ABSTRACT:** The purpose of the study was to find out the effects of varied intensities of weight training on selected speed and strength parameters. To achieve this purpose of the study, thirty men students in the Department of Physical Education and Sports Sciences, Annamalai University, Annamalai Nagar, Tamil Nadu, India were selected as subjects at randomly. The selected subjects were divided into three equal groups of Ten Group I starts their workload with 35% of resistance strength training and ends with 50% (low intensity) group II starts their workload with 45% percent of resistance strength training and ends with 60% high intensity of for three days per week for eight weeks and group III acted as control who did not participate in any special training apart from the regular curricular activities.

**KEYWORD:** Training, Weight Training, Speed, Leg Strength, Back Strength, Muscular Strength and Endurance, Cardio vascular endurance.

**INTRODUCTION:** Physical fitness comprises muscular strength and endurance, flexibility and cardiovascular endurance. An efficient respiratory system and a healthy heart reduce all the risk of diseases and promote better life. Cardiovascular exercise should therefore, be encouraged. Efforts should be made not only to increase the muscular strength but that it could be sustained for a long time. Exercise should increase power, speed, balance, co-ordination and agility of the body. Training involves constructing an exercise programme to develop an athlete for a particular event. This increasing skill and energy capacities are equal consideration. Sports training are as basic preparation of a sportsman for better performance through physical exercise. It is based on scientific principles of aiming at education and performance enhancement. Sports activities consists of motor movement and action and their success depends to a great extent on our correctly they are formed. Techniques of training and improvement of practical efficiency plays a vital role in training process. The evaluation of physical fitness is becoming increasingly important, not only to assist in the selection of sportsmen, but also for planning and evaluation. Interval method is perhaps the most versatile method for improving endurance of various types. In interval method, the exercise is done at medium (Exercise) and higher (Intensive), intensity with intervals of incomplete recovery. Interval training is an exercise technique, which involves the use of set 'interval' that dictate the intensity of your training. The goal of interval training is to help meet your time and pace objectives to get your body accustomed to the high performance required when competing.

### **METHODOLOGY:**

In this research the selection of subjects, selection of variables, selection of tests, instruments reliability, reliability of the data, orientation to the subjects, competency of the tester, pilot study, training programme, collection of the data, tests administration, experimental design and statistical procedures used have been explained. The selected subjects were divided into three equal groups of Ten Group I starts their workload with 35% of resistance strength training and ends with 50% (low intensity) group II starts their workload with 45% percent of resistance strength training and ends with 60% high intensity of for three days per week for eight weeks and group III acted as control who did not participate any special training apart from the regular curricular activities. In field of sports, these are many motor qualities which play a vital role in determining the performance. Among those variables only speed, leg strength and back strength were selected as criterion variables for this study. The researcher had discussed with the experts, physical education professionals and had reviewed the various literatures and then selected the following test items, which were standardized, ideal apt test for the selected criterion variables. Speed, leg strength and back strength were assessed by 50 mts run with stopwatch leg lift with dynamometer and back lift with dynamometer. To

establish the reliability of the data, thirty subjects were selected at randomly. The test-retest method was adopted to ensure the investigations were tested twice for the subjects by the same tester under similar conditions. The obtained data on speed, leg strength and back strength were subjected to intra class correlation of find out the reliability of the data suggested by Johnson and Nelson. A pilot study was conducted to assess the initial capacity of the subjects in order to fix the load. For this, ten subjects were selected at random and divided into three groups of teneach, in which group I underwent low intensity weight training and group II underwent high intensity weight training under the watchful eyes of experts and the researcher. Based on the results of the pilot study, the initial load of the subjects for low intensity weight training group, high intensity training group were fixed. The initial load for two experimental groups was more or less similar. During the training period, the experimental group – I (low intensity) start their workload with 35% of resistance training and ends with 50%, experimental group – II (high intensity) starts their workload with 45%> percent of resistance training was three days per week for eight weeks and group III acted as control who did not participate any special training apart from the regular curricular activities. The training programmes carried out in the Department of Physical Education Annamali University Annamali Nagar, Tamilnadu. Campus used for this study. The subjects underwent the respective programmes as per the schedules under the supervision of the investigator. Each training session was conducted only in the morning time. Prior to every training session both the groups had a ten minutes warm-up exercise involving in the training programmes were questioned about their stature throughout the training period. None of them reported injury. However, muscle soreness and fatigue were reported in the early weeks, which subsided later.

**ANALYSIS OF THE DATA:** The purpose of the study to find out the “The Effect of Varied Intensities of Weight Training on Selected Speed and Strength Parameters” to achieve this purpose of the study, 30 men student in the Department of Physical Education and Sports Sciences, Annamalai University, Annamalaiagar, Tamil Nadu, India were selected as subjects at random. The selected subjects were divided into three equal groups of 10 subjects each, such as high intensity training group, low intensity weight training group and control group. The group I underwent low intensity training programme and group-II underwent high intensity weight training programme Group-I (low intensity) starts there work load with 35% of resistance strength training and ends with 50%, group-II high intensity starts their workload with 45% if resistance strength training and ends with 60% for two days per week for eight weeks and group-III acted as control who did not participate any special training apart from the regular curricular activities. The subjects where tested on selected criterion variables such as speed, leg strength and back strength and immediately after the training period. The selected criterion variables such as speed was measured by using 50 mts dash with seconds, leg strength was measured by using leg lift with dynamometer, back strength was measured by using back lift dynamometer. The analysis of covariance (**ANCOVA**) was used to find out the significance difference if any, between groups on each selected criterion variables separately. In all the cases, 05 level of confidence was fixed to test the significance, which was considered as an appropriate. The influence low intensity of weight training and high intensity of weight training on each criterion variables were analyzed separately and presented below.

Table-I  
Analysis Of Covariance On Speed Of Low Intensity And High Intensity Training Groups And Control Group

	Low Intensity Training Group	High Intensity Training Group	Control Group	Source of Variance	Sum of Squares	Df	Mean Square	F ratio
Pre test Mean	7.62	7.65	7.86	B:	0.342	2	0.17	0.779
S.D	0.49	0.53	0.37	W:	5.93	27	0.219	
Post-test Mean	7.27	7.19	7.81	B:	2.275	2	1.14	7.42*
S.D	0.41	0.37	0.39	W:	4.14	27	0.15	
Adjusted Post test Mean	7.34	7.24	7.69	W:	1.09	2	1.97	
				W:	0.51	26	0.072	27.4*

Table-I showed that the pre-test mean values of speed for low strength and high intern training groups and control group were  $7.62 \pm 0.49$ ,  $7.65 \pm 0.53$  and  $7.86 \pm 0.37$  respectively. The obtained 'F' ratio value 0.779 for pre test scores of low intern training group, hi intern polymeric training groups and control group on speed was less than the required table value of 3.37 for significance with df 2 and 27 at 0.5 level of confidence.

The post – test mean values for speed for low intensity training group, High intensity training group and control group were  $7.27 \pm 0.41$ ,  $7.19 \pm 0.37$  and  $7.81 \pm 0.39$  respectively.

The adjust post – tem mean values of speed for low intensity training group, high intensity training group and control were 7.34, 7.24 and 7.69 respectively.

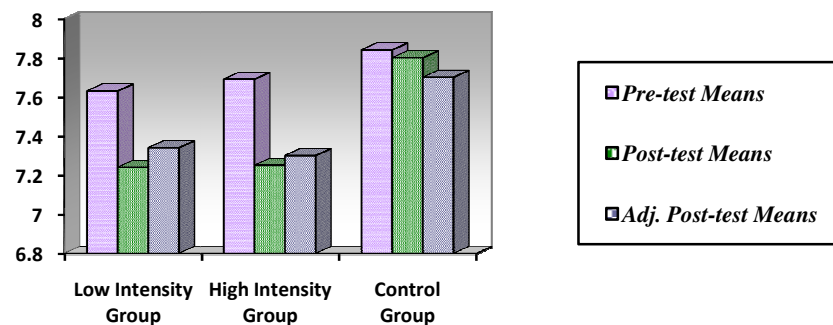
The above statistical analysis indicates that there was a significant improvement in speed after the training period further to determine which of the paired means has a significant increase, scheffe 'S' test was applied. The result of the follow - up test is presented in Table - I.

It may be concluded from the results of the study that there was a significant improvement of speed after the law intensity and high intensity training.

**TABLE-II**

Adjusted Post – term Mean				
Low in Intensity Training Group	High Intensity Training Group	Control Group	Mean Difference	Confidence interval at .05 level
7.34	7.24		0.10	0.12
7.34		7.36	0.35*	0.12
	7.24	7.69	0.45*	0.12

\*Significant at 0.5 level of confidence.



**TABLE-III**

Adjusted Post – term Mean				
Low in Intensity Training Group	High Intensity Training Group	Control Group	Mean Difference	Confidence interval at .05 level
48.74	50.96		2.22	2.311
48.74		45.60	3.14*	2.311
	50.96	45.60	5.36*	2.311

\*Significant at 0.5 level of confidence.

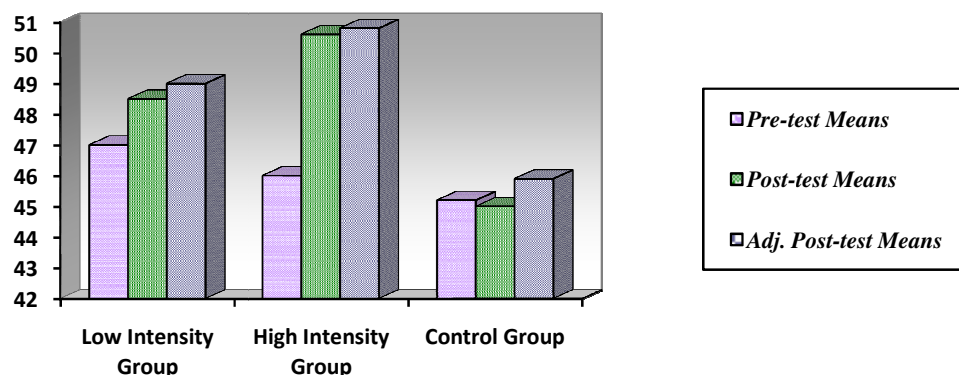


TABLE-VI

Low in Intensity Training Group	High Intensity Training Group	Control Group	Mean Difference	Confidence interval at .05 level
54.75	55.61		0.86	1.02
54.75		52.45	2.30*	1.02
	55.61	52.45	3.16*	1.02

\*Significant at 0.5 level of confidence.

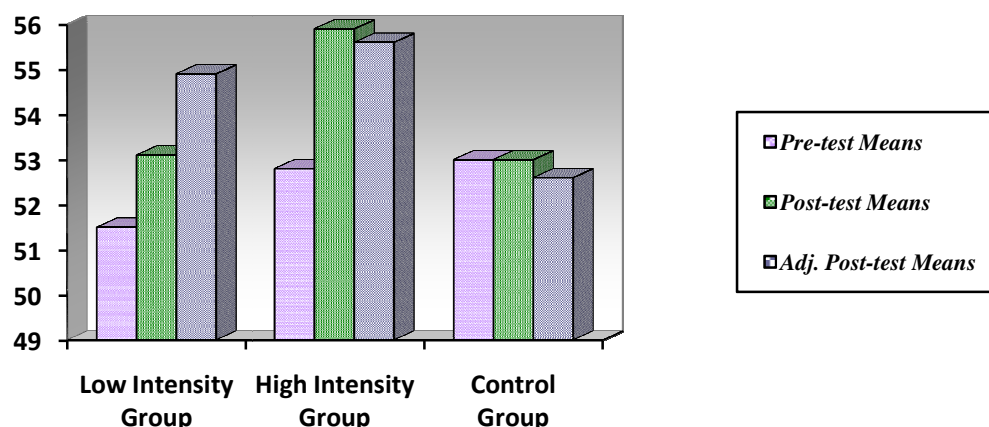


Figure II: Bar Diagram Showing the Mean Values of Low Intensity, High Intensity and Control Group on Back Strength.

#### DISCUSSION ON FINDINGS:

From the analysis of the data, it was inferred from the results that there was a significant improvement on selected criterion variables such as speed, back strength and leg strength due to the various intensities (i.e. low and high intensities). And also there was a significant improvement after the high intensity of strength training on selected criterion variables when compared with the low intensity group and control group. Moreover the low intensity group was better improvement after the training period on selected criterion variables when compared with the control group. It was hypothesized that the low and high intensities of resistance training will improve their speed, leg strength and Backstrength. The results of the study also shown that there was a significant improvement after the training period on speed, leg strength and Backstrength.

**CONCLUSION:**

The analysis of covariance (ANCOVA) was used to find out the significant difference if any, between groups on each selected criterion variables separately. In all the cases, .05 level of confidence was fixed to test the significance, which was considered as an appropriate.

Based on the results of the study, the following conclusions were drawn,

1. There was a significant difference between low and high intensity groups and control group on leg strength.
2. There was a significant difference between low and high intensity groups and control group on back strength.
3. There was a significant difference between low and high intensity groups and control group on speed.

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## The Role Of Training In Preventing Injuries In Sports/Games: An Over View

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**Abstract** This paper is intended to explain the importance of training in the performance of athletes. The significance of sports/games is recognized all over the world, as they make the individuals physically and psychologically fit, and release the stress and strain and keep them healthy. Many studies reveal that stress and strain and sedentary life are the root cause for many diseases. Hence sports/games must be included in every one's life. Unless these sports/games are practiced under the supervision of trained professionals, the players may become victims of injuries. Certain injuries may even cause serious damages which are irreversible, and spoil the sports career of an athlete. Sometimes the damage may be so serious that it may cause physical disability also. Hence it is highly essential for every sports person to be trained to start an event. **Key words:** Performance, athlete, **Introduction** : Training is a systematic and organized procedure, by which people learn knowledge skill and ability for a definite purpose. Training improves, changes, moulds the individuals knowledge skill, behaviour and attitude of an individual towards the requirements to perform an event /to achieve a goal. Training gives confidence and enables the individuals to take right decisions at right time and in the right direction. Injury rates could be reduced by 25% if athletes took appropriate preventative action. The major outcome of training is learning. A trainee learns new habits, refined skills, and useful knowledge during the training that helps him/her improve performance.

There are two types of imparting training 1.on the field 2. Off the field

Under the first method, an individual learns the do's n don'ts of a particular game while playing the game and accordingly mould him/her for the game. In the second method there are separate training centres for imparting training before they perform. It refers to training that occurs away from the event setting in the gym where the athlete improves on strength, speed, agility, power, balance, and cardiovascular conditioning which then translates to improved performance during competition. Each individual when he or she is born is born with some latent talents and skills. These skills manifest in some persons over a period of time if the person is given the right platform where such skill is allowed to blossom and bloom. The same applies to sports and sporting activities. Millions of people are born with fantastic skills in some sporting activity or the other. The best person who can identify, hone and develop these skilled persons is without doubt a good trainer. Good trainers are the ones who are responsible for making champions out of these ordinary people with extraordinary talents.

### Review of literature

Many studies were conducted to know the impact of training on the players. Bee Oh Lim, Yong Seuk Lee and YoungHoo Kwon have conducted a study on the effects of sports injury prevention training on the biomechanical risk factors of anterior cruciate ligament injury in female athletes to investigate the effects of sports injury prevention training (SIPT) on the biomechanical risk factors of ACL Injury in high school female basketball players. They have taken two groups of players taking 22 high school female basketball players were recruited and randomly divided into 2 groups (the experimental group and the control group, 11 participants each) and conducted various tests and found that the sports injury prevention training program improved the strength and flexibility of the competitive female basketball players tested and biomechanical properties associated with anterior cruciate ligament



injury as compared with pre-training parameters and with post-training parameters in the control group.

Elizabeth Quinn has suggested quick tips for preventing and treating sports injuries. Wear and use proper gear for the sport, including helmets, pads, shoes, sunglasses, gloves and layered clothing where appropriate. Understand the rules and follow them. Warm up slowly before activity. This is especially important in sports that require quick, dynamic movements, such as basketball, and soccer. Always use proper body mechanics in sports involving repetitive stress to the upper extremities. (tennis, baseball, golf).

Hübscher M, Zech A, Pfeifer K, Hänsel F, Vogt L, Banzer W have conducted a study on the effectiveness of proprioceptive/neuromuscular training in preventing sports injuries by using the best available evidence from methodologically well-conducted randomized controlled trials and controlled clinical trials. It showed evidence for the effectiveness of proprioceptive/neuromuscular training in reducing the incidence of certain types of sports injuries among adolescent and young adult athletes during pivoting sports.

### **Types of training in physical education**

**Agility Training** According to Vern Gambetta, Agility is the key to game speed. It not only has a performance enhancement component, but it can make a huge contribution to injury prevention. An athlete who is more agile will be able to safely get into and out of positions that would otherwise be impossible. This can only be developed through a systematic approach that has a foundation in sound motor learning principles.

**Circuit training** is a form of conditioning combining resistance training and high-intensity aerobics. It is designed to be easy to follow and target strength building as well as muscular endurance. An exercise "circuit" is one completion of all prescribed exercises in the program. When one circuit is complete, one begins the first exercise again for another circuit. Traditionally, the time between exercises in circuit training is short, often with rapid movement to the next exercise.

**Endurance** Strength endurance is used to develop the athlete's capacity to maintain the quality of their muscles' contractile force. All athletes need to develop a basic level of strength endurance. Examples of activities to develop strength endurance are - circuit training, weight training, hill running, harness running, Fartlek etc.

**Flexibility** is being able to move without being restricted by the tightness of your muscles and joints. Everybody's level of flexibility is different. It depends on their lifestyle and body makeup.

**Interval training** is a type of physical training that involves bursts of high intensity work. This high intensity work is alternated with periods of recovery .

**Overtraining** is a physical, behavioral, and emotional condition that occurs when the volume and intensity of an individual's exercise exceeds their recovery capacity. They cease making progress, and can even begin to lose strength and fitness. Overtraining is a common problem in weight training, but it can also be experienced by runners and other athletes.

**Plyometric** (also known as "plyos") is a type of exercise training designed to produce fast, powerful movements, and improve the functions of the nervous system, generally for the purpose of improving performance in sports. Plyometric movements, in which a muscle is loaded and then contracted in rapid sequence, use the strength, elasticity and innervation of muscle and surrounding tissues to jump higher, run faster, throw farther, or hit harder, depending on the desired training goal. Plyometrics is used to increase the speed or force of muscular contractions, providing explosiveness for a variety of sport-specific activities.

**Proprioceptive** is an automatic sensitivity mechanism in the body that sends messages through the central nervous system (CNS). The CNS then relays information to rest of the body about how to react and with what amount of tension. Human beings "train" for proprioception in the quest for efficient everyday movements. Proprioception is unconscious initially, but can be enhanced with training

**Speed training** This means your athletes could be much faster than they are right now. And they will be, once you start applying the information I'm going to share with you. But, you must commit to maximizing the untapped ability lying dormant in each of your sprinters. Strength training is the use of resistance to muscular contraction to build the strength, anaerobic endurance, and size of skeletal muscles.

**Technique** is the manner and ability with which an artist employs the technical skills of a particular art or field of endeavor. Techno - skill of doing (Greek)

**Nutrition in Sports:** Research shows that the coupling of exercise and proper diet is what produces a healthy lifestyle that can maintain the "prevention/management of [chronic diseases such as] noninsulin-independent diabetes, hypertension, coronary heart disease, osteoporosis, obesity, mental health, colon cancers, stroke and back injury. In 2008, US News reported that 65% of Americans exercised regularly by working out, playing sports, and/or other physical activities, thus the importance of proper nutrition is of great interest to athletes and exercisers for optimal performance and long term benefits. In addition to diet, social and cultural influences, lifestyle habits, motivation and training determine successful athletic performance (Maughan). However, states Maughan, "without proper nutrition, the full potential of the athlete will not be realized, because performance will not be at its peak, training levels may not be sustained, recovery from injury will be slower, and the athlete may become more susceptible to injury and infection." Understanding sports nutrition leads to optimal athletic performance and lifetime health benefits and can thus be evaluated by the intake of certain nutrients and supplements when exercising, by learning the way the body utilizes these materials and how these practices complement future diet and exercise of the individual.

**Conclusion:** Training is important in learning the methods of performing an event, increasing the abilities in performance, do's and don'ts of the event, avoiding and preventing the accidents or injuries. Many studies were conducted by the researchers and advised that increase in training should be matched with increases in resting, avoid training when tired, stop your training, if you experience pain when training, and stay away from infectious areas when training or competing very hard. It is observed that good nutrition training is also required in achieving good performance. There must be sports man spirit in players and healthy competition among the players which is lacking in many competitors now a day. Sports competitions should not create stress in the minds of players. Instead they should relieve them from the stress. I wish all the sports men/women a very good luck in their future endeavors.

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## **Comparative Assessment Of Stress And Self Concept Between Present And Passed Out College Students**

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### **ABSTRACT**

The main purpose of the study was to investigate the comparative assessment of stress and self-concept between present and passed out college students of Post Graduate Government Institute for Physical Education, Banipur, North 24 Parganas, West Bengal, India. Hundred students of which fifty present students of the above mentioned college, session 2011-12 and fifty unemployed passed out students of the same college, age ranging from 23 to 27 years were taken as the subjects for the study. For the present study, Personal Stress Source Inventory Questionnaire by Arun kumar Singh, Ashish kumar Singh and Aparna Singh and the Self-concept Questionnaire by Raj kumar Saraswat was used to measure the stress level and Self-concept of the students. In order to investigate the existence of significant difference in comparative assessment of Stress and Self-concept between present and passed out college students, student 't' test was used for statistical procedure. Statistical calculation of the gathered data showed that there were significant difference between the present and passed out college students of Post Graduate Government Institute For Physical Education, Banipur, North 24 Parganas, West Bengal, India at 0.05 level of significance. The passed out students showed low stress level and better self-concept than the present students of the same college.

**Key words:** Stress, Self-concept

### **INTRODUCTION**

Stress is the sum of physical and emotional reaction to any stimulus that disturbs the organism's homeostasis. It is a factor that is without a question apart of daily living. **Stress** comes in many forms. Things like our environment, physiological well being, thoughts and social stresses can have an effect on our learning. The knowledge of stress's impact on learning has resulted in a cottage industry dedicated to teaching methods of managing it. The ability to identify sources of stress and then ways to manage them are key to resolving and overcoming stress and opening our learning channels. (<http://writing4students.blogspot.com>) stress research typically is viewed as sub specially within medical sociology , a perspective that obscures commonalities with more traditional sociological areas of inquiry, especially social stratification.

Stress (psychology), an unpleasant state of emotional and physiological arousal that people experience in situations that they perceive as dangerous or threatening to their well-being. The word stress means different things to different people. Some people define stress as events or situations that cause them to feel tension, pressure, or negative emotions such as anxiety and anger. However, most psychologists regard stress as a process involving a person's interpretation and response to a threatening event (Kablamo, 2005).

Self concept is one of the most popular ideas of psychological literature. Self concept is inherently phenomenological that is, it refers to the person's own view of him/herself. Adjustment, academic achievement and general behaviors are among the development features of an individual which are subject to the influence of an individual's self concept. Mostly present day educators and psychologists consider that in individual's self concept is a critical facet of his personality (Bag, 2010). In fact, leading scholar in the field (Wylie, 1974) has argued that comparisons to external events are not particularly relevant in the assessment of Self concept.

In the field of physical education and sports, the importance of stress and self concept are realized in every steps of a competition. In physical education curriculum the students have to adjust themselves the physically and psychologically stressed condition rather than any other area of education system.

The physical education curriculum is prepared to establish the foundation of self esteem and confidence.

#### STATEMENT OF THE PROBLEM

The purpose of the study was to compare the Stress and Self concept level between the present college students and the passed out college students of Post Graduate Government Institute for Physical Education, Banipur, North 24 Paragana, West Bengal, India.

**METHODOLOGY** :The randomly subjects selected for the study were 50 present students and 50 passed out unemployed students, age ranging from 23 to 27 years of Post Graduate Government Institute for Physical Education, Banipur, North 24 Paragana, West Bengal, India. Personal Stress Source Inventory Questionnaire by Arun kumar Singh, Ashish kumar Singh and Aparna Singh and the Self-concept Questionnaire by Raj kumar Saraswat was used to measure the stress level and Self-concept of the students. Firstly, the randomly selected present students were assembled in a place during their leisure time. They were made understood the whereabouts of the study and also the way to put tick mark against each questions in the questionnaires provided accordingly in respect of their own opinions. In the same way the passed out students were also assembled into two groups in two different phases as these subjects were gathered according to their leisure time and the data were collected in accordance to the instructions mentioned before.

**STATISTICAL PROCEDURE**:For the purpose of comparing the Stress level and total Self concept level between the present college students and the passed out college students, the students' 't' test was used at 0.05 level of significance.

TABLE-1  
SIGNIFICANCE OF DIFFERENCE OF MEANS AND STANDARD DEVIATIONS OF STRESS BETWEEN PRESENT AND PASSED OUT COLLEGE STUDENTS

Variables	Mean	S.D.	Mean Diff.	SE	't' Ratio
Present college students	63.48	6.55	4.02	12.30	3.02*
Passed out college students	59.46	6.76			

\*Significant at 0.05 level

\*\*t' value required to be significant at 0.05 level of confidence with 98 degree of freedom was 1.98

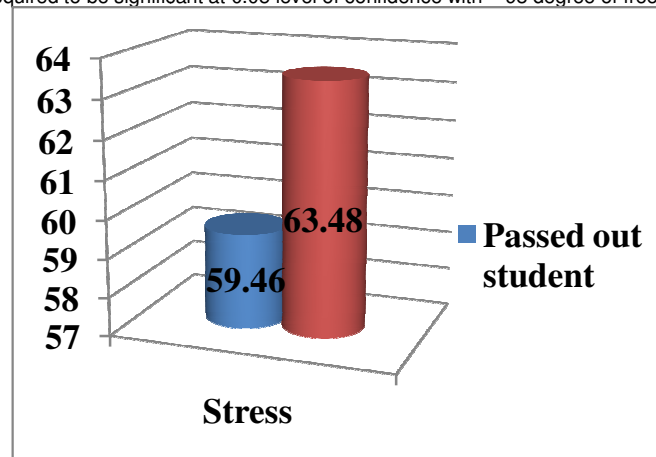


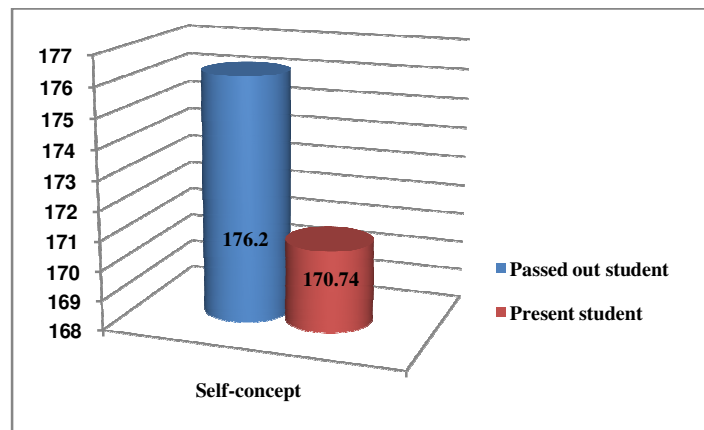
FIGURE-1 COMPARISON OF MEANS OF THE STRESS LEVEL BETWEEN PRESENT AND PASSED OUT COLLEGE STUDENTS

Table:2:SIGNIFICANCE OF DIFFERENCE OF MEANS AND STANDARD DEVIATIONS OF SELF-CONCEPT BETWEEN PRESENT AND PASSED OUT COLLEGE STUDENTS

Variables	Mean	S.D.	Mean Diff.	SE	't' Ratio
Present college students	170.47	12.80	5.73	34.66	2.21*
Passed out college students	176.20	11.90			

\*Significant at 0.05 level

\*\*t' value required to be significant at 0.05 level of confidence with 98 degree of freedom was 1.98.



**Figure-2 Comparison Of Means Of The Self-Concept Level Between Present And Passed Out College Students**

### Discussion Of The Findings

The results as obtained while conducting the study and after analyzing the gathered data can be expressed by the following ways-

The comparative results of the study on stress & self concept between the present college students & passed out college students showed significant difference. The data represented that the present college students were in a psychologically more stressed condition than the passed out students because they had to adopt themselves in the scientifically vigorous college curriculum to build the root of their future. The present college students were found less experienced about the college curriculum and always in a thoughtful state about which kind of burden is about to come. The passed out students were found better in self concept than the present college students as after completing their degree, they felt a little bit relaxed as they had the required eligible criteria to get a job to be a physical education teacher. In general the passed out students need not to do physically and psychologically tough deed as the present students do except the exceptional. This result of the present student may be due to the pressure of the college's rules bounded curriculum of study and the relaxation from pressure of study and physical labor contributed for this result in favor of passed out students of the college. Grossen and Bush, 1979 used emotional and physical responses as criteria of successes in coping with stress. Factors that affected those responded were: sex, age, religion, ethics or culture, education level, occupation, interpersonal relation, and health conditions. Organizational stressors include administration, hierarchy of the employee, organizational process, working condition. In sports field the role of coach / manager, selection of captain, vice captain, team selection, practice schedule, fooding and lodging in the time of competition etc. group stressors categorized in to lack of cohesiveness, lack of social support, intra-individual inter personal and intergroup conflict. In sports field it arises due to the lack of team spirit, togetherness of team members, the own team members etc (Paul-2010).

### CONCLUSION

1. It was found that the present college students were found in a more stressful condition than the passed out college students.

2. It was also found that the passed out college students were found better in self concept than the present college students.

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## **A Comparative Study of All India Inter University Powerlifters**

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### **Abstract**

The purpose of the study was to compare the relative strength among the light, medium and heavy body weight categories. Total 162 male power lifters were selected from All India Inter University Championships 2007-2008, 2008-2009 & 2009-2010 Who were the position holders of up to six position in various nine body weight categories. The age of the subjects ranged from 18 to 25 Years. Considering the results above, the power lifter in light body weight category in 2007-08 performed the best. The power lifter in medium body weight category in 2009-10 performed the best. Similarly, the power lifter in 2009-10, performed the best in heavy body weight category. During 2007-08, 2008-09 and 2009-10, medium group power lifters performed better than power lifters of light and heavy body weight categories. The analysis of data revealed that there is a significant difference in relative strength of various categories of power lifters.

**Key words:** Power lifter, strength, Categories.

### **Introduction :**

Power lifting is a strength oriented game and the relative strength is the base for all the strengthening games. So, for the development of relative strength, there are various strength which are responsible like starting strength, absolute strength, limit strength, general strength etc. For training and performance purpose of power lifting it is necessary to know the relative strength of various categories of power lifters. Hence, the purpose of the study was to compare the relative strength among the light, medium and heavy body weight categories. Total 162 male power lifters were selected from All India Inter University Championships 2007-2008, 2008-2009 & 2009-2010 Who were the position holders of up to six position in various nine body weight categories. The age of the subjects ranged from 18 to 25 Years.

### **Procedure:**

Three body weight groups were taken each from light body weight category, Medium body weight category and Heavy body weight category spanning 2007-2008, 2008-2009 & 2009-2010 All India Inter University Power lifting Championship. Super Heavy body weight category (+125 Kg.) was excluded from the study. Average of First six rankers from each group in each year was worked out. A comparative study was done considering average of 54 participants from each group in each year.

## Results:

Comparative year wise and category wise performance of All India Inter University power lifter is shown in Table-1 below.

Table-1

Table showing performance of various power lifters.

Body weight category	No.	2007-2008 Punjabi Un. Patiyala performance in Kg.	2008-09 AndhrUni. Vishakhapatnam performance in Kg.	2009-10 Gurunanakdev Uni. Amrutasar Performance in Kg.
Life	54	555.25	523.34	542.78
Medium	54	652.36	659.86	661.67
Heavy	54	632.08	630.97	655.28

## Discussion:

Considering the results above, the power lifter in light body weight category in 2007-08 performed the best. The power lifter in medium body weight category in 2009-10 performed the best. Similarly, the poer lifter in 2009-10, performed the best in heavy body weight category. During 2007-08, 2008-09 and 2009-10. Medium group power lifters performed better then power lifters of light and heavy body weight categories.

## Conclusion:

The analysis of data revealed that there is a significant difference in relative strength of various categories of power lifters. It is established that various categories of lifters possess different levels of relative strength. This may be probably due to other factors such as different body type, different body type, different in the body composition, different geographic backgrounds etc.

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## **Effect Of Fartlek Training Interval Running On Cardio Respiratory Endurance Among College Men Athletes**

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### **ABSTRACT**

The aim of this study was to analyse the effect of fartlek training and interval running on cardiorespiratory endurance among college men athletes (Runners). Fartlek training and interval running were selected as independent variables and the following dependent variable is cardio respiratory endurance . Forty five men athletes were selected from The P.K. Kotawala Arts College , Patan (North Gujarat) were randomly selected as subjects, they were divided into three groups, Fartlek training group (n=15), interval running group (n=15) minutes run/walk test and it was recorded as a pre and post-test. The training consists of twelve weeks and it was three days in a week both experimental groups underwent their specific training and control group did not participate any training. The collected data were analysed by using analysis of covariance to find the significant difference among the experimental and control groups and whenever the F-ratio for ANCOVA was found significant, the Scheffe's post hoc test was used as post hoc test to find the paired mean difference. The results were tested at .05 level of confidence. It was concluded that there was a significant improvement on cardio respiratory endurance due to Fartlek training and interval running when compared to the control group among the athletes (runners) and fartlek training outperformed than interval running towards improving cardio respiratory endurance.

**Key Words : Fartlek training, Interval Running, Cardio Respiratory Endurance**

### **INTRODUCTION**

#### **Fartlek training**

Fartlek is a great training tool. Fartlek training – the word means “speed-play” in Swedish – has been around for about 50 years and is very effective in increasing a runner's speed and endurance (Nicki Anderson, 2011).

Fartlek is a form of road running or cross country running in which the runner, usually solo, varies the pace significantly during the run. It is usually regarded as an advanced training technique, for the experienced runner who has been using interval training to develop speed and to raise the anaerobic threshold. However, the 'average' runner can also benefit from simplified form of Fartlek training, to develop self-awareness and to introduce variety into the training program. It is primarily a technique for advanced runners because it requires 'honesty' to put in a demanding workload, and also 'maturity' to not overdo the pace or length of the intervals. With these qualities, fartlek makes for an excellent component of a distance runners training programme (Lan kemp, 1997).



## **Interval Running**

Interval running which means is a type of “physical training” and cardio workout that involves bursts of high intensity work is alternated with periods of rest or low activity, the eponymous intervals. The term can refer to any cardiovascular workout that involves brief bouts at near-maximum exertion interspersed with periods of lower-intensity activity. Athletes often practice interval running on tracks, running hard at certain pace for a specified distance and jogging, walking, or resting for a set distance or time before the next speed burst. Distances can also vary; one example would be a “ladder” workout consisting of a 160-meter, two 1200- meter, three 800- meter, and four 400-meter repetitions, each at an appropriate speed and with an appropriate amount of recovery. Interval training refers to the method of repeating stimuli of various intensities with a previously planned rest interval, during which the athlete does not fully regenerate. It should calculate the duration of the rest interval by heart rate method. The athlete could repeat the portions of distance either by time or precise distance (Todor O. Bomba, 1999).

## **Cardio Respiratory Endurance**

Cardio respiratory fitness refers to the ability of the circulatory and respiratory systems to supply oxygen to skeletal muscles during sustained physical activity. Regular exercise makes these systems more efficient by enlarging the heart muscle, enabling more blood to be pumped with each stroke, and increasing the number of small arteries in trained skeletal muscles, which supply more blood to working muscles (Rebeka J. Donatello, 2005).

The cardio respiratory system and aerobic energy systems become more efficient at delivering oxygen to the working muscles and converting carbohydrate and fat to energy. There are many different ways to train for improved aerobic endurance. The duration, frequency and intensity of each type of training vary and the training focuses on slightly different energy systems and skills and results in different physical adaptations. Interval training consists of short, repeated, but intense physical efforts (3-5 minutes followed by short rest periods). Fartlek Training combines some or all the other training methods during a long, moderate session. During the workout the athletes add short bursts of higher intensity work with no set plan; it's up to how the athletes feels. (Elizabeth Quinn, 2009).

## **The Purpose of the study**

The aim of this study was to analyse the effect of fartlek training and interval running on cardio respiratory endurance among college men athletes (Runners).

## **Methodology**

To achieve the purpose of the study, forty five college men athletes from P.K. Kotawala Arts College, Patan (North Gujarat) were selected as subjects at random and their age ranged between 18 to 22 years. The selected subjects were divided into three groups, fartlek training group (n=15), interval running group (n=15), and control group (n=15). The scientific method was used to assess the dependent variable is 12 minutes run/walk test and it was recorded as a pre-test and post-test. Group I underwent fartlek training and group II underwent interval running for twelve weeks (three days per week) of training. The duration of training session in all the days was between forty five minutes to one hour approximately, which included warming up and warming down. Group III acted as control group that did not participate in any specific training on par with experimental groups. All the subjects involved in this study were carefully monitored throughout the training programme to be away from injuries. The collected data were analysed by using analysis of covariance to find the significant difference among the experimental and control groups and whenever the F-ratio for

ANCOVA was found significant, the Scheffe's post hoc test was used to find the paired mean difference. In all the cases .05 levels was fixed as confidence level.

TABLE – 1  
RELATIVE EFFECT OF FARTLEK TRAINING AND INTERVAL RUNNING ON ENDURANCE RELATED PARAMETERS  
TRAINING PROGRAMME FOR FARTLEK TRAINING GROUP – 1

I- WEEK			II - WEEK			III - WEEK		
Day	Duration	Intensity	Day	Duration	Intensity	Day	Duration	Intensity
Mon	45 min	50-55%	Mon	45 min	55-60%	Mon	45 min	60-65%
Wed	45 min	50-55%	Wed	45 min	55-60%	Wed	45 min	60-65%
Fri	45 min	50-55%	Fri	45 min	55-60%	Fri	45 min	60-65%
IV- WEEK			V - WEEK			VI - WEEK		
Day	Duration	Intensity	Day	Duration	Intensity	Day	Duration	Intensity
Mon	45 min	65-70%	Mon	50 min	55-60%	Mon	50 min	60-65%
Wed	45 min	65-70%	Wed	50 min	55-60%	Wed	50 min	60-65%
Fri	45 min	65-70%	Fri	50 min	55-60%	Fri	50 min	60-65%
VII- WEEK			VIII - WEEK			IX - WEEK		
Day	Duration	Intensity	Day	Duration	Intensity	Day	Duration	Intensity
Mon	50 min	65-70%	Mon	55 min	55-60%	Mon	55 min	60-65%
Wed	50 min	65-70%	Wed	55 min	55-60%	Wed	55 min	60-65%
Fri	50 min	65-70%	Fri	55 min	55-60%	Fri	55 min	60-65%
X- WEEK			XI - WEEK			XII - WEEK		
Day	Duration	Intensity	Day	Duration	Intensity	Day	Duration	Intensity
Mon	55 min	65-70%	Mon	60 min	60-65%	Mon	60 min	65-70%
Wed	55 min	65-70%	Wed	60 min	60-65%	Wed	60 min	65-70%
Fri	55 min	65-70%	Fri	60 min	60-65%	Fri	60 min	65-70%

TABLE – 2  
TRAINING PROGRAMME FOR INTERVAL RUNNING GROUP – II

I - WEEK					II - WEEK				
Day	Distance covered	Repetition	Active Rest	Intensity	Day	Distance covered	Repetition	Active Rest	Intensity
Mon	800m	8	1 min	50-55%	Mon	800m	7	1.5 min	55-60%
Wed	900m	7	1.5 min	50-55%	Wed	900m	6	2 min	55-60%
Fri	1000m	6	2 min	50-55%	Fri	1000m	8	1 min	55-60%
III - WEEK					IV - WEEK				
Day	Distance covered	Repetition	Active Rest	Intensity	Day	Distance covered	Repetition	Active Rest	Intensity
Mon	1000m	6	2 min	60-65%	Mon	800m	8	1 min	65-70%
Wed	800m	8	1 min	60-65%	Wed	900m	7	1.5 min	65-70%
Fri	900m	7	5 min	60-65%	Fri	1000m	6	2 min	65-70%
V - WEEK					VI - WEEK				
Day	Distance covered	Repetition	Active Rest	Intensity	Day	Distance covered	Repetition	Active Rest	Intensity
Mon	900m	8	1 min	55-60%	Mon	1000m	7	1.5 min	60-65%
Wed	1000m	7	1.5 min	55-60%	Wed	1100m	6	2 min	60-65%
Fri	1100m	6	2 min	55-60%	Fri	900m	8	1 min	60-65%
VII - WEEK					VIII - WEEK				
Day	Distance covered	Repetition	Active Rest	Intensity	Day	Distance covered	Repetition	Active Rest	Intensity
Mon	1100m	6	2 min	65-70%	Mon	1000m	8	1 min	55-60%
Wed	900m	8	1 min	65-70%	Wed	1100m	7	1.5 min	55-60%
Fri	1000m	7	5 min	65-70%	Fri	1200m	6	2 min	55-60%
IX - WEEK					X - WEEK				
Day	Distance covered	Repetition	Active Rest	Intensity	Day	Distance covered	Repetition	Active Rest	Intensity
Mon	1100m	7	1.5 min	60-65%	Mon	1200m	6	2 min	65-70%
Wed	1200m	6	2 min	60-65%	Wed	1000m	8	1 min	65-70%
Fri	1000m	8	1 min	60-65%	Fri	1100m	7	1.5 min	65-70%
XI - WEEK					XII - WEEK				
Day	Distance covered	Repetition	Active Rest	Intensity	Day	Distance covered	Repetition	Active Rest	Intensity
Mon	1300m	6	2 min	60-65%	Mon	1100m	8	1 min	65-70%
Wed	1200m	7	1.5 min	60-65%	Wed	1200m	7	1.5 min	65-70%
Fri	1100m	8	1 min	60-65%	Fri	1300m	6	2 min	65-70%

## Result and Analysis

The mean and standard deviation values on cardio respiratory endurance of fartlek training, interval running and control groups have been analysed and presented in Table I.

TABLE- III  
MEAN AND STANDARD DEVIATION FOR CARDIO RESPIRATORY ENDURANCE AMONG  
EXPERIMENTAL AND CONTROL GROUPS

	Test	Fartlek Training Group	Interval Running Group	Control Group
Pre Test	Mean	2154.45	2109.67	2129.25
	SD	206.84	231.60	251.74
Post test	Mean	2553.08	2362.67	2119.67
	SD	243.81	251.25	213.98

Table III shows that the mean values of pre test and post test of Fartlek training Group were 2154 and 2553.08, 206.84 and 243.81 for interval Running Group were 2109.67 and 2362.67, 231.60 and 251.25 and for control Group were 2129 and 2119.67, 251.74 and 213.98.

TABLE IV  
RESULTS OF ANALYSIS OF COVARIANCE FOR THE CARDIO RESPIRATORY ENDURANCE AMONG EXPERIMENTAL  
AND CONTROL GROUPS

Adjusted Post Test Means			Sources of Variance	Sum of Square	Df	Mean Squares	F-ratio
Fartlek Training Group	Interval Running Group	Control Group					
2535.50	2378.73	2121.09	Between	1311738.766	2	655869.38	25.02*
			Within	1074616.040	41	26210.147	

R Squared = .715 (Adjusted R Squared = .0694)

\*Significant at 0.5 level of confidence. (The table value required for significance at 0.5 level with df2 and 41 is 3.225)

Table IV shows that the adjusted post-test means of fartlek training, interval running and control groups are 2535.50, 2378.73 and 2121.09 respectively. The obtained F-ratio value is 25.02, which is higher than the table value 3.225 with df 2 and 41 required for significance at 0.05 levels. Since the value of F-ratio is higher than the table value, it indicates that there is significant difference among the adjusted post-test post means of fartlek training, interval and control groups. This effect is accounted for 72% of the variance on cardio respiratory endurance ( $\eta^2 = 0.715$ ).

To find out which of the three paired means had a significant difference, the Scheffe's post-hoc test was applied and the results are presented in Table V.

TABLE V  
SUMMARY OF THE SCHEFFE'S POST HOC PAIR WISE COMPARISON ON CARDIO RESPIRATORY ENDURANCE  
AMONG EXPERIMENTAL AND CONTROL GROUPS

Fartlek Training	Interval Training	Control Group	Mean Differences	C.I. Value
2535.50	2378.73		156.77*	149.55
2535.50		2121.10	414.40*	
	2378.73	2121.10	257.63*	

C.I. Value-Confidence Interval Value \*Significant at .05 level

The fartlek training (Adj. Mean = 2535.50) significantly outperformed the interval running (Adj. Mean = 2378.73) in cardio respiratory endurance with adjusted mean differences of 156.77 (CI = 149.55) and also the experimental groups, fartlek training and interval running significantly outperformed the control group (Adj. Mean = 2121.10) in cardio respiratory endurance with adjusted mean differences of 414.40 and 257.63 (CI = 149.55).

## Discussion on Findings

The present study indicates that both the Fartlek and interval training have beneficial effect in the cardio respiratory endurance and both these training have significant differences among them. It was found that the Fartlek training paved way for better improvement in the cardio respiratory endurance, because the fartlek training is the continuous running method, and the athletes varies the pace significantly during the run and their own efficiency in the varied surfaces. Interval running too improves the cardio respiratory endurance. But comparing with the fartlek training, interval running was not much competent in improving the cardio respiratory endurance. Because of the interval

running has little rest/recovery between the repetitions affect the continuity of the running. Control group should no improvement in the cardio respiratory endurance because it had not been given any sort of training. All training may improve the physical and physiological qualities. This study also proved that the Fartlek and interval running had improved the cardio respiratory endurance. So if athletes such as middle and long distance runners want to improve their cardio respiratory endurance, he has to undergo the Fartlek training.

### **Conclusion**

1. There was a significant difference among the fartlek training, interval running and control groups towards improving the cardio respiratory endurance.
2. This effect is accounted for 72% of the variance on cardio respiratory endurance.
3. The fartlek training outperformed than the interval running in cardio respiratory endurance and also the fartlek training and interval running significantly outperformed than the control group.

### **Implications for Educators**

From the discussion of the findings, it is evident in this study that fartlek training and interval running were effective in supporting participants' cardio respiratory endurance performance. Therefore, fartlek training can be integrated with endurance training to develop endurance parameters in turn it will improve the overall performance of the participants.

In this study, the findings showed that the fartlek training were particularly effective in supporting endurance parameters. Therefore, physical educators, trainers and coaches should give more attention to fartlek training.

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**“A comparative study of Junior & Senior National female Kho-Kho players with respect to Conscientious & Shy personality characteristics”**

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**Introduction:**

Personality is a pretty important word in the English language. If you ask someone why they chose their spouse or what the most important quality they look for in a friend is, most people many people will say 'a good personality'. But, what does that mean? The truth is, the meaning of a 'good personality' is different for everyone. Some people like quiet people, while others want to hang out with the loudest person in the room. Some value humour, while others praise intellect. And, of course, many people can have both intellect and humour and these things are both part of their personalities. These different factors, in fact, are considered to be personality traits.

**Conscientious**

The remaining two personality domains, conscientiousness and agreeableness, are often thought of as being unalloyed in their benefits, because they are generally negatively related to measures of delinquency and antisocial behavior (e.g. Heaven, 1996). However, it is important not to conflate social desirability with positive effects on fitness.

**Shy**

Shyness has been defined as “a heightened state of individuation characterized by excessive egocentric preoccupation and over concern with social evaluation, ... with the consequence that the shy person inhibits, withdraws, avoids, and escapes” (Zimbardo, 1982; pp.467- 468). William James considered shyness a basic human instinct, following Darwin (James, 1890). Izard described shyness as a discrete, fundamental emotion (1972).

**Aim of Study**

The aim of study is to compare Conscientious & Shy personality characteristics of senior and junior national Kho-Kho players.

**Objectives of the study**

To study the Conscientious personality characteristics in between senior and junior national female Kho-Kho players.

To study the Shy personality characteristics in between senior and junior national female Kho-Kho players.

**Hypothesis**

Senior Female Kho-Kho Players have significantly High Conscientious (Personality Characteristics) than Junior Female Kho-Kho Players.

Senior Female Kho-Kho Players have significantly High Shy (Personality Characteristics) than Junior Female Kho-Kho Players.

**Sample**

The present study was consist of 200 Female (18-21years and 22-25years) 100 Senior National Kho-Kho Players and 100 Junior National Kho-Kho Players, from Maharashtra State. and age ratio 1:1.

## Tools

16PF (Personality Factors) S.D.Kapoor :

This test is developed and standardized by S.D.Kapoor the test consisted of 187 Items. The subjects were required to respond to each item in terms of 'seldom', 'sometimes' OR 'frequently'. The reliability coefficient of the test was found 0.84 with Spearman Brown formula. The validity coefficient was found 0.78.

### Differential Personality Inventory:

This test is developed and standardized by A.K.P. Sinha and Singh. The test consisted of 165 Items. The subjects were required to respond to each item in terms of 'YES' OR 'NO'. The reliability coefficient of the test was found 0.73 with Spearman Brown formula. The validity coefficient was found 0.86.

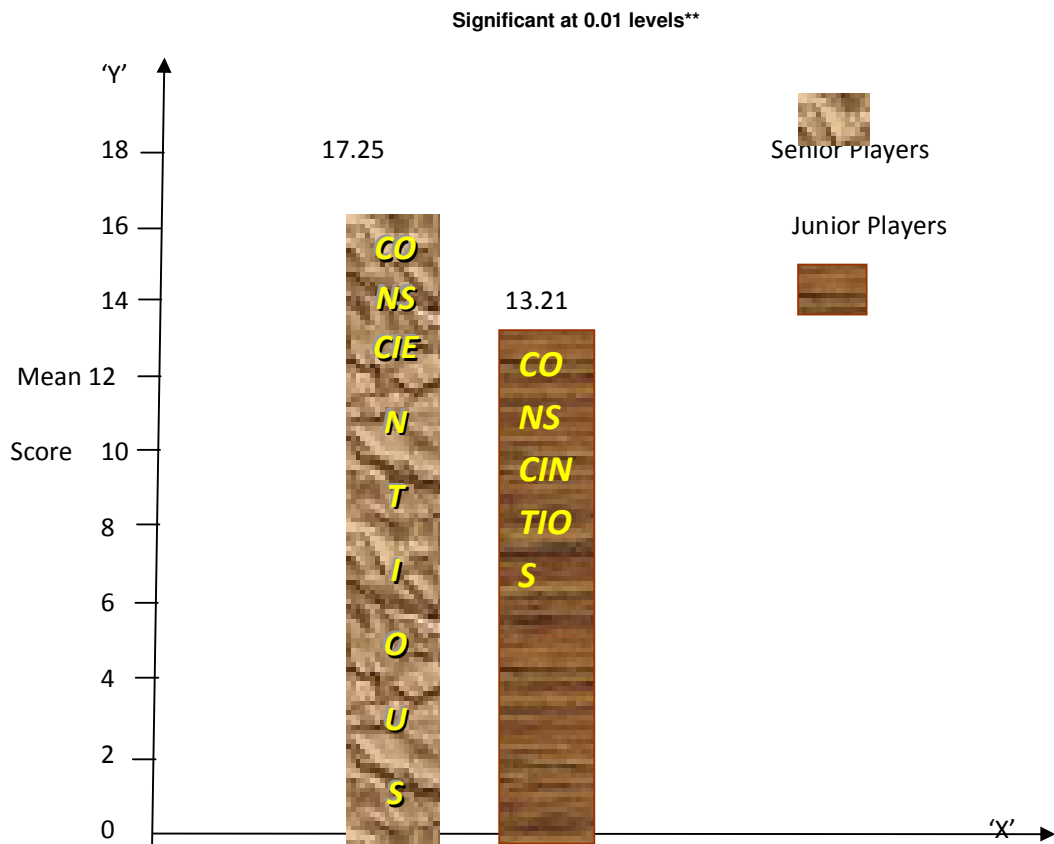
### Procedures of data collection

Each of the three instruments could be administered individuals as well as a small group. While collecting the data for the study the later approaches was adopted. The subjects were called in a small group of 20 to 25 subjects and there seating arrangements was made in a classroom. Prior to administration of test or scale, through informal talk appropriate rapport form. Following the instructions and procedure suggested by the author of the scale and tests. The test was administered and a field copy of each test was collected. Following the same procedure, the whole data were collected.

### Statistical Interpretation

Table No. 1  
Senior and Junior National Kho-Kho Players Shows the mean S.D and t value of factors 'Personality Characteristics' (Conscientious)

PLAYERS	MEAN	SD	N	DF	't' value
Senior Female Kho-Kho Players	17.25	3.59	200	398	11.54**
Junior Female Kho-Kho Players	13.21	3.51	200		



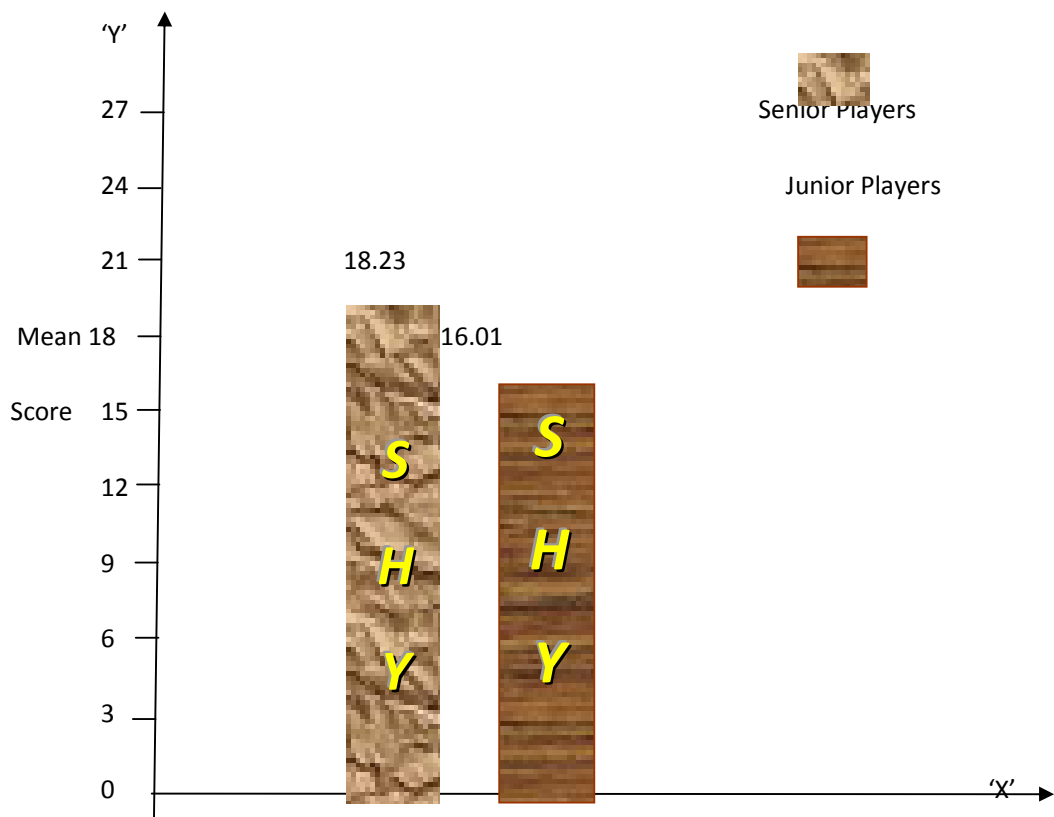
The results related to the hypothesis have been recorded. Mean of Conscientious score of the Senior Female Kho-Kho Players is 17.25 and that of the Junior Female Kho-Kho Players 13.21. The difference between the two mean is highly significant  $t' = 11.54$ ,  $df = 398$ . And Significant at 0.01 Level.

Thus the hypothesis is confirmed Senior Female Kho-Kho Players have significantly High Conscientious (Personality Characteristics) than Junior Female Kho-Kho Players.

Table No. 2  
Senior and Junior National Kho-Kho Players Shows the mean S.D and t value of factors 'Personality Characteristics' (Shy)

PLAYERS	MEAN	SD	N	DF	't' value
Senior Female Kho-Kho Players	18.23	4.02	200	398	5.69**
Junior Female Kho-Kho Players	16.01	3.81	200		

Significant at 0.01 levels\*\*



The results related to the hypothesis have been recorded. Mean of Shy score of the Senior Female Kho-Kho Players is 18.23 and that of the Junior Female Kho-Kho Players 16.01. The difference between the two mean is highly significant  $t' = 5.69$ ,  $df = 398$ . And Significant at 0.01 Level.

Thus the hypothesis is confirmed Senior Female Kho-Kho Players have significantly High Shy (Personality Characteristics) than Junior Female Kho-Kho Players.

### Results

Senior Female Kho-Kho Players have significantly High Conscientious (Personality Characteristics) than Junior Female Kho-Kho Players.

Senior Female Kho-Kho Players have significantly High Shy (Personality Characteristics) than Junior Female Kho-Kho Players

## **Effect Of Aerobic Exercises, Pranayama AndThe Combination Of Aerobic Exercises And Pranayama On Selected PhysiologicalAnd Haematological VariablesAmong Men Athletes**

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### **INTRODUCTION**

Today's world is a world of competitions and this is very true of sports and games. In fact it has become a prestigious issue to win medals at the international level. This has resulted sparing no effort to achieve the goal. Multimillions are spent on research projects to invent new techniques and technology to achieve excellence.

### **AEROBIC EXERCISE**

Aerobic exercise is a physical exercise of relatively low intensity that depends primarily on the aerobic energy-generating process. Aerobic means "with oxygen", and refers to the use of oxygen to adequately meet energy demands during exercise via aerobic metabolism. Generally light to moderate intensity activities that are sufficiently supported by aerobic metabolism can be performed for extended periods of time.

### **PRANAYAMA**

Pranayama means control of life force through the art of breathing. Pranayama is the fourth part of the eight fold yoga described in the yoga sutra of Patanjali. Many direct and indirect references to Pranayama, what it can do, why it is practiced and what its importance is, occur in Vedic literature in ancient Upanishads, Smritis, Puranas and Treatises such as yoga Vasistha.

### **METHODOLOGY**

#### **SELECTION OF SUBJECTS**

Forty male students of age group between 19 to 24 years, enrolled in K.L. University, Guntur (A.P) who had no previous experience in Aerobic exercise or Pranayama were chosen as subjects. These subjects were divided randomly into four equal groups that is control group, Aerobic exercises group, Pranayama group and combined activity group (Pranayama cum Aerobic exercise group).

#### **SELECTION OF VARIABLES**

The research scholar, after reviewing the available scientific literatures on Aerobic exercises and Pranayama had selected the following variables for the study. Physiological variables –  $\text{VO}_{2\text{ max}}$  and Mean arterial pressure, Haematological variables – Red blood corpuscles count and Haemoglobin content.

#### **STATISTICAL PROCEDURE**

The analysis of covariance was used to find out the difference among the groups after treatment. Scheffe's Post Hoc test was used to find out the significant differences between the groups.

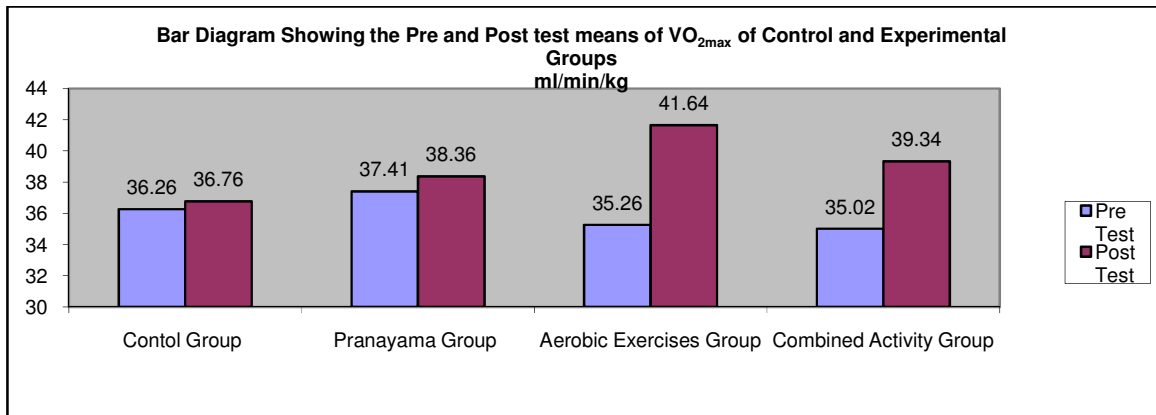
### **RESULTS AND DISCUSSIONS**

In this chapter the data collected are analyzed statistically and the results are discussed.

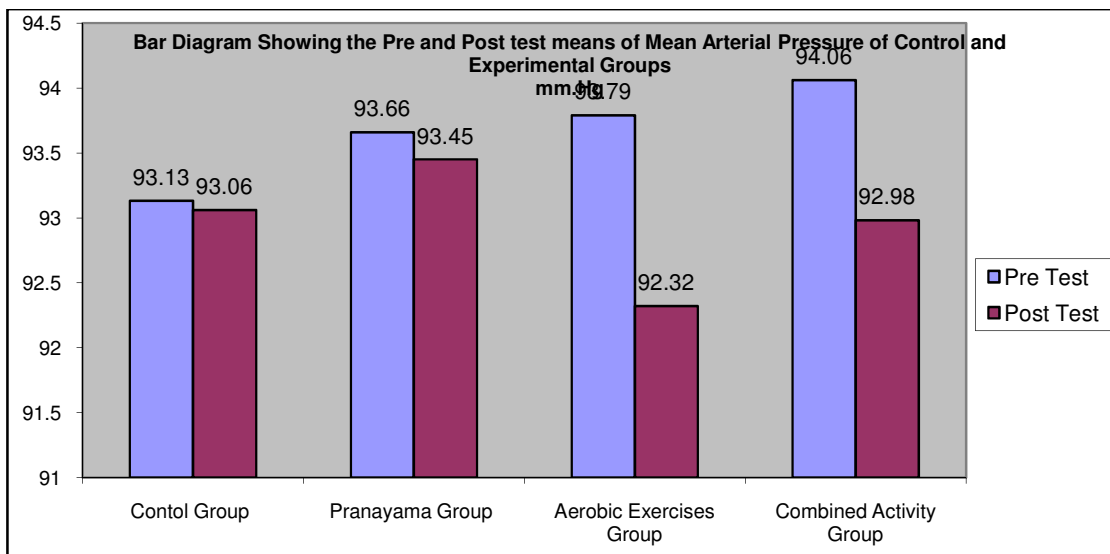
The pre and post treatment data of control group, Pranayama group, Aerobic exercises group and combined activity group (Pranayama cum Aerobic exercises) were obtained on the two physiological and two Haematological parameters.

This study indicated that the Aerobic exercises and the combined activity of Pranayama and Aerobic exercises had improved the cardiovascular efficiency significantly

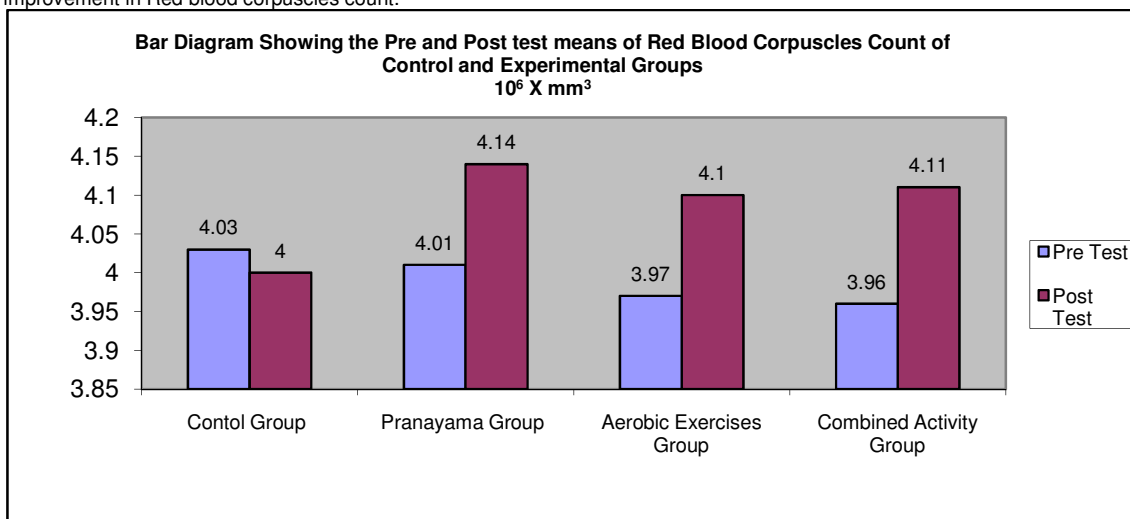




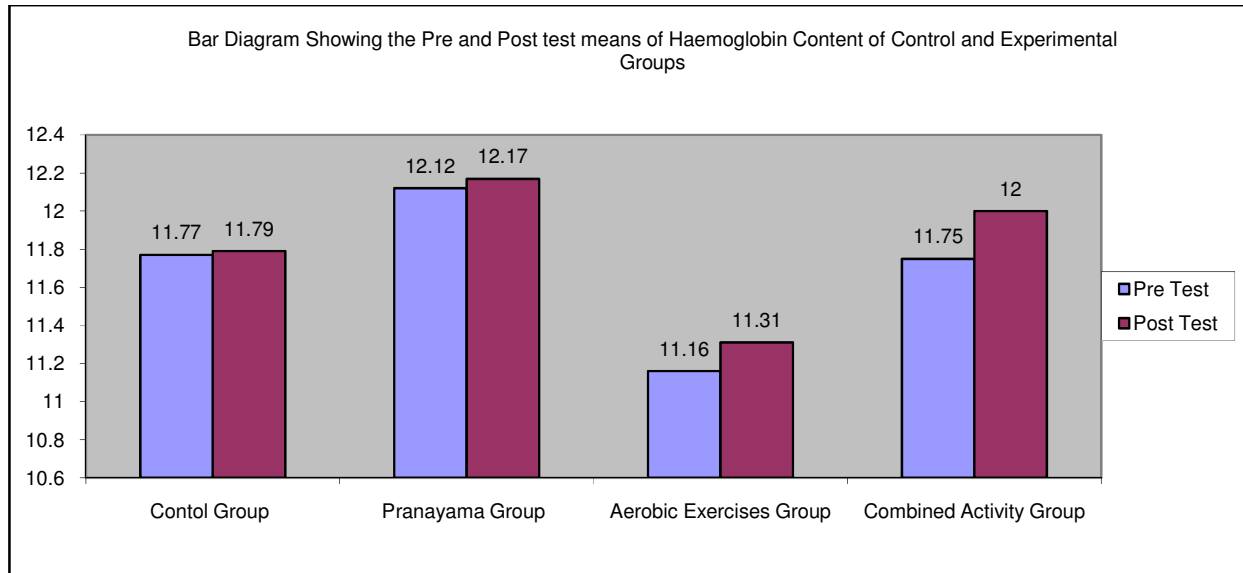
The study indicated that the Aerobic exercises and combined activity group had significant reduction in the Mean arterial pressure.



The results indicated that the Red blood corpuscles count improved due to Pranayama group, Aerobic exercises and combined activity groups. Among them the combined activity of Pranayama and Aerobic exercises had shown the highest improvement in Red blood corpuscles count.



The result indicated that the increase in Haemoglobin content due to combined activity was high, followed by Aerobic exercises group and Pranayama group.



## DISCUSSION OF RESULTS

In this study it was hypothesized that there might be significant improvement in  $VO_{2max}$ , Red blood corpuscles count and Haemoglobin content and decrease in Mean arterial pressure due to Pranayama.

The result indicated that the Pranayama did not affect either  $VO_{2max}$  or Mean arterial pressure significantly. Hence the hypothesis (i) was rejected in the case of Physiological variables. In the case of Haematological variables that is, Red blood corpuscles count and Haemoglobin content, there were significant improvement.

Hence the hypothesis was accepted in the case of Haematological variables.

Several studies have shown that Pranayama leads to improved cardiovascular efficiency. In this study, the failure of Pranayama to improve the cardiovascular efficiency could be attributed to the fact that the big muscular activities had not involved in Pranayama.

Bengt Saltin explains that the big muscular activities would increase the density of mitochondria which might be a major factor in improving  $VO_{2max}$ . Since big muscular activity was not involved in Pranayama, there might not be any significant change in the density of the mitochondria in the total body mass.

Further, the treatment period of three months would not be sufficient to improve the cardiovascular efficiency.

The improvement in Red blood corpuscles count and Haemoglobin content could be due to the rise in  $p.co_2$  that might have caused the secretion of Erythropoietin that stimulate Erythropoiesis.

The second hypotheses was that there might be significant improvement in  $VO_{2max}$ , Red blood corpuscles count, Haemoglobin content and decrease in Mean arterial pressure due to Aerobic exercises.

The present study indicated that the Aerobic exercises had improved significantly the  $VO_{2max}$ , Red blood corpuscles count, Haemoglobin content and had reduced Mean arterial pressure significantly. Hence hypotheses (ii) were accepted.

The Aerobic exercises involving continuous rhythmic movement could improve the cardiovascular efficiency because of the involvement of major muscular groups.

The third hypothesis was that the combined activity of Pranayama and Aerobic exercises might yield positive effect on the variables under the study when compared to treatments of Pranayama or Aerobic exercises.

The hypothesis was formulated on the logic derived from the following references that the increase in pressure of Carbondioxide in blood due to Kumbhaka phase of Pranayama causes hypoxia and the resultant hyperventilation may assist the aerobic activity phase for attaining the better results.

The result showed that when compared with control group, the combined activity group had improved significantly in  $VO_{2max}$ , Red blood corpuscles count, Haemoglobin content and had reduced Mean arterial pressure. However, when it was compared with Pranayama group, the combined activity had shown a significant improvement in all the four variables.

When compared with Aerobic exercises group the combined activity group could not improve  $VO_{2max}$  and could not decrease the Mean arterial pressure. Hence, the hypothesis was rejected.

This could be explained that during the Pranayama treatment the Kumbhaka pahse, a complicated act might not be effective due to the short period of treatment. However, the hypoxia caused due to Pranayama could improve the Red blood corpuscles count and Haemoglobin content.

## CONCLUSIONS

Within the limitations of the present study, following conclusions were made.

Pranayama caused significant increase in Red blood corpuscles count and Haemoglobin content.

Aerobic exercises improved the  $vo_{2max}$ , Red blood corpuscle count, Haemoglobin content and decreased Mean arterial pressure.

The combined activity improved the cardiovascular efficiency, Red blood corpuscles count, Haemoglobin content and decreased the Mean arterial pressure.

The combined activity brought more influence on Red blood corpuscles count and Haemoglobin content, where as Aerobic exercises activity had more influence on  $vo_{2max}$  and Mean arterial pressure.

Pranayama had no significant influence on either  $vo_{2max}$  or on the Mean arterial pressure.

On the basis of the findings of the study it could be concluded that Aerobic exercises or the combination of both Pranayama and Aerobic exercises could be very useful in improving the physical fitness.

## A Study On The Physical Fitness Among Volley Ball And Basket Ball Players Of Khammam District

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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. Volleyball is a team sport in which two teams of six players are separated by a net. Each team tries to score points by grounding a ball on the other team's court under organized rules. 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. The aim of the present study was to study the difference in Physical Fitness among Volley Ball and Basket Ball Players of Khammam District. 15 Male Volley Ball Players and 15 Male Basket Ball Players between the age group of 19 Years to 21 Years of Khammam District 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 Basket Ball Players have good Physical Fitness compare to Volley Ball Players. This study shows that the Basket Ball Players are good in Physical fitness because they do good Physical Training More compare to Volley Ball Players.

**Key words:**Physical fitness, Basket Ball , Volley Ball, Physical training etc.

### **Introduction:**

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. In previous years fitness was commonly defined as the capacity to carry out the day's activities without undue fatigue. However, as automation increased leisure time, changes in lifestyles following the industrial revolution rendered this definition insufficient. In current contexts, Physical fitness is considered a measure of the body's ability to function efficiently and effectively in work and leisure activities, to be healthy, to resist hypokinetic diseases and to meet emergency situations.

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.

The characteristics of physical fitness such as strength, endurance, agility, balance and flexibility are essential for physiological function and good health. Physically fit persons get the maximum satisfaction in every day life, better physical co-ordination, mental judgement and emotional control. Physically fit persons is able to withstand fatigue for longer periods and is better equipped to tolerate physical stress.

Benefits of Physical Fitness.

#### **A.Improved Health**

- i) Increased efficiency of heart and lungs
- ii) Reduced Cholesterol Levels
- iii) Increased muscle strength

- iv) Reduced Blood Pressure
  - v) Reduced risk of major illness such as diabetes and other diseases
- B.Improved Sense of Well being

- i) More Energy
- ii) Less Stress
- iii) Improved quality of Sleep
- iv) Improved ability cope with stress
- v) Increased mental activity

The essential organic ingredients of physical fitness include strength, endurance, speed, power, flexibility, agility, co-ordination, balance and accuracy.

### **Volley Ball:**

Volleyball is a team sport in which two teams of six players are separated by a net. Each team tries to score points by grounding a ball on the other team's court under organized rules.

On February 9, 1895, in Holyoke, Massachusetts (USA), William G. Morgan, a YMCA physical education director, created a new game called *Mintonette* as a pastime to be played preferably indoors and by any number of players. The complete rules are extensive. But simply, play proceeds as follows: A player on one of the teams begins a 'rally' by serving the ball (tossing or releasing it and then hitting it with a hand or arm), from behind the back boundary line of the court, over the net, and into the receiving team's court. The receiving team must not let the ball be grounded within their court. They may touch the ball as many as three times. Typically, the first two touches are used to set up for an *attack*, an attempt to direct the ball back over the net in such a way that the serving team is unable to prevent it from being grounded in their court.

The rally continues, with each team allowed as many as three consecutive touches, until either (1): a team makes a *kill*, grounding the ball on the opponent's court and winning the rally; or (2): a team commits a *fault* and loses the rally. The team that wins the rally is awarded a point, and serves

### **Basket Ball:**

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 levels of fitness during the long New England winters and invented the game Basket Ball

### **STATEMENT OF PROBLEM:**

To find out the Physical fitness among Volley Ball and Basket Ball Players of Khammam District.

### **SAMPLE:**

For the present study 15 Male Volley Ball and 15 Male Basket Players were taken for the study of Khammam District those who have participated in different level of tournaments between the age group of 19 to 21 Years.

### **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. Before administering the tests all the subjects were oriented to the test in procedure and the objectives of the test.

## RESULTS AND DISCUSSION:

Table – I

Test Items	GROUP	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
50 Y	Basket Ball	15	8.01	0.23	0.07	-1.80	28.00	0.09
	Volley Ball	15	8.29	0.45	0.14			
600 Yard	Basket Ball	15	1.64	0.19	0.06	-0.36	28.00	0.72
	Volley Ball	15	1.68	0.20	0.06			
SBJ	Basket Ball	15	2.15	0.11	0.04	3.62	28.00	0.00
	Volley Ball	15	2.24	0.05	0.02			
Pull Ups	Basket Ball	15	8.00	0.94	0.30	-4.71	28.00	0.00
	Volley Ball	15	12.20	1.14	0.36			
Shuttle Run	Basket Ball	15	14.10	1.20	0.37	2.53	28.00	0.02
	Volley Ball	15	15.48	0.56	0.17			
Sit Ups	Basket Ball	15	26.40	2.63	0.83	4.35	28.00	0.00
	Volley Ball	15	20.80	2.92	0.92			

In Table I it was found Basket Ball Players are good in 50 Yard Dash, 600 Yard Run, Shuttle Run and situps and Volley Ball Players are good in Standing Broad Jump and Pull ups.

**Conclusions:** It is concluded that Basket ball Players are having good Physical fitness compare to Volley Ball Players

**Recommendations:** It is recommended that Basket Ball and Volley Ball 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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**Analysis On The Effects Of Different Intensities Of  
Bollyfit Dance Training On Total Cholesterol  
Among Middle Aged Women.**

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**ABSTRACT**

**Objectives:** The purpose of the study the Effects of medium intensity Bollyfit dance training and followed by Detraining, on the selected physiological factor which normally considered as risk factor in the Coronary Heart Disease, in healthy middle aged women in the age of 30 to 35 years. **Methodology:** Fifteen subjects were assigned to each of the four groups of experimentation by selecting the individuals on random basis and who volunteered. The groups were 40% maximum, 50% maximum group, 60% maximum group and 70% maximum group. The training regimen consisted of clearly laid protocols of exercises for four different groups. Pre-training Total Cholesterol and post training values were measure and ANACOVA statistical technique was used to analyze the results. **Results:** Three intensities of bollyfit dance training brought more significant decrease in Total Cholesterol except 40% intensity.

**Key words:** Bollyfit dance, Total Cholesterol, Intensity,

**Introduction:**The quality life of an individual is measured not by the length of life alone but mainly on how an individual is possessed with better vigor and health to save him and the society best. This health related physical fitness, which is considered as a key component in an individual's life, is develop and protected though participation in various physical activities. This physical, activity may be by means of direct involvement in various kinds of activities, or else though leading active life style. Active life style is the essential requirement for an individual to preserve the well desired health and wellness. Though there is no consensus on the concept of active lifestyle, physical educationists all over the world are trying to find out carious means and methods to protect the health of individuals though active life style elements. Higher level of circulating lipids in blood than normal levels may be considered as Hyperlipidemia and epidemiological studies indicate a general trend towards a greater incidence of Atherosclerosis and incidence of Cardio Vascular Disease among people with Hyperlipidemia. The percentage of LDL is most significant factor that the total cholesterol level as a risk factor in the development of CHD, because this substance involves in the development of the atherosclerotic plaque in the blood vessels.

The kind and type of exercise are not alone influence the kinds of biological adaptations in the human body. The load dynamics like density and intensity of exercise may target for different kinds of biological adaptations in the human body. One needs to do aerobic exercise at least thirty minutes three times a week. Increasingly more energy is derived from fats at exercise intensities of 65% of maximum oxygen consumption during prolonged activity<sup>5</sup>.

**MATERIALS AND METHODS**

**Methodology** Fifteen subjects were assigned in each of the four groups. The groups were 40% intensity maximum, 50% maximum group, 60% maximum group and 70% maximum group. The women subjects were selected from the Kurnool district area on random basis, out of the volunteers. The age of the subjects was between thirty and thirty five the subjects were never had any exercise conditioning program previously. Pre experimentation measurements were recorded for resting Total

cholesterol levels before commencement of the experimentation and orientation period. The four training groups then followed the respective protocols of exercise specially designed for them, one month basic foundation followed by five months of the protocol exercises. The post experimentation readings were taken after the six months of experimentation period.

**Training Protocols of Bollyfit Dance:** This training protocol starts with simple before warm up stretching's and continuous with a fitness program that fuses India's Bollywood film choreography with classical and energizing folk styles of dance for there respective intensities of the maximum heart rate. The 40% maximum heart rate group , 50% maximum heart rate group , 60% maximum heart rate group and 70% maximum heart rate groups were practiced weekly thrice and they limited to practice bollyfit dance (classical and Bhangra dance styles) for one hour per day under the supervision of bollyfit expert. Each step of the workout is designed with a purpose—the synthesis of fitness, dance and presence. The last 5 minutes include a cool down/stretch followed by meditation.

**Statistical Analysis:** Analysis of Co-variance technique was used to study the effect of the experimental variables on the selected physiological variables. Scheffe's post-hoc tests also applied to find out the source of significant difference among the groups and to test the hypotheses, to arrive at conclusions. The level of significance used in the statistical analysis was 0.05.

## ANALYSIS ON DATA AND DISCUSSION ON RESULTS

**Analysis on the Total Cholesterol:** Table I depicts analysis of covariance for the Total Cholesterol of the subjects on the experimental variable selected. The table indicates that there is significant effect through the selected experimental variable i.e. bollyfit dance training of different intensities for the selected experimental period. The obtained F value i.e. 43.69 is much higher than the table F value i.e. 2.66 and hence the selected experimental variables caused the significant change in the selected total cholesterol levels of the subjects.

Table I

### ADJUSTMENT ON PRETEST

SSTY.X	2205.583
SSWGY.X	651.8729
SSBGY.X	1553.71

SOURCE	DF	SS	MS	F	CR.F
TOTAL	59	2205.583			
BG	3	1553.71	517.9032	43.69668	2.66
WG	55	651.8729	11.85223		

Table II contains the mean values of the selected criterion variable i.e. Total Cholesterol of the subject. The table brings out the following observations. The 70% intensity bollyfit dance training group showed better reduction in total cholesterol levels when compared to the other three groups viz 60% intensity bollyfit dance training group, 50% intensity bollyfit dance training group and 40% intensity bollyfit dance training group. The 70% intensity bollyfit dance training group's post training Total cholesterol mean is 193.33, the 60% intensity bollyfit dance training group post training Total Cholesterol mean is 198.755 and the 50% intensity bollyfit dance training group's post training Total Cholesterol mean is 201.184. When compared the mean values of the three groups it is clear that the 70% intensity bollyfit dance training group showed significant reduction in Total Cholesterol when compared to the other two groups.

Table- II

Pre training, Post training and Adjusted post training means for Total Cholesterol:

GROUPS	N	MX	MY	MY.X
40%	15	224.0667	222.8667	207.5298
50%	15	188.2667	182.1333	201.1844
60%	15	202.7333	193.6	198.755
70%	15	217.3333	202.2	193.3309
		208.1	200.2	200.2

The 60% intensity bollyfit dance training group also showed significant reduction in the Total Cholesterol levels when compared to the 50% intensity bollyfit dance training group. This simple analysis on the post training adjusted mean values shows that there is significant reduction in the Total cholesterol levels of the subjects due to the selected activity at the different intensity.

Though there is variance in the mean values of the Total Cholesterol because of the four different intensities, to find out the real difference and the cause of significant difference the Scheffe's post hoc individual comparison test was conducted.



Table III

**Scheffe's Post Hoc test for total Cholesterol  
CD FOR SCHEFFE'S TEST**

CD=	$\sqrt{(a-1)F_{\alpha}((2(MsError)/n))} = 3.55$
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**INDIVIDUAL COMPARISONS FOR TOTAL CHOLESTEROL**

<b>GROUPS And VALUES</b>	<b>70% 193.33</b>	<b>60% 198.75</b>	<b>50% 201.18</b>
<b>60% 198.75</b>	<b>-5.42 sig</b>		
<b>50% 201.18</b>	<b>-7.85 sig</b>	<b>-2.43 n.sig</b>	
<b>40% 207.53</b>	<b>-14.2 sig</b>	<b>-8.78 sig</b>	<b>-6.35 sig</b>

The Scheffe's post hoc individual comparison test for the individual groups is presented in table III. The individual comparisons through the Scheffe's post hoc test elicited that the 70% intensity bollyfit dance training group has brought out significant reduction in the Total Cholesterol of the subjects when compared to the other three experimental protocols of exercise. 60% intensity bollyfit dance training group and 50% intensity bollyfit dance training group post training adjusted averages are different in values, the Scheffe's post hoc comparison test indicated that the difference between the groups is insignificant and hence the training effect of the 60% intensity bollyfit dance training group and 50% intensity bollyfit dance training group is identical. But, all the three exercise protocol groups of the experimentation showed significant reductions in the total cholesterol levels as per the Scheffe's post hoc individual comparison test when compared to the 40% intensity bollyfit dance training group.

## CONCLUSIONS

All the three different durations selected for the bollyfit dance training capsule of different intensities viz. 70% intensity bollyfit dance training group, 60% intensity bollyfit dance training group, 50% intensity bollyfit dance training group and 40% intensity bollyfit dance training group. The 70% maximal heart rate intensity bollyfit dance training group caused for the significant decrease in the total cholesterol of the subjects.

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## **Effect Of Resistance Training And Par Course Training On Selected Physiological Variables Among College Men Students**

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### **Abstract**

The purpose of the study was to find out the effect of resistance training and par course training on selected physiological variables among college Men. It was hypothesised that there would be significant improvement on vital capacity, resting pulse rate and cardio respiratory endurance due to resistance and par course training. Forty five subjects were selected for the study and the ages ranged from 18 to 24 years. The following procedure were followed such as, Vital capacity was measured by wet spirometer, resting pulse rate was measured by counting the pulse rate per minute and cardio respiratory endurance was measured by Copper's 12 min run/walk test . In order to analyse the data the analysis of co variance (ANACOVA) were to find out the significant difference if any, among the experimental groups and control group on selected criterion variables separately. There were significant improvements in the variables such as vital capacity, resting pulse rate and cardio respiratory endurance due to physical training on the experimental groups.

**Keywords:** vital capacity, heart rate, endurance capacity, weight training, par course training

### **Introduction**

Resistance training includes the strength sports of weight lifting and power lifting, in which resistance exercise used in training becomes the competition tool, and body building, in which resistance exercise training is used to create an idealized physique. Additionally, resistance training has become integral part of training in other sports such as American football, track and field, and tennis. while sports depend on specific talents and characteristics , such as strength , explosiveness , power, endurance capabilities, and agility, ideally these sports also depend on a training process that develops and maximizes such talents. Resistance training is a primarily ingredient in that process becomes paramount.

Par course is the originator of the outdoor circuit training system in America , and since 1973 thousands have been installed throughout the world.par course fitness systems are developed under the guidance of the board of professionals in the fields of cardiology, therapeutic recreation and exercise physiology.par course can be clustered in one central area or placed around a jogging path or track to different ways to condition and train.par course systems provide a balanced approach that encompasses all aspects of physical fitness, including stretching, strengthening and cardio vascular conditioning.

### **Methodology**

To achieve the purpose of the study, forty five men students were selected randomly as subjects and divided in to three groups namely resistance training group, bar course training group and control group of fifteen subjects each and the subject's ages ranged from 18-24. All the subjects were tested on selected variables prior to and immediately after the training period. The selected criterion variable such as Vital capacity was measured by wet spirometer, resting pulse rate was measured by counting the pulse rate per minute and cardio respiratory endurance was measured by Copper's 12 min run/walk test.

### **Analysis of Data**

The analysis of covariance (ANACOVA) was used to find the significant difference if any, among the experimental and control groups on selected criterion variables separately. In all the cases, .5 level of confidence was fixed to test the significance, which was considered as an appropriate. Since there were three groups involved in this study the Scheffe's test was used as post-hoc test.

Table I  
Analysis of covariance on vital capacity for Resistance training group, Par course training group and Control group

	Resistance training	Par course training	Control group	SOV	Sum of squares	df	Mean square	'F' ratio
Pre -test Mean	2557.33	2542.00	2574.67	B:	8013.33	2	4006.67	2.06
S.D.	53.51	36.68	40.33	W:	81706.67	42	1945.40	
Post -test Mean	2574.67	2565.33	2568.67	B:	671.11	2	335.56	0.14*
S.D.	57.68	39.80	47.64	W:	100520.00	42	2393.33	
Adjusted post-test Mean	2575.38	2582.35	2550.94	B:	7489.79	2	3744.89	19.06*
				W:	8054.03	41	196.44	

\*significant at .05 level of confidence

(The table value required for significance at .05 level of confidence with df 2 and 42 and 2 and 41 were 3.23 and 3.21 respectively)

## Discussions

Table I shows that the pre - test means of vital capacity for resistance training , par course training and control groups were 2557.33+\_ 53.51,2542.00 +\_ 38.68, and 2574.67+\_40.33 respectively. The obtained 'F' ratio value of 2.06 for pre -test score of resistance training, par course training and control groups on vital capacity was less than the required table value of 3.23 for significant with df 2 and 42 at .05 level of confidence.

The post -test mean values of vital capacity for resistance training , par course training and control groups were 2574.67 +\_ 57.68, 2565.33 +\_ 39.80, 2568.67+\_ 47.64 respectively. The obtained 'F' ratio value of 18.36 for pre -test scores of resistance training, par course training and control groups on vital capacity was less than the required table value of 3.23 for significant with df 2 and 42 at .05 level of confidence.

The adjusted post -test mean values of vital capacity for resistance training, par course training and control groups were 2575.38, 2582.35 and 2550.94 respectively. The obtained 'F' ratio value of 19.06 for pre -test scores of resistance training, par course training and control groups on vital capacity was less than the required table value of 3.21 for significant with df 2 and 41 at .05 level of confidence.

The above statistical analysis showed that there was development in cardio respiratory endurance after the testing. Further to determine which of the paired means has a significant improvement, Scheffe'S test was applied and which is presented in table II.

Table II  
Scheffe's Test for the difference between the adjusted post- Test mean of vital capacity

Adjusted post-Test Mean				
Resistance training group	Par course training group	Control group	Mean Difference	Confidence interval at .05 level
2575.38	2582.35	2550.94	24.44*	15.93
2575.38	2582.35	2550.94	6.94*	15.93
			31.41*	62.82

\*Significant at .05 level of confidence

Table II indicated that the adjusted post - test mean difference in vital capacity between resistance training group and control group and resistance training group and par course training group were 24.44 and 31.41 which was significant at .05 level. The adjusted post- test mean difference between par course training group and control group were 6.97 which was insignificant at .05 level of confidence.

Table III  
Analysis of covariance on resting pulse rate for Resistance training group, Par course training group and Control group

	Resistance training	Par course training	Control group	SOV	Sum of squares	df	Mean square	'F' ratio
Pre -test Mean	80.07	80.93	79.47	B:	50.98	2	25.49	1.19
S.D.	4.95	3.24	4.94	W:	831.60	42	19.80	
Post-Test Mean	80.67	78.27	80.20	B:	48.58	2	24.29	1.23*
S.D.	4.67	3.31	5.14	W:	828.67	42	19.73	
Adjusted post-test Mean	79.48	78.16	81.50	B:	82.67	2	41.34	25.54*
				W:	66.36	41	1.62	

\*significant at .05 level of confidence

(The table value required for significance at .05 level of confidence with df 2 and 42 and 2 and 41 were 3.23 and 3.21 respectively)

## Discussions

Table III shows that the pre - test means of resting pulse rate for resistance training , par course training and control groups were  $80.27 \pm 4.95$  ,  $80.93 \pm 3.24$ , and  $79.54 \pm 4.94$  respectively. The obtained 'F' ratio value of 1.29 for pre -test score of resistance training, par course training and control groups on vital capacity was less than the required table value of 3.23 for significant with df 2 and 42 at .05 level of confidence.

The post -test mean values of resting pulse rate for resistance training , par course training and control groups were  $80.67 \pm 4.67$ ,  $78.27 \pm 3.31$ ,  $80.20 \pm 5.14$  respectively. The obtained 'F' ratio value of 1.23 for pre –test scores of resistance training, par course training and control groups on vital capacity was less than the required table value of 3.23 for significant with df 2 and 42 at .05 level of confidence.

The adjusted post -test mean values of resting pulse rate for resistance training, par course training and control groups were 79.48, 78.16 and 81.50 respectively. The obtained 'F' ratio value of 25.54 for pre -test scores of resistance training, par course training and control groups on vital capacity was less than the required table value of 3.21 for significant with df 2 and 41 at .05 level of confidence.

The above statistical analysis showed that there was development in resting pulse rate after the testing. Further to determine which of the paired means has a significant improvement, Scheffe's test was applied and which is presented in table IV.

Table IV  
Scheffe's Test for the difference between the adjusted post- Test mean of Resting pulse rate

Adjusted post-Test Mean				
Resistance training group	Par course training group	Control group	Mean Difference	Confidence interval at .05 level
79.48	78.16	81.50	2.02*	1.45
79.48	78.16	81.50	1.32*	1.45
			3.34*	1.45

\*Significant at .05 level of confidence

Table IV indicated that the adjusted post - test mean difference in resting pulse rate between resistance training group and control group and resistance training group and par course training group were 2.02 and 3.34 which was significant at .05 level. The adjusted post- test mean difference between par course training group and control group were 1.32 which was insignificant at .05 level of confidence.

Table V  
Analysis of covariance on Cardio Respiratory Endurance for Resistance training group, Par course training group and Control group

	Resistance training	Par course training	Control group	SOV	Sum of squares	df	Mean square	'F' ratio
Pre -test Mean	2473.33	2462.67	2446.67	B:	5404.04	2	2702.22	0.90
S.D.	59.00	58.12	46.09	W:	125760.00	42	2994.29	
Post-test Mean	2488.67	2541.33	2382.00	B:	197693.33	2	98846.7	18.36*
S.D.	53.03	64.90	95.56	W:	2261186.67	42	5385.40	
Adjusted post-test Mean	2477.58	2539.75	2394.67	B:	156089.13	2	78044	25.31*
				W:	126417.37	41	3083.35	

\*significant at .05 level of confidence

(The table value required for significance at .05 level of confidence with df 2 and 42 and 2 and 41 were 3.23 and 3.21 respectively)

## Discussions

Table V shows that the pre - test means of cardio respiratory endurance for resistance training , par course training and control groups were  $2473.33 \pm 59.00$ ,  $2462.67 \pm 58.12$ , and  $2446.67 \pm 46.09$  respectively. The obtained 'F' ratio value of 0.90 for pre - test score of resistance training, par course training and control groups on cardio respiratory endurance was less than the required table value of 3.23 for significant with df 2 and 42 at .05 level of confidence.

The post - test mean values of cardio respiratory endurance for resistance training , par course training and control groups were  $2488.67 \pm 3.03$ ,  $2541.33 \pm 64.90$ ,  $2382.00 \pm 95.56$  respectively. The obtained 'F' ratio value of 18.36 for pre –test scores of resistance training, par course training and control groups on cardio respiratory endurance was less than the required table value of 3.23 for significant with df 2 and 42 at .05 level of confidence.

The adjusted post -test mean values of cardio respiratory endurance for resistance training, par course training and control groups were 2477.58, 2539.75 and 2394.67 respectively. The obtained 'F' ratio value of 25.31 for pre –test scores of resistance training, par course training and control groups on cardio respiratory endurance was less than the required table value of 3.21 for significant with df 2 and 41 at .05 level of confidence.

The above statistical analysis showed that there was development in cardio respiratory endurance after the testing. Further to determine which of the paired means has a significant improvement, Scheffe'S test was applied and which is presented in table VI.

Table VI  
Scheffe's Test for the difference between the adjusted Post- Test mean of cardio respiratory endurance

Adjusted post-Test Mean				
Resistance training group	Par course training group	Control group	Mean Difference	Confidence interval at .05 level
2477.58	2539.75	2394.67	82.91*	62.82
2477.58	2539.75	2394.75	62.17*	62.82
			145.08*	62.82

\*Significant at .05 level of confidence

Table VI indicated that the adjusted post -test mean difference in cardio respiratory endurance between resistance training group and control group and resistance training group and par course training group were 82.91 and 145.08 which was significant at .05 level. The adjusted post- test mean difference between par course training group and resistance training group were 62.17 which was insignificant at .05 level of confidence.

## CONCLUSION

Based on the results of the study, the following conclusions were drawn: There were significant developments in the physiological variables such as vital capacity, resting pulse rate and cardio respiratory endurance due to physical training on the experimental groups. Participation in physical training resulted in a significant development in the physiological variables such as vital capacity, resting pulse rate and cardio respiratory endurance on experimental groups when compared to control group.

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## **Comparative study on health related fitness components among Urban, Rural and Tribal area school children of Rayalaseema region of Andhra Pradesh**

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**Introduction:** Active lifestyle with regular physical exercise is associated with health fitness and health (Hata et.al. 2000, Klen Kalaustan 2001, Masley SC et.al.2008). World health organization in its document "Global burden of disease- Update up to 2004" has identified that health fitness is decreasing and with the result degenerative diseases across the globe will be a major problem by 2030. The enormous increase in cardiovascular diseases and diabetes among all the diseases in the world will bring the financial burden on the countries. The only reason for the increase in these kinds of degenerative diseases irrespective of the income level of the region is identified as increasing physical inactivity. Physical inactivity reduces the health fitness levels of individuals and with the decrease in health fitness levels of individuals; the individuals are more prone to diseases like cardiovascular disease and diabetes. Physical activity and the health fitness of an individual are directly related and hence individuals need scientific physical activity to increase their health fitness levels (Le Mura et.al.2000, Sittiwicheonwong R et.al.2007) and thereby distance themselves from deadly degenerative diseases. Hence, it is indicative that an individual is more easily prone to CVDs including hypertension, atherosclerosis and metabolic disorder like Diabetes Mellitus, if the individual is inferior in health fitness and its components. As the physical inactivity is the main reason for causing decreased health fitness levels in individuals, it is also indicative that the population with lower health fitness status is less physically active.

Understanding the health fitness levels of the society or a population can provide insight in predicting the health status of the particular society (Subramanyam V et.al.2003, Al-Saied WY et.al.2007). A positive attitude toward physical activity is an imminent necessity at present across the globe, it is always highly desirable to create such kind of aptitude among school going children to make them grow into physically active individuals. Health related physical fitness includes the elements of muscular strength, muscular endurance, cardiorespiratory endurance, flexibility and freedom from obesity. Each of these components is significantly influencing on certain systems of the body of the individual and keeps these systems functionally well. For eg: Cardiorespiratory endurance or aerobic endurance provides sufficient functional ability to heat and other cardiorespiratory organs thereby individual can prevent certain degenerative diseases like Hypertension, Atherosclerosis etc, (Kin Isler .A et.al.2001). Obesity is one important negative factor among individuals causing so many illnesses like hyperlipidemia, hypercholesterolemia, hypertension, and renal dysfunction etc, Hence freedom from obesity is one important health fitness component (Karzmarzyk PT et.al.2001, Joseph LJ et.al.1999, Halverstadt A et.al.2007)

**Methods:** Three hundred school children for each group in the age group of 10-12 years were studied and hence a total of nine hundred students were studied on the selected criterion variables and comparison was done. The subjects were drawn on convenient random basis mainly from the schools in which the physical education teacher is well acquainted with the present research tools. Rayalaseema area covers two universities geographically; they are Sri Venkateswara University and Sri Krishnadevaraya University. Each university consists of two districts and hence from each district seventy five subjects were drawn for the research study, whereas in the case of the tribal subjects only Kurnool District of Sri Krishnadevaraya University was chosen, since the tribal schools are present in this district only. All the subjects included in the study were previously untrained for physical exercises or sports activities on regular basis. Procedure for the collection of the data of the criterion variables of the study:

### Health related physical fitness components:

- A. Body composition (Percent Body Fat) : Lean body weight was detected from the total body weight of the subjects to get the fat weight of the subjects. LBM (Lean Body Weight) of the subjects was calculated with the help of the regression equation suggested by Behnke and Wilmore:  $10.260 + 0.7927 (\text{weight in kgs}) - 0.3676 (\text{abdomen skin fold in mm})$ .
- B. Cardio respiratory endurance: One mile run/walk test was conducted and the times were recorded.
- C. Flexibility: Sit and reach measure was used with flex measure and nearest distance was taken as record.
- D. Muscular Endurance: Sit up test was conducted and the numbers of repetitions done in one minute were noted as score.
- E. Strength: Pull-up step test was taken and only the number of repetitions was taken as the score of the subjects (since, it is not advisable to conduct one repetition maximum test for children, the pull up test score was taken for this study).

Analysis of variance (ANOVA) was used to find if there was any difference among the three groups on the individual components of health fitness Scheffe's post hoc individual comparison test was also used to find out the source of the significant difference and to know which group is better in each individual component of the health fitness and to discuss on hypotheses. Tested level of significance for analysis was 0.05.

**Hypothesis:** The null hypotheses that there would be no significant difference among the three groups of children on the selected criterion variables were chosen for the study.

**Results:** Analysis of variance on percent body fat in table one reveals that the three groups differ significantly in their percent body fat and the further Scheffe's post hoc individual .

Table I: Analysis of variance for Percent Body Fat

Source of Variation	SS	df	MS	F	P-value	F crit
Between groups	4288.634	2	2144.317	151.5087	2.05E-57	3.00576
Within groups	12695.33	897	14.15309			
Total	16983.96	899				

Table II  
INDIVIDUAL COMPARISONS FROM HIGHEST VALUE FOR PERCENT BODY FAT MEANS:

GROUPS AND VALUES	RURAL	TRIBAL
	20.213	16.384
URBAN	1.318	5.147
21.531	Significant	significant
RURAL	----	3.829
20.213		significant

Comparison test reveals that the urban area school children group posses highest body fat percentage among the three group and tribal area school children are lowest in body fat percentage. Analysis of variance on cardio respiratory endurance in table III reveals that the three groups differ significantly. Scheffe's post hoc individual comparison test reveals that the

Table III: Analysis of variance for cardio respiratory endurance

Source of Variation	SS	df	MS	F	P-value	F crit
Between groups	53.39454	2	26.69727	43.52878	9.07E-19	3.00576
Within groups	550.1522	897	0.613325			

<i>Total</i>	603.5467	899
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Table IV: Scheffe's post hoc test for cardio respiratory endurance

GROUPS AND VALUES	RURAL	URBAN
	12.106	12.477
TRIBAL	-0.22	-0.591
11.886	Significant	significant
RURAL	----	-0.371
12.106		significant

Tribal area school children group has the highest cardio respiratory endurance among the three groups and urban area school children are the lowest in cardio respiratory endurance. Analysis of variance on strength endurance in table V reveals that the three groups differ significantly. Scheffe's post hoc individual comparison test reveals that the rural area school children mean value.

Table V: Analysis of variance for strength endurance

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
<i>Between groups</i>	1762.94	2	881.47	56.69857	6.5E-24	3.00576
<i>Within groups</i>	13945.3	897	15.5466			
<i>Total</i>	15708.24	899				

Table VI: Scheffe's post hoc test for strength endurance

GROUPS AND VALUES	TRIBAL	URBAN
	14.443	12.213
RURAL	1.14	3.37
15.5833	significant	significant
TRIBAL	----	2.23
14.443		significant

Group has highest strength endurance while the urban area school children group has lowest strength endurance among the three groups.

Analysis of variance on strength in table VII reveals that the three groups differ significantly. Scheffe's post hoc individual comparison test reveals that the Tribal area mean value.

Table VII: Analysis of variance on strength

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
<i>Between groups</i>	504.98	2	252.49	148.3329	2.22E-56	3.00576
<i>Within groups</i>	1526.86	897	1.702185			
<i>Total</i>	2031.84	899				

Table VIII: Scheffe's post hoc test for strength

GROUPS AND VALUES	RURAL	URBAN
	3.756	2.726
TRIBAL	0.8	1.83
4.556	significant	significant
RURAL	----	1.03
3.756		significant

Group has highest strength while the urban area school children group has lowest strength among the three groups. Analysis of variance on flexibility in table IX reveals that the three groups differ significantly. Scheffe's post hoc individual comparison test reveals that the Tribal area mean value.

Table IX: Analysis on variance for flexibility

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
<i>Between groups</i>	698.1622	2	349.0811	44.6915	3.15E-19	3.00576



Within groups	7006.383	897	7.810907
<i>Total</i>	<i>7704.546</i>	<i>899</i>	

Table X: Scheffe's post hoc test for flexibility

GROUPS AND VALUES	RURAL	URBAN
TRIBAL	21.56	19.813
21.783	0.223	1.97
RURAL	Not significant	significant
21.56	----	1.747
		significant

And rural area is not significantly different in this factor. Urban are school children are significantly inferior in flexibility when compared to urban area and rural area school children of the study.

**Discussion on results:** In the percent body fat component, Tribal area school children show significantly lower values when compared to the rural and urban area school children. In the Cardio respiratory endurance component of health fitness, the tribal area school children showed highest values when compared to the rural and urban area school children. This could be of less participation of physical activities by urban area and rural area school children and it is more prominent in urban area school children. Nutritional differences may also be able to cause body fat percentage differences (Albano RD et.al.2001, Kruger R et.al.2006, Jafar TH et.al.2008) among tribal and urban area groups. But, the lower values of cardio respiratory endurance shows that urban area school children are more in active than the tribal and rural area school children. For the strength endurance the rural area school children showed better values than the two other groups. Urban school children are inferior both in strength and strength endurance aspects, aspects, indicating increments in specific physical activity to enhance their health fitness status. More specifically the urban area school children are lowest in flexibility factor of health fitness when compared to the other two groups of study. It is evident that urban area school children are much inferior in their health fitness components when compared to the rural and tribal are groups.

**Conclusion:** Urban area school children are lowest in all the individual components of health fitness when compared to the rural and tribal area school children of the study. Especially when it comes to body composition (percent body fat) the urban area school children body fat percentage seems much higher when compared to the tribal area and rural area school children of the study.

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## Effect Of Sport Loading Programme On Anaerobic Power Among Male Sprinters

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### Abstract

The purpose of this study was to find out the effect of sport loading programme on anaerobic power among male sprinters. The response to sport loading programme was characterized in thirty male sprinters in the age group of fifteen to seventeen years. The selected criterion variable anaerobic power was measured by Margaria Kalamen Anaerobic Power test. The analysis of covariance (ANCOVA) was used to find out the significant difference if any, between groups on selected criterion variable separately. The level of significance to test the 'F' ratio obtained by analysis of variance was fixed at 0.05 level of confidence.

**Keywords:** Sport loading, anaerobic power.

### Introduction

Training is not a recent discovery. In ancient times, people systematically trained for military and Olympic endeavours. Today athletes prepare themselves for a goal through training. Sport loading can be defined as the systematic addition of weight to the athletes body in any form (uniform, vest pants or shirts) or to the implements used in sports (sticks, bats, balls and so on). Sport loading is a technique designed to improve explosive concentric movements such as sprinting speed. Sport loading along with strength training, speed endurance training, plyometrics and over speed training produce the greatest changes in the exercises fast twitch muscle fibers. A numbers of sport loading programme can be done by athletes of all ages can use this method.

An aerobic energy is the output of energy when the oxygen supply is insufficient. High speed intense work of short duration requires immediate energy that cannot be attained quickly enough from aerobic sources. In this situation another process termed anaerobic metabolism, is called on for a ready to supply of energy. In anaerobic exercise a large portion of the required energy is obtained from the anaerobic energy sources. Anaerobic energy is required is high intensity short-term exercise involving power or speed<sup>1</sup>, Sharkey<sup>2</sup>, pointed out that power is an essential quality in many sports for it represents the effective combination of strength and speed. Increase in strength or speed will increase power, when power increase, more work can be done in less time. Anaerobic power is the amount of work performed using primarily anaerobic energy systems<sup>3</sup>.

### Methodology

The purpose of the study was to find out the effect of sport loading programme on anaerobic power among male sprinters. To achieve the purpose thirty male sprinters at school level from different schools in Chidambaram were randomly selected as subjects in the age group of fifteen to seventeen years. They were divided into two equal groups and each group consisted of 15 subjects. Group I underwent sport loading training for three days per week for twelve weeks and Group II acted as control group who did not participate any special training apart from the regular curricular activities. The subjects were tested on anaerobic power at prior to immediately after the training period. The selected criterion variable anaerobic power was measured by using Margaria Kalamen Anaerobic Power test (Barry L. Johnson and Jack K. Nelson, 1988)<sup>4</sup>. The analysis of covariance (ANCOVA) (Anne L. Rothstein, 1985)<sup>5</sup> was used to find out the significant difference if any, between groups on selected criterion variable separately. In all the cases, 0.05 level of confidence was fixed to test the significance which was considered as an appropriate.

### Training Programme

During the training period, the experimental group (Group I) underwent (n = 15) sport loading training for three days per week (alternative days) for twelve weeks. Sports loading programme including, hill sprinting, stadium stairs, Harnesses, sand running, parachutes or weighted sleds every day the workout lasted for 30 to 45 minutes approximately including warming up and warming down periods. Subjects in Group II as control group were instructed not to participate in any strenuous physical exercise and specific training throughout the training programme. However, they performed regular activities as per the curriculum.

analysis of the data

The analysis of covariance on anaerobic power of experimental group and control group were statistically examined and presented in table-I.

Table I  
Analysis of Covariance on Anaerobic Power of Experimental Group and Control Group

	Experimental Group	Control Group	Sources of Variance	Sum of Squares	df	Mean Square	'F' Ratio
<b>Pre-test</b>							
Mean	117.61	116.99	Between	2.91	1	2.91	0.73
S.D	2.04	2.91	Within	111.05	28	3.97	
<b>Post-test</b>							
Mean	125.43	118.91	Between	319.22	1	319.22	56.49*
S.D	2.91	1.68	Within	158.22	28	5.65	
<b>Adjusted Post-test</b>							
Mean	121.52	117.95	Between	259.71	1	259.71	103.96*
S.D			Within	67.45	27	2.49	

\*Significant of 0.05 level of confidence.

(The table values required for significance at 0.05 level of confidence with df 1 and 28 & 1 and 27 were 4.20 and 4.21 respectively).

Table-I shows that the pre-test mean values of anaerobic power for experimental group and control group were  $117.61 \pm 2.04$  and  $116.99 \pm 2.91$  respectively. The obtained 'F' ratio value of 0.73 for pre-test scores of experimental group and control group on anaerobic power was less than the required table value of 4.20 for significance with df 1 and 28 at 0.05 level of confidence.

The post-test mean values of anaerobic power for experimental group and control group were  $125.43 \pm 2.91$  and  $118.91 \pm 1.68$  respectively. The obtained 'F' ratio value of 56.49 for post-test scores of experimental group and control group on anaerobic power was higher than the required table value of 4.20 for significance with df 1 and 28 at 0.05 level of confidence.

The adjusted post-test mean values of anaerobic power for experimental group and control group were 121.52 and 117.95 respectively. The obtained 'F' ratio value of 103.96 for adjusted post-test scores of experimental group and control group on anaerobic power was higher than the required table value of 4.21 for significance with df 1 and 27 at 0.05 level of confidence.

The adjusted post-test mean values of experimental group and control group on anaerobic power are graphically represented in Figure-I.

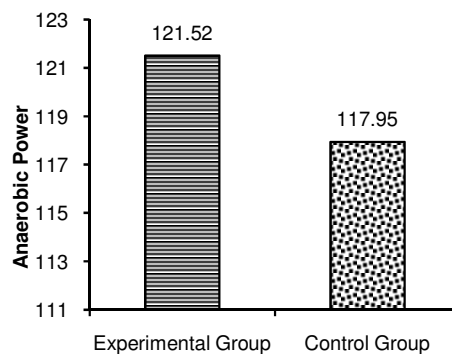


Figure I. The Adjusted Post-test Mean Values of Experimental Group and Control Group on Anaerobic Power

### Discussion On Findings

The result of the study showed that there was a significant difference between experimental group and control group on anaerobic power. And also it was found that there was a significant improvement on anaerobic power due to 12 weeks of sport loading programme. Zafeiridis and others (2005) found that sprint training with 5 kg sled pulling for 8 weeks improves acceleration performance<sup>6</sup>. The findings of this study was supported by Knicker (1997) and Zafeiridis and other (2005).

### Conclusion

It was concluded from the results of the study that sport loading programme had significant impact on anaerobic power of the school level sprinters.

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## **Analysis On Selected Morphophysiological Parameters Of Rdt Hockey Academy Players**

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**Abstract:** This study was intended to assess the transformation on selected morpho physiological parameters of RDT hockey academy players with a yearlong adaptation to supervised systematic training in the academy. For this purpose a group of 27 male hockey player from RDT hockey academy volunteered to participate in the study. The percent body fat, lean body mass and aerobic capacity was measured as criterion variables. The testing of selected variables took place at the beginning of competitive phases of training during two periodized training year, with a span of one-year between initial and final data collection. The bicycle ergometer, weighing machine and skin fold caliper were used to measure criterion variables adopting standardized procedures. The data thus collected on selected criterion variables was subjected to statistical analysis. The analysis of data revealed that the aerobic capacity of RDT hockey academy players significantly improves ( $p < 0.05$ ), however percent body fat and lean body mass found to be unchanged considerably.

### **1. Introduction:**

It has been assumed that the main motor property for field hockey players is speed endurance. This is the ability of maintaining very high running speeds in conditions of growing weariness. It is possible to estimate this ability by means of tests, which are established in accordance with the competition conditions (Strzelczyk, *et al.*, 2001). It is very important as a coach of young players to be aware of the players' development stage and understand how the youth players can be trained not to impair their development. (Bangsbo, 1994). Children are not small adults and should definitely not to be trained in the same way as adults. (Bangsbo, 1994). With this kind design of training process, we can solve two tasks (*motor and functional ability*) simultaneously during the same training. The maintenance of fitness during a season is a key target for every team (Koutedakis, 1995) but this is a complex process reflecting the diverse physical demands of the game. The purpose of this study was to assess the transformation on selected morphophysiological parameters of RDT hockey academy players with a yearlong adaptation to supervised systematic training in the academy.

### **2. Methodology:**

#### **2.1 Subjects**

The subjects considered in the present study were twenty seven male hockey players from the RDT Hockey Academy, Anantapur, Andhra Pradesh (Mean  $\pm$  SD: Age  $14.84 \pm 2.02$  and  $15.41 \pm 2.46$  years, Height  $158.66 \pm 8.13$  and  $158.68 \pm 7.92$  cm, Body Mass  $43.68 \pm 6.73$  and  $43.72 \pm 7.34$  kg) preparing for the 2008 – 09 and 2009 -10 district and state championship. All the players had been part of

the team for a minimum of 2 years. In this study players provided written, informed consent to participate.

## 2.2 Testing Procedure:

The testing of selected criterion variables took place at the beginning of competitive phases of training during two periodized training year, with a span of one-year between initial and final data collection. The study was confined to the criterion variables namely: percent body fat, lean body mass and aerobic capacity.

## 2.3 Statistical Analyses:

Descriptive statistics were calculated for all variables. A paired *t* test was utilized to determine significant differences for each variable between the testing years. Significance level was set at  $P \leq 0.05$ . All statistical analyses were conducted using SPSS 11.5 version.

## 2.4 Results:

The RDT academy hockey players percent body fat, lean body mass and aerobic capacity was assessed and presented in table 1. The *t* test indicated significant differences between testing years for aerobic capacity ( $t=6.145$ ,  $p < 0.05$ ) and no changes is elicited on percent body fat and lean body mass (Table 1).

Table 1: Paired Samples T test

Variables	Testing Years	Mean	Standard deviation	<i>t</i>
Percent body fat (%)	2008 -09	6.75	1.75	1.36
	2009 -10	6.66	1.92	
Lean body mass (Kg)	2008 -09	41.08	6.58	1.26
	2009 -10	42.12	5.81	
Aerobic capacity (ml/kg/min)	2008 -09	56.68	3.21	6.145*
	2009 -10	60.21	2.85	

\*Significant at 0.05 level of confidence

## 3. Discussion:

Aerobic capacity certainly plays an important role in field hockey and has a major influence on performance. An increase aerobic capacity in RDT academy hockey players during two years before competitive phase of training year ( $56.68 \pm 3.21$  &  $60.21 \pm 2.85$  ml/kg/min,  $p < 0.05$ ). The increase in  $VO_{2max}$  after training may be due to an increase in the systemic a-v  $O_2$  difference and stroke volume, when compared to senior players (McArdle, Katch & Katch, 2006; Wilmore & Costill, 2005). Moreover, these changes may be the result of increased volume of endurance training in preparatory phase (McArdle, Katch & Katch, 2006; Wilmore & Costill, 2005). The aerobic endurance training enhances the activity of the cardiovascular system as well as developed oxidative capacity of the skeletal muscles which leads to an increase in the delivery of oxygen to working muscles (McArdle, Katch & Katch, 2006; Wilmore & Costill, 2005). It shows that  $VO_{2max}$  of the field hockey players may improve with training and monitoring of  $VO_{2max}$  is essential during the training phases, which helps the coaches for selection of players for competition.

## 4. Conclusion:

It shows that  $VO_{2max}$  of the field hockey players may improve with training and monitoring of  $VO_{2max}$  is essential during the training phases, which helps the coaches to identify the weakness of hockey players and sets a platform for selection of players for competition.

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## What Are Similarities And Differences Between Shiatsu Massage And Reflexology

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### What is reflexology?

- Reflexology is the systematic application of pressure techniques to the feet.
- Reflexology is a form of bodywork that focuses primarily on the feet and hands.
- Reflexology is a popular alternative therapy. It promotes relaxation, improves circulation, reduces pain, soothes tired feet, and encourages overall healing.
- Reflexology is recommended as a complementary therapy and should not replace medical treatment.

### How does reflexology work?

American physiotherapist Eunice Ingram believed that certain areas on the feet and hands were linked to other areas and organs of the body

For example:-

- the tips of the toes reflect the head
- the heart and chest are around the ball of the foot
- the liver, pancreas and kidney are in the arch of the foot
- low back and intestines are towards the heelAccording to this Practitioners believe that applying pressure to these reflex areas can promote health in the corresponding organs through energetic pathways.
- For this reason the underlying theory behind reflexology is that there are "reflex" areas on the feet and hands that correspond to specific organs, glands, and other parts of the body
- ❖ Therefore  
A scientific explanation is that the pressure may send signals to different body organs that balance the nervous system or release chemicals such as endorphins that reduce pain and stress.

### Shiatsu massage

- Shiatsu massage is fingers or other body parts of body pressure massage technique that is also sometimes confused with acupuncture.
- The therapist applies pressure with his thumbs, finger, elbows and palms to specific areas of the client's body that have been determined during an assessment period prior to the massage session.

### How does shiatsu massage work

Shiatsu is used to target points of the body that relate to the central and autonomic nervous system. This is done by using the fingers, palms and thumbs to put pressure on these areas to eliminate the disharmony that may be felt there.

The treatments typically are performed on a mat at floor level so the therapist can apply pressure against a hard surface and use his entire body to provide the pressure.

### **Analysis Of Similarities And Differences.**

#### A, similarities

- Both are physical therapy treatment
  - Both have many health benefits
  - Both use applying pressure for practice
  - Both used to recover soon from sport injuries and other health complications
  - Both use to relieve stress and tension
- Both are painless and healing treatment methods

#### B, DIFFERENCES

##### I, Reflexology

- because reflexology normally touches only your feet, hands, and ears
- Reflexology is applied to specific areas in your feet, hands or ears to affect an entirely different organ or body parts
- Only the fingers are normally used.
- The muscle movement is smaller compared to massage
- Some practitioners use oils, others do not.
- The aim is to actually improve the function of our organs and glands.
- It is easy and applicable whenever and wherever
- A 2007 study of 86 people with metastatic cancer compared reflexology administered by patients' partners to reading to patients by their partners. The reflexology group reported less anxiety and less pain just after the reflexology was given



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#### II, Shiatsu Massage

- Because most of the body is touched, you would normally be asked to only wear your undergarment.
- When massage is applied to one part of the body; muscles and tissue directly underneath it will be stimulated
- to give the same benefit to the whole body massage is normally done to the entire body.
- Muscle movement is large
- Some type of massage will not only use their hands fingers but also feet, arms and elbows. The use of oil is normal.
- The aim is to give general benefit to body. It normally is not used to heal or improve specific organs.

#### Conclusion

❖ According to the above information I will conclude the similarities and differences between shiatsu massage and reflexology physical therapy.

- Shiatsu massage and reflexology both are a type of physical therapy can be implemented by applying moderate pressure on the corresponding area on feet and hands or on the other body parts directly.
- When pressing on the corresponding area on the feet or hands we are applying reflexology massage and relax our internal and deep organs without direct touching.
- Everyone can do shiatsu massage with home mate without taking of clothes as well as he can do by himself most body part especially on waist and limbs.
- If you have time any one can do even every day reflexology massage for himself because it is easily applicable and no need of extra materials and inputs.
- Shiatsu and reflexology massage also very important to initiate and relax too deep tissues and organs of the body
- The main aims of both therapy are the pressure may send signals that balance the nervous system or release chemicals such as endorphins that reduce pain and stress.

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## **The secret of successFeeding Habituation of Ethiopian Elite Athletes**

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### **Introduction**

Notably, middle- and long-distance runners from Ethiopia and Kenya hold over 90% of both all-time world records as well as the current top-10 positions in world event rankings. Ethiopia has participated in 38 Olympic competitions and awarded 19 gold medals, 5 silver and 14 bronze which accounts grand total of 38 medals.

Ever since Abebe Bikila became the first black African gold medallist in winning the marathon at the Rome Olympics in 1960, scientists have tried to explain the phenomenal success of east African distance runners in international athletics, possible explanations have been proposed including genetic factors, environmental conditions and dieting habituation.

Geographically, Ethiopian Athletes are being trained at Altitude of Approximately 2400 metres above sea level where as most of Ethiopian Elite Athletes are from the same family and same geographical location—(Arsi).

The International Association of Athletic Federations (IAAF) Consensus Statement on Nutrition for athletics published in 2007 states: "Well chosen foods will help athletes train hard, reduce risk of illness and injury, and achieve performance goals, regardless of the diversity of events, environments, nationality and level of competitors.

Specific nutritional recommendations for optimal performance, particularly for endurance athletes, include a daily carbohydrate (CHO) intake ranging from 6 to 10 g/kg body mass (BM) considered essential for replacing liver and muscle glycogen stores A significant protein intake ranging between 1.2 to 1.7 g/kg BM per day is required for optimal health and performance of endurance athletes.

Studies examining protein intake in athletes have shown an increased requirement for protein in endurance trained athletes as opposed to healthy adult males (i.e.,

0.8 g/kg) due to increased amino acid oxidation during exercise and for growth and repair of muscle tissue.

Ethiopian runners meet their energy needs (Energy input did not differ from Energy Expenditure) and consequently maintained their BM. This is consistent with recent guidelines by the American College of Sport Medicine that advocate that differences between Energy input and Energy Expenditure could compromise performance and negate the benefits of training.

Macronutrient intake of Ethiopian long distance runners fulfilled recent recommendations. CHO intake was 9.7 g/kg per day and the daily CHO intake, while recommendations for male and female athletes range between 6 to 10 g/kg of BM per day.

Protein intake was 1.76 g/kg BM per day with a daily intake of which 76% was delivered from vegetable sources and well within the current recommendations for endurance athletes 1.2 to 1.7 g/kg BM per day). Adequate protein and fat intake are also vital for optimal health and performance of long distance runners. Sufficient dietary protein will provide essential amino acids and maintain the nitrogen balance for building and repair of muscle tissue after intense endurance training. Furthermore, having achieved the recommended amounts of CHO and protein, this would have

resulted in a sufficiently high intake of fat to ensure an important source of fat soluble vitamins and essential fatty acids.

Optimizing fluid replenishment is fundamental during exercise. Correct fluid replacement practices are especially crucial in endurance events lasting longer than an hour where the participating athlete might have not consumed adequate food or fluid before exercise or in cases where the athlete is exercising in an extreme environment (heat, cold, or high altitude).

Ethiopian athletes are found to be well hydrated during the day due to the high quantity of water in their staple foods (e.g., injera), where elite Kenyan distance runners maintained their hydration status due to the consumption of foods with a high quantity of water (e.g., ugali).

## **Summary**

Ethiopia and Kenya are dominating the world long and middle distance running events. The Ethiopian Elite athlete succession mainly depends upon geography, genetics and feeding habit.

Macronutrient intake of Ethiopian long distance runners fulfilled recent recommendations. CHO intake was 9.7 g/kg per day and the daily CHO intake, while recommendations for male and female athletes range between 6 to 10 g/kg of BM per day.

## **Recommendations**

- Similar research should be conducted for the rest of the world class to bring about the change on the area.
- Similar research should be conducted for non achievers to address their problems.
- It is recommended to coaches to use this articles as eye opener to bring about improve their athletics performance.
- The dietary method of the athletes should be strictly controlled as it hinders the training programmes and to the most of the performance.
- The body weight of the athletes should be maintained.

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

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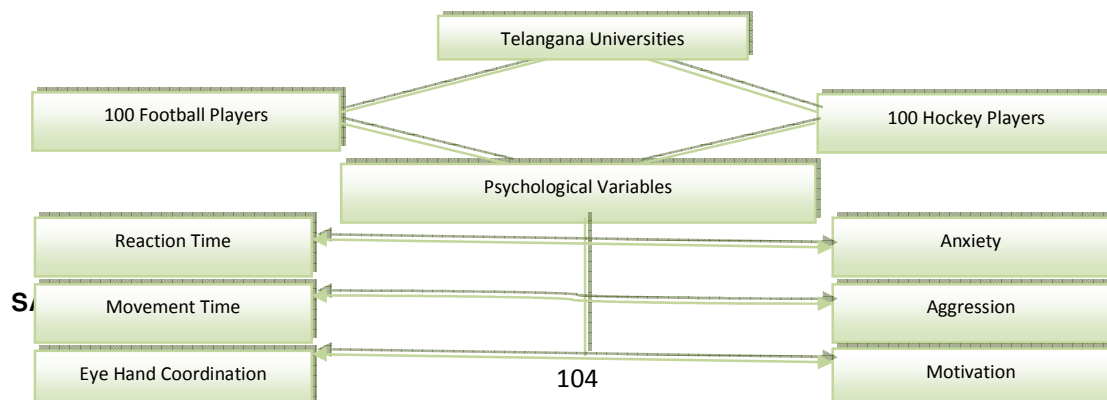
**Introduction:** It is an emerging field of psychology is viewed as an attempt to understand describe and explain the behaviour of sports persons in athletic setting both practice and competitive- with a view to enhance performance. Today there is no sport without sports psychology. It is well known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

### STATEMENT OF THE PROBLEM

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

**OBJECTIVE OF THE STUDY:** The research will find out the reaction time, movement time, eye hand coordination, Motivation, Anxiety and Aggression of football and hockey players in Telangana Universities.

**DESIGN OF THE STUDY:** The diagrammatic presentation was presented hereunder.



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

#### Showing the Sample of the study

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

#### TOOLS USED

- Reaction time – electronic reaction timer or chronometer.
- Movement time – nelson speed of movement.
- Eye-hand coordination – Lafayette electrical operator (two arm tracing apparatus).
- Anxiety- Anxiety Test (SCAT) that was developed by Martens, Vealey, and Burton
- Aggression
- Motivation- Sinha scale was adopted for opinionnaire

**DATA COLLECTION PROCEDURE:** The subjects of the study were in the age group between 20 to 25 years from two groups i.e., football players and hockey players. The football players consisting 100 men and the hockey players consisting of 100 men of Telangana Universities.

#### RESULTS & DISCUSSIONS

Table – 1 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Osmania University Players in relation to their simple visual reaction time on left hand

Sl. No.	Subjects	No. of subjects	Mean	SD	df.	't' value	p-value
1.	Football players	50	0.1574	0.0244	98	5.514	0.000
2.	Hockey players	50	0.1949	0.0414			

Table -2 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Osmania University Players in relation to their simple visual reaction time on right hand

Sl. No.	Subjects	No. of subjects	Mean	SD	df.	't' value	p-value
1.	Football players	50	0.1616	0.0231	98	7.071	0.000
2.	Hockey players	50	0.2094	0.0418			

Table -3 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Osmania University Players in relation to their simple audio reaction time on left hand

Sl. No.	Subjects	No. of subjects	Mean	SD	df.	't' value	p-value
1.	Football players	50	0.1583	0.0276	98	4.735	0.000
2.	Hockey players	50	0.1927	0.0434			

Table- 4 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Osmania University Players in relation to their simple audio reaction time on right hand

Sl. No.	Subjects	No. of subjects	Mean	SD	df.	't' value	p-value
1.	Football players	50	0.1665	0.0257	98	5.518	0.000
2.	Hockey players	50	0.2026	0.0383			

Table -5 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Kakatiya University Players in relation to their simple visual reaction time on left hand

Sl. No.	Subjects	No. of subjects	Mean	SD	df.	't' value	p-value
1.	Football players	50	0.1613	0.0276	98	6.534	0.000
2.	Hockey players	50	0.2135	0.0492			

Table -6 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Kakatiya University Players in relation to their simple visual reaction time on right hand

Sl. No.	Subjects	No. of subjects	Mean	SD	df.	't' value	p-value
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1.	Football players	50	0.1674	0.0259	98	6.566	0.000
2.	Hockey players	50	0.2111	0.0392			

Table-7 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Kakatiya University Players in relation to their simple audio reaction time on left hand

Sl. No.	Subjects	No. of subjects	Mean	SD	df.	't' value	p-value
1.	Football players	50	0.1595	0.0264	98	6.261	0.000
2.	Hockey players	50	0.2093	0.0495			

Table -8 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players in relation to their discriminative visual reaction time on right hand

Sl. No.	Subjects	No. of subjects	Mean	SD	df.	't' value	p-value
1.	Football players	50	0.1681	0.0236	98	5.288	0.000
2.	Hockey players	50	0.2033	0.0407			

Table -9 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Osmania University Players in relation to their movement time

Sl. No.	Subjects	No. of subjects	Mean	SD	df.	't' value	p-value
1.	Football players	50	1.9810	0.1953	98	4.550	0.000
2.	Hockey players	25	2.1204	0.0937			

Table-10 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Kakatiya University Players in relation to their movement time

Sl. No.	Subjects	No. of subjects	Mean	SD	df.	't' value	p-value
1.	Football players	50	1.5492	0.1763	98	3.420	0.000
2.	Hockey players	25	2.0986	0.0643			

Table -11 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Osmania University Players in relation to their Eye-hand coordination

Sl. No.	Subjects	No. of subjects	Mean	SD	df.	't' value	p-value
1.	Football players	50	8.1023	1.4265	98	5.416	0.000
2.	Hockey players	50	6.8316	1.0462			

Table -12 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Kakatiya University Players in relation to their Eye-hand coordination

Sl. No.	Subjects	No. of subjects	Mean	SD	df.	't' value	p-value
1.	Football players	50	9.1106	1.6609	98	6.737	0.000
2.	Hockey players	50	7.0592	1.3702			

Table -13 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Osmania University Players in relation to their Motivation

Sl. No.	Subjects	N	Mean	S.D.	df.	't'-ratio	P- value
1.	Football Players	50	29.82	7.28	98	3.86	0.00
2.	Hockey Players	50	27.08	9.46			

Table -14 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Kakatiya University Players in relation to their Motivation

Sl. No.	Subjects	N	Mean	S.D.	df	't' ratio	P value
1.	Football Players	50	30.84	8.96	98	4.26	0.01
2.	Hockey Players	50	27.68	9.76			

Table -15 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Osmania University Players in relation to their Anxiety

Sl. No.	Subjects	N	Mean	S.D.	df.	't'-ratio	P -value
1.	Football Players	50	16.85	6.98	98	2.18	0.01
2.	Hockey Players	50	18.24	7.95			

Table -16 Showing the Mean Values, SD, df, 't' value and p-value between football players and hockey players of Kakatiya University Players in relation to their Anxiety

Sl. No.	Subjects	N	Mean	S.D.	df	't' ratio	P value
1.	Football Players	50	16.78	6.56	98	2.18	0.05
2.	Hockey Players	50	17.64	6.97			

## CONCLUSION

In conclusion the major role of the sport psychologist is to impart knowledge and help the team players to cope with the effects of sport by offering techniques and strategies to increase concentration, confidence, consistency, control and motivation. Sport psychologists can help the team players to cope with the pressures of sport by helping individual athletes to learn different coping skills and stress management skills. In the present scenario the sports psychology have been playing a significant role in the creeping performance of the games. The fluctuations noticed specific psychomotor skills will be attributed to the educational background of the football and hockey players. Finally it was observed that foot ball players at Osmania University have shown low level of anxiety when comparative to hockey players as mean average score were less to foot ball players when compared to hockey players, the reasons for the high level of anxiety may attributed to their level of participating intensity of participation and various other environmental factors. For the present study psychological factors noticed attributed to the educational background of the football and hockey players. But, the fact here was both players were well trained in all aspects due to their difference in exposure to various situations the results differ.

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## **Perceptions Of Faculty Towards E-Learning And Quality Higher Education: A Study**

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### **Introduction**

Learning is a process of drawing connections between what is already known or understood and new information. Thus, prior knowledge is important to the learning process. People make connections and draw conclusions based on a sense of what they already know and have experienced. Learning can be viewed, in part, as a matter of encoding and storing information in memory, processing, categorizing and clustering material, and later retrieving this information to be applied at the appropriate times and situations. For learning to occur, facts, concepts and ideas must also be stored, connected to other facts, concepts, and ideas, and built upon. Knowing in advance what the big ideas are and how they relate to each other conceptually helps learners to make sense of information and to remember and use it more flexibly.

### **E-Learning And Quality Higher Education**

Broadly speaking, e-learning refers to the use of information and communication technology to enhance and/or support learning. It covers a wide range of tools and technologies including e-course (Web Based Learning); e-performance support systems; e-journals; e-games (digital games); e-tutor; e-books; e-portfolios; e-learning publications; computer-based learning; virtual learning etc., In our study, we will focus more on e-learning in context of a student connecting to series of network area includes teachers and /or electronic data, include asynchronous tools like usage of learning management system (LMS) and synchronous tools like virtual classrooms and video streaming etc., The student and/or faculty has option to select what he/she wants to do, within the broad area of study plan.

We can obviously say that Education without quality is no education at all. In particular it is not easy to decide what constitutes quality of education. Different educationists may have different perspectives of quality education. Broadly as a Educationists we can say that there are two aspects of quality in the educational context (1) quality of the system as a whole and (2) quality of what the system offers to the students. In conventional education system the quality refers to various components of education like teaching learning facilities includes basic infrastructure, learning environment, efficient staff includes administrative, teaching and non-teaching. It includes relevance of the curriculum, teaching-learning materials, teaching and learning processes and the system as a whole.

### **Background Of The Study**

It is evident that research on e-learning, especially in India is in its nascent stage. Moreover, research done in this area is very meager, that to, in the Southern States of Indian Republic. The present study is an attempt to gather the perceptions of the faculty towards e-learning and quality higher education.

### **Objectives Of The Study**

To study the perceptions of the Faculty of Higher Education in Andhra Pradesh with regards to e-learning and the Quality Higher Education.

To explore the perceptions of the Faculty in enhancement of quality in Higher Education with regard to e-learning.



## METHODOLOGY

The universe of the present study consists of the State of Andhra Pradesh. The sample constitutes from Eighty Two (82) Faculty members of Higher Educational Institutions. The Higher Educational Institutions involved were Osmania University, Hyderabad, Kakatiya University, Warangal, Sri Venkateswara University, Tirupati. Accordingly an Opinionnaire named "PERCEPTIONS OF THE FACULTY TOWARDS E-LEARNING AND QUALITY HIGHER EDUCATION" was developed and validated by the investigator. It consists of two parts as, **Part- A:** consists of four questions, seeking personal information, which includes personal profile like, name, status, name of the university and the Department to which the respondents belong. **Part- B:** Its fundamental purpose is to test the perceptions of faculty on e-learning and its impact on academic quality in higher education. It comprises 43 questions related to the use of e-learning facilities in higher educational institutions. The focus is mainly on e-course (Web Based Learning); e-performance support systems; e-journals; e-games (digital games); e-tutor; e-books; e-portfolios; e-learning publications; computer-based learning; virtual learning etc.,. The areas that were to be investigated are, include (1) Curricular Aspects ;(2) Teaching Learning and Evaluation; (3) Research Consultancy & Extension; (4) Infrastructure and Learning Resources;(5) Student support and progression; (6) Governance and leadership and (7) Innovative Practices. Just two options were offered i.e., yes or no, if yes they have to choose the areas in which e-learning is used to enhance quality education. Opinionnaires were administered to the Faculty in Higher Educational Institutions. Every care has been taken to ensure their responses as objectively as possible. Suitable statistical techniques like Microsoft excel package and SPSS (Statistical Package for Social Sciences) 16.0. were employed to analyze the data and draw inferences.

## Educational Implications And Suggestions

This study implies that Faculty has an important role in technology enhanced learning environments, especially those that incorporate complex learning paradigms involving constructivist or behaviorist principles. The Faculty should Establish rapport with students - make them feel at ease and encourage them to participate Communicate constantly - regular emails, active involvement in discussion forums (but still allow private student-only forums)

Flexibility - often online learners are adults who have varying time constraints - expect it and accept it. The instructor is the creator and curator of the online environment - levels of respect, concern for learning, etc. are all set by the instructor.

Throughout the research it was found that the Faculty has many advantages of utilizing e-learning to enhance quality in education:

First and foremost, the method of teaching becomes more interactive.

Teachers can prepare single document for all different types of students, so that they don't need to do it again and again. Timing is also flexible for teachers; they can do this with continuation to their regular classes in schools. They can get more and more information on net, that they embed in their course materials. Interaction with students becomes more appropriate. When students are sharing their problems with teachers, since it's not face to face they fear less and can ask their problems freely. Further, the research indicates that e- Learning would make *students as a value-added citizen in the society*, allowing for socio-economic return to society that will exceed the investment to acquire it, especially in view of the world becoming a global village.

Overall, the results indicate that faculty members tend to view e-learning positively. These findings are consistent with those found in the current literature. Current literature indicates that training is necessary before students and teachers are exposed to e-learning. A clear strategy is therefore required prior to implementing e-learning in higher education.

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## Effect of Multi-component kinetic education on static balance ability of school children

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**Abstract:** Balance ability is an important motor ability function of children and needs monitoring from the developing ages to make children grow into expert adults. Hence, scientific grooming of children in the balance ability needs special mention. Sixty male children in the age group of ten to thirteen were divided randomly into two groups, one as multi component kinetic education group and another as control group. Multi component kinetic training was given to the group for three months. Stork stand test scores were taken as static balance ability scores of the children. Baseline, post test and adjusted post test means of the balance scores were tested with the ANCOVA and found that the multi component kinetic education program improved the static balance ability of the multi component group significantly. Hence, it was concluded that the multi component kinetic education program with components of muscle strength, muscular endurance and orientation could bring significant positive improvements in the static balance ability of the children.

**Introduction:** Balance ability is one of the important motor ability functions of individuals. Balance ability increases with the age and there may be difference in the balance ability of males and females as the balance ability depend on the factors like muscle tonus, sense of kinesthesia and other sensory inputs (2). Balance ability of an individual protects from the fall accidents and also to perform better in motor functions and to excel in certain kinds of games and sport situations. Proprioception ability which includes orientation and balance abilities together make children more agile towards motor functions of day to day activities as well sports activities (3). Strengthening of the vestibular functions and muscular tonus could lead to the better balance ability of the children. The sense of proprioception which includes some areas of orientation and balance ability needs to be matured during the developing ages and well before thirteen to fourteen years of age of children. It may be possible to develop balance ability of individuals through the development of muscle tonus and preparedness of muscle (7, 8). Hence, special training is essential to develop the function of balance of the children through verifiable means so that children grow into adults with better motor abilities to make better individuals and better sports persons (1). Hence the present study examined the effect of multi component kinetic education on the balance ability of male school children of 10 to 13 years.

### Methodology:

A total of sixty male school children in the age group of ten to thirteen, who volunteered for the study with written consent of the parents, participated in the study. The sixty children who were taken were randomly assigned to two groups and one group acted as Multi component group and another acted as control group. Multi component group was given multi component kinetic education program for three months. Each session lasted for about one hour and four such sessions were there for a week. The parents of the children were also invited to witness the kinetic education program of their children to avoid further complications. The multi component kinetic education program consisted of tumblings, body resistance exercise programs and few exercises resembling balance exercises. All precautions were taken to meet the ethical standards of the study of children. Stork static balance test score was measured to understand the balance ability of the children of the study (4). Best of the three trials of the test was taken as balance score. Baseline and post test static balance ability scores were measured and ANCOVA was used to know the effectiveness of the multi component kinetic education program on the static balance ability of the children. The level of significance used for the study was 0.05.

**Results:** Analysis of Covariance as depicted in table I shows that the Multi component kinetic education program of three months brought significant improvements in the static balance ability of the Multi component kinetic education group when compared to the control group since the obtained F value ie 62.03 is much higher when compared to the critical F value ie 3.96. Since the obtained

Table I. Analysis of Covariance for Stork static balance ability

Source	SS	df	MS	F/Cr.F	P
Adjusted means	424.79	1	424.79	62.03/3.96	<.0001
Adjusted error	390.37	57	6.85		
Adjusted total	815.17	58			

Table II. Test for Homogeneity of regression for post test values and covariate

Source	SS	df	MS	F/Cr.F	P
Between regressions	0.79	1	0.79	0.11/3.96	.7413
Remainder	389.58	56	6.96		
Adjusted error	390.37	57			

F ie 0.11 (table II) for the test of homogeneity of regression for post test values and covariate is less than the critical F ie 3.96, the post test static balance values and covariate are in linear regression and hence the Analysis of covariance is acceptable and dependable. The difference

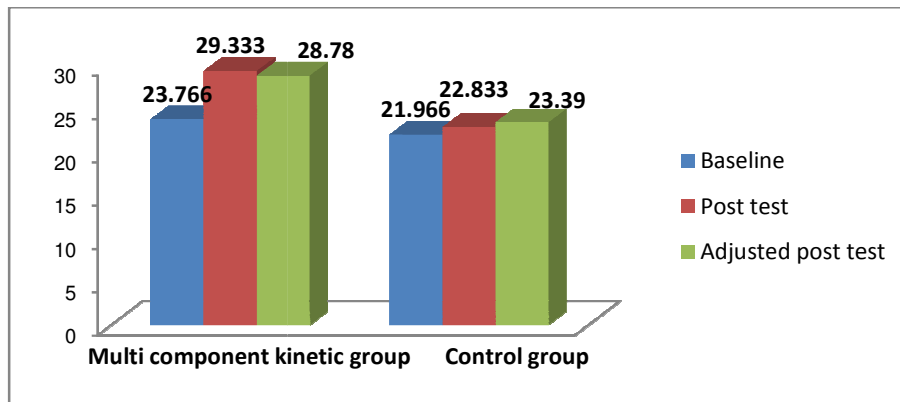


Fig. 1. Baseline, Post test and adjusted pos test means of static balance.

Between the adjusted post test static balance score (28.78) and baseline static balance score (23.76) of the Multi component kinetic education group (5.02) may be quite significant. Hence, the improvement of 5.02 in the static balance ability of the Multi component group may be considered as significant improvement through the effect of the multi component kinetic education to the children of the study.

**Discussion:** Improvement in the proprioception ability through stabilization and maturity of proprioceptors could lead to the improved orientation and balance ability among individuals and especially among children of developing age. Along with this, the improvement in muscular tonus through better muscular strength and muscle endurance could lead to the improvements in the balance ability (5) of the children. Hence, the multi component kinetic education program (6) with encompassing components of balance, strength and general endurance could have lead to the significant improvements in the static balance ability of the children of the study. The multi component kinetic education program might have caused to improve in the children the significant levels of muscle strength, muscle endurance and orientation ability and hence the consequent improvement in the balance ability.

**Conclusion:** The multi component kinetic education program, with components of muscle strength, muscular endurance and proprioception ability brings significant improvements in the static balance ability of the children.

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## Tennis Elbow: Lateral Epicondylitis

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**Introduction:** This condition occurs most often in the dominant arm of middle-aged persons, in females more commonly than in males, and is occasionally bilateral. It occurs in persons whose occupation or sport includes excessive use of the wrist or supination or pronation of the forearm. Not surprisingly, playing tennis, a poor backhand technique in tennis, a racquet grip that is too small, strings that are too tight, Playing with wet heavy balls or other racquet sports can cause this condition. But several other sports and activities can also put you at risk. This brief article is highlighted on aetiology, symptoms, test to confirm diagnosis and treatment of tennis elbow.

**Aetiology:** A large number of causes have been suggested for this condition, and a single lesion evidently cannot adequately explain the Aetiology in all cases. The fibrous origin of the common extensor tendons from the lateral epicondyle is the usual site involved, and so this condition may be looked upon as a form of enthesisties. The most likely explanation appears to be that an area of soft-tissue. Degeneration develops at this site in the origin of the extensor carpi radialis brevis and that this area develops a tear, an inflammatory change, or both<sup>1</sup> (**fig no.1.0**). Degeneration changes commonly occurs in this area, probably as a result of ageing, repeated use or micro-trauma, and are also the basis for the calcification that may ultimately develops. Since the blood supply to this area is relatively poor in middle age, healing is slow and lesion tends to become chronic.

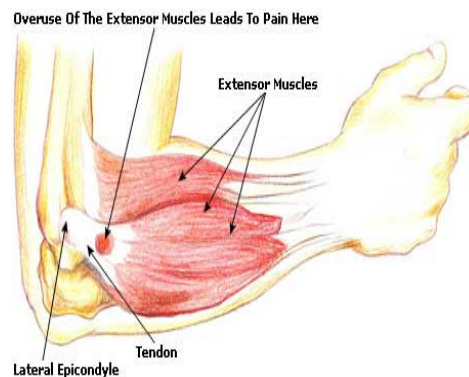


Fig.no.1.0

**Symptoms:** Pain about 1-2 cm down from bony area at the outside of elbow (lateral epicondyle) weakness in the wrist with difficulty doing simple task such as opening a door handle or shaking hands with some one. Pain on the lateral side of the elbow when the hand is in bent back (wrist extension) against resistance. Tenderness when pressing (palpating) below the lateral epicondyle.<sup>2</sup>

**Tennis Elbow or cozen's Test:** This test is designed to reproduce the pain of tennis elbow. Stabilize the person's forearm and instruct him to make a fist and to extend his wrist. When he has done so apply pressure with your other hand to the dorsum of his wrist into flexion

(fig no.1.1) a sudden severe pain at the site of the wrist extensors common origin of the lateral epicondyle indicates the positive tennis elbow or cozen's Test.<sup>3</sup>

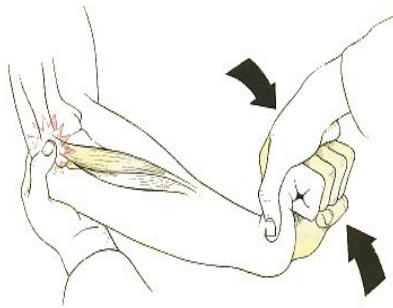


Fig.no.1.1

**Treatment:** The treatment of lateral epicondylitis initially is rest, ice, and non-steroids and anti inflammatory medications. Injections of soluble cortico steroids into acute lesions is often helpful but extremity must be rested for at least two weeks following injection. Steroids injections into muscle or tendon may cause necrosis of tissue that must heal before the person participate in vigorous activities. Heat may be helpful once the acute inflammatory response subsides. A rehabilitation program to strengthen the extensor muscle group is indicated when pain has subsided sufficiently. Since injuries to these structures can decrease flexibility, stretching must be part of rehabilitation. In small number of cases, conservative treatment will fail to provide the desired symptomatic relief. When residual pain is disabling, however, surgical measures may be contemplated. A support for the forearm is useful to alter the leverage on the forearm muscles and relieve strain on the elbow. The support is made of calico and is kept tightly in place with Velcro straps. It should be worn during activities that involve use of the forearm.

#### **STRETCHING EXERCISES FOR TENNIS ELBOW**

1. Put hand on a flat surface with your hands facing up. Use your thumb to touch all your other fingers without lifting your hand. Start with the pinky and then move on to the next. 20 times
2. Position forearm on thigh. Ball the wrist into a relaxed fist then rotate completely 20 times in each direction.
3. Position hand on thigh with your palm facing down. Turn up hand in a right angle. Repeat 20 times.

**Wrist Extension.** With a 1 lb. weight clasped in hand facing down (pronated); anchor forearm to knee so that only the hand is mobile. Move hand up and down in a slow manner .

1. **Wrist flexion.** With a 1 lb. weight clasped in hand facing up (supinated); anchor forearm to knee so that only the hand is mobile. Move hand up and down in a slow manner .
2. **Combines flexion/extension.** Tie an end of a string to a stick (to be used as a handle) and the other end to a weight. While standing, extend arm fully in front then lift the weight from the ground by alternately rolling the wrist upward and downward. **Conclusion:** Tennis elbow is a repetitive stress injury (RSI) which causes micro trauma at the origin of common extensor tendon of the wrist joint. Faulty racquet and playing techniques may predispose a tennis player to the development of lateral epicondylitis, all though it may occur in sports other than playing tennis and in non sports peoples too.

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## **Cultural Influence Of Sports On Indian Society: Unaccountability Of Bureaucracy**

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### **Introduction**

The land of Arjuna and Ekalavya, the greatest sports men of epic age is certainly now not a force to reckon with in the world of sport. However, the disparaging performance of Indian sports in international events and the concern and criticism surrounding it is nothing new. But what disturbs many sports lovers and planners is the fact that this performance has either declined or not improved over a period of time. The reasons for such a sad state of affairs lie in the nature of sports planning, administration, and culture and policy premises. The decline in performance is evident from the medals. Though the medals tally is not the only indicator, it is certainly a signal for declining standards of Indian Sports. The medals tally over a relatively longer time frame of nearly one and a half decade suggests a deepening crisis plaguing Indian Sport. Barring a few miracles here and there, the standards of Indian sports are far from satisfactory.

### **Before independence**

The history of sports in India dates back to the Vedic era. Physical culture in ancient India was fed by a powerful fuel: religious rights. There were some well-defined values like the mantra in the Atharva-Veda, saying, "Duty is in my right hand and the fruits of victory in my left". In terms of an ideal, these words hold the same sentiments as the traditional Olympic oath: "For the Honour of my Country and the Glory of Sport." Badminton probably originated in India as a grownup's version of a very old children's game known in England as battledore and shuttlecock, the battledore being a paddle and the shuttlecock a small feathered cork, now usually called a "bird." Games like chess, snakes and ladders, playing cards, and polo had originated as sports in India and it was from here that these games were transmitted to foreign countries, where they were further modernized.

After independenceAfter the IX Asian Games in New Delhi in 1982, the capital city now has modern sports facilities. Such facilities are also being developed in other parts of the country. Besides sports and games included in the international sporting agenda, there are many which have developed indigenously. Among these are Wrestling and several traditional systems of Martial arts. The Ministry of Youth Affairs & Sports was initially set up as the Department of Sports in 1982 at the time of organisation of the IX Asian Games in New Delhi. Its name was changed to the Department of Youth affairs & sports during celebration of the International Youth Year, 1985. India has hosted or co-hosted several international sporting events, such as the 1951 and the 1982 Asian Games, the 1987 and 1996 Cricket World Cup, the 2003 Afro-Asian Games, the 2010 Hockey World Cup and the 2010 Commonwealth Games.

### **Lack of Concern**

Issues related to politics and economics often concern the nation. Failure to effectively project national interests in an international forum or inadequate export performance form political issues for national agenda or parliamentary debate. Unfortunately, the sports performance hardly from part of such an agenda so that the policies can be altered. If at all there is any debate on sports, it is confined to discussion on grants to the sports ministry or event oriented discussion. Serious concern was evoked over India's disparaging performance at Seoul Asiad in 1986. The sad state of sport in India was discussed even in Parliament. The chairman of the committee that looked into state of India sport, Dr. Amrik Singh remarked that Indian sports needs nothing less than a complete over haul.

### ***Craze for Extravagance***

Indian sports administrators lay more emphasis on extravagant activities and the publicity that such things being to them rather than showing any interest in upgrading the sporting talent. Tournaments and contests with a great fan-fare often take a front seat. Even for corporate bodies entering into this have a craze for publicity-blitz contests for obvious reasons. The corporate participation is driven by advertising interests than sincere commitment to enhance the standards of Indian sports. Some major corporate organizations and celebrities conducted Cricket tournaments which attracted world-wide attention. It is not to denigrate their effort but it remains a fact that the contribution of these industrial groups to either Cricket or chess or for that matter any other sport was negligible. The classic case in point was that of the criticism over Indian hosting Asiad in 1982 and bidding for Olympics venue subsequently.

### ***Administration and funding***

Political responsibility for sport in India is with the Ministry of Youth Affairs and Sports which is headed by a cabinet minister and managed by National Sport Federations. Sports Authority of India the field arm of the Ministry, supports and nurtures talent in youth, and provides them with requisite infrastructure, equipment, coaching facilities and competition exposure. Dorabji Tata with the support of Dr.A.G.Noehren then Director of YMCA established the Indian Olympic Association in 1927. IOA is responsible for the Indian contingent's participation in the Olympic Games, Commonwealth Games, Asian Games (Outdoor-Indoor-Beach) and South Asian Games. Each Olympic and Non-Olympic Sport has a Federation at the National level. The selection of the National teams is done by the respective National Federations and then recommend to IOA for official sponsorship for participation in the Games being conducted under the auspicious of the International Olympic Committee, Olympic Council of Asia, Commonwealth Games Federation and SAG. A special feature of the Indian Olympic Association is that, the National Federations and the State Olympic Associations are affiliated recognized to it. The main task of the State Olympic Associations is to promote the Olympic Sport and to ensure coordination among the State Sports Associations. In 2010-11, total Budget for sports and physical education schemes is 3117.69 crore rupees. Hockey, in which India has an impressive record with eight Olympic gold medals, is officially the national sport. The Rajiv Gandhi Khel Ratna and the Arjuna Award are India's highest awards for achievements in sports, while the Dronacharya Award is awarded for excellence in coaching.

### ***Bureaucracy takes heavy toll***

The developments subsequent to 1982 Asiad heralded a new phase in the history of Indian sports. Jawaharlal Nehru outdoor and Indira Gandhi indoor stadia were built to conduct Asian games. The government of India later set up Sports Authority of India (SAI) to look after these stadia in the future. Though it was meant for the maintenance of these two stadia, the SAI did not confine them. Due to wrong policies, all powers regarding sports administration and development have been bestowed on SAI. Thus, the SAI transformed into a powerful body where all powers concentrated. Bureaucracy crept into the system killing the much needed creativity to develop sports. This bureaucracy later took a heavy toll of Indian sports planning during the subsequent years. The conflict arose between the Sports Authority of India (SAI) and the already existing National Institute of Sports (NIS). There was no clarity on the responsibilities.

### ***No accountability of Bureaucracy***

The Arjun Singh committee recommended review of the functioning of NIS and SAI after the end of the Seventh Plan. But, no such attempt was made till now. As a result of the inordinate delay in reversing their functioning, accountability suffered. Besides, corrupt practices and swindling of financial resources have also taken their toll. For instance, there are reports that Indira Gandhi Indoor Stadium has developed cracks and is leaking within ten years after its construction. If this is the fate of such a prestigious construction, one can expect the fate of the construction of several sports complexes in different parts of the country. The Comptroller and Auditor General of India (CAG) in its report has strongly indicated the SAI for its functioning and also for its functioning and also for bungling of resources. The CAG in its report of June 1994 remarked that the SAI authorities have swindled resources by purchasing the lousy quality sports material unaccounting the expenditure on the pretext of gifts to sports persons for their achievements and also for equipment and sports material worth lakhs lying unused.

### ***Political influence on Bureaucracy***



Politicians are after appointed to head the sports bodies. This creates an unhealthy situation. Politics also play a role in the selection of players for all events at different levels. The conflict between two politicians for the post of the chairman of Indian Olympic Association (IOA) has even spilled into court rooms defaming the India sport. With the political culture permeating sports, identification of talent is often played by parochial considerations rather than independent judgment.

### ***Sports culture need for change***

Apart from the drawbacks at the policy level, several aspects of prevailing sports culture in India are also hindering the progress of Indian sport to effect a qualitative change in the performance. Physical education and sports are yet to become an integral part of modern child's life, despite several pronouncements that physical education will be a mandatory part of syllabi in Indian educational institutions. Several practical considerations are also preventing such enforcement. The NCERT sample survey revealed that about 60 to 70 per cent schools in the country do not have proper play grounds. This percentage will increase in the future due to mushrooming of private educational institutions. Thus sports are being separated from modern child's life. There is also a tendency to consider sports and studies as mutually exclusive. Such a feeling is strongly evident among middle class parents who aspire high achievement rates for their children. Instances of few sports persons neglecting their studies are reinforcing this tendency. The feeling that the participation in sports costs their education that to be dispelled. The archaic social values have turned out to be a major impediment in develop in sports especially among girl Childs. Parents would feel proud to send their daughters to a Bharatanatyam class. But they would hesitate and even prevent their daughters from practicing gymnastics or Volley ball coaching.

### **Conclusion**

There is a potential which is not being exploited. Unless, there is an impressive performance, sports will not become a priority sector. Indian sport is stewing in its own juice. Only a healthy sports culture can bail out the country from this situation. Such a task can not be fulfilled by only government. The corporate participation in sports is marginal. In an era of economic liberalization the corporate sector should actively involve in the development of sports. Apart from this, several policy initiatives are also vital for bringing glory to Indian sports. They include elimination of bureaucracy, corruption, bringing professionalism in sports administration, encouraging mass accessibility to sports, physical education should be made compulsory. Legal protection should be given to open spaces and playgrounds against possible encroachment Identification and development of talent should be continuous and unending process. It is therefore, became a matter of great concern that a premier organization like SAI which was supposed to identify and nurture the talent has stooped down to the level of a refugee and rehabilitation centre for ex-servicemen. The secretary of department of sports in government of India also holds an additional responsibility as the director general of the SAI. As a result of the enormous work burden he carries as secretary, he can hardly concentration the SAI. The secretary thus became the most powerful man. Democratic decision making has becomes a rare feature. Even this all powerful secretary is usually not a sport person. People drawn from central services hold this responsibility.

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## **The Effects of Aquatic Exercises on Physical Fitness of Children with Mental Retardation**

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### **Abstract**

The purpose of this study was to determine the effects of free hand exercises and swimming on physical fitness of children with mental retardation. Nine mental retarded and seven normal children (n = 16) were recruited from a rehabilitation center. The range of the ages of the groups were 12 to 15 years. Training program was applied for 10-week, two times a week for 40 minute each session. Pre- and post-tests measurements were taken for cardiovascular endurance, muscle endurance, speed, static balance, and agility. Results showed that both groups improved significantly ( $p < 0.05$ ) in all dependent variables. Free hand exercises and swimming appear to be a variable and effective way to improve physical fitness capacity of the children with mental retardation.

### **Introduction**

Mental retardation (MR) causes important effects on childrens' physical fitness, as well as cognitive activities during life span. Most research in the literature states that children with MR have poor level of physical fitness compared with their nondisabled peers. These studies found that children with MR have a low level of cardiovascular endurance, muscular strength, muscular endurance, running speed, balance, and agility. It is well known that children with MR have isolation problems in society what leads to their physical inactivity. Some research reports indicate that children with MR achieve very low scores in cardiovascular fitness tests. In addition, several studies reported a significantly positive correlation between inactive lifestyles and cardiovascular disease. Therefore, physical activities should be established for children with MR, to develop their cardiovascular fitness. Therapeutic effects of swimming and aquatic exercises on physical fitness and well - being have been recognized for people with disabilities. Furthermore, aquatic exercises are highly recommended for children, in general, as a recreational sport activity (Sherrill, 2006). Therefore, the purpose of this study was to evaluate the effects of a 10 - week aquatic exercises program on physical fitness of children with MR.

**Selection of Subjects:-** Nine mental retarded (Group 1) and seven normal (Group 2) (n= 16) subjects without multiple disability were recruited from a shelter and rehabilitation center in Kanpur . The ages ranged of the groups were 12 to 15 years with  $36.89 \pm 1.27$  IQ level to  $55.57 \pm 2.23$  IQ level, respectively. All participants were selected from children without prior physical activity experience. Before the physical fitness tests, subjects were examined by a pediatric cardiologist and permission to participate in these activities were approved by the parents.

**Measurements:-** In this study, data were collected on six dependent variables as pre and post test measurements to determine the effects of a 10 week aquatic exercises program.

- 1. 25-yard (22.86m) dash:** time was measured in seconds with a stop watch.
- 2. Bent arm hang:** The number of seconds held in this position is recorded.
- 3. Leg lift:** The number of leg lifts is recorded during 20 seconds.
- 4. Thrusts:** The number of thrusts is recorded during 20 seconds.
- 5. Static balance test:** The time is recorded in seconds.
- 6. 300 yard (274.32m) run - walk:** The time is measured in seconds.

**Procedure and description of the treatment program:-**All subjects (n=16) participated in a 10week aquatic exercise program, for two times a week, 40 minute each session. Pre and post treatment tests were conducted in both groups at the end of 10 week. Training sessions were organized under directions of a physical therapy specialists and protocol of the 10week aquatic exercise training program.

**Table 1**

	<i>Participants' mental</i>			<i>and physical characteristics</i>				
	<b>G1(mental retarded children)</b>			<b>G2 (normal children)</b>			<b>Mann-Whitney U Test</b>	
	<b>X</b>	<b>S</b>	<b>SX</b>	<b>X</b>	<b>S</b>	<b>SX</b>	<b>U</b>	<b>P</b>
Age (Year)	12.22	1.48	0.49	14.71	1.38	0.52	7	0.0079
Weight (Kg)	32.11	3.62	1.21	45.29	9.07	3.43	4.5	0.0021
Height (Cm)	136.56	6.06	2.02	152	13.09	4.95	80	0.0015
IQ	36.89	3.82	1.27	55.57	5.91	2.23	0	0.0002

### **Statistical Analysis**

Data were analyzed using the SPSS statistical software package. Mann Whitney U test was used to compare groups and Wilcoxon Matched Pairs Signed - Rank test was used for within group analysis.

### **Results**

Using Mann Whitney U test, significant differences were found between the groups (Table1).In general, results showed that mental retarded(Group1)and normal children(Group 2) children significantly improved physical fitness levels ( $p<0.05$ ) in all six dependent variables examined(25 yard dash, upper extremity strength and endurance, lower extremity strength and endurance, agility, balance, and cardiovascular endurance (Table 2).

**Table 2**

<b>Between group differences in all dependent variables of physical fitness</b>									
	<b>Before Training</b>			<b>After Training</b>			<b>Wilcoxon Paired Test</b>		
	<b>X</b>	<b>S</b>	<b>Sx</b>	<b>X</b>	<b>S</b>	<b>Sx</b>	<b>z</b>	<b>p</b>	
<b>25 Yard Running Test</b>									
Group1	5.40	0.40	0.13	5.13	0.35	0.12	-2.67	0.0077	
Group2	4.96	0.2	0.10	4.58	0.23	0.09	-2.37	0.018	
<b>Bent Arm Hang Test</b>									
Group1	3.72	1.87	0.62	6.56	4.29	1.43	-2.67	0.0077	
Group2	16.96	19.08	7.21	21.50	18.04	6.82	-2.37	0.018	
<b>Leg Lift Test</b>									
Group1	12.00	2.87	0.96	16.67	2.29	0.76	-2.67	0.0077	
Group2	13.57	2.76	1.04	17.71	3.25	1.23	-2.37	0.0180	
<b>Thrust Test</b>									
Group1	8.78	2.39	0.80	12.11	3.02	1.01	-2.52	0.0117	
Group2	8.71	2.50	0.94	12.29	3.35	1.27	-2.37	0.0180	
<b>Static Balance Test with Open Eyes</b>									
Group1 (n=9)	8.51	6.89	2.30	15.87	14.35	4.78	-2.67	0.0077	
Group2 (n=7)	18.34	21.33	8.06	31.03	26.90	10.17	-2.03	0.0425	
<b>Static Balance Test with Closed Eyes</b>									
Group1	2.33	0.97	0.32	4.00	1.91	0.64	-2.67	0.0077	
Group2	3.82	2.22	0.84	4.78	2.06	0.78	-2.37	0.018	
<b>300 Hundred Yard Run - Walk Test</b>									
Group1	100.11	13.47	4.58	90.0	11.35	3.78	-2.67	0.0077	
Group2	86.00	16.89	6.38	76.14	7.73	2.92	-2.37	0.018	

## **Discussion**

The results of this study showed that mental retarded children and normal children improved in all six dependent variables of physical fitness. It is well known that children with MR have low physical fitness levels compared to children without disabilities. Shephard (1980) stated that this was highly related to low physical activity participation instead of physical disabilities. In addition, the low physical fitness of MR children was related to the combination of low motivation and insufficient physical activity. Furthermore, research showed that mentally retarded populations have lower motor performance standards compared to populations without disabilities. Barton (1982) proposed that maintaining optimal health for mentally retarded populations should emphasize conditioning for better physical fitness levels. Besides, the majority of the literature reviews emphasized the importance of exercise and recreational activities for optimizing the well - being of MR populations, by nurturing physical fitness, motor development and self - esteem.

The 25 yard dash test results showed that both MR and normal children improved significantly ( $p<0.05$ ) for Group 1,  $X=5.13\pm0.12s$  and Group 2,  $X= 4.58\pm0.09s$ , after 10 - weeks of aquatic exercises. This can be explained as positive effects of these physical activities on running speed. In other studies, Yılmaz et al. (1994) reported significant improvement of results in the 25 yard dash test of 21 educable children .

Bent arm hang test was used to determine the strength and endurance of upper extremities for children with MR. Test results showed that both groups children improved significantly ( $p<0.05$ ) for Group 1,  $X=6.56\pm1.43$  and Group 2,  $X=21.50\pm6.82$  after 10 - week aquatic exercises. Studies by Yılmaz et al. (1994) and Ergun (1994) also reported significant ( $p < 0,01$ ) results in bent arm hang test times in educable MR children. Engelman and Morrow (1981) emphasized the importance of strength and endurance of upper extremities on daily life activities of children. Therefore, they suggested that this parameter should be included in the measurement of physical fitness for children.

Leg lift test was used to measure lower extremity strength and endurance for both the groups of children. Results show that children in both groups improved significantly ( $p<0.05$ ) for Group 1,  $X=16.67\pm0.76$  Rep/20s. and Group 2,  $X=17.71\pm1.23$  Rep/20s. after 10 - week intervention. In this study, the thrust test was used to measure lower extremity strength. Results showed that children in both groups improved significantly ( $p<0.05$ ) for Group 1,  $X=8.78\pm0.80$  Rep/20s and Group 2,  $X= 8.71\pm0.94$  Rep/20s after 10 - week intervention.

Static balance test results show that children in both groups improved significantly ( $p<0.05$ ) for Group 1,  $X= 15.87\pm4.78s$  and Group 2,  $X=31.03\pm10.17s$  in the balance test with closed eyes after intervention. Moreover, both groups improved significantly ( $p<0.05$ ) in the balance test with open eyes for Group 1,  $X=4\pm0.64s$  and Group 2,  $X=4.78\pm0.78s$  after intervention. The study by Özbaser and Ergun (1994) concurred with our study by reporting static balance test results with open eyes in children with MR .

In the literature, it was reported that mentally retarded populations have balance problems With the widely accepted concept that dynamic and static balance abilities are important components of daily life activities for all children, improving balance in MR children is of great value. However, Sherrill (2006) stated that children with MR do not learn how to stand on a single leg until around 6 - 9 years old. Therefore, Boswell (1991) and Sherrill (2006) highly recommended dance and rhythmic activities to develop balance ability for children with MR.

Cardiovascular fitness is an essential component of physical fitness. Research shows that children with MR have lower cardiovascular fitness than their peers without MR. In this study, 300 yard run - walk test result showed that children in both groups improved significantly ( $p<0.05$ ) for Group 1,  $X=90\pm3.78s$  and for Group 2,  $X=76.14\pm2.92s$ , after 10 - week treatment. Baltaci et al. (1996) reported that swimming exercises had positive effects on cardiovascular fitness of children. Therefore, water and swimming exercises can be an integral part of cardiovascular fitness development of all children in various fitness levels.

Consequently, the present study found that 10-week aquatic exercises have viable effects on physical fitness of children with MR and normal. Results show that children with MR improved significantly ( $p<0.05$ ) in all six dependent variables after 10 - week treatment. Considering the limitations and sedentary life styles of all children with MR, aquatic exercises can be a good way of developing physical fitness and motor skill development for children with MR. Aquatics provide a very unique environment to all children with disabilities. Children can enjoy many activities in the water without assistance of crutches, wheelchairs, or other devices because of the buoyancy effect of water (Lepore, 2000).

Furthermore, aquatic exercises strengthen muscles that tribute to body posture, improve joint range of motion, and stimulate muscular relaxation. Also, it is reported that aquatic exercises, such as breath control, inhalation and exhalation, promotes development of respiratory function, and oral motor control (Martin, 1983). At this point, Horvat and Franklin (2001) suggest that children with MR should be provided with more opportunities for different physical activities. Moreover, they emphasize that sedentary life styles, such as inactivity and reduced participation in games and physical activity, should not be tolerated for children with MR. Instead, physical activity should be encouraged to develop healthier life style habits. Present study was aimed in developing physical fitness of children with MR, via aquatic exercises. Results showed that these exercises have viable effects on subjects' physical fitness. Therefore, children with MR should be encouraged to participate in aquatic exercises, as well as other sport activities.

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## Comparative Study on Achievement Motivation of National, State and District Level Kho-Kho Players

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### ABSTRACT:

Kho- Kho is known as 'Game of Chase'. The present study was undertaken to compare sports achievement motivation between national, state and district level kho-kho players of Gujarat state. A total 60 female kho-ko player (20 for each group) were randomly selected as subject for the purpose of the study. The age of the subject ranged from 20 to 25 years. For the acquisition of psychological data of the participants on sports achievement motivation a test developed by M.L.Kamlesh (1990) was used. The ANOVA and LSD test was used to compare the mean difference among three groups of kho-kho players. National players had higher level of achievement motivation as compared to State and District level kho-kho players. Significant differences were found in the achievement motivation level of the three groups of kho-kho players.

**KEY WORDS:** Achievement motivation, Kho- Kho players

### INTRODUCTION:

The 'Game of Chase' Kho-Kho is a very dynamic team sport with popularity. Kho-Kho has complex demands that require a combination of individual skills, team plays, and tactics and motivational aspects. The players must quickly perceive, analyze and adequately act or react in the given situations. Success in Kho-Kho depends mostly on the levels of specific Kho-Kho motor abilities and skills, but also on the particular psychological factors, like cognitive abilities and cognitive dimensions. The objective of the present study was to assess the Achievement Motivation level of National, State and District level Kho-Kho players of Gujarat.

### METHODOLOGY:

The present research Endeavour was designed to explore the achievement motivation status of National, State and District level female Kho-Kho players. A total 60 female Kho-Kho players (20 each group) were randomly selected as subjected as subject for the purpose of the study. The age of the subject ranged from 20 to 25 year. Player who had participated in senior, women and Inter University competition at National level were selected in national group. Player who had participated in only state level tournament was selected in state group. Player who had participated in only district level tournament was selected in district group. Subjects were participated in competition during 2010-2011. To measure player's level of achievement motivation, the tool constructed and developed by M.L.Kamlesh (1990) was used. The test is self-evaluation questionnaire consisting of 20 statements related to situation.

### RESULTS AND DISCUSSION:

Analyses of variance and LSD test were used to assess the significant difference in the means of three groups.

Table - 1  
One way analysis of variance of Achievement Motivation level of National, State and District level Kho-Kho players

Sr.no	Group	N	Sum	Mean	Variance
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1	National	20	602	30.1	9.57
2	State	20	533	26.65	3.92
3	District	20	497	24.85	2.8

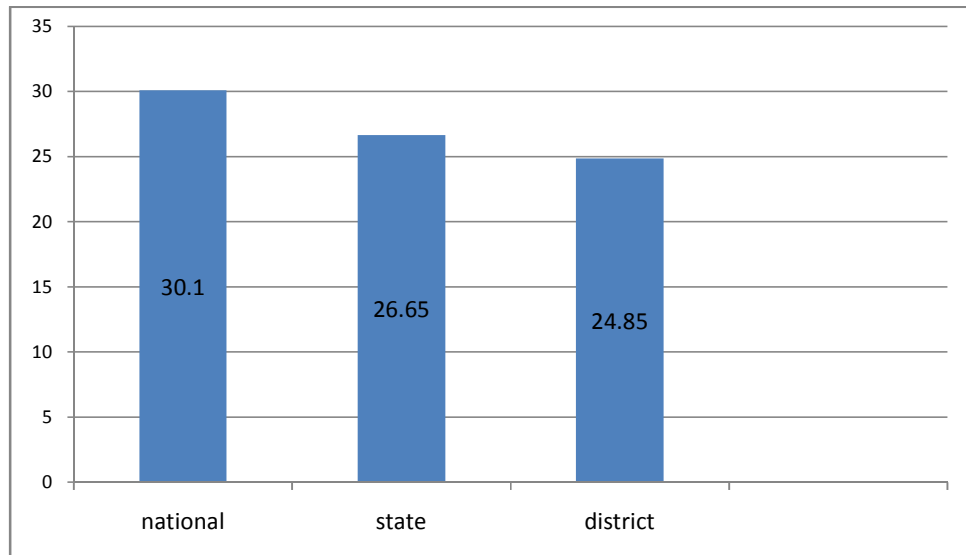


Table – 2  
ANOVA Table

Sr.no	Source of Variation	SS	df	MS	F	F Critical
1	Between Group	284.7	2	142.35	26.27	3.16
2	Within Group	308.9	57	5.419		

Result shows that calculated f-value is greater than tabulated F-value, it is concluded that significant difference is existing in the achievement motivation level of the three groups of Kho-Kho players. Further to find out which group mean is greater than the other LSD test was applied.

Table -3  
LSD- Test of significance for achievement motivation level means difference among the different groups

Sr.no	National	State	District	M.D.	C.D.
1	30.1	26.65	-	3.45	.46
2	30.1	-	24.85	5.25	.46
3	-	26.65	24.85	1.8	.46

Comparing the means of the three groups with critical difference it is evident that the achievement motivation level of National Kho-Kho players is significantly greater than the other two groups. Further mean achievement motivation level of State level Kho-Kho players is significantly greater than mean of District Kho-Kho player. Thus we see that achievement motivation a definite determining factor in the performance of Kho-Kho players. The results of the study had led us to attribute the performance status of national and state Kho-Kho players to their achievement motivation level. Further we also see that the gap between the achievement motivation level of national and district level Kho-Kho player is more than the gap in achievement motivation level of state and district Kho-Kho players.

**CONCLUSION:** The results provide evidence that high achievement motivation is a vital factor that distinguishes high level performers. On the basis of the present empirical investigation it is concluded that National Kho-Kho players are having higher level of achievement motivation than the State and District level Kho-Kho players because they set goals and aims to give the level best performance to win the competition.

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## **A Comparative Study among Individual Game Players and Team Game Players Respect to Emotional Intelligence**

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### **Introduction:**

Although emotional intelligence is still a relatively new term in sport, it certainly is not a new concept. For years we have marveled at how the great athletes are able to “switch themselves on” to create amazing performances with incredible consistency. We would describe them as being composed, mentally tough, having the right psychology, a great sports mind, emotionally controlled or simply determined or focused. Today we recognize these athletes as having high levels of competency in the area of emotional intelligence. Research and work in emotional intelligence can be dated back to the early 1900s when it was described as emotional expression (by Darwin) or social intelligence (by E. L. Thorndike in the 1920s). Into the 1980s it became more known with Howard Gardner's book titled “Frames of Mind: The Theory of Multiple Intelligences” which described it as intrapersonal intelligence (understanding yourself) and interpersonal intelligence (understanding others). The ability to understand and employ the emotional skills is different in people and this set represents consciousness level, emotional intelligence of a person who has contributed to his psychological and intellectual growth. Emotional intelligence consists of indicators and skills that will help us to understand and control our feelings and emotions in order to work to our favor, not against us. Today's, advances of athletes in championship level depend on many factors. Identify talented young people and pushing them toward a particular sport, with an intensive physical and psychological training program are one of those elements. It is obvious for coaches that athletes psychological preparation is one of successful skill performance and his psychological preparation as like as physical preparation would be possible by psychological skills exercises.

### **Objective of the Study:**

1. To find out the emotional intelligence among individual game players and team game players.

### **Hypothesis:**

1. Team game players have significantly high emotional intelligence than the individual game players.

**Sample:**For the present study 200 Sample were selected from Aurangabad town, Maharashtra State. The effective sample consisted of 200 subjects, 100 subjects were individual game players and 100 subjects were team game players. The age range of subjects was 18 to 25 years.

### **Tools**

#### **Emotional Intelligence test:**

Pedhe and Hyde was used for measuring Emotional intelligence. This test is developed and standardized by Pedhe and Hyde the 34 items are rated on a five point scale. The subjects were required to respond to each item in terms of “Strongly disagree”, “Disagree”, “Neutral”, “Agree”, “strongly agree”. This is well known test having high reliability and validity coefficients.



### Procedures of data collection

One instrument could be administered individuals as well as a small group. While collecting the data for the study the later approaches was adopted. The subjects were called in a small group of 20 to 25 subjects and there seating arrangements was made in a classroom. Prior to administration of test, through informal talk appropriate rapport form. Following the instructions and procedure suggested by the author of the test. The test was administered and a field copy of test was collected. Following the same procedure, the whole data were collected.

### Variable

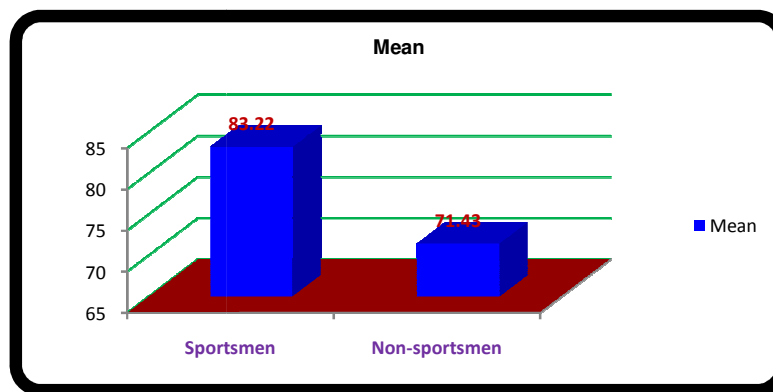
**Independent variable- Game players**      a) Team      b) Individual

**Dependent Variable**                      1. Emotional Intelligence

### Statistical analysis and discussion

Emotional Intelligence among individual game players and team game players Mean S.D. and "t" Value.

Game Players	Mean	S.D	N	df	't'
Team	78.64	5.50	100	198	8.71**
Individual	72.09	5.13	100		



The results related to the hypothesis have been recorded. Mean of Emotional Intelligence score of the team game players Mean is 78.64 and that of the individual game players Mean is 72.09 The difference between the two mean is highly significant ( $t= 8.71$ ,  $df =198$ ,  $P < 0.01$ ) It is clear that individual game players and team game players Differ Significantly From each other from the mean scores and graph it was found that the team game players have Significantly high Emotional Intelligence than the individual game players. This Result Support the Hypothesis.

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## **“ A Comparative Study among Urban and Rural National Kabaddi Players Respect to Aggression and Neuroticism”**

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**Introduction :** Kabaddi (sometimes transliterated Kabadi; is a term contact sport that originated in South Asia BCE, as a form of recreational combat training. Two teams occupy opposite halves of a field and turns sending a “raider” into the other half, in order to win points by tagging or wrestling 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. The name - often chanted during a game – derives from a Tamil word meaning “holding of hand”, which is indeed the crucial aspect of play. It is the national game of Bangladesh and the state game of Tamil Nadu, Punjab in India.

**Game Play:** In the international team version of kabaddi, two teams of seven members each occupy opposite halves of a field of 10m X 13m in case of men and 8m X 11m in case of women. Each has three supplementary players held in reserve. The game is played with 20 minute halves and a five minute halftime break during which the teams exchange sides. Teams take turns sending a “raider” to the opposite team’s half, where the goal is to tag or wrestle (“confine”) members of the opposite team’s before returning to the home half. Tagged members are “out” and temporarily sent off the field. Meanwhile, defenders must form a chain, for example, by linking hands; if the chain is broken, a member of the defending team is sent off. The goal of the defenders is to stop the raider from returning to the home side before taking a breath.

### **Forms of Kabaddi**

**Amar:** In the ‘Amar’ form of Kabaddi; whenever any player is touched (out), he does not go out of the court, but stays inside, and one point is awarded to the team that touched him. This game is also played on a time basis, i.e. the time is fixed. This form of Kabaddi is played in Punjab, Canada, England, New Zealand, USA, Pakistan and Australia. In the Amar form of Kabaddi, each team consists of 5-6 stoppers and 4-5 raiders. At one time, only 4 stoppers are allowed to play on the field. Every time a stopper stops the raider from going back to his starting point, that stoppers team gets 1 point. On the other hand, every time the raider tags one of the stoppers and returns to his starting point, his team gets one point. At one time, only one of the stoppers can try.

**Aggression:** In psychology, as well as other social and behavioral sciences, aggression refers to behavior between members of the same species that is intended to cause pain or harm. Predatory or defensive behavior between members of different species is not normally considered “aggression”. Aggression takes a variety of forms among humans and can be physical, mental, or verbal. Aggression should not be confused with assertiveness although the terms are often used interchangeably among laypeople, e.g. an aggressive salesperson.

**Neuroticism:** Self – deprecating comedians and complainers wear their neuroticism as a badge of honor. In truth, the negatively biased are more prone to depression, anxiety, self – consciousness and hypochondria, to name just a few behavioral tripwires. Neuroticism is no fun for anyone. The good news: all personality traits, including emotional instability, exist on a continuum, in this case from the very neurotic to the implacably stable. If you can laugh at your hang – ups, you’re probably not that

neurotic to begin with. Neuroticism is a fundamental personality trait in the study of psychology. It is an enduring tendency to experience negative emotional states. Individuals who score high on neuroticism are more likely than the average to experience such feelings as anxiety, anger, guilt, and depressed mood. They respond more poorly to environmental stress, and are more likely to interpret ordinary situations as threatening and minor frustrations as hopelessly difficult. They are often self-conscious and shy, and they may have trouble controlling urges and delaying gratification. Neuroticism is associated with low emotional intelligence, which involves emotional regulation, motivation, and interpersonal skills. [2] It is also a risk factor for "internalizing" mental disorders such as phobia, depression, panic disorder, and other anxiety disorders (traditionally called neuroses). Allison A. Bailey, Peter L. Hurd (March 2005) Finger length ratio (2D:4D) correlates with physical aggression in men but not in women. Finger length ratio (2D:4D) is a sexually dimorphic trait. Men have relatively shorter second digits ratios are thought to be associated with either higher prenatal testosterone levels or greater sensitivity to androgens, or both. Men with more masculine finger ratios are perceived as being more masculine and dominant by female observers, and tend to perform better in a number of physical sports. We hypothesized that digit ratio would correlate with propensity to engage in aggressive behavior. We examined the relationship between trait aggression, assayed using a questionnaire, and finger length ratio in both men and women. Men with lower, more masculine, finger length ratios had higher trait physical aggression scores ( $r_{\text{partial}} = -0.21, N = 134, P = 0.028$ ). We found no correlation between finger length ratio and any form of aggression in females. These results are consistent with the hypothesis that testosterone has an organizational effect on adult physical aggression in men. Eagleton JR, McKelvie SJ, de Man A. (Aug 2007) Extraversion and neuroticism in team sport participants individual sport participants, and nonparticipants. Scores on Extraversion and on Neuroticism as measured by the Eysenck Personality Inventory were compared for 90 undergraduate team sport participants, individual sport participants, and nonparticipants (43 men, 47 women, M age = 20.3 Yr.) From past research and Eysenck's biological theory of personality, it was hypothesized that sport participants would score higher on Extraversion and lower on Neuroticism than nonparticipants, and that team participants would score higher on Extraversion and perhaps higher on Neuroticism than individual sport participants. By comparing scores of students in first year and final year, it was also investigated whether pre-existing personality differences drew people to sport (the gravitational hypothesis) or whether personality changed as a function of sport participation (the developmental hypothesis). The main findings were that team participants scored higher on Extraversion than both individual sport participants and nonparticipants, and that test scores did not change over time, supporting the gravitational hypothesis for Extraversion.

## Methodology

- **Objective of the study:**
  - 1) To examine the aggression among urban and rural National Kabaddi Players.
  - 2) To examine the neuroticism among urban and rural national Kabaddi Players.
- **Hypothesis:**
  - 1) There will be significant difference in between urban national kabaddi players and rural national players Dimension of aggression.
  - 2) There will be significant difference in between urban national kabaddi players and rural national players Dimension of neuroticism.
- **Sample:** For the present study 180 sample were selected from India. The effective sample consisted of 180 subjects, out of whom 90 subjects were Rural National Level kabaddi players and 90 subjects were Urban National Level kabaddi players. The age range of subjects was 18 – 25 years Ratio were 1:1.
- **Tools**
- **Aggression Scale (A scale):** This test is developed and standardized by Km Roma Pal and Mrs. Tasneem Naqvi. The test consisted of 30 Items and Five Alternatives. The reliability coefficient of the test was found 0.82.

- **NEO Personality scale** :Paul T. Costa, Jr, Ph.D. & Robert R. McCrae, Ph.D. c 1989 This test is developed and standardized by Costa and McCrea the 60 items are rated on a five point scale. The NEO – FFI has a grade six reading level. The subjects were required to respond to each item in terms of “Strongly disagree”, “Disagree”, “Neutral”, “Agree”, ”Strongly agree”.
- **Procedures of data collection**:Each of the two instruments was administered individuals as well as a small group. While collecting the data for the study the later approaches were adopted. The subjects were called in a small group of 20 of 25 subjects and there seating arrangements were made in a classroom. Prior to administration of test, through informal talk appropriate rapport from. Following the instruction and procedure suggested by the author of the tests. The tests were administered and a field copy of each test was collected. Following the same procedure, the whole data were collected.
- **Variable**
- **Independent variable:**
  - 1) Area of residence    a) Rural                      b) Urban
- **Dependent Variable :**
  - 1) Aggression 2) Neuroticism

#### Statistical analysis and discussion

Table No. 01

Aggression among urban national kabaddi players and rural national kabaddi player's student Mean S.D. and 't' Value.

National Kabaddi Players	Mean	S.D.	SE	N	df	't'
Rural	59.41	5.93	0.63	90	178	7.90*
Urban	52.80	5.28	0.56	90		

The results related to the hypothesis have been recorded. Mean of aggression score of the rural national kabaddi players Mean is 59.41 and that of the urban national kabaddi players Mean is 52.80. the difference between the two mean is highly significant ('t'=7.90, df=178, P<0.01). It is clear that urban and rural national kabaddi players differ significantly from each other from the mean scores and graph it was found that the rural national kabaddi players have significantly high aggression than the urban national kabaddi players.

Table No.02

Neuroticism among urban national kabaddi players and rural national kabaddi player's students Mean S.D. and 't' Value.

National Kabaddi Players	Mean	S.D.	SE	N	df	't'
Rural	48.73	8.48	0.89	90	178	7.58**
Urban	39.61	7.64	0.81	90		

The results related to the hypothesis have been recorded. Mean of neuroticism score of the rural national kabaddi players Mean is 48.73 and that of the urban national kabaddi players Mean is 39.61. the difference between the two mean is highly significant ('t'=7.058, df=178, P<0.01). It is clear that urban and rural national kabaddi players differ significantly from each other from the mean scores and graph it was found that the rural national kabaddi players have significantly high neuroticism than the urban national kabaddi players.

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## **Strategic Plan For Implementing Physical Education At College Level**

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### **ABSTRACT**

High- quality physical education programs are an integral part of any coordinated physical education program for colleges (CPEPC). Currently, there is no specific physical education curriculum or period implemented for PUC to graduation grades. Providing daily physical education or its equivalent, for the entire year or semester is ideal for the college students. This strategic plan reveals that colleges need to be where youth learn the benefits of physical activities and participate in a quality physical education program. Introducing physical education at college level will provide strength and awareness about physical education, physical fitness, sports and health, which in turn will lead to better knowledge, health ( physical and mental ), and physique among students to maintain quality of life. It helps and guides the students to choose professional carrier in physical education. This kind of strategic plan will helps to improve the standard of physical education at college level.

**Key word:** Physical education.

### **INTRODUCTION**

High-quality physical education programs are an integral part of any coordinated physical education program for collages (CPEPC). In childhood and adolescence, regular participation in physical activity helps to prevent many chronic diseases and maintain an overall healthy lifestyle. Unfortunately, many colleges are decreasing the availability of physical education programs and daily recesses are on.

From 2002 to 2011, the percentage of students who attended daily physical education classes declined. The majority of college students take participation in physical education and sports during leisure hours and competition periods from PUC to graduation grades. Currently there is no specific physical education curriculum or period implemented for PUC to graduation grades. Providing daily physical education or its equivalent, for the entire year or semester is ideal for the college students.

To remedy this situation, we need to know that everyone can do something about promoting and implementing physical education into a CPEPC and why this is important. With standard based achievement now mandatory for all colleges, research shows that increased physical activity leads to higher test scores in maths, reading and writing, increased concentration in class, and a decrease in disruptive behavior. This research reveals that colleges need to be where youth learn the benefits of and participate in a quality physical education program.

Achieving this can be as simple as mandating daily recess periods and extracurricular activities such as after college competitive sports, into college policy.

Physical Education

Any planned program of motor activities that helps individuals to develop and control their bodies. Physical education is a process through which favorable adaptation and learning (organic, neuromuscular, intellectual, social, cultural, emotional, and aesthetic) result from and proceed through, fairly vigorous activity.

"Physical education is the study, practice, and appreciation of the art and science of human movement" (Harrison, Blakemore, and Buck). While movement is both innate and essential to an individual's growth and development, it is the role of physical education to provide instructional activities that not only promote skill development and proficiency, but also enhance an individual's overall health. Physical education not only fulfills a unique role in education, but is also an integral part of the schooling process.

## **OBJECTIVES**

To provide effective, enjoyable instructional programs of physical education, preferably daily, for all students in colleges from PUC to graduation grades based on a written curriculum consistent with national and international standards for physical education.

To develop and enforce policies that supports physical education.

To involve families and communities in the promotion of physical education and physical activity.

### **Coordinated Physical Education Program (Cpepc) For Colleges**

#### **Actions for Colleges**

Provide effective, enjoyable instructional programs of physical education, preferably daily, for all students in colleges through from PUC to graduation grades based on a written curriculum consistent with national and international standards for physical education.

Offer programs that meet the needs of special populations.

Ensure that physical education is taught by a qualified teacher with a minimum master degree and doctorate in physical education.

Provide teachers with in-service training in physical activity promotion and coaches with appropriate coaching competencies.

Provide theoretical instruction in physical education for a minimum of 180 minutes per week and 120 minutes per week for practical instruction.

Make sure indoor and outdoor facilities are adequate, clean, and safe and open to students during non-college hours and vacations.

Have technology incorporated on a regular and continuing basis.

Develop and enforce policies that support physical education.

Secure adequate funds to provide enough equipment for every student to participate.

Create an environment that supports physical education and physical activity as part of a coordinated physical education program for colleges (CPEPC)

Involve families and communities in the promotion of physical education and physical activity.

Systematically assess physical education programs and the outcomes of physical education programs and use the results for program improvement.

#### **Actions for State and National Organizations and Colleges and Universities.**

Promote physical education for the all round development (physical, mental, emotional, and social) of the student.

Promote physical activity as a measure to prevent chronic disease.

Collaborate with local agencies to share best practices and effective solutions.

Develop and disseminate assessment systems that individuals can use to determine their health and fitness status.

Allow third-party reimbursement for health care providers who regularly assess and counsel students and their families about physical activity.

Provide incentives through health insurance and employee wellness programs to student and staff who engage actively in this program.

Develop guidelines that recommend the frequency, duration, and quality of offering in physical education and hold colleges accountable for meeting those guidelines.

Adopt and enforce certification requirements that are consistent with national standards for those who teach physical education and provide staff development.

Ensure quality of college buildings and facilities used for students and college staffs physical activities and provide funds for construction of safe facilities for physical activity.

Refine and enhance the quality of pre-service and in service education that address physical education as a component.

Fund or conduct research that can inform and support college physical education.

Include in the health care reform agenda incentives for participation in physical activity.

#### **Actions for Families and Communities.**

Advocate for physical education classes and after colleges programs that are attractive to all students by encouraging college administrators and board members to support activities that promote lifelong physical education, physical fitness, and not just competitive sports.

Make sure the physical education program includes adequate student participation in practices and contests with no discrimination based on ability, gender or race.

Volunteer to help college student's sports teams and recreation programs.

Teach students safety rules and make sure that they have the clothing and equipments needed to participate safety in physical activity.

Ensure that physical facilities meet or exceed safety standards.

Work with colleges business and community groups to ensure that low-income young people have transportation and appropriate equipment for physical activity programs

Communicate with colleges, teachers and coaches about appropriate physical education including competitive sports teams.

## **CONCLUSION**

To conclude, introducing physical education at college level will provide strength and awareness about physical education, physical fitness, sports and health, which in turn will lead to better knowledge, health (physical and mental), and physique among students to maintain quality of life.

It helps and guides the students to choose professional carrier in physical education.

This kind of strategic plan will help to improve the standard of physical education at college level

## **SUGGESTIONS**

Before implementing these strategic plans, a survey should be made with a standard and quality orientation of physical education in all the govt. and private colleges by the experts of physical education.

Give knowledge about professional carrier opportunities in physical education to the college students along with the survey.

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## Neurosis and Sports

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**Introduction:-**Neurosis coined by the Scottish doctor William Cullen in 1769 to refer to “disorders of sense and motion” caused by a “general affection of the nervous system”. For him, it described various nervous disorders and symptoms that could not be explained physiologically. It derives from the Greek word (neuron, “nerve”) with the suffix – osis (diseased or abnormal condition). The term was however most influentially defined by Carl Jung and Sigmund Freud over a century later. It has continued to be used in contemporary theoretical writing in psychology and philosophy. The American Diagnostic and Statistical Manual of Mental Disorders (DSM) has eliminated the category of “Neurosis”, reflecting a decision by the editors to provide descriptions of behavior as opposed to hidden psychological mechanisms as diagnostic criteria, and according to The American Heritage Medical Dictionary, it is “no longer used in psychiatric diagnosis”. These changes to the DSM have been controversial.

**Signs and symptoms :**There are many different specific forms of neurosis : pyromania, obsessive – compulsive disorder, anxiety neurosis, hysteria (in which anxiety may be discharged through a physical symptom), and a nearly endless variety of phobias. According to Dr. George Boeree, effects of neurosis can involve :Anxiety sadness or depression, anger, irritability, mental confusion, low sense of self – worth, etc. behavioral symptoms such as phobic avoidance, vigilance, impulsive and compulsive acts, lethargy, etc. cognitive problems such as unpleasant or disturbing thoughts, repetition of thoughts and obsession, habitual fantasizing, negativity and cynicism, etc. Interpersonally, neurosis involves dependency, aggressiveness, perfectionism, schizoid isolation, social-culturally inappropriate behaviors, etc.

### **Positive meaning of neurosis:-**

For Jung, a neurosis is not completely negative, despite, and even because of, its debilitating aspects. Interpreted positively, it has fundamental purpose for some people. The reader will doubtless ask : What in the world is the value and meaning of a neurosis, this most useless and pestilent curse of humanity? To be neurotic – what good can that do?... I myself have known more than one person who owed his whole usefulness and reason for existence to a neurosis, which prevented all the worst follies in his life and forced him to a mode of living that developed his valuable potentialities. These might have been stifled had not the neurosis, with iron grip, held him to the place where he belonged (Jung, 1966: par. 68).

Johan. D. Vochtelo, Paul J. A. Timmermans, John A. H. Duijghuisen, Joseph M. H. Vossen (1991) Responses to novelty in phobic and non phobic cynomolgus monkeys: The role of subject characteristics and object features. In two previous studies it has been shown that most surrogate reared cynomolgus monkeys became phobic of a harmless object (a big paper bag) while most mother-reared monkeys approached that object. Results of the first study seemed to indicate that the phobic reaction was restricted to the bag. Barnett and Cowan (interdisciplinary science review, 1, 43-62, 1976) and Suomi (Anxiety disorder in childhood, pp 1-23, 1986), however reported that subjects (respectively rats and monkeys) that avoided a first novel object also avoided subsequent novel object. In the present study we exposed phobic (bag avoiding) and non phobic (bag approaching) monkeys from the study by Roder, Timmermans and Vossen (Behaviour research and therapy 27, 221-



231,1989) to several big and small novel objects. Our results show that irrespective of their rearing conditions subjects that were phobic also avoided big novel objects while subjects that were non phobic approached big novel objects. The reaction to small novel objects was independent of the previous reaction to the bag.

Linda spano (January 2001) the relationship between exercise and anxiety, obsessive compulsiveness, and narcissism. Regular physical activity is considered an important preventative health behavior and contributes many physical and psychological benefits ( ICEFH Consensus Statement 1989). However, when too intense, it can be maladaptive and associated with such psychological characteristics as anxiety obsessive compulsiveness, and narcissism (Davis; Morgan and Yates, 1991). A total of 210 research participants completed; the trait anxiety scale of the state trait anxiety Inventory, the obsessive- compulsive personality scale, the narcissistic personality inventory the commitment to exercise scale and the frequency of physical activity form. Results of the simultaneous linear multiple regression analyses overall supported the hypotheses. Anxiety and obsessive-compulsiveness were related to commitment to exercise. Narcissism was related to physical activity.

### **Methodology :**

Objective of the study:

- 1) To find out the Anxiety reaction among sportsmen and non sportsmen.
- 2) To find out the Dissociative Reaction among sportsmen and non sportsmen.
- 3) To find out the Conversion Reaction among sportsmen and non sportsmen.
- 4) To find out the Phobic Reaction among sportsmen and non sportsmen.
- 5) To find out the Obsessive Compulsive Reaction among sportsmen and non sportsmen.
- 6) To find out the Depressive Reaction among sportsmen and non sportsmen.

### **Hypothesis:-**

- 1) Non sportsmen will be significantly high Anxiety Reaction than the sportsmen.
- 2) There will be significant difference in between sportsmen and non sportsmen Neurosis Dimension of Dissociative Reaction.
- 3) Non sportsmen will be significantly high Conversion Reaction than the sportsmen.
- 4) There will be significant difference in between sportsmen and non sportsmen Neurosis Dimension of Phobic Reaction.
- 5) There will be significant difference in between sportsmen and non sportsmen players neurosis dimension of obsessive compulsive reaction.
- 6) Non sportsmen will be significantly high depressive reaction than the sportsmen.

**Sample :**Initially 600 players have been selected from population but finally 400 players were selected from Maharashtra State. The effective sample consisted of 400 subjects out of whom 200 subjects were successful players and 200 subject were unsuccessful. The age range of subjects was 18-25 years Ratio were 1:1.

**Tools:**Neurosis Measurements Scale (NMS):-This test is developed and standardized by Dr. M.P. Uniyal and Dr Abha Rani Bisht. The test consisted of 70 items and five Alternatives. The reliability coefficient of the test was found 0.90.

**Procedures of data collection :-**Successful players - Those who win Intercollegiate level meets and selected for all india interuniversity tournaments without any hesitation.Unsuccessful players – Participated at intercollegiate level and failed to win the match and adjust level presented poor performance.

Variables) Independent Variable

Group

a) Sportsmen

b) Non sportsmen

Dependent Variable

- 1) Anxiety Reaction
- 2) Dissociative Reaction
- 3) Conversion Reaction
- 4) Phobic Reaction
- 5) Obsessive Compulsive Reaction
- 6) Depressive Reaction

### Result and Discussion:-

Dimension of Mental Health	Sportsmen(N=80)		Non Sportsmen(N=80)		t-ratio	df	p
	Mean	SD	Mean	SD			
Anxiety Reaction	26.89	8.01	34.29	6.23	7.29	198	<.01
Dissociative Reaction	41.56	5.25	35.20	4.89	8.86	198	<.01
Conversion Reaction	29.46	6.33	23.66	5.46	6.94	198	<.01
Phobic Reaction	46.87	5.77	40.55	6.03	7.57	198	<.01
Obsessive Compulsive Disorder	39.69	6.46	33.56	5.11	7.44	198	<.01
Depressive Reaction	35.67	4.76	30.50	5.39	7.19	198	<.01

The results related to the hypothesis have been recorded. Mean of anxiety reaction score of the sportsmen Mean is 26.89 and that of the non sportsmen Mean is 34.29. The difference between the two mean is highly significant ( $t = 7.29$ ,  $df=158$ ,  $P < .01$ ) and each and every dimension of mental health is significant of 0.01 level. It is clear that sportsmen and non sportsmen differ significantly from each other from the mean scores and graph t was found that the non sportsmen have significantly high neurosis dimension that the sportsmen. This result support the Hypothesis.

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## Software Performance Testing for Large Sport Game Ticketing System

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**Abstract :** With the popularity of the internet, ticketing system became the main part of large sport game. Because the a special peak and persistent property of it, the traditional performance testing method is not suitable for ticketing system. So this paper introduces a performance testing method for large sport games ticketing system by analyzing the requirement of this type of ticketing system.

**Keywords:** Large Sport Games Ticketing System; Front-end Performance; Back-end performance etc

### 1. Introduction

With the popularity of the internet, more and more traditional business transferred to the internet. The tickets marketing of large sport games also replaced the traditional ticket sale. October 30, 2007 Beijing Olympic ticketing system was shut down by on-line for one hour, this situation last for 2 months. January 6, 2012 London Olympic Games ticketing system was quickly halted, because the on-line ticketing system failure. At operational phase, two consecutive terms of the world's largest sports games ticketing systems were in the circle that is system failure, repairing, and on-line. The large sport games ticketing system performance became a highlight problem. This paper introduces the performance testing method for large sport games ticketing system by analyzing the requirement of this type ticketing system.

### 2. Key technologies

#### 2.1 Response Time of Web Applications

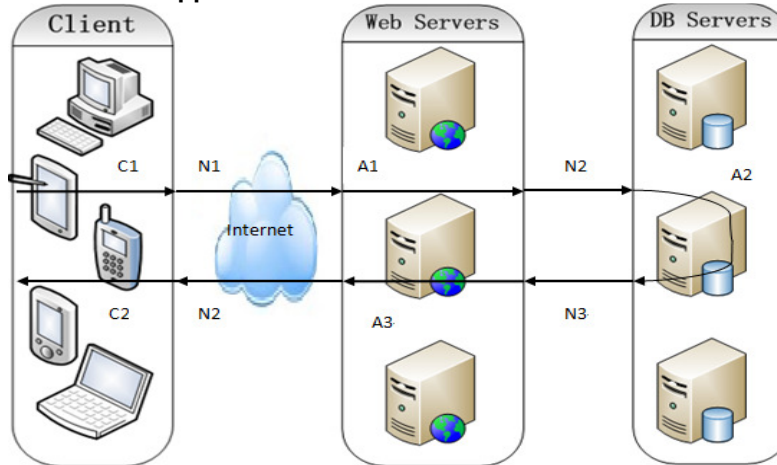


Figure 1 Response logic of Web applications <sup>[1]</sup>

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C1: The preprocessing stage that user sends a request message. C2: The result that response from Servers is fully loaded. A1: The stage processes request message by Web server or Application server. A2: The stage processes request message by Database server. A3: Web server or Application

server processes the response message that return from Database server. N1: The request message sends from client to Web server or Application server. N2: The request message sends from Web server or Application server to Database server when the request message needs some processing with Database server. N3: The response message sends from Database server to Web server or Application server. N4: Web server or Application server sends the response to client.

The response time by user is C1, C2, A1, A2, A3, N1, N2, N3 and N4. The response time by software system is A1, A2, A3, N1, N2, N3 and N4.

## **2.2 Front-end Performance**

Front-end works to send the response by back-end processing to client browser and show on the result. Front-end development techniques have HTML / CSS / JavaScript / DOM / Flash and other Web technologies. [2]Front-end performance is a transaction that is the client sends a request message and shows the result on browser, not includes back-end processes transaction. That is C1, C2, N1 and N2 by figure 1. The important points include the size of response, the degree of fragmentation of data and so on.

Reference [2] points out most persons cannot bear the response time over 15s. When the response time over 4s, peoples short-term memory is interrupted and the continuity of work is broken [3]. 80% response time is consumed by Front-end [4]. And if the back-end performance of the site can enhance 200%, response time by user only can be enhanced 5% to 10%. If the response time can enhance 50% by Front-end optimization, response time by user can be reduced at least 40% to 45% [1].

## **2.3 Back-end Performance**

Back-end is the transactions that web servers or application servers receive a request message from client, processing the request message, and send the response that include the database result to client. That is A1, A2, A3, N2 and N3. The important points include response time, servers' resource, and network throughput and so on.

Back-end Performance includes series indicators, like system performances and so on [5]. The results of performance can evaluate the performance application system, and analysis the performance bottlenecks of the application. There is two metrics for application system. One is resource usage of server. Another is response time [6].

# **3. The methods of Performance Test for Large Sport Game Ticketing System**

## **3.1 The methods of Front-end Performance Test**

For large sport game ticketing system, Front-end performance can reduce user response time. And that can prevent users from refresh the page by mistakenly response error. Refresh page can cause server-side pressure. Following points should be considered in the evaluation process.

CSS files or code at the top

JavaScript files or code at the bottom

Avoid CSS expressions

JavaScript not going to repeat

CSS no redundancy

minify JavaScript

minify CSS

Make JavaScript external and merge JavaScript files

Make CSS external and merge CSS files

add CSS Sprites

add an Expires header

avoid redirects

GZip components

configure ETags

There are two classes. One is files on server that include script files, resource files and Style Sheets files. Optimizer of files on server can deuce the transmission time and the show result time. Another depend HTTP protocol [7]. Following 4 points are Add-ons.

Make AJAX cacheable

Use a CDN

JavaScript confusion

Reduce DNS lookups

All add-ons are complex, height risks, high cost of the technology.

## **3.2 The methods of Back-end Performance Test**

Large sport game ticketing system sales game' tickets in a short time. So this system performance has some particular properties like huge visitors in a short time, large transaction per second during

ticket sale, and the frequent payment transaction. Therefore, the most important role that ticketing system can transact the client request message for huge visitors can directly affect the visitors' booking experience. Following points are worst visitor's experience.

Long time for waiting

No response

Payment error

Ticketing system services for all over the world. Look at problems from the angle of performance testing.

Slow request services or error of response services overtime caused by network congestion

Special refresh technology increase the response time, when user lock ticket, position selection and Payment.

Web/Application servers and Database server are heavy traffic by huge payment transaction and ticketing update.

Payment servers are busy and low processing by huge VISA payments.

Back-end performance test solution is designed by experience of ticketing system performance testing, specification of the SUT (software under testing). The solution majors at load users, size of the SUT, data size of the SUT and so on. The important points like following points.

network load

load balancing of the all date center

The number of orders per hour in peak period

Resource of Agent server, Transaction server and Database server

highly active service ability of SUT

#### 4. Performance Test of Large Sport Game Ticketing System

##### 4.1 Front-end Performance Testing

Front-end performance testing tools include Page Speed and YSlow. Page Speed is designed by Steve Sounder's Page Performance Optimize method that belongs to Google [8]. Google has been used within the Page Speed optimization of the web front-end performance [9]. YSlow is designed by Yahoo. YSlow analyzes web pages and suggests ways to improve their performance based on a set of rules for high performance web pages [10].

Above of two tools all is used for front-end performance testing. And the result input to the following table.

Table 1 the list of Front-end Performance Testing

Class	Content	Result
Optimizer	CSS files or code at the top	Y/N/Null
	JavaScript files or code at the bottom	Y/N/Null
	Avoid CSS expressions	Y/N/Null
	JavaScript not going to repeat	Y/N/Null
	CSS no redundancy	Y/N/Null
	minify JavaScript	Y/N/Null
	minify CSS	Y/N/Null
	Make JavaScript external and merge JavaScript files	Y/N/Null
	Make CSS external and merge CSS files	Y/N/Null
	add CSS Sprites	Y/N/Null
	add an Expires header	Y/N/Null
	avoid redirects	Y/N/Null
	GZip components	Y/N/Null
	configure ETags	Y/N/Null
Add-ons	Make AJAX cacheable	Y/N
	Use a CDN	Y/N
	JavaScript confusion	Y/N
	Reduce DNS lookups	Y/N

Optimizers must satisfy. Add-ons can be not satisfied. Y is satisfaction, N is not. Null is mean that don't include technologies. The evaluation results are divided into six levels of the A, B, C, D, E and U.

Table 2 the Rank of the Front-end Performance Testing

Level	Content
U	A part of optimizers is failure.
E	All optimizers are passing. And no one of add-ons is passing.
D	All optimizers are passing. And one of add-ons is passing.
C	All optimizers are passing. And a half of add-ons are passing.
B	All optimizers are passing. And three of add-ons are passing.
A	All optimizers are passing. And all add-ons are passing.

## 4.2 Back-end Performance Testing

HP Loadrunner is business performance testing tool. It can simulate huge of users transaction. The main transactions of large sport games ticketing system include signup, view, position selection, payment. The important points are response time and ability of servers real-time processing. Back-end performance focuses on servers' CPU, memory, I/O and so on. That is the basis for SUT's optimization.

Ganglia is a scalable distributed monitoring system for high-performance computing systems such as clusters and Grids. It is based on a hierarchical design targeted at federations of clusters. It leverages widely used technologies such as XML for data representation, XDR for compact, portable data transport, and RRDtool for data storage and visualization. It uses carefully engineered data structures and algorithms to achieve very low per-node overheads and high concurrency. The implementation is robust, has been ported to an extensive set of operating systems and processor architectures, and is currently in use on thousands of clusters around the world. It has been used to link clusters across university campuses and around the world and can scale to handle clusters with thousands of nodes [11].

Table 3 Scenario of Back-end Performance Test

Load situation	Transaction	Highlight Points
loading/overloading	Signup	Network load, Response time, Servers resource
loading/overloading	Order	Network load, Number of order per hour, Servers resource
loading/overloading	Payment	Number of payment per hour, Servers resource
loading/overloading	Other core transactions	Network load, Response time, Number of transaction per hour, Servers resource, Ability of long time stable working

Back-end performance test must be checked all following points.

No ineffective core transactionLoad balancing has a good job. One or a part of servers avoid resource overexertionGood loading split between payment system and SUT.All highlight points can satisfy the back-end performance test solution.Core transaction can normally service more than 2 weeks under optimize loading.

## 5. Conclusion

The paper analyses large sport game ticketing system performance characteristics and laws. That is bases on practical experience of the Beijing Olympics ticketing system performance testing and diagnosis. Authors advance large sport game ticketing system performance testing strategies. All strategies were checked by Beijing Olympics ticketing system fault diagnostic project. Those were reasonable and workable. But all strategies should be application and improvement for more ticketing system.

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## **A Comparative Study of Aerobic Endurance among Boxers and Taekwondo Players of Nalgonda District**

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### **Introduction:**

Aerobic Endurance is the amount of oxygen intake during exercise. Aerobic Endurance is the time which you can exercise without producing lactic acid in your muscles. During Aerobic work, the body is working at a level that the demands for oxygen and fuel can be met by the body's intake. Boxing is a combat sport in which two fighters battle each other with their fists. The boxers were heavily padded gloves and fight in a square rope of area called ring. Taekwondo is the techniques of unarmed combat for self defence than involves the skillful application of techniques that include punching, jumping, kicks, blocks, dodges, parrying action with hand and feet. Aerobic Endurance is the amount of oxygen intake during exercise. Aerobic Endurance is the time which you can exercise, without producing lactic acid in your muscles. During aerobic (with oxygen) work, the body is working at a level that the demands for oxygen and fuel can be met by the body's intake. The only waste products formed are carbon-dioxide and water which are removed by sweating and breathing.

Aerobic endurance can be sub-divided as follows:

Short aerobic – 2 minutes to 8 minutes (lactic/aerobic)

Medium aerobic – 8 minutes to 30 minutes (mainly aerobic)

Long aerobic – 30 minutes + (aerobic)

Boxing is a combat sport in which two fighters battle each other with their fists. The boxers were heavily padded gloves and fight in a square rope of area called a ring. A good bout between two well matched fighters is a fast violent display of strength and skills. The Boxers through powerful punches as such tries to win the bout on points. Good Boxer must be strong, quick, skillful and in excellent physical condition. They also should have the courage and determination to fight in spite of pain and exhaustion. In all amateur tournaments there shall be 3 rounds of 3 minutes each, a full one minute rest period shall be given between the Rounds.

Taekwondo is an empty hand combat form that entails the use of the whole body. TEA means the kick or smash with the feet. KWON implies punching, destroying with the hand or fist and DO means WAY OR METHOD, Taekwondo this is the techniques of unarmed combat for self defence that involves the skillful application of techniques that include punching, jumping kicks, blocks, dodges, parrying actions with hand and feet. It is more than a mere physical fighting skill resending as it does a way thinking and a pattern of life requiring strict discipline. It is a system of training both the mind and the body in which great emphasis is placed on the development of the trainees moral character. Taekwondo is a martial art that is today form of self defense has evolved by combining many different styles of martial arts that existed in Korea over the last 2000 years and some martial arts styles from countries that surround Korea. Taekwondo incorporates the abrupt linear movements of Karate and the flowing circular patterns of recognized by the Korean Government as an International regulating body for taekwondo. The World Taekwondo Federation has since made a major effort to standardize tournament rules and organize World Class Competitions.

**Purpose(s) :**

The Purpose of the the present study to find out the Aerobic endurance among Boxers and Taekwondo of the Nalgonda District in India.

**Method(s):**

The sample for the present study is Twenty Male Boxers and Twenty Male Taekwondo Players between the age group of nineteen to twenty one years of Nalgonda District.. The Twelve Minute Cooper Test were used to measure the Aerobic Endurance of Boxers and Taekwondo Players.

**Result(s):**

This study shows that Boxers are having good Aerobic Endurance Compare to Taekwondo Players and the Boxers has covered the more distance in twelve minute.

Table-I

Cooper Test				
Group	Mean	Std. Deviation	Std. Error Mean	N
Boxers	3085.500	140.180	25.595	20.000
Taekwondo	2644.833	190.719	34.822	20.000

	Independent Samples Test		
	t	df	Sig. (2-tailed)
Cooper Test	2.06	38.000	0.000

Table I showing the Cooper Test results of Boxers and Taekwondo Players. The Boxers has covered the distance of 3085.500 Meters and Taekwondo Players has covered the distance of 2644.833 Meters in 12 Minutes Run. There is a significant difference between Boxers and Taekwondo Players in Aerobic Endurance.

**Conclusions(s):**

It is concluded that Boxers are having good Aerobic Endurance compare to taekwondo Players. It may be due to the regular training of Boxing and requirement of Endurance is high compare to the Taekwondo.

**Recommendations:**It is recommended that similar studies can be conducted on females and also in other sports and games among males and females.

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## **The Physical Activity And Healthy Life Style In Preventing Diseases For Modern Lifestyle – A Study**

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### **Introduction:**

Physical activity, fitness, and exercise are critically important for the health and well being of people of all ages. Research has demonstrated that virtually all individuals can benefit from regular physical activity, whether they participate in vigorous exercise or some type of moderate health-enhancing physical activity. Even among frail and very old adults, mobility and functioning can be improved through physical activity. Therefore, physical fitness should be a priority for people of all ages in modern life. Physical activity has been shown to reduce the morbidity and mortality from many chronic diseases. Millions suffer from chronic illnesses that can be prevented or improved through regular physical activity:

The physiological and psychological rewards of being physically active are well established. The important benefits of exercise are extensive for health and modern life scenario.

- Enhancing function
- Maintaining reserve capacities
- Preventing disease
- Ameliorating the effects of age and chronic disease

### **Significance of the study**

The purpose of the study is to promote a sense of health and fitness, personal responsibility in being fit, and an appreciation of individual and group achievement. It provides them the opportunity to participate in activities that may be of ongoing interest to them throughout their health life.

### **Physical activity in health and risk of disease**

Physical inactivity is recognized as a significant common and preventable risk factor for non communicable diseases, which account for almost 60% of global deaths and 43% of global burden of chronic disease. Maintaining regular physical activity helps avoid positive energy balance and obesity. Physical activity reduces the risk of developing heart disease, type II diabetes, osteoporosis, colon cancer, and may also play a protective role against breast cancer. Physical activity also plays a role in a person's well being by reducing stress, anxiety and feelings of depression in the individuals.

### **Cardiovascular diseases**

Heart disease accounts for a third of all global deaths. Physical inactivity is linked to an increased risk of coronary heart disease, but only a minority of adults takes sufficient exercise to benefit health. The mechanism by which physical activity might help protect against coronary heart disease may involve effects on coagulation and thrombosis as well as an influence on lipoprotein metabolism. Individuals who frequently exercise often have a lower concentration of plasma fibrinogen. Physical activity may also produce a reduction in plasma triglycerides and an increase in HDL cholesterol (good cholesterol), and therefore a reduction in risk from developing coronary heart disease.

Habitual physical activity also reduces the risk of arterial hypertension, particularly among those who are overweight, and therefore can be a useful adjunct with pharmacological treatment. Increased levels of aerobic exercise can also produce a reduction in both systolic and diastolic blood pressure.

### **Conclusion:**

Hence, the recommendation of the study that everyone should accumulate 30 minutes or more of physical activity over the course of most days of the week is fully justified. However despite the health benefits of physical activity and the fact that it is potentially accessible to all, it is estimated that over 60% of the world population is not active enough. Scientists and doctors have known for years that substantial benefits can be gained from regular physical activity. The expanding and strengthening evidence on the relationship between physical activity and health necessitates the focus of the study brings to this important public health challenge. Although the science of physical activity is a complex and still-developing field, we have today strong evidence to indicate that regular physical activity will provide clear and substantial health gains. We must get serious about improving the health of the nation by affirming our commitment to healthy physical activity on all levels: personal, family, community, organizational, and national. Because physical activity is so directly related to preventing disease and premature death and to maintaining a high quality of life, we must accord it the same level of attention that we give other important public health practices that affect the entire nation. Physical activity thus joins the front ranks of essential health objectives, such as sound nutrition, and the prevention of adverse health effects of tobacco. The effort to understand how to promote more active lifestyles is of great importance to the health of this nation. Although the study of physical activity determinants and interventions is at an early stage, effective programs to increase physical activity have been carried out in a variety of settings, such as schools, physicians' offices, and worksites. Determining the most effective and cost-effective intervention approaches is a challenge for the future. Finally, physical activity is only one of many everyday behaviors that affect health. In particular, nutritional habits are linked to some of the same aspects of health as physical activity, and the two may be related lifestyle characteristics. This study deals solely with physical activity to prevent disease and enhance the healthy life style in promoting the modern life

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## Obesity : A Great Psycho Physical Problem

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**Introduction:** OBESITY is a major public health problem all over the world, affecting more than 30 percent of the global population. It is a contributor to a host of diseases and disorders including heart diseases - the worlds leading killer. Obesity was defined through the Body Mass Index (BMI), an internationally recognised clinical measurement of weight. Essentially people are classified as obese if they exceed the healthy weight by atleast 30 percent. The major contraindications are heart diseases, pulmonary lung complications and kidney disorders.

**Extensive research by the Washington based National Institute of Health has hoisted the red signal :** One out of every FIVE Americans is OBESE and one third of the population is over-weight. It also warns that the prevalence of overweightedness whcih is steadily increasing may spread. At the instance of the Government, the health agency has come out with a number of publications that focs on obesity and how to tackle it. NIH has set up a weight control information and database system to keep the public informed of the growing rate of obesity and obesity related disorders. Apart from HEART DISEASES AND HIGH BLOOD PRESSURE, a number of health^ problems like Gall bladder and gallstone osteoarthritis, gout, breathing difficulty, and sleep aonea in which a person stops breathing for a short time during sleep etc. will occur. Some form of cancer will be another problem.

### **Discussion:**

There are three major reasons for obesity :

1. Sedentary life style and Excess intake of food \*
2. Lack of Exercise, and physical labour
3. . Hereditary and Genetic factors.

If one eats more than he needs for the energy for the daily is requirements, his body stores the surplus as fat. If the fat is excessive one becomes obese. An American study reveals tha women tends to be more obese than men. While every one mar among five is obese one in every three women is overweight. / common test for both is that if the weight is 30% more than thei prescribed weight, they can be branded as obese and must taki care of the problem with out further delay Every one must check thi approved height - weight chart.

In 1992 the World Health Organisation (WHO) boldly and intellectually came out with an honest statement that people, irrespective of the rich and poor countries, are not getting healthier. If the average life of the human being has increased, it is due to better food, shelter and sanitation and not because of better medicine. A recent WHO study reveals that people are reporting frequent and long lasting episodes of serious diseases today, than they did perhaps half a century ago.

Along with physical activity to burn extra calories, there should be a conscious movement to eat smart. Here every one shall be well aware of the fact that unless they settle down for a smarter lifestyle, they run the risk of hypertension, diabetics, heart disease, spinal problems, postural deformities sexual problems, stroke and possibly to an extend premature death.

A healthy life without frequent visits to doctor and free from toxic drugs perhaps one that very one of us hopes and aims for, Prevention of diseases through a healthy life style along wth regular exercise and smart eating habits and thereby increasing autoimmunity is the only way to achieve this aspiration.

## **Effects Of Aerobic Exercise On Selected Physiological Parameters In Patients With Type-2 Diabetes Mellitus**

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### **ABSTRACT**

The aim of this study was to evaluate the effects of aerobic exercise program on physiological parameters in patients with type-2 diabetes mellitus. Patients attending a diabetes clinic participated in this randomized control trial. Thirty patients with type-2 diabetes and their age ranged from 40 to 45 years participated in this study. They were randomly assigned to an intervention or control group by ballot. Both groups were similar for duration since onset, baseline physiological parameters. The intervention group, in addition to regular conventional treatment, received individually prescribed aerobic exercise for 30 minutes, at 50%–75% of maximum heart rate three times weekly. Main outcome measures included high-density lipoprotein and low-density lipoprotein. Analysis of Covariance (ANCOVA) was used to analyze the collected data with the help of SPSS package. It was concluded that due to the effect of aerobic exercise the high density lipoprotein and low density lipoprotein level of type-2 diabetic patients have altered significantly.

Keywords: Type 2 diabetes mellitus, Aerobic exercise, Physiological parameters

**INTRODUCTION:**Type-2 diabetes mellitus is closely associated with both acquired and genetic risk factors. Sedentary lifestyle is an example of an acquired factor that is an independent predictor of poor quality of life, and should be considered as a modifiable risk factor in the general population. Although there has been consensus among most researchers about the favorable effects of physical activity with regard to type-2 diabetes, studies documenting beneficial physiological adaptations in patients suffering from this disorder are not readily available. Therefore, a pragmatic method for exercise prescription needs to be established and utilized to curb this emerging menace in regional and geographical contexts. The incidence of type-2 diabetes in developing countries is rising owing to a proportionate increase in many risk factors such as dietary change, increasing prevalence of obesity, and a decrease in physical activity. The potential efficacy of physical activity in the form of aerobic exercise is premised on modification of both insulin resistance and insulin secretion as two of the fundamental defects implicated in the pathogenesis of type 2 diabetes. Physical activity may slow the initiation and progression of type 2 diabetes and its cardiovascular sequelae by having favorable effects on body weight, insulin sensitivity, glycemic control, blood pressure, lipid profile, fibrinolysis, endothelial function, and inflammatory defense systems. A series of interventional studies has consistently supported engagement in physical activity as a way of improving glycemic control in individuals with type 2 diabetes. A meta-analysis of controlled clinical studies of the effects of exercise on glycemic control and weight in type 2 diabetes patients reported a significant reduction of 0.66% in glycosylated hemoglobin (HbA<sub>1c</sub>) after ≥8 weeks of aerobic exercise. Similarly, a review of prospective studies published between 1990 and 2000 concluded that reduction in the risk of type 2 diabetes associated with a physically active lifestyle is 30%–50% when compared with a sedentary life style. The inconsistent findings surrounding this topic prompted us to undertake this research.

### **METHODOLOGY**

This study was to design to determine the effect of an 8-week prescribed aerobic exercise program on physiological parameters in patients with type-2 diabetes were attending the Raja Muthaiyah Medical College Hospital, Annamalai University in Chidambaram were randomly selected as subjects in the age group of 40 to 45 years. They were divided into two equal groups and each group consisted of 15 subjects. Group I underwent aerobic training for three days per week for eight

weeks and Group II acted as control group who did not participate any special training apart from the regular curricular activities. The subjects were tested on High-Density Lipoprotein and Low-Density Lipoprotein at prior to immediately after the training period. The analysis of covariance (ANCOVA) was used to find out the significant difference if any, between groups on selected criterion variable separately. In all the cases, 0.05 level of confidence was fixed to test the significance which was considered as an appropriate. A venous blood sample was taken after 14 hours of fasting, with no alcohol intake for the preceding 3 days. The sample was analyzed for high-density lipoprotein and low-density lipoprotein at baseline for both groups. Participants in the experimental group, in addition, were required to undergo physical examination using a maximal graded exercise tolerance test with electrocardiography at the Raja Muthaiyah Medical College Hospital Unit. They were also screened for cardio vascular diseases according to blood pressure scores prior to exercise.

### Training Regimen

Thirty participants underwent a supervised aerobic training program lasting for 8 weeks, three times per week, with a 30-minute structured exercise session. Each session consisted of a warm-up, an aerobic phase, and cool down. Aerobic exercise intensity was individually prescribed using a bicycle ergometer but within 50%–75% of the maximal heart rate range for participants. The bicycle ergometry exercise started with the participants sitting on the bicycle with initial resistance of 10–20 watts (warm-up phase) that was gradually increased by 5–10 watts after 3 minutes (aerobic phase). The resistance was gradually reduced 5 minutes before the end of the session (cool down phase). The exercise program was conducted at the outpatient unit of the Rajamuthaya Medical College Hospital, while they also continued their conventional care at the National Diabetes Management and Research Centre. The control groups continued with their conventional treatment at Raja Muthaiyah Medical College Hospital, and were put on a waiting list for an aerobic exercise protocol similar to that used in the intervention group until the study was completed. Venous blood analysis and quality of life assessment were repeated after 8-weeks in both study groups.

analysis of the data

Fifteen participants in each group whose data were consistent in terms of follow-up assessment were eventually used for analysis. Data were analyzed using SPSS version 16.0. Descriptive statistics of means and standard deviations were used to present changes in high-density lipoprotein and low-density lipoprotein. The analysis of covariance was used to compare between-group differences for both variables before and after exercise.  $P < 0.05$  was considered to be a statistically significant difference.

The analysis of covariance on High-Density Lipoprotein and Low-Density Lipoprotein of experimental group and control group were statistically examined and presented in table-I & II.

Table - I

Analysis of Covariance on High-Density Lipoprotein of Experimental Group and Control Group

Test	Experimental Group	Control Group	SOV	Sum of Squares	df	Mean squares	'F' ratio
Pretest Mean	1.34	1.34	B	5.33	1	5.33	0.01
SD	0.06	0.07	W	0.12	28	0.004	
Posttest Mean	1.44	1.34	B	0.07	1	0.07	15.40*
SD	0.07	0.06	W	0.14	28	0.005	
Adjusted Posttest Mean	1.44	1.34	B	0.07	1	0.07	109.12*
			W	0.02	27	0.001	

The required table value for significance at 0.05 level of confidence for df 1 and 28 is 4.20 & df 1 and 27 is 4.21.

\*Significant at 0.05 level.

The adjusted post-test mean values of High-Density Lipoprotein for experimental group and control group were 1.44, 1.34 respectively. The obtained 'F' ratio value of 109.12 for adjusted post-test scores of experimental group and control group on High-Density Lipoprotein was higher than the required table value of 4.21 for significance with df 1 and 27 at 0.05 level of confidence. The result of this study shows that the high density lipoprotein level of type 2 diabetic patients have significantly improved due to eight weeks of aerobic exercise.

Table - II  
Analysis of Covariance on Low-Density Lipoprotein of Experimental Group and Control Group

Test	Experimental Group	Control Group	SOV	Sum of Squares	df	Mean squares	'F' ratio
Pretest Mean	2.84	2.83	B	0.00	1	0.00	0.002
SD	0.41	0.55	W	6.59	28	0.24	
Posttest Mean	2.77	2.83	B	0.03	1	0.03	0.12*
SD	0.42	0.55	W	6.64	28	0.24	
Adjusted Post test Mean	2.77	2.83	B	0.04	1	0.04	32.30*
			W	00.03	27	0.001	

The required table value for significance at 0.05 level of confidence for df 1 and 28 is 4.20 & df 1 and 27 is 4.21.\*Significant at 0.05 level.

The adjusted post-test mean values of Low-Density Lipoprotein for experimental group and control group were 2.77, 2.83 respectively. The obtained 'F' ratio value of 32.30 for adjusted post-test scores of experimental group and control group on Low-Density Lipoprotein was higher than the required table value of 4.21 for significance with df 1 and 27 at 0.05 level of confidence. The result of this study shows that the low density lipoprotein levels of type 2 diabetic patients have significantly decreased due to eight weeks of aerobic exercise.

**DISCUSSION AND CONCLUSION:** Use of physical activity in the form of aerobic exercise is widespread, with a general consensus about its beneficial effects in patients with type-2 diabetes. The aim of this study was to investigate the effects of an 8-week aerobic exercise program on high-density lipoprotein and low-density lipoprotein, in patients with type-2 diabetes. Clinical evaluation of the participants who engaged in the 8-week program showed some beneficial effects when combined with conventional routine care on metabolic parameters, in the participants. Comparison of the baseline and week 8 mean scores for the physiological variables in each group showed improvement over baseline, but the differences were not statistically significant. This implies that patients with type-2 diabetes are more likely to benefit from an 8-week aerobic exercise program in addition to their conventional care. This finding follows the same trend as that of a recent meta-analysis of studies that utilized 2–12 months of exercise in subjects with type-2 diabetes and found no significant changes in high-density lipoprotein or low-density lipoprotein. A recent 9-month study in young healthy adults showed only an insignificant trend toward low-density lipoprotein reduction. Between-group comparison did not yield any significant differences in any of the parameters following the 8-week exercise program. High-density lipoprotein and low-density lipoprotein, in patients with type-2 diabetes who engaged in structured physical activities compared with controls, thereby lending credence to the general belief that aerobic exercise is beneficial in the management of patients with type-2 diabetes. The interplay of these factors might have influenced the outcomes of the previous and present studies. There is a need to replicate research in this environment, perhaps for a longer duration in order to confirm the present findings. In conclusion, although 8-week aerobic exercise program in addition to conventional cares of patients with type-2 diabetes mellitus did not produce any significant improvement on HDL, and LDL over those receiving conventional cares only, its inclusion may be beneficial on longer duration.

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## **Effect Of Corrective Mental Imagery And Error Perception On Learning Closed Motor Skills**

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### **Introduction -**

Learning and perfection of motor skill has been of great concern for the coaches and physical educators throughout the world. With the advancement of science and technology new methods and strategies have been evolved to enhance the performance of the sportsmen. Sports psychology over the years has contributed tremendously towards redefining the limits of physical performance of an individual. There had been a series of studies, which investigated into the effects of mental practice on physical performance. The present study, apart from the conventional use of imagery in learning and performance, looks into the use of imagery as an implementation for the correction of motor skills. Corrective mental imagery is defined as "an introspective visual analysis of a skill, already performed by a learner for the identification of specific errors and for their correction so that next repetition is done without these mistakes". Closed motor skills are defined as "skills that take place under fixed, unchanging, environmental conditions".

### **Methods**

Subjects for this study were 30 intercollegiate sportsmen, 15 Handballers and 15 Softballers. Both Softballers and Handballers were randomly divided into 3 groups of 5 each. 1st group served as control group doing only physical practice. The second group served as 1st experimental group and the 3rd group served as 2nd experimental group. The control groups of both Handballers and Softballers underwent only physical practice, i.e., Throwing and pitching for accuracy, respectively. The 1st experimental group underwent usual imagery training, as well as, physical practice. The third group served as 2nd- experimental group, underwent training on physical practice, usual stimulative imagery and corrective imagery. Pre, tests were conducted before the commencement of the training programme. Handballers were tested for throwing accuracy and Softballers were tested for pitching accuracy. For measuring the throwing accuracy, the goal post was divided into 3 zones. The central zone was of 4 yards and the two extreme zones were of 2 yards each. Throws were taken from the penalty Line. Not any single point was suggested for taking the Throw. Throw passing through the extreme zones scored 10 points whereas, any throw passing through the middle zone scored only 2 points. The sum of scores from 10 trials formed the individual score. Pitching accuracy was measured on the basis of a spot with 1 hand in length and 6 inches in width marked on the area corresponding to the block hole of, a batter, block hole was marked after observing the batter stance pattern of 15 batter men against pace pitching handball were allowed to do only pace throwing. Every ball throwing the post after pitching on, the .marked spot gained 10 points and every ball that did not hit the post after throwing on this spot was given only 2 points. 10 trials were given and the total of 10 trials was the individual score.

The training programmes included pitching and throwing training, stimulative imagery training and corrective imagery training. The stimulative imagery training consisted of three stages:

1. Relaxation training. 2. Introductory imagery training 3. Task specific imagery training

The corrective imagery training programme consisted of 5 stages:

1. Relaxation training 2. Introductory imagery training 3. Error specific imagery training  
4. Correction specific imagery training 5. Task specific imagery training.

The subjects practiced imagery programmes in the position of 'padmasana'. 'Tranayama' (the breathing exercises) was used for relaxation training. The training programmes were for three days in a week for a period of 10 weeks. Physical practice was always preceded by imagery training. During physical practice, both the groups used sensory error perception and augmented error perception, for identifying the errors. Later, post tests were conducted for the comparison of scores.

Two way analysis of variance was used for the statistical analysis of the data.

## Results

The following table shows the result of the statistical analysis of the data :

**TABLE-A**

Two way analysis of variance done on the post test scores of three different groups of cricketers and footballers on bowling and kicking accuracy

Source of Variance	df	ss	mss	cal f	tab f
Skill	r-1=1	2218.8	2218	857.59*	f.05 (1,24)=4.26
Group	c-1=2	521.6	260.8	6.77*	f.05 (2,24)=3.40
Interaction	(r-1)(c-1) 60.8	30.4	.79		f.05 (2, 24)=3.40
	1x2=2				
Error	N-rc	924.8	38.53	30-6=24	
Total n-1=29	3726				

\*significant at .05 level of significance.

Since, computed f-values of row and column are greater than the tabulated f-values, it is assumed that the combination training programme of corrective mental imagery, stimulative mental imagery, and physical practice have brought in a significant improvement in the skill level of the groups which underwent combination training. Hence, the Sheffe's post test was done, in order to find out whether the significant difference lie among the post test means of two experimental groups and the control group and between the skills.

**TABLE-B**

Ordered weight means and difference between means for skill and treatment groups  
Means

Part-A Treatment Groups				
EX1	EX2	CON	MD	CI FOR K
41.8	48.6		6.8	
41.8		38.6	3.2	7.26
	48.6	38.6	10.0*	
Part B – Skill Group				
Bow	Kick	MD		CI for r
51.6	34.4	17.2*		4.68

significant at .05 level

Table B, relating to the post hoc test for significance indicates significant difference between the control group (the group which did only physical practice) and the experimental group2 (the group which underwent a combination training of physical practice, stimulative imagery training and corrective imagery training. The results showed that the combination training of physical practice, stimulative imagery, and corrective imagery is, a better training means for the improvement of pitching,1 accuracy and throwing accuracy. Corrective imagery, visually analyses a skill already performed and corrects the mistakes, which have been identified through the feedback. Since the second experiment group has done significantly better performance than the control group, it must be said that the combination training of corrective imagery, stimulative imagery and physical practice is a better training means for improving the throwing and pitching accuracy. Since feedback and correction are the most important aspects of corrective imagery, it must be the correction based on feedback, which caused improved accuracy of Hand ball and soft ball. Hence, it is assumed that corrective mental imagery can be better training option for improving the performance of a closed motor skill.

### Suggestion

It is further suggested that a cyclic approach based on performance> feedback> performance is a better method to learn a closed motor skill. More studies need to be done to find the best kind of feedback for perceiving the error for sportsmen of a particular standard.

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## **A Comparative Study Of Speed Among High Jumpers And Triple Jumpers Of Osmania University**

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**Abstract:** The aim of the present study to compare the speed among High Jumpers and Triple Jumpers of Osmania University, Hyderabad. 20 Male High Jumpers and 20 Male Triple Jumpers those who have participated in the O.U.Inter College Athletics Championships for the year 2011-12 were taken for the study. The 50 Meters Run Test is used to measure the speed among Long Jumpers and Triple Jumpers. The study is limited to the Male Long Jumpers and Male Triple Jumpers of the Osmania University. This study shows that the Triple Jumpers are having good speed compare to High Jumpers. This study shows that the speed is good in triple jumpers because their approach run is 30 to 40 Meters compare to High Jumpers approach Run is 15 to 20 Meters. Speed Training is essential for High Jumpers and Triple Jumpers.

**Key Words:** Speed, High Jump, Triple Jump, Speed training etc.

**Introduction:** Speed like strength and endurance is a conditional ability. Speed abilities are trainable to a very limited extent due to its marked dependence on the functioning of the central nervous system. important to be specific so that the athlete and coach understand which specific aspects of sports performance they are training. The definition of speed from a scientific standpoint is simply distance / time, but this is a rather simplistic view of speed. A more accurate definition of speed is this: speed is the ability of an athlete to move as fast as possible, through the optimal range of motion, in a deliberate and intentional manner, in a particular direction. Speed is not just measured on how fast a person is either; there are several components of measurement that give a complete picture of an athlete's speed

The high jump is a track and field athletics event in which competitors must jump over a horizontal bar placed at measured heights without the aid of certain devices in its modern most practiced format; auxiliary weights and mounds have been used for assistance; rules have changed over the years. It has been contested since the Olympic Games of ancient Greece. Over the centuries since, competitors have introduced increasingly more effective techniques to arrive at the current form. Javier Sotomayor (Cuba) is the current men's record holder with a jump of 2.45 metres set in 1993, the longest standing record in the history of the men's high jump. Stefka Kostadinova (Bulgaria) has held the women's world record at 2.09 metres since 1987, also the longest-held record in the event. The High Jump is divided into the following phases.

1.Approach Run 2. Takeoff 3. Flight 4. Landing

Styles in High Jump  
Fosbury Technique in High Jump



### Straddle Technique in High Jump



### Triple Jump



The triple jump sometimes referred to as the Hop, Step and Jump is a track and field sport, similar to the long jump, but involving a “hop, bound and jump” routine, whereby the competitor runs down the track and performs a hop, a bound and then a jump into the sand pit.

The triple jump has its origins in the Ancient Olympics and has been a Modern Olympics event since the Games’ inception in 1896.

The triple jump is divided into the following phases:

1. Approach 2. Hop 3. Step 4. Jump.

#### METHODOLOGY:

**AIM:** To find out the Speed between Male High Jumpers and Male Triple Jumpers .

**SAMPLE:** The sample for present study consists of 20 Male High Jumpers and 20 Male Triple Jumpers between the age group of 19 to 22 years of Osmania University who has taken part in the O.U. Inter College Athletics Championships during the year 2011-12.

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

**Limitations:** The study is limited to students of the Osmania University and 50 Meters Run is chosen for the study to find out the speed among High Jumpers and Triple Jumpers.

**PROCEDURE OF DATA COLLECTION:** The High Jumpers and Triple Jumpers are made to run 50 Meters in each batch of two members. The timing is taken by the qualified technical official in Athletics at Osmania University Grounds, Hyderabad.

### RESULTS AND DISCUSSION:

Table – I is showing the speed among the High Jumpers and Triple Jumpers.

50 Meters Run	N	Mean	SD	SE	t	table value	df	P-Value
High Jumpers	30	6.893	0.658	0.120	14.994	2.045	58	0.0000
Triple Jumpers	30	6.677	0.637	0.116				

The average speed of Triple Jumpers is 6.677 in 50 M Run compare High Jumpers speed is 6.893, there is a difference of 0.21 between triple jumpers and High Jumpers it is due to the Triple Jump Run way is 40 Meters compare to the High Jump Run way is 15 to 20 Meters.

#### Conclusions:

It is concluded that Triple Jumpers are having good speed compare to the High Jumpers. Speed Training must be given to all High Jumpers and Triple Jumpers to enhance the performance because the jumping ability is mostly depend upon speed. Speed training must be given to High Jumpers and Triple Jumpers.

#### Recommendations:

The similar studies can be conducted on different sports and games.

#### References:

Science of Sports Training, Hardy Singh, Wikipedia, High Jump and Triple Jump

## **A Comparative study of Speed among Hockey and Kho Kho Players of Nalgonda District**

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### **Abstract**

Speed is the ability to do motor actions under given conditions in minimum of time. Speed performances appear in different forms in various sports and games. The game of football is any of several similar team sports of similar origins which involve advancing a ball into a goal area in an attempt to score. Many of these involve kicking a ball with the foot to score a goal, though not all codes of football using kicking as a primary means of advancing the ball for scoring. Hockey like games involving sticks and balls have been played for thousands of years. The Purpose of the present study to find out the level of Speed among Male Hockey and Male Kho Kho Players of Nalgonda District. The sample for the present study is Male Twenty Hockey and Male Twenty Kho Kho Players of Nalgonda District. The subjects of the study between the age group of 19 Years to 22 Years. The data will be collected separately from Hockey and Kho Kho Players. The Subjects will be tested in 30 metres for speed. This study shows that Hockey Players are having the good speed than Kho Kho Players. It is concluded that Male Hockey Players are having good speed compare to Male Kho Kho Players .

**Key Words:** Speed, Hockey, Kho Kho etc

### **Introduction:**

Speed is a key component of Physical fitness which is very important for Kho Kho and Hockey 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.

Hockey like games involving sticks and balls have been played for thousands of years. Historical records show that a crude form of hockey was played in Egypt 4000 Years ago and in Ethiopia around 1000 B.C. Various museums offer evidence that a form of the game was played by Romans, Greeks and by the Aztec Indians of South America. Several centuries before Columbus landed in the New world. Over the last 500 Years, Soft Hockey has been played in Ancient countries under different names, especially in India and has been one of the most popular sports in the villages where there is no proper infrastructure to cope with field Hockey. This sport is very popular in rural areas and also with Urban schools Children. Earlier, Villagers used to make the Hockey Sticks with Bamboo. Soft Balls were also made of bamboo and homemade rubber and the reason it was so popular was that the game required few player, either men or women or both, with minimum equipment and a small ground. The chances of injury were less in comparison to other games

. 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. Kho Kho is one of the most popular tradition sports in India. The game is greatest test of participants physical fitness, strength, speed and stamina. In Kho Kho the participants simply need to chase and touch there opponents to win the game. Kho Kho is quite a simple game where the player do dodging, feinting and burst to controlled speed to make this game quite interesting

**STATEMENT OF PROBLEM:**

To find out the speed among Hockey and Kho Kho Players of Nalgonda District.

**SAMPLE:**

For the present study 20 Male Hockey and 20 Male Kho Kho Players are taken for the study of Nalgonda District those who have participated in the different level of sports tournaments for the year 2011-12 between the age group of 19 to 22 Years.

**TOOL:**

To measure the speed 30 Meters Run are used for the study.

**Delimitations:**

The study is delimited to 20 Male Hockey Players and 20 Male Kho Kho Players of Nalgonda District in Andhra Pradesh.

**Procedure of Data Collection:****30 Meters Run:**

**purpose:** The aim of this test is to determine speed.

**equipment required:** measuring tape, or marked track, stop watch, cone markers etc. flat and clear surface of at least 50 meters.

**procedure:** The test involves running a single maximum sprint over 30 meters, with the time recorded. A thorough warm up should be given, including some practice starts and accelerations. Start from a stationary position, with one foot in front of the other. The front foot must be on or behind the starting line. This starting position should be held for 2 seconds prior to starting, and no rocking movements are allowed. The tester should provide hints for maximizing speed (such as keeping low, driving hard with the arms and legs) and encouraged to continue running hard through the finish line. The Hockey Players and Kho Kho Players are made to run of 2 Members for 30 Meters in each batch at N.G. College Grounds and timing is recorded by the qualified Officials.

**Results and Discussion:**

Table - I

Test	GROUP	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
30 M	Hockey Players	20	4.41	0.25	0.08	-1.81	38.00	0.09
30 M	Kho Kho Players	20	4.69	0.47	0.15			

Table I shows the average speed of Hockey Players is 4.41 compare to Kho Kho Players 4.69 there is a difference of 0.28 sec between Hockey Players and Kho Kho Players in Speed.

**Conclusions:** It is concluded that Hockey Players are having good speed compare to Kho Kho Players.

**Recommendations:** It is recommended that Hockey Players and Kho Kho Players must be given good training for speed and endurance for improvement of performance. Similar Studies can be conducted on females and also other sports and games.

**References:**

Science of Sports Training, Dr. Hardy Singh.  
Top end sports.

## A Comparative Study Of Aerobic Endurance Among Net Ball Players And Korf Ball Players Of Osmania University

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**Abstract:** The aim of the present study was to study the difference in aerobic endurance among NET BALL and Korf Ball Players. The 40 Male Subjects between the age group of eighteen to twenty one year i.e. Twenty Net Ball Players and twenty Korf Ball Players of Osmania University who have taken part in the O.U. Inter College sports and games during the year 2011-12 were taken for the study. The 12 Run Cooper Test were used to evaluate the aerobic endurance among Net ball and Korf Ball Players. The Study shows that the Korf Ball Players are having very good aerobic endurance compare to the Net Ball Players. It is recommended that Net Ball and Korf Ball players must be given good endurance training to play the game in efficient manner.

**Key words:** Aerobic Endurance, Net Ball, Korf Ball etc.

### INTRODUCTION:

Aerobic Endurance is the amount of oxygen intake during exercise. Aerobic Endurance is the time which you can exercise, without producing lactic acid in your muscles. During aerobic (with oxygen) work, the body is working at a level that the demands for oxygen and fuel can be met by the body's intake. The only waste products formed are carbon-dioxide and water which are removed by sweating and breathing. Aerobic exercise is physical exercise of relatively low intensity and long duration, which depends primarily on the aerobic energy system. Aerobic means "with oxygen", and refers to the use of oxygen in the body's metabolic or energy – generating process. Many types of exercise are aerobic, and by definition are performed at moderate levels of intensity for extended periods of time. Aerobic exercise comprises innumerable forms. In general, it is performed at a moderate level of intensity over a relatively long period of time. For example, running a long distance at a moderate pace is an aerobic exercise, but sprinting is not. Playing singles tennis, with near continuous motion, is generally considered aerobic activity, while golf or two person team tennis, with brief bursts of activity punctuated by more frequent breaks, may not be predominantly aerobic. Some sports are thus inherently "aerobic", while other aerobic exercises, such as fartlek training or aerobic dance classes, are designed specifically to improve aerobic capacity and fitness.

**Korf Ball:** Korfball (Dutch *Korfball*) is a mixed gender team sport, with similarities to netball and basketball. A team consists of eight players; four female and four male. A team also includes a coach. It was founded in the Netherlands in 1902 by Nico Broekhuysen. In the Netherlands there are around 580 clubs, and over 100,000 people playing korfball. The sport is also very popular in Belgium and Taiwan and is played in 54 other countries. The game consists of Two Half of 30 minutes each, with an interval of 5 minutes between the first and second half. After every two Goals the team has to change the courts.

**Net Ball:** Netball is one of many sports that developed its unique form and structure from another, transplanted sport—in this case, from the United States to Great Britain—and then, as a result of that move, evolving into a significantly different sport. Netball was introduced to England in 1895 as the indoor game of basketball, which it greatly resembles, although a staccato game and a sport of stop, start, catch, and shoot compared to the all-action fluidity of basketball. Netball is an international sport, played by two teams of seven players and based on throwing and catching. Traditionally it is played by women but mixed and men's netball is becoming increasingly popular. The game consists of four quarters of 15 minutes each, with an interval of 3 minutes between the first/second and third/fourth quarters and an interval of 5 minutes at half time. Teams change end each quarter.

**AIM:**

To find out the Aerobic Endurance between Male Net Ball and Male Korf Ball Players.

**SAMPLE:**

The sample for present study consists of 20 Male Net Ball Players and 20 Male Korf Ball Players of Osmania University who has taken part in the O.U. Inter College sports and games during the year 2011-12.

**TOOLS:**

12 Minute Cooper Test is used for collection of Data

**PROCEDURE OF DATA COLLECTION:**

The Cooper test is a test of physical fitness. It was designed by Kenneth H. Cooper in 1968 for US military used in the original form; the point of the test is to run as far as possible within 12 minutes. To undertake this test you will require:

- ❖ 400 meter track
- ❖ Stop Watch
- ❖ Whistle
- ❖ Technical Official

This test requires the Net Ball and Korf Ball player to run as far as possible in 12 minutes.

- ❖ The subjects given 10 minutes for warm up.
- ❖ The assistant gives the command "GO", starts the stopwatch and athlete commences the test
- ❖ The Technical Official keeps the athlete informed of the remaining time at the end of each lap
- ❖ The Technical Official blows the whistle when the 12 minutes has elapsed and records the distance the athlete covered to the nearest 10 meters

**Results And Discussion:**

The Table No.1 showing the Mean, S.D, Standard Error, t-ratio of NET BALL Players and Korf Ball Players in Cooper Test.

**Table No.1**

Results of 12 min Cooper Test	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
KORFBALL Players	20	3050.00	219.71	49.13	1.69453	38.00	0.10
NET BALL Players	20	2950.00	137.71	30.79			

The Korf Ball Players Mean Performance is 3,050 Meters and the Net Ball Players Mean performance is 2950 Meters. There is mean difference of 100 Meters between NET BALL and Korf Ball Players. The Performance of Korfball Players is very good comparing to Net Ball Players. Hence it is concluded that Korf Ball Players are good in aerobic endurance than Net Ball Players.

**RECOMMENDATIONS:**

1. It is recommended that good Aerobic Endurance must be given to Korf Ball and NET BALL Players.
2. It is recommended that similar studies can be conducted on female sports persons.

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## Techniques of Motivation in Sports

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**Introduction:** Sports psychology is often quoted as being making the difference between someone who is good and someone who is a champion, giving you that little extra edge to put you ahead of your opponent. All good sporting performances come from being well prepared, mentally as well as physically. To be the best requires you to use the skills that you have as effectively as possible. Often athletes who are fit and talented do not achieve their best possible performances because they have not developed the necessary mental skills. Maybe their concentration lapses at vital moments, they lack motivation or find it hard to perform under pressure. Sport psychology is about helping athletes tap their potential and achieve the performances they dream about. Setting goals is an important starting point. All good athletes set goals and develop targets and plans to achieve their goals. Effective goal setting comes from making your goals positive, specific, actionable and flexible.

### **Motivational techniques for coaches and athletes**

#### **1. Goal setting**

- Athletes should be encouraged to set a few ambitious but achievable long-term goals; perhaps to represent their country in a major championship in three or four years. Through empowering athletes to set their own goals, they are more likely to accept the challenges that lie ahead and pursue the goals with enthusiasm.;
- To keep athletes on track with their long-term goals, they should also set appropriate medium-term goals. For example, following a bronze medal-winning performance at the 2004 Athens Olympics, UK heptathlete Kelly Sotherton set herself the medium-term goal of winning the 2006 Commonwealth title in Melbourne (which she achieved) en route to pursuing her long-term goal to be crowned Olympic champion at the 2008 Beijing Games;
- By far the most important goals in practical terms are those for the short-term, as it is these that keep athletes focused on the checkmarks which are seminal to achieving superior performance. Therefore, short-term goals should be predominantly process-oriented. For example, when Manchester United's Wayne Rooney injured a metatarsal six weeks before the start of the soccer World Cup, he set a series of process goals in his race to regain full fitness. These included daily physiotherapy sessions, remedial exercises in an oxygen chamber, non weight-bearing aerobic activities, monitoring of nutritional intake and so on;
- Goals need to be monitored and revised on a regular basis. One of the biggest mistakes that coaches make in setting goals is that they are often too rigid in their approach. The goal setting process works best when there is some flexibility and the individual athlete or team take ownership of each goal. Thus, coaches and managers are better off exercising some democracy when setting goals, particularly if working with more experienced athletes.

#### **2. Using extrinsic rewards**

According to SDT(1), the key aspect in using extrinsic rewards effectively is that they reinforce an athlete's sense of competence and self-worth. Thus, a reward should be informational in nature rather than controlling. If a reward comes to be controlling, it can significantly undermine intrinsic motivation. For a reward to be informational, it is advisable that it has relatively little monetary worth (ie it is a token reward), such as a 'woman of the match' or 'athlete of the tour' title. Also, the reward should be presented to an athlete in front of all potential recipients with some emphasis placed on the prestige

associated with it. Other popular ways of using token rewards include etching athletes' names on annual honours boards for their contributions, or awarding a special item of clothing. Now days Cash Awards Plays a major role in extrinsic rewards.

### **3. Motivational music**

A particularly good way to motivate athletes in training and prior to competition is through the use of music they perceive to be inspirational. Sydney Olympics rowing gold medalist, Tim Foster, now a respected coach, uses music to punctuate all of the indoor training sessions that he leads. Specifically, during circuit training or rowing ergometer intervals, he puts on loud/fast music, while during *recovery* periods he plays soft/slow music. Therefore, work and recovery times are regulated by music. Research from Brunel University indicates that this approach increases work output, reduces perceived exertion and improves in-task affect – the pleasure experienced during the activity.

### **4. Positive self-talk**

Positive self-talk is a technique that can be used to enhance motivation across a wide range of achievement domains. It makes use of an athlete's powerful inner voice to reinforce their self-esteem or important aspects of their performance. With appropriate repetition, self-talk can positively alter an athlete's belief system. I use three types of self-talk in my work with athletes and will illustrate each with an example to assist you in coming up with your own.

### **Summary**

Each and every one of us has an untapped energy source that can be drawn upon to bring about superior results. Enhancing motivation is fundamentally about a change of attitude, developing a positive 'can do' mindset and engaging in systematic behaviours – the short-term process goals – that facilitate improvement. If you have a leadership role in sport you will have considerable influence on how motivated your athletes or team might feel. You can instil a good work ethic, recognise individual effort and instigate transparent reward structures that reinforce people's sense of competence. To work best, the techniques mentioned in this article need to be moulded around specific circumstances and the needs of individual athletes. Always strive to be original and innovative in the application of motivational techniques.

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## History of Physical Education in Ancient Greece

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**Introduction:** There were two forms of education in ancient Greece: formal and informal. Formal education was attained through attendance to a public school or was provided by a hired tutor. Informal education was provided by an unpaid teacher, and occurred in a non-public setting. Education was an essential component of a person's identity in ancient Greece, and the type of education a person received was based strongly in one's social class, the culture of one's polis, and the opinion of one's culture on what education should include. In ancient time the Indian Physical Education is also having rich history events such as sword fighting, arrow fighting etc are also included as physical education events.

### Athenian System

#### Elementary

In their early years, Athenian children were taught at home, sometimes under the guidance of a master. They were taught basic morals, until they began elementary education at approximately seven years of age. Children were taught how to read and write, as well as how to count and draw. Children were taught letters and then syllables, followed by words and sentences. Reading and writing were taught at the same time. Students would write using a stylus, with which they would etch onto a wax-covered board. When children were ready to begin reading whole works, they would often be given poetry to memorize and recite. An elementary education was the only education available to most people, especially the poor. Children belonging to the upper social classes would receive formal elementary education since their parents would be able to afford to hire a tutor or to send them to a public school. Children coming from poor families, however, would only be offered informal education, and the extent of their exposure to the above subjects would be directly linked to the knowledge of their parents. In addition to not having the money to pay for a formal education, members of the lower class most likely would have required their children's services at home just to be able to afford food and other basic necessities.

#### Gymnasium

Having a physically fit body was extremely important to the Greeks. Greek boys would begin physical education either during or just after beginning their elementary education. In the beginning they would learn from a private teacher known as a *paidotribe*. Eventually, the boys would begin training at the gymnasium. Physical training was seen as necessary for improving one's appearance, preparation for war, and good health at an old age. Traditionally, attendance at the *gymnasium* completed the majority of post-elementary education Athens. It was not until about 420 BC that secondary education became prominent, which led to controversy between traditional and modern views of education. Those of the traditional view believed that raising "intellectuals" would destroy Athenian culture and leave Athens at a disadvantage in war. On the other hand, those with a more modern view felt that while physical strength was important, it would diminish over time and that education should be used to develop the whole man, including his intellectual mind.

### Spartan System

The Spartan society desired that all male citizens become successful soldiers with the stamina and skills to defend their polis as members of a Spartan. Thus, only the healthiest male babies born to Spartan citizens were allowed to live. A council convened at the birth of each male child with the purpose of examining the baby for defects and signs of weakness. After examination, the council would either rule that the baby was fit to live or would reject the baby sentencing him to a death by abandonment and exposure.

### Agoge

Military dominance was of extreme importance to the Spartans of Ancient Greece. In response, the Spartans structured their educational system as an extreme form of military boot camp, which they referred to as agoge. The pursuit of intellectual knowledge was seen as trivial, and thus academic learning, such as reading and writing, was kept to a minimum. A Spartan boy's life was devoted almost entirely to his school, and that school had but one purpose: to produce an almost indestructible Spartan *phalanx*. Formal education for a Spartan male began at about the age of seven when the state removed the boy from the custody of his parents and sent him to live in a barracks with many other boys his age. For all intents and purposes, the barracks was his new home, and the other males living in the barracks his family. For the next five years, until about the age of twelve, the boys would eat, sleep and train within their barracks-unit and receive instruction from an adult male citizen who had completed all of his military training and experienced battle.

### Ephebe

The students would graduate from the *agoge* at the age of eighteen and receive the title of ephebe. Upon becoming an *ephebe*, the male would pledge strict and complete allegiance to Sparta and would join a private organization to continue training in which he would compete in gymnastics, hunting and performance with planned battles using real weapons. After two years, at the age of twenty, this training was finished and the now grown men were officially regarded as Spartan soldiers.

### Education of Spartan Women

Spartan women, unlike their Athenian counterparts, received a formal education that was supervised and controlled by the state. Much of the public schooling received by the Spartan women revolved around physical education. Until about the age of eighteen women were taught to run, wrestle, throw a discus, and also to throw javelins. The skills of the young women were tested regularly in competitions such as the annual footrace at the herea of Elis. In addition to physical education the young girls also were taught to sing, dance, and play instruments often by travelling poets such as alcmán or by the elderly women in the polis. The Spartan educational system for females was very strict, because its purpose was to train future mothers of soldiers in order to maintain the strength of Sparta's phalanxes, which were essential to Spartan defence and culture.

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