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# **IMPACT OF INFORMATION AND COMMUNICATION TECHNOLOGY ON PHYSICAL EDUCATION AND SPORTS**

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## **INTRODUCTION:**

Science has made man civilized in every sphere of life. The great achievement and advancements made of science have shrunk the world and have provided great comforts and conveniences to mankind and increased the life expectancy. It is because of science that many dangerous diseases have been cured and saving thousands of innocent life from the jaw of death. The invention of electricity and telephone helps to connect the people from far-off places. The transport and communication system give men comfortable journey and saves the precious time. Mass media give the people information, recreation and satisfaction. The man had conquered the earth with the help of science and wanted to conquer the space also.

## **CONTRIBUTION OF SCIENCE:**

With the introduction of digital technology, all aspects of human life appear to have been influenced and field of physical education also has undergone rapid changes. UNESCO defines IT as “Scientific, technological and engineering disciplines and the management techniques used in information handling and processing, their application, computers and their interaction with men and machines, and associated social, economical and cultural matter.

The revolution in science and technology increased the standard of sports. Sportsmen become professionals and get recreation, mental satisfaction and achieve high quality of fitness because of advancements of science and technology in this field. The Sports person achieve world-class performance due to scientific training. The use of fiber glass in jumping events, protective measures in games like Cricket, hockey, boxing, softball and football etc, synthetic track, scientific and biomechanical principles application in the construction of various field and track events and manufacturing sports goods are all role of science in the field of sports.

## **INFORMATION TECHNOLOGY AND MEDIA IN SPORTS:**

In present world, media influences every activities and sport is no exception. In order to make use of media for popularizing various sports activities and motivating young masses and children to participate more and more in various games and sports, a systematic and well planned strategy is required. With this strategy, we may increase number of viewers of various sports and games being telecast, live or recorded, and number of persons having up-to-date information of the different aspects of games and sports. Such strategy provides information about various games and sports institutes, coaching camps, clubs and association of individual games devoted to prepare good player, rules of games, coaching and such activities which encourage participation of young people and children in various games. Media should also highlight success stories of a good player by not glamorizing them but by introducing the hard task they put in for achieving their targets. As far as sports and games are concerned, the media, specially the electronic media, should act as a teacher and a fellow partner.

## **ATHLETIC MEET MANAGEMENT SOFTWARE:**

Organization and management of tournament is an integral part of games and sports. Success of any tournament depends upon how effectively and efficiently it has been organized. Athletic competitions, in particular require huge organizational structure. To make the task easy, prompt and error free, use of information technology and computer is indispensable. Computers can play remarkable role in managing an athletics meet. During a track meet, time is critical. Effort spent handwriting entry forms, waiting on event results and determining points totals wastes time and results in slower track meets. Manually recording and summarizing results requires the efforts of several people.

## **COACHING:**

- One can find out leading sports clubs, organizations and institutions of any part of globe.
- One can have latest techniques and take a printout or download videos of software itself.
- One can identify coaches/ experts in their respective fields and he can contact for more information on a particular problems.
- For changes in any rules, one can directly go to respective federation and clarify it.

## **WORLD WIDE CLASS ROOM:**

Now onwards we do not have to sit in a class room which is sometimes most boring and monotonous. Through this latest technology, we can sit at home and we choose the subject and the resource person from any part of the Globe. You can ask, listen, and interact as you do in your class room.

## **ON LINE JOBS:**

One can search different web sites, which provide job information and can identify your choice of jobs according to your area of specialization. The Internet will definitely play a very important role in physical education and sports.

One can apply thorough online and one can fix interview by video conferencing. Its make the things and life very comfortable useful and easiest way.

### **ROLE OF COMPUTER IN RESEARCH WITH REFERENCE TO PHYSICAL EDUCATION AND SPORTS:**

Application of computer in research in physical education can be done by using some programs as illustration and explore the potential for computing in research in this field. This includes action research as well as experimental research, literature search data analysis, report writing and interfacing with a mainframe computer in order to use more powerful statistics packages. In teaching, doing research, analyzing results, writing reports, writing editing and reviewing articles for journals and books, creating various tests, they may contribute a lot to the profession. A personal computer has its excellent provision of instant feedback.

### **Conclusion:**

The revolution in information technology and communication technology takes physical education and sports in to new direction. Physical education and sports has become popular & hold major place in society. Physical education and sports make the people aware about physical health education, games & sports. And the finally combination of both information technology & physical education and sports changes the social life, increase the economy of the country, establish the relation of country to country and increase the job chances also.

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# **EFFECT OF SOCIO-CULTURAL DEPRIVATION ON ACHIEVEMENT MOTIVATION AMONG SPORTSMEN AND NON-SPORTSMEN**

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## **INTRODUCTION**

Sports have been of great interest to people from times immemorial. Even today a sport is on the world map. Olympic games world cup tournaments, Asian Games, test matches and National occupy the headlines in Newspapers everyday columns after columns are devoted to the sports news. The importance and the recognition which the sports have received from government press and public clearly indicate that sports are not taken up for mere recreation or presage purposed the participation in sports.

### **Achievement Motivation**

A sport is highly specialized activity in one or the other event and involvement in sports event requires a basic desire to compete and excel in performance .It is needless to say that the sports activity is meaningless without competition. However, success in competition depends on the performance of an individual. Higher the performance, greater would be the chances of success. It is true that for these kinds of competitive activities achievement motivation is going to be the base. Because, motivation appears to be a key factor in an accomplishment of competitive activity.

### **Social Deprivation**

Like social the term 'social-deprivation has also been used differently by different investigators because of which certain degree of vagueness and imprecision exists in the contemporary literature of social deprivation (Howells, 1970.1974 Sawyer. 1971). Howells, (1970, 1974) for example, has argued that it is fallacious to use term Child-parent-separation and deprivation synonymously. Similarly, sawyer (1971) has questioned child –parent –separation' and deprivation synonymously .similarly sawyer (1971) has questioned the use of the term relative deprivation on the ground of political bias inherent in it whatever it may be.

## **METHODOLOGY:**

### **The Sample**

The sample of the study consists of students studying in the colleges of Physical education, Gulbarga University Gulbarga. There are 100 students out of which 50 are sportsmen and 50 are non-sportsmen. The non-sportsmen were selected from other general education students. Socio-cultural deprivation was the major variable of the study.

The sample was administered deprivation scale and categorized in to two groups of deprivation on whom the achievement motivation inventory was administered to assess the level of achievement motivation. The sample was also divided equally in to two groups of domicile-urban and rural.

### **Tools**

The following standardized scale/inventories were used

- Personal data Schedule (Bio data)
- Socio-cultural Deprivation scale
- Achievement Motivation inventory

### **Statistical methods**

The following statistical methods were used in the following study:

- The mean
- Standard Deviation
- t-test

## **RESULTS AND DISCUSSION**

The major objective of the present study has been to assess the effect of socio-cultural deprivation on the achievement motivation of both sportsmen and non-sportsmen selected randomly. The sample consists of 50 sportsmen and 50 non sportsmen selected equally based on deprivation criteria. Further, an equal number of cases belonging to rural and urban domicile were chosen for the study. Thus care was taken in choosing an equal number of respondents in terms of socio-cultural deprivation and domicile.

The deprivation is a major variable of the study. The deprivation level was measured by administering Deprivation Scale and subsequently the sample was divided in to high and low deprivation groups on whom the achievement scale was administered to assess the motivation level. The data were subjected to statistical analysis and the results are presented in the Tables.

**Table-1:**

**Means and t-values of Achievement Motivation in Two Levels of Socio-cultural Deprivation**

S-C Deprivation	N	Mean	SD	t-value
High	50	91.25	5.31	2.63*
Low	50	93.02	5.11	

\* Significant at 0.05 level

Table-1 shows Mean, S.D. and 't' values of respondents in two categories of deprivation. It can be observed that mean scores of high deprivation is 91.25 while the mean of low deprivation sample is 93.02. High group has relatively lower level of achievement motivation than the low deprived group. It appears that the high deprived people experience more deficiencies and disadvantages from different sources in society. Moreover, they have greater inferiority complex and more inhibitions in comparison with the low deprived group. Whereas the low deprived persons do not experience much deficiency in comparison with high deprived persons. They have more avenues of comfort, they are in comfortable position in the social order, have more aspirations, are futuristic and commendable in the social hierarchy. The obtained t-value of 2.63 is significant at 0.05 levels which indicate that there is significant difference in achievement motivation between high and low socio-cultural deprivation groups. Several studies clearly noticed the fact that the less disadvantaged group has an edge over the more disadvantaged group in terms of cognitive competency, achievement motivation, personality development etc.

**Table-2:**

**Means and t-values of Achievement Motivation of Sportsmen and Non-sportsmen**

Category	N	Mean	SD	t-value
Sportsmen	50	98.91	5.65	7.14**
Non-sportsmen	50	91.27	5.02	

\*\*Significant at 0.01 level

Table-2 presents the means and t-values of achievement motivation of both sportsmen and non-sportsmen. The mean score of sportsmen is 98.91 and that of non-sportsmen the mean is 91.27. This shows that the sportspersons have higher achievement motivation than the non-sportspersons. The sportspersons keep themselves engaged in competitive events and prepare themselves ready for meeting any challenges. They are more prone for several situations demanding higher motivation for the completion of given task and hence have more achievement motivation in comparison to other group. It is such exposure of sportsmen that makes a difference in the level of achievement motivation comparatively. On the contrary, the non-sportsmen though have achievement motivation for the given task, have relatively less exposure to competitive and risky situation demanding higher level of motivation. Hence there is a significant difference in achievement motivation level between these two groups.

**Table-3:**

**Means and t-values of Achievement Motivation in Two Categories of Domicile**

Category	N	Mean	SD	t-value
Urban	50	95.67	4.72	7.09**
Rural	50	89.21	4.38	

\*\*Significant at 0.01 level

Table-3 shows the mean, S.D. and 't' value of Achievement Motivation of Rural and Urban background Students. The Mean score of urban sample is 95.67 and of rural sample is 89.21. The urban students have higher achievement motivation than the rural students. It is because of the fact that the urban students get ample of opportunities and exposure, rewards, reinforcement etc. to motivate themselves to achieve more.

Due to technological advancement the urban students are getting all the information needed as a result of which the achievement motivation level of urbanites is significantly higher than rural ones. The t-value of 7.09 which is significant at 0.01 level speaks clearly that there is a significant difference in the achievement motivation level between rural and urban sample. Many studies reported similar findings.

## **CONCLUSIONS**

- There is a significant difference in the achievement motivation level between the high and low deprived groups: Low deprived sample has higher achievement motivation level than the high deprived.
- Achievement motivation level is significantly higher in the sample of sportsmen than the non-sportsmen.
- Urban Students have significantly higher achievement motivation than the rural students.

# **A COMPARATIVE STUDY OF THE PSYCHOLOGICAL PROFILES OF RAJASTHAN AND MADHYA PRADESH NATIONAL & INTERNATIONAL LEVEL MALE CRICKET PLAYERS**

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## **ABSTRACT**

The purpose of the study was to find out the comparative result of the Psychological Profiles of Rajasthan and Madhya Pradesh International & National Level Male Cricket Players. The subject's age ranged between 18-25 years, they all were selected randomly from the Rajasthan and Madhya Pradesh U-19, U-22 Cricket teams, and the experts have made two groups of 49-49 players, one group made up of Madhya Pradesh cricket players and another group made up of Rajasthan Cricket players, those who are continuously participating at National and International level. The experts used questionnaires of Rainer and Martin's Sports Competition Anxiety Test and the Eysenck, Maudsley Personality Inventory; the questions addressed various aspects of Sports Competition Anxiety and Personality traits of cricket players respectively. The questionnaire has filled by the Rajasthan and Madhya Pradesh U-19 & U-22 Cricket teams players respectively. For the evaluation of questionnaire Two Sample T-test was employed, and the findings revealed that there was a significant difference found i.e. 2.8 in their Personality parameters, it means Rajasthan Cricketers were better in their Personality as compare to Madhya Pradesh Cricketers and found Insignificant i.e. 0.11 in the SCAT, which means there was no difference in Sports Competition Anxiety of Rajasthan Cricketers and Madhya Pradesh Cricketers. Sports Psychology can help a lot in assessing the personality and sports anxiety characteristics of the players or individuals performance in cricket not only demands systematic training to develop physical and physiological variables but also demands training and considerations of psychological characteristics for success in this field.

## **INTRODUCTION**

No one really talked about applied sport psychology until recently, but it has been known in one form or another for almost as long as people have played professional sports. It used to be called gamesmanship. Basically, in its most basic form, it is about psyching out your opponents while building yourself up. Sports psychologists talk about the importance of being in the zone and of creating an intimidating presence on the field. Once you have the momentum, as long as you can stay with it you can usually win. Although there are games that are a tossup until the very last moment, many games are decided within the first few minutes of play. What decides these games?

The psychology of sports is interesting not only to professional athletes, but to anyone with an interest in the mind, especially if they are into the psychology of peak performance. You see, it involves many elements. Part of it is about competitive thinking, but it starts way before the teams get to the field. In essence, sports psychology is about winning, and winning requires dedication at every stage of the game.

If you wait until you play a match to apply the principles of sports psychology, you probably won't do really well. Before that point, you need to have a winning attitude or else you will not be prepared. Training is one of the most important and difficult areas to apply to it. You have to keep your energy up each and every moment of each and every practice, or you will not be able to win. This requires all kinds of mental tricks. Sports training methods, in fact, involve many psychological techniques such as visualization, the chanting of positive phrases to create a positive attitude, and even meditation to enhance focus.

Although it is a new field, the opportunities for people with sports psychology degrees are growing every day. Many of the most successful teams in professional sports employ sports psychologists, and although they get very little of the glory, they are instrumental behind the scenes. Sports psychology is no longer a set of folksy tricks used by athletes to intimidate each other. Instead, it is an essential component of athletic training, athletic matches, and an athletic lifestyle. The psychology of sport and exercise is even used in gyms to help normal everyday people with their workout routines. Once you become aware of psychology sports, you can see it everywhere.

Cricket occupies a significant place among all other games and sports. In some respects it is unique as a sport. It is an ideal sport and is a grand energetic game, giving enjoyment and pleasure and demanding fitness and dedication. Cricket requires specific psychological characteristics to be on top gear to take all the qualities in the match. A lot of research work is done on the physical and psychological limitations of cricket but very less work has been indicated towards physiological aspect, hence to satisfy this present study has been under taken in the field of Cricket.

## **Delimitations**

1. The study will be delimited to 98 Male cricketers of National and International level from central zone (Madhya Pradesh and Rajasthan).
2. The study will be delimited to selected important performance oriented psychological variables as personality and anxiety.

## **Limitations**

True response to questionnaires could act as limitation for the study.

## METHODOLOGY

The subject's age ranged between 18-25 years, they all were selected randomly from the Rajasthan and Madhya Pradesh U-19, U-22 Cricket teams, and the experts has made two groups of 49-49 players, one group made up of Madhya Pradesh cricket players and another group made up of Rajasthan Cricket players, those who are continuously participating at National and International level. The experts used questionnaires of Rainer and Martin's Sports Competition Anxiety Test and the Maudsley Personality Inventory; the questions addressed various aspects of Sports Competition Anxiety and Personality traits of cricket players respectively. The questionnaire has filled by the Rajasthan and Madhya Pradesh U-19 & U-22 Cricket teams players respectively.

## Results and Discussion

For the evaluation of questionnaire Two Sample T-test was employed, and the findings reveled that there was a significant difference found i.e. 2.8 in their Personality parameters (Neuroticism and Extroversion), it means Rajasthan Cricketers were better in their Personality as compare to Madhya Pradesh Cricketers and found Insignificant i.e. 0.11 in the SCAT, which means there was no difference in Sports Competition Anxiety of Rajasthan Cricketers and Madhya Pradesh Cricketers.

TABLE-1

Variables	Means	SD	't'
Personality Rajasthan	32.39	5.90	
Personality MP	27.45	7.1	2.8*
SCAT Rajasthan	6.51	1.54	
SCAT MP	6.52	1.53	0.11

### At .05 level of significance

The mean of Personality parameters of Rajasthan Cricketers found 32.39, which is quiet higher than the Personality traits of MP players i.e. 27.45, which reveals that the Rajasthan players were having good personality but the MP players has also having average personality (Neuroticism and Extroversion), we could't say they have poor personality. And when we compared by applying 't' test it has shown that there was a significant difference found among them.

The mean of SCAT of Rajasthan Cricketers found 6.51, and the mean of MP players found 6.52, which has shown almost same and there was very slight difference found among them, which reveals that the Rajasthan and MP players has average level of sports anxiety. And when we compared by applying 't' test it has shown that there was an insignificant difference found among them at .05 level of significance and the tabulated value is 2.08.

## CONCLUSION

Cricket occupies a significant place among all other games and sports. In some respects it is unique as a sport. It is an ideal sport and is a grand energetic game, giving enjoyment and pleasure and demanding fitness and dedication. Cricket requires specific psychological characteristics to be on top gear to take all the qualities in the match. A lot of research work is done on the physical and physiological limitations of cricket but very less work has been indicated towards psychological aspect, hence to satisfy this present study has been under taken in the field of Cricket. Sports Psychology can help a lot in assessing the personality and sports anxiety characteristics of the players or individuals performance in cricket not only demands systematic training to develop physical and physiological variables but also demands training and considerations of psychological characteristics for success in this field.

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# A STUDY OF THE EFFECT OF TRAINING PROGRAMME OF KHO-KHO GAME ON SELECTED KHO-KHO PLAYER THROUGH PHYSICAL FITNESS AND PSYCHOLOGICAL DIMENSION

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## Abstract

Physical fitness is the condition of one's body judged in terms of age, height, weight and chest expansions in terms of absence of defects from disease, constitutional affection or bodily infirmity, full physical development, vigour, vitality and radiant health should be seen in one who is physically fit. Anxiety is a multi-system response to a perceived threat or danger. It reflects a combination of biochemical change in the body, the patient's personal history and memory and the social situation. As far as we know, anxiety is a uniquely human experience. Although anxiety is a common place experience that everyone has from time to time, it is difficult to describe concretely because it has so many difficult potential causes and degrees of intensity. 40 players of Kho-Kho game, Shri Experimental School, Patan were selected by purposive sampling method. The subjects were selected from high school only. Researcher hypothesized that, "subjects with high physical fitness will be having low anxiety. Subjects with low physical fitness will be having high anxiety. Physical fitness of subjects will increase." For measurement of physical fitness, AAHPER physical fitness test was used. For measurement of anxiety, SINHAS COMPREHENSIVE ANXIETY TEST was used. The experimental group was given practical training. There were given training of 10 weeks for development of Kho-Kho game. There was no practical training given to control group. Both the groups had similarly 20 subjects in them. The researcher collected the data of pre and post test through AAHPER test and SINHAS ANXIETY test. After analysis of data, there was increased physical fitness level of subjects of control group. In control group there was no difference between pre and post test.

## Introduction:

Physical fitness is the capacity to carry out every day activities without excessive fatigue and with enough energy in reserve for emergencies. Physical fitness is the capacity of the heart, blood vessels, lungs, and muscles to function at optimal efficiency. Physical fitness means that a person possessing it, meets physical requirements. These requirements may be anatomical, physiological or both. Anxiety is related with sports psychology. During the last 10 to 15 years there has been much controversy in the sports psychology literature concerning an acceptable definition of anxiety. Anxiety before or during competitions can hinder your performance as a player. Some types of players are more prone to feeling the effects of anxiety on performance. The researcher has tried to study the effect of training programme of Kho-Kho game on selected player through physical fitness and psychological dimension.

**Selection of subjects:** To fulfill the purpose of this study, 40 players of Kho-Kho game, Shri Experimental School, Patan were selected by purposive sampling method. The subjects were selected from high school only. Selected players were divided into two groups by random method.

**Research tool:** For measurement of physical fitness, AAHPER physical fitness test was used. For measurement of anxiety, SINHAS COMPREHENSIVE ANXIETY TEST was used.

**Methodology:** There were two groups, experimental and control. The experimental group was given practical training. There were given training of 10 weeks for development of Kho-Kho game. There was no practical training given to control group. Both the groups had similarly 20 subjects in them. Before and after training of Kho-Kho game, physical fitness and anxiety was measured by test.

**Data collection:** To test the concept of study, physical fitness was tested through AAHPER Physical fitness test. Anxiety was tested through SINHAS COMPREHENSIVE ANXIETY TEST. Before and after training above test was taken by researcher on subjects. The researcher collected the data of pre and post test.

## Results and Statistical Analysis

### Study- 1 AAHPER Physical Fitness test

#### 1. Hang Test :-

##### 1.1 Comparison between pre and post test of experimental group.

Test	N	Average	s.d	r	t	Level of Sign.
Pre	20	10.624	4.259	0.045	7.415	Sig. at both level
Post	20	25.702	8.617			

Hang capacity of subjects was increased after training

##### 1.2 Comparison between pre and post test of control group.

Test	N	Average	s.d	r	t	Level of Sign.
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Pre	20	10.232	4.683	0.623	0.231	Not Sig. at both level
Post	20	1.0456	4.133			

There was no difference between pre and past test.

## 2. Sit Up test :

### 2.1 Comparison between pre and post test of experimental group

Test	N	Average	s.d	r	t	Level of Sign.
Pre	20	14	3.546	0.019	15.41	Sig. at both level
Post	20	28.75	2.291			

Sit up capacity of subject was increased after training.

### 2.2 Comparison between pre and post test of control group.

Test	N	Average	s.d	R	t	Level of Sign.
Pre	20	13.95	3.900	0.593	0.141	Not Sig. at both level
Post	20	14.05	2.685			

There was no difference between pre-post test.

## 3. Shuttle Run Test

### 3.1 Comparison between pre and post test of experimental group

Test	N	Average	s.d	R	t	Level of Sign.
Pre	20	12.881	0.383	0.332	31.268	Sig. at both level
Post	20	10.2275	0.244			

Shuttle run capacity of subjects was increased after training.

### 3.2 Comparison between pre and post test of control group

Test	N	Average	s.d	r	t	Level of Sign.
Pre	20	12.30	0.634	0.747	1.028	Not Sig. at both level
Post	20	12.49	0.750			

There was no difference between pre and post test

## 4. Standing broad jump test.

### 4.1 Comparison between pre and post test of experimental group.

Test	N	Average	s.d	r	t	Level of Sign.
Pre	20	3.626	0.646	0.553	6.835	Sig. at both level
Post	20	4.45	0.330			

Standing broad jump capacity of subjects was increased after training.

### 4.2 Comparison between pre and post test of control group.

Test	N	Average	s.d	r	t	Level of Sign.
Pre	20	3.6615	0.232	0.993	0.882	Not Sig. at both level
Post	20	3.6485	0.505			

There was no difference between pre-post test.

## 5. 50 yard run test:

### 5.1 Comparison between pre and post test of experimental group.

Test	N	Average	s.d	r	t	Level of Sign.
Pre	20	9.0965	0.501	0.190	10.200	Sig. at both level
Post	20	7.561	0.364			

The subjects capacity of 50 yard run training increased after training

## 5.2 Comparison between pre and post test of control group.

Test	N	Average	s.d	r	t	Level of Sign.
Pre	20	9.1925	0.364	0.197	1.954	Not.Sig. at both level
Post	20	9.5155	0.719			

There was no difference between pre and post test.

## 6. 600 yards run-walk test.

### 6.1 Comparison between pre and post test of experimental group.

Test	N	Average	s.d	r	t	Level of Sign.
Pre	20	3.18	0.324	0.629	12.428	Sig. at both level
Post	20	2.4655	0.255			

The subject's capacity of 600 yard run walk test was increased after training.

### 6.2 Comparison between pre and post test of control group.

Test	N	Average	s.d	r	t	Level of Sign.
Pre	20	3.1505	0.338	0.184	0.195	Not Sig. at both level
Post	20	3.126	0.391			

There was no difference between pre and past group.

## Study 2SINHAS COMPREHENSIVE ANXIETY TEST

Correlation between physical fitness and anxiety

S.N. Between Two Variable Pre test

Experi.. Post test

Experi.. Pre test

Control Post test

Control

1	Hang and anxiety	-0.111	-0.115	-0.422	-0.248	
2	Sit ups and anxiety		-0.105	-0.253	-0.179	0.256
3	Shuttle run and anxiety	-0.163	-0.235	0.396	0.273	
4	Standing broad jump and anxiety	0.403	0.149	0.146	0.321	
5	50 yard run and anxiety	0.005	-0.085	-0.230	0.075	
6	600 yard run and anxiety	0.159	-0.258	-0.202	-0.100	

Due to results there were indicated little correlation between physical fitness and anxiety.

## CONCLUSION

Physical fitness level of subject was increased through training. There was negative correlation between physical fitness and anxiety. In control group, subjects was not increased their performance in physical fitness test. Due to data physical fitness was increased and anxiety was decreased in experimental group/.

## **The role of aggressive behavior on team and individual games**

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### **Introduction**

Sport is one of the most enduring of all human activities. Virtually from the beginning of any written human records, in civilizations across the world, accounts of sports and sport-related activities are found. For less than the last century sport has been studied scientifically, and sport psychology is an important part of that scientific study. It is an international field, holding the promise of becoming important and only to the understanding of competitive athletic abilities, but to areas of behavior that relate to many domains of human health and activity.

### **Definition of Aggressive Behavior**

There has always been interest in aggressive behavior and competitive sport. Several writers have maintained that sport provides a necessary "safety value" or cathartic release for the aggressive drives of the human (Scott, 1970; Lorenz, 1966). The arguments for and against aggression and violence in sport are often emotional debates. A major obstacle encountered in this discussion is that the discussants are frequently not talking about the same concept even though they are using the same term. When one begins to examine the various writings on aggressive behavior, it is clear that the term aggression has the misfortune of being defined in a multitude of ways.

### **Sample:**

The total sample consists of 100 Players selected from the colleges of Physical education, Gulbarga. Attempts are made to collect the demographic information like age, caste, class, etc .to classify the sample. The aggression scale is administered on more than the total sample and classification in to two-high and low-groups aggression was made. Accordingly, an equal number of 50 players in each classification were selected.

### **Tools:**

#### **1. Personal Data Schedule (Bio-data):**

This is framed to collect information regarding the personal and socio demographic status of the sample.

#### **2. Sports Aggression Inventory**

This inventory is developed by Kumar and Shukla, (1988). This inventory consists of 25 items. The scoring is done as per the key given in the manual and individual can be categorized as either high or low on aggression depending on the scores he gets. The reliability and validity of the scale are claimed to be significant.

**Table – 1: Aggression in two classes of study (N=100)**

<u>Class</u>	<u>Mean</u>	<u>SD</u>	<u>t-value</u>
<u>B.P.Ed.</u>	14.02	4.08	2.27*
<u>M.P.Ed.</u>	15.66	2.99	

#### ▶ **\* Significant at 0.05 level**

▶ Table-1 gives results of aggression of sample belonging to two classes (levels) of study. It can be seen that the mean scores of B.P.Ed. is 14.02 and of M.P.Ed. is 15.66. This reveals that lower class of study is more aggressive than the higher class of study. The t-value of 2.27 is significant at 0.05 level. This clearly speaks that there are significant difference in the aggressive of the sample.

**Table- 2 Aggression in Two Age Groups (N=100)**

<u>Age Group</u>	<u>Mean</u>	<u>SD</u>	<u>t-value</u>
<u>Gr-1 (24 yrs and below)</u>	13.92	4.07	2.63*
<u>Gr-2 (25 yrs and above)</u>	15.79	2.91	

#### **\* Significant at 0.05 level**

► Table-2 presents scores of aggression of the players of two age groups. It is found that the lower age group has significantly higher aggression than the higher age group. The t-value is also significant. Therefore aggression is found to increase especially during young age period

**Table – 3 Aggression in Two Caste groups (N=100)**

<u>Caste Group</u>	<u>Mean</u>	<u>SD</u>	<u>t-value</u>
<u>High</u>	14.82	3.05	0.12*
<u>Low</u>	14.85	3.65	

**\* Significant at 0.05 level.**

► The results given in table-3 reveal the fact that caste has nothing to do with aggression. It can be observed that the mean scores of both higher and lower caste groups are nearly same. The t-value is not significant at any level. Hence the aggression is found to be similar in both the groups of sample.

**Table-4: Levels of Aggression and Sports Performance in Two Games**

<u>Aggression level</u>		<u>Individual Game (100 Mtr) in sec.</u>	<u>Team Game (4 x 100 mtr Relay) in sec.</u>
<u>High</u>	<u>M</u> <u>SD</u> <u>N</u>	14.10 0.89 50	58.60 2.90 50
<u>Low</u>	<u>M</u> <u>SD</u> <u>N</u>	14.62 0.91 50	59.93 3.07 50
<u>t-values</u>		<b>2.88**</b>	<b>2.21*</b>

**\*Significant at 0.05 level**

**\*\*Significant at 0.01 level**

The results given in Table-4 clearly indicate that sports performance of sample of high aggressive level is significantly higher than other group of players. The mean scores of high aggressive players in individual game is 14.10 and in team games it is 58.60. The mean score of low aggressive group in individual game is 14.62 and in team game it is 59.93. This explains that the high aggressive players have taken significantly less time in both individual and team games than the low aggressive players. The t-values on both these games are significant. This explains the fact that aggression is necessary for the sports excellence. For the higher sports achievement, the aggression is an important ingredient. Therefore, aggressive players are found to have achieved higher performance in the games.

**Table-5: Levels of education (class) and Sports Performance in Two Games**

<u>Class (levels of education)</u>		<u>Individual Game (100Mtr) in sec</u>	<u>Team Game (4 x 100 mtr Relay) in sec.</u>
<u>B.P.Ed</u>	<u>M</u> <u>SD</u> <u>N</u>	14.46 0.87 50	59.17 2.82 50
<u>M.P.Ed</u>	<u>M</u> <u>SD</u> <u>N</u>	14.86 0.95 50	60.36 3.03 50
<u>t-values</u>		<b>2.22*</b>	<b>2.04*</b>

**\*Significant at 0.05 level**

**Table-5** gives the performance score of educational groups of players in both individual and team games. It is seen that the mean scores of the time taken both the two educational groups is not same. The B.P.Ed players have taken a

mean of 14.46 and 59.17 in individual and team game respectively. The M.P.Ed. players have taken a mean of 14.96 and 60.36 in both individual and team games respectively.

**Table-6: Age of Players and Sports Performance in Two Games**

<u>Age Group</u>		<u>Individual Game (100Mtr) in secs</u>	<u>Team Game (4 x 100 mtr Relay) in secs</u>
<u>Gr.1(24 yrs&amp;below)</u>	<u>M</u> <u>SD</u> <u>N</u>	14.55 0.93 50	59.62 2.98 50
	<u>M</u> <u>SD</u> <u>N</u>	14.77 0.92 50	59.92 3.01 50
<u>t-values</u>		1.22	0.51

An attempt is made to examine the sports differences between the sample of two age groups. It is seen that the players below the age of 24 years have taken less time in both the individual and team games than the players with the age above 25 years. This explains that age is an important aspect in sports excellence in both individual and team games. However, there are no significant differences in performance in individual as well as team games between the players of two age groups because the t-values are not significant at any level.

**Table-7: Caste and Sports Performance in Two Games**

<u>Caste</u>		<u>Individual Game (100 mtr) in secs.</u>	<u>Team Game (4 x 100 mtr Relay) in secs</u>
<u>Higher</u>	<u>M</u> <u>SD</u> <u>N</u>	14.64 0.89 50	59.63 2.83 50
	<u>M</u> <u>SD</u> <u>N</u>	14.69 0.97 50	59.91 3.15 50
<u>t-values</u>		0.27	0.46

**Table- 7** presents sports performance of the players belonging to two groups of caste in both individual and team games. It is observed that higher caste players have taken relatively lesser time than the lower caste players. But the t-values are not significant at any level. Therefore it can be said that caste has nothing to do with performance of the players in any game whether individual or team game.

### **Conclusions**

The following are the findings of the study:

B.P.Ed. students are more aggressive than M.P.Ed. students.

Lower age group is more aggressive than the higher age group.

Aggression in two caste groups is same.

There is an effect of aggression on performance of players in individual games

There is an influence of aggression on the performance of players in team games.

The B.P.Ed. students performed significantly higher in individual games than the M.P.Ed. students.

The M.P.Ed. students have taken significantly higher time than the B.P.Ed students in team games.

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# PERSONALITY CHARACTERISTICS OF MALE AND FEMALE KHO-KHO PLAYERS

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## ABSTRACT

The aim of the study was to find out the gender difference in Personality traits of Inter collegiat male and kho-kho players with regard to phuchoticism, neuroticism, extraversion and Lie score. For this present study, 50 male and 50 female kho-kho players were selected as a subject.

The Eysenck Personality Inventory (E.P.I.) was used to measure Psychoticism,extraversion and neuroticism of kho-kho players, t-ratios has been used to compare the significantly gender difference between male and female kho-kho players who had participated in Inter collegiate kho-kho tournament held at M.I.T. College, Aurangabad 2010. Gender differences on Psychoticism was found between male and female A Kho-Kho players (  $t =$  ) whe female players more player more phychotic than male.. While analyzing the differences of Personality characteristic of male and female kho-kho players, gender differences on neuroticism was found between male and female Inter collegiate kho-kho players (  $t = 4.69$ ,  $P < .01$  ), where the male kho-kho players was found to have less score on neuroticism. So, far extraversion was concerned, significant gender difference was found to the male and female Inter-Collegiate kho-kho players (  $t=2.77$ ,  $P<.01$  ), male kho-kho players has lower extraversion. Hence, female kho-kho players was more extravort.

## INTRODUCTION

Kho-kho is the most popular Indian game in Marathwada region of Maharashtra. The Indian games are simple in nature, easy to organise and less expensive. Hence Kho-Kho reach to common people and both sex. Sports performance has been found to be related to some personality variables. Psychoticism, Extraversion and neuroticism are among the variables which influence by sports performance with addition to many other personality variables. Psychoticism is the tendency in a person to be not caring for people, trouble some insentitive and not fitting in any wehre lacking in feeling and empathy. Neuroticism is a minor mental disorder, characterised by inner struggles and discordant social relationship. According to Eysenck “ Neuroticism refer to emotionality, initiated by the inherited differences in liability and excitability of autonomic nervous system. The extroversion is a personality traits. The extrovert person’s orientation is towards the external world. He deals people intelligently in social situation. He is conventional, outgoing, social, friendly and face from worries. In Eysenck’s term, extraversion stands for central excitatory / inhibitory level and sociability. Lie scale is refer to social desirablility measues a tendency on the part of some individuals take good. Majority of the investigator have indicated that male kho-kho players differ from female kho-kho players on a number of personality traits and several investigator have tried to find personality differences between male and female kho-kho players, but not many studies have been made about personality characteristics of inter collegiate male and female with regards to psychoticism, neuroticism and extroversion, So the attempt has been made to conduct the study regarding neuroticism and extroversion of inter collegiate male and female kho-kho players.

## Methodology

In this section, Selection of subject, Administration of the test, and Statistical Analysis procedure have been described.

### Selection of Subjects

Total 50 male and 50 female kho-kho players from different college. Who had participated in Collegiate tournament held at M.I.T. College, Aurangabad-2010 were randomly selected as a subjects for the present study.

### Administration of the test

EYSENCK’S Personality Inventory (E.P.I.) ( 1985 ) were distributed to the males and females kho-kho players , before filling the EPI, instruction were given by the investigator to the players.

### Statistical analysis

t-ratio was computed to compare, the significant differences between inter-varsity male and female kho-kho players . The data were analyzed in basic language of the computer Centre, Aurangabad, Maharashtra. All the analysis used were based on “ Standard Statistical Packages .

### Results and Discussion

The results of the present study in statistical form are presented in Table I and IV.

Table-I

Mean scores, Standard Deviations and t-ratio of  
Psychoticism for Male and Female Kho-kho players .

Sr.No.	Kho-kho players	No.	Mean	S.D.	t-ratio
1.	Male	50	12.08	3.89	2.05*
2.	Female	50	13.21	4.16	

\*Significant at .05 Level.

The findings of Table-I, I reveal that there is significant gender difference between male and female inter-collegiate kho-kho players. (  $t=2.05$ ,  $R<.05$  ), in psychoticism dimation of personality. The female having

more psychoticism as compared to males, which means that the male kho-kho player having less psychotic than female kho-kho players. Thus the hypothesis was not accepted. This may be due to nutritional habits, interest to participate in sports activities and parental motivation to involve sports activities of male and female kho-kho players.

Table-II

Mean scores, Standard Deviations and t-ratio of Neuroticism for Male and Female Kho-kho players .

Sr. No.	Kho-kho players	No.	Mean	S.D.	t-ratio	S.E.
1.	Male	50	8.33	2.58	4.97*	.45
2.	Female	50	10.57	3.99		

\* Significant at .01 Level.

As Table-II shows a significant gender difference was found out in the extraversion of the inter-collegiate kho-kho players . (  $t=4.97, P<.01$ ), the female having more extrovert as compared to males, which means that the male kho-kho players less extrovert than female kho-kho players . Thus the hypothesis was not accepted. It may be due to physiopsych differences between the male and female kho-kho players.

Table-III

Mean scores, Standard Deviations and t-ratio of Extraversion for Male and Female Kho-kho players .

Sr. No.	Kho-kho players	No.	Mean	S.D.	t-ratio	S.E.
3.	Male	50	16.08	2.13	3.36*	.19
4.	Female	50	18.17	2.77		

\* Significant at .01 Level.

As Table-III shows a significant gender difference was found out in the extraversion of the inter-collegiate kho-kho players . (  $t=3.36, P<.01$ ), the female having more extrovert as compared to males, which means that the male kho-kho players less extrovert than female kho-kho players . Thus the hypothesis was not accepted. These difference is probably due to emotional, biological and social difference between the male and female kho-kho players. Table-IV

Mean scores, Standard Deviations and t-ratio of Lie Scale for Male and Female Kho-kho players .

Sr. No.	Kho-kho players	No.	Mean	S.D.	S.E.	t-ratio
1.	Male	50	9.76	3.37	.45*	.17
2.	Female	50	9.68	3.34		

\* Not Significant

The findings of Table-IV, that there is no significant gender difference between male and female inter-collegiate kho-kho players. (  $t=.17$ ). It may therefore, be similarity of the nature of game. Thus the hypothesis was accepted.

## **CONCLUSIONS**

1. There are significant gender differences in psychoticism of inter-collegiate kho-kho players, the males having less psychotic than female kho-kho players.
2. There are significant gender differences in neuroticism of inter-collegiate kho-kho players , the males having less neurotic tendency than the females.
3. There are significant gender differences in extraversion of inter-collegiate kho-kho players . The males are found to be less extrovert than the females.
4. There are no significant gender differences in psychoticism of inter-collegiate kho-kho players, the males having less psychotic than female kho-kho players.

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# NEUTROPHIL COUNT IN ATHLETES AT REST AND AFTER EXERCISE

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## ABSTRACT:

The study was conducted on 50 male athletes aged 20 – 25 years who were non-smokers, non-alcoholic, not suffering from any illness previously and present. As a measure of exercise the subjects were asked to run for 15 minutes. The resting Heart Rate and Blood Pressure were recorded in supine position and the blood sample was collected for neutrophil count. After recording the above parameters at rest the subject was instructed to run for 15 minutes and the blood samples were collected at the end of 15 minutes for neutrophil count. The data was analyzed by using student's t-test. There was a significant increase in neutrophil count after exercise when compared to the neutrophil count at rest with p-value of <0.0001. The increase in neutrophil count is related to the production of cytokines and is also due to classical stress hormones like epinephrine, nor-epinephrine, cortisol and growth hormone.

**KEY WORDS:** Exercise Athletes Neutrophil count Heart Rate Blood Pressure

## INTRODUCTION:

The basic physiological mechanisms are either to increase when they fall and decrease when they increase i.e., positive or negative feed back mechanism. The compensatory mechanisms existing in the human body battle with the stress induced effects and bring back the homeostatic state. Exercise serves as powerful stimuli to the immune system and increases the leucocytes mainly neutrophils, lymphocytes and monocytes. Regular exercise increases resistance to infections such as the common cold. There is evidence that exercise is a life style that offers some protection against malignancy. Moderate exercise stimulates the immune system and may be somewhat responsible for exercise related reduction in illness.

## MATERIALS AND METHODS:

50 male athletes aged 20-25 years who were non-smokers, non- alcoholic and not suffering from any illness previously and present selected for this study from Kakatiya University, Warangal. The criteria for selection of athletes was based on the fact that they have been trained or exposed to regular running for at least 3-4 years prior to the present study. All the subjects gave informed consent. As a measure of exercise the subjects were asked to run for 15 minutes.

The resting Heart Rate and Blood Pressure were recorded in supine position. The Heart Rate was recorded by counting the pulse rate by palpating the radial pulse. The Blood Pressure was recorded by Sphygmomanometer and stethoscope. Neutrophil count was done by doing Differential Leucocyte Count after staining the smear with Leishman's stain. After taking the above parameters at rest the subject was instructed to run for 15 minutes and at the end of 15 minutes the blood samples were collected for Differential Leucocyte Count to determine the percentage distribution of neutrophils.

## STATISTICAL ANALYSIS OF RESULTS:

The data was analyzed by using student's unpaired t-test. The data was expressed as Mean $\pm$ SD and the means were compared by student's t-test.

## COMPARISON OF NEUTROPHIL COUNT IN ATHLETES AT REST AND AFTER EXERCISE

<i>Parameter (n=50)</i>	<i>Neutrophil count (Mean<math>\pm</math>SD)</i>
Athletes at rest	53.26 $\pm$ 1.40
Athletes after exercise	58.04 $\pm$ 1.43

The p-value is <0.0001 which was considered to be extremely statistically significant. Sample size (*n*) is indicated within brackets. There was significant increase in neutrophil count after exercise when compared to the neutrophil count at rest.

## DISCUSSION:

Physical activity increases the number of leucocytes and the circulating neutrophil concentration. The leucocyte increase for defense in bacterial infections and also in stressful condition, the leucocytes respond to the hormonal stimuli to meet the situation. The increase in neutrophil count is suggested to be related to the increased production of cytokines and is due to stress hormones like epinephrine, nor-epinephrine, cortisol and growth hormone.

Responses of leucocyte population to exercise are highly stereotyped. The cellular immune system was highly influenced by muscular exercise which will protect the individuals from infections. With exercise there is a rise of core temperature which contributes to the changes in the leucocytes and the neutrophil count during and

immediately after moderate exercise. Increase in neutrophil count may be due to changes in plasma catecholamines and cortisol after exercise.

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## IS IT BENEFICIAL TO FAST ONE DAY A WEEK?

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### INTRODUCTION:

Is fasting one day a week good for your health? To answer this question, let's take a look at what happens in your body when you begin to eat and drink nothing but water.

After your cells use up the sugar that is in your bloodstream from your last meal or beverage, your body has to find another source of energy for your cells. And the first places that it turns to are your liver and your muscles. Both your liver and your muscles store sugar in the form of glycogen, and when needed, glycogen can be broken down to glucose, which all of your cells can use to produce energy for their ongoing activities.

During a water-only fast, your glycogen stores are depleted within about 24 hours, give or take a few hours. After your glycogen stores are used up, most of your cells begin burning fatty acids for energy -- these fatty acids come from your fat reserves, including fatty tissue that surrounds your organs. Two groups of cells -- your red blood cells and your brain cells -- cannot use fatty acids to fuel their energy needs. Your red blood cells and brain require glucose, and once glycogen/glucose from your muscles and liver are used up, your brain and your red blood cells get their glucose from two sources: 1. From glycerol, which is a component of your fat tissues. 2. From your muscles -- some of your muscle tissues get broken down, and the amino acids from your muscle tissues are used to produce glucose for your brain and red blood cells.

Clearly, it's not in your best interest to rapidly eat up your muscles to meet the energy requirements of your brain and red blood cells during a water-only fast. Your body knows this, and somewhere between the 2nd and 3rd day of water-only fasting, your liver begins churning out ketones, which during a water-only fast, come primarily from the breakdown of fatty acids from your fat reserves. Once your liver generates large numbers of ketones, your brain is able to use ketones to fuel itself. At this point, only your red blood cells require glucose that must still be derived from the breakdown of your muscles, but with your brain no longer dependent on breakdown of your muscles for energy, the rate at which your muscles are catabolized will be such that your muscles are spared as much as possible -- this state is called "protein sparing" -- it's a survival mechanism that is built into human physiology to deal with times of famine. Getting back to the big picture, it should be clear that from about the 2nd or 3rd day of a water-only fast, your body meets its energy requirements through your fat reserves. *Since the bulk of the toxins in your body are stored in your fat reserves, the longer you fast on water only, the more fat you'll burn and the more toxins you'll eliminate from your system.* This is why we see elimination of lipomas, atheromas (accumulated waste in your blood vessels), and other conditions related to toxin accumulation during a prolonged water fast.

*Put another way, your body does not experience significant detoxification during the first 12-24 hours of a water-only fast.* Your body begins to eliminate large quantities of toxins only after it begins to burn your fat reserves at a rapid rate. And this doesn't happen until you've used up the glycogen stores in your liver and muscles. So when you fast one day a week, you deplete the stores of sugar in your liver and muscles, and you begin to break down your muscles -- these are the main things you accomplish during the first day of water fasting. Significant detoxification only begins to occur if you continue past day one of fasting. This is not to say that there are no benefits to fasting one day a week, or that you don't eliminate any toxins during a one-day fast. You are eliminating toxins with every breath that you take. And your body will always increase its rate of ongoing detoxification whenever you get more rest and/or eat less food, because less digestive burden and more physical rest always mean more available resources for detoxification.

This study says that it's not good for long term health to fast one day a week on water only. If you want to give your body a period of rest and intense cleansing once in a while, it makes more sense to spend a day eating all raw fruits and vegetables, or drinking nothing but freshly pressed juices.

# EFFECTS OF DIFFERENT INTENSITIES OF HOLLOW SPRINT TRAINING ON LIPID PROFILE STATUS AMONG OBESE SCHOOL BOYS

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## INTRODUCTION:

Obesity in children has increased dramatically in recent years. It has adverse health consequences, and there is an urgent need for population based interventions aimed at prevention. Obesity has reached epidemic proportions globally, with more than 1 billion adults overweight - at least 300 million of them clinically obese - and is a major contributor to the global burden of chronic disease and disability. Often coexisting in developing countries with under-nutrition, obesity is a complex condition, with serious social and psychological dimensions, affecting virtually all ages and socioeconomic groups.

## DEPENDENT VARIABLE:

1. Total cholesterol 2. High density of lipoprotein 3. Low density of lipoprotein 4. Very low density of lipoprotein 5. Triglycerides

## METHODOLOGY: SELECTION OF SUBJECTS:

To achieve the purpose of study, forty five obese school boys were selected from Padmasarangapani Hr.sec.school in Chennai district. The subject's age groups were between 11 to 15 years. The selected subjects were divided into three equal groups and each group consists of fifteen subjects. Namely Experimental group I, Experimental group II and control group. Prior to the experiment, the lipid profile status were analyzed through Blood test. After six weeks of training period the post test were conducted and the data were collected.

## DATA COLLECTION

Lipid profile test was conducted in the bio chemical laboratory under the guidance of experienced physician and lab technician. The apparatus used for the lipid profile test enzymatic cholesterol reagent set.

**Statistical Technique:** the analysis of co variance (ANCOVA) statistical technique was use to find out the effect and scheffe's post hoc test was used to find out the paired mean significant difference, Thirumalaisamy.R (1995)

## RESULTS FINDINGS AND DISCUSSION

The following table illustrate the statistical results of the Effect of two different intensities of Hollow Sprint Training on Lipid Profile Status among obese school boys and ordered adjusted means and the difference between the means of the groups under study.

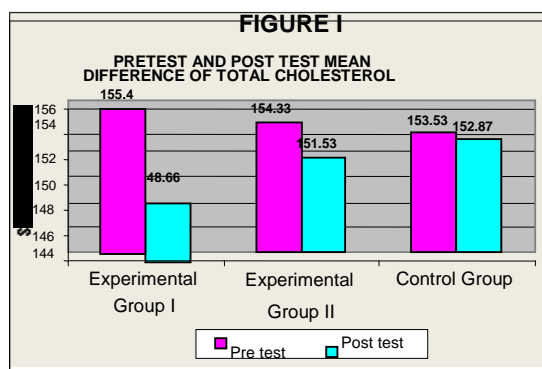
**TABLE I**

### COMPUTATION OF ANALYSIS OF COVARIANCE OF TOTAL CHOLESTEROL

(Scores in milligrams/deciliter)

MEAN	EXP-I	EXP II	CON	S.V	DF	MS	OF	TF
Pre test	155.4	154.33	153.53	B	2	13.15	0.06	3.23
				W	42	226.30		
Post test	148.66	151.53	152.87	B	2	69.09	3.46*	
				W	42	203.26		
Adjusted post test	147.76	151.62	153.69	B	2	135.64	16.62*	
				W	41	8.16		

Significant at 0.05 Level F ratio (0.05) Level of confidence for 2, 42



## DISCUSSIONS AND FINDINGS OF TOTAL CHOLESTEROL

This result indicated that the effect of hollow sprint training had significantly decreased the total cholesterol level. When compared with the control group in terms of mean gains. Hollow sprint has decreased the total cholesterol among the Experimental groups.

Analysis of covariance of total cholesterol carried out with the inclusion of hollow sprint training and the result indicate the Experimental group I and Experimental II were significantly influenced on total cholesterol.

Further findings of the study showed that the hollow sprint training decreased total cholesterol among the Experimental group because of the training is influenced and utilized total cholesterol shows that there was a vast significant difference in pre and post test among the obese school boys.

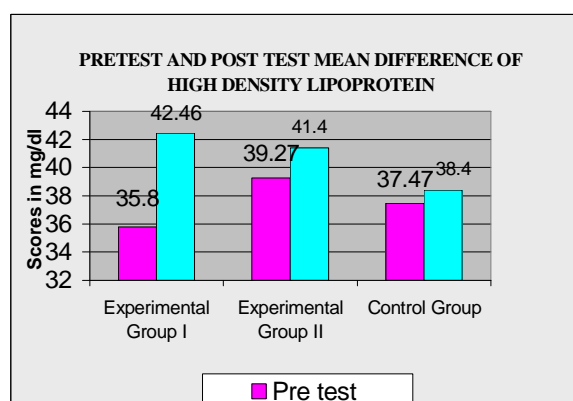
**TABLE II**  
**COMPUTATION OF ANALYSIS OF COVARIANCE OF HDL**

MEAN	EXP-I	EXP-II	CON	S.V	S.S	DF	MS	OF	TF
Pre test	35.8	39.27	37.47	B	90.18	2	12.07	0.9	3.23
				W	525.07	42	12.50		
Post test	42.46	41.40	38.40	B	133.38	2	66.69	6.18*	
				W	452.93	42	10.78		
Adjusted post test	43.71	40.12	38.43	B	204.88	2	102.44	24.20*	
				W	173.56	41	4.23		

Significant at F ratio (0.05) Level confidence for 2 (42)

### DISCUSSION AND FINDINGS OF HIGH DENSITY OF LIPOPROTEIN

This result indicated that the effect of hollow sprint training had significantly increased the High density of lipoprotein level. When compared with the control group in te



rms of mean gains. Hollow sprint has increased the high density of lipoprotein among the Experimental groups. Analysis of covariance of high density of lipoprotein carried out with the inclusion of hollow sprint training and the result indicate the Experimental group I and Experimental II were significantly influenced on high density of lipoprotein.

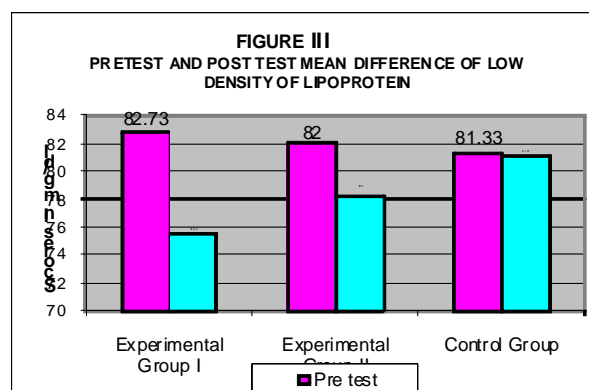
Further findings of the study showed that the hollow sprint training increased the high density of lipoprotein among the Experimental group because of the training is influenced and utilized high density of lipoprotein, results shows that there was a vast significant difference in pre and post test among the obese school boys

**TABLE III**  
**COMPUTATION OF ANALYSIS OF COVARIANCE OF LDL**

MEAN	EXP-I	EXP-II	CON	S.V	S.S	DF	MS	OF	TF
Pre test	82.73	82.00	81.33	B	14.71	2	7.35	0.14	3.23
				W	2196.21	42	52.29		
Post test	75.53	78.20	81.07	B	229.73	2	114.87	2.29	
				W	2107.07	42	50.17		
Adjusted post test	74.86	78.22	81.72	B	349.77	2	174.89	44.75*	
				W	160.21	41	3.91		

Significant at F ratio (0.05) Level confidence for 2and 42

### DISCUSSIONS AND FINDINGS OF LOW DENSITY OF LIPOPROTEIN



This result indicated that the effect of hollow sprint training had significantly decreased the low density of lipoprotein level. When compared with the control group in terms of mean gains. Hollow sprint has decreased the low density of lipoprotein among the Experimental groups. Analysis of covariance of low density of lipoprotein carried out with the inclusion of hollow sprint training and the result indicate the Experimental group I and Experimental II were significantly influenced on low density of lipoprotein. Further findings of the study showed that the hollow sprint training decreased the low density of lipoprotein among the Experimental group because of the training is influenced and utilized low density of lipoprotein,

results shows that there was a vast significant difference in pre and post test among the obese school boys.

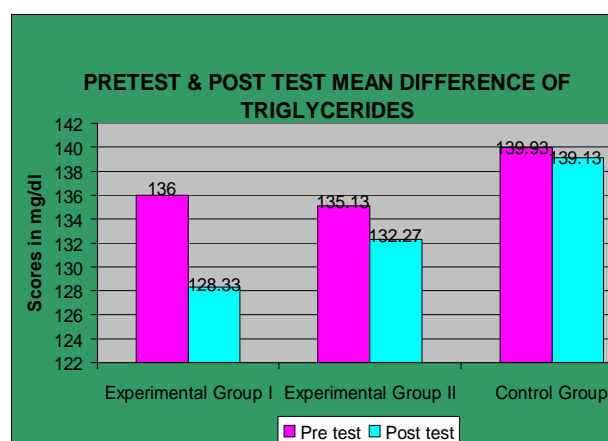
**TABLE V**  
**COMPUTATION OF ANALYSIS OF COVARIANCE OF TRIGLYCERIDES**

COMPUTATION OF ANALYSIS OF COVARIANCE OF TRIGLYCERIDES									
MEAN	EXP-I	EXP-II	CON	S.V	S.S	DF	MS	OF	TF
Pre test	136	135.13	139.93	B	196.31	2	98.15	0.23	3.23
				W	18489.33	42	440.22		
Post test	128.33	132.27	139.13	B	896.31	2	448.16	9.13*	
				W	2062.00	42	49.10		
Adjusted post test	128.22	132.06	139.45	B	985.34	2	492.67	8.85*	
				W	2282.82	41	55.68		

Significant at F ratio (0.05) Level confidence for 2 (42)

**DISCUSSION AND FINDINGS OF TRIGLYCERIDES:** This result indicated that the effect of hollow sprint training had significantly decreased the triglycerides level. When compared with the control group in terms of mean gains. Hollow sprint has decreased the triglycerides among the Experimental groups. Analysis of covariance of triglycerides carried out with the inclusion of hollow sprint training and the result indicate the Experimental group I and Experimental II were significantly influenced on triglyceride. Further findings of the study showed that the hollow sprint training decreased the triglycerides among the Experimental group because of the training is influenced and utilized the triglycerides, results shows that there was a vast significant difference in pre and post test among the obese school boys.

## RESULT OF THE RESEARCH



The finding of the study showed that there was significant Effect on lipid profile status such as total cholesterol, HDL, LDL, VLDL, Triglycerides due to the influence of hollow sprint training. Hence the first hypothesis was accepted on the above mentioned variables.

The finding of the study showed that Hollow sprint training significantly improved on Experimental Group I greater than that of Experimental group II on lipid profile status such as total cholesterol, HDL, LDL, VLDL, Triglycerides. Hence the second hypothesis was also accepted on the above mentioned variables.

## CONCLUSION

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

1. Lipid profile status was reduced due to the influence of two different intensities of hollow sprint training of obese school boys.
2. Experimental group I start with 15 repetitions shown the significantly greater improvement in HDL and greater reduction in Total cholesterol.
3. Experimental group II start with 10 repetitions has shown the greater reduction in LDL, VLDL and triglycerides.

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# EFFECTS OF TWO DIFFERENT FAT REDUCTION WITH WALKING ON SELECTED LIPID PROFILE STATUS AND TESTOSTERONE AMONG MIDDLE AGED MEN

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**Abstract:** The purpose of the study was to investigate effects of two different fat reduction methods with walking on selected lipid profile status and testosterone among middle aged men. For this purpose, forty-five middle aged men, were selected at random and assigned to three equal groups. Pre test were conducted for all three groups on selected Lipid profile status and testosterone variables. The experimental groups were participated in their respective walking and supplementations for a period of eight weeks on alternate days. Post tests were conducted on the above mentioned dependent variables after eight weeks of the training period. **RESULTS:** Within the limitations of the study, the following conclusions were drawn: 1.Experimental group I (*Statin supplementation with 1 km walking*) showed significantly greater reduction on Low Density Lipoprotein, High Density Lipoprotein and Triglycerides than that of Experimental group II of training at end of eight week period of time.

**STATEMENT OF THE PROBLEM:** The purpose of the study was to investigate effects of two different fat reduction methods with walking on selected lipid profile status and testosterone among middle aged men.

**SELECTION OF VARIABLES:** The following variables were selected for this study: **DEPENDENT VARIABLES:**

**1. Low density lipoprotein 2. High density lipoprotein 3. Triglycerides 4. Testosterone.**

**INDEPENDENT VARIABLES:** **1. Experimental group I (WALKING WITH NATURAL SUPPLIMENTATION), 2. Experimental group II (WALKING WITH STATIN SUPPLIMENTATION), 3. Control Group (NO WALKING AND SUPPLIMENTATION)**

**EXPERIMENTAL DESIGN:** The study was formulated as a true random group design consisting of a Pre test and post test. For this purpose, forty-five middle aged men, were selected at random and assigned to three equal groups. The groups were assigned as Experimental group I, Experimental group II and Control Group. Pre test were conducted for all three groups on selected Lipid profile status and testosterone variables. The experimental groups were participated in their respective walking and supplementations for a period of eight weeks on alternate days. Post tests were conducted on the above mentioned dependent variables after eight weeks of the training period.

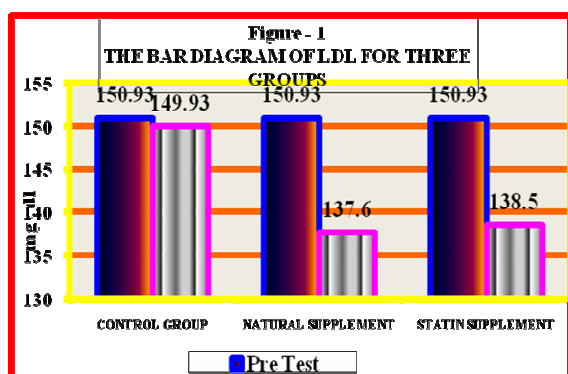
**STATISTICAL TECHNIQUE:** Analysis of Covariance statistical technique was used, to test the significant difference among the treatment groups. If the adjusted post-test results were significant, the scheffe's post hoc test was used to determine the paired mean significant difference. Thirumalaisamy R. (2004)

**RESULT AND DISCUSSIONS:** the following tables illustrate the statistical results of the effects of two different fat reduction with walking on selected lipid profile status and testosterone among middle aged men and ordered adjusted means and the difference between the means of the groups under study

**TABLE – I**

**COMPUTATION OF ANALYSIS OF COVARIANCE OF LDL (Scores in mg /dl)**

Means	EXP - I	EXP - II	Con.Group	S.V	S.S	D.F	M.S	O. F
Pre test Mean	164.56	164.57	164.57	B	0.00	2	0.07	0.00
				W	12910.10	87	148.39	
Post test	155.66	152.00	166.30	B	2505.76	2	1252.88	16.07*
				W	6784.03	87	77.98	
Adj.Post test ean	155.67	152.00	166.30	B	2505.76	2	1252.88	40.09*
				W	2687.82	86	31.25	



## DISCUSSION ON FINDINGS OF LOW DENSITY LIPOPROTEIN

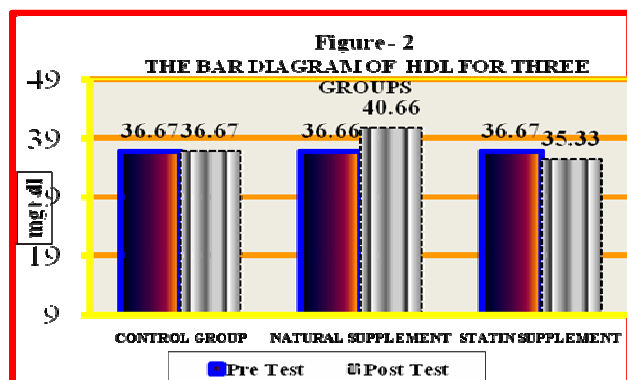
From these analyses, it is found that the results obtained from the experimental groups had significant improvement in the Low Density Lipoprotein level when compared with the one from the control group. This is due to the inclusion of Different Fat Reduction with Walking in the analyses on Experimental Groups.

It is interesting to note that the results obtained from Experimental Group I had more effect than Experimental Group II on the improvement of Low Density Lipoprotein level. This is due to the variation in the supplementation level in Experimental Group II.



**TABLE – II**  
**COMPUTATION OF ANALYSIS OF COVARIANCE OF HDL**

Means	EXP - I	EXP - II	Con.Group	S.V	S.S	D.F	M.S	O. F
Pre test Mean	36.66	36.67	36.67	B	0.00	2	0.000	0.00
				W	1832.00	87	21.06	
Post test Mean	40.66	35.33	36.67	B	462.22	2	231.11	16.59
				W	1212.00	87	13.93	
Adj.post test Mean	40.67	35.33	00.0	B	462.22	2	231.11	35.47

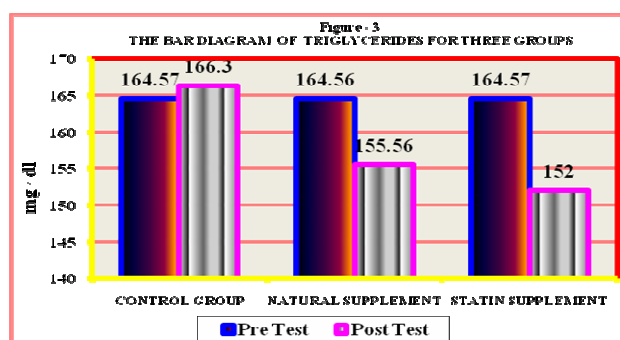


**FINDINGS OF HDL RESULT:** From these analyses, it is found that the results obtained from the experimental groups had increase reduction in the triglycerides level when compared with the one from the control group. This is due to the inclusion of Different Fat Reduction with Walking in the analyses on Experimental Groups. This "good" cholesterol carries LDL back to the liver, where it is converted to single chain Lipoprotein and helps to prevent cholesterol buildup in blood vessels. Low HDL level increases the heart disease risk.

**TABLE – III**  
**COMPUTATION OF ANALYSIS OF COVARIANCE OF TRIGLYCERIDES**

Means	EXP - I	EXP - II	Con.Group	S.V	S.S	D.F	M.S	O. F
Pre test Mean	150.93	150.93	150.93	B	0.00	2	0.00	0.00
				W	3611.60	87	41.51	
Post test Mean	137.6	138.05	149.93	B	2775.02	2	1387.51	23.52*
				W	5131.87	87	58.99	
Adj.post test Mean	137.60	133.13	149.93	B	2775.02	2	1387.51	39.29*
				W	3036.90	86	35.31	

Table F-ratio at 0.05 level of confidence for 2 and 87 (df) =3.1 and 86 (df) = 3.1 \*significant



had great reduction in **Triglycerides**, than the Experimental group II, due to influence of Statin supplementation with 1 km walking for a period of eight week training.

**TABLE – IV**  
**COMPUTATION OF ANALYSIS OF COVARIANCE OF TESTOSTERONE**

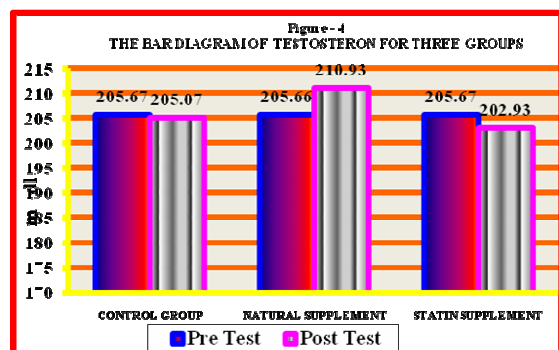
Means	EXP - I	EXP - II	Con. Group	S.V	S.S	D.F	M.S	O. F
Pre test Mean	205.66	205.67	205.67	B	0.00	2	0.000	0.00
				W	11486.00	87	132.02	
Post test	210.93	202.93	205.07	B	961.09	2	480.54	3.94



				W	10615.90	87	122.02	
Adj.Post test Mean	210.93	202.93	205.17	B	961.09	2	480.54	8.44
				W	4897.61	86	56.95	

Table F-ratio at 0.05 level of confidence for 2 and 87 (df) =3.1 and 86 (df) = 3.1 \*significant

**DISCUSSION ON FINDINGS OF TESTOSTERONE:** From these analyses, it is found that the results obtained from the experimental groups had significant reduction in the **Testosterone** level when compared with the one from the control group. This is due to the inclusion of Different Fat Reduction with Walking in the analyses on Experimental Groups.



It is interesting to note that the results obtained from Experimental Group II had more effect than Experimental Group I on the improvement of **Testosterone** level. This is due to the variation in the intensities level in 30 Experimental Group and 23 Experimental Group.

**RESULTS:** Within the limitations of the study, the following conclusions were drawn:

1. Experimental group I (*Statin supplementation with 1 km walking*) showed significantly greater reduction on Low Density Lipoprotein, High Density Lipoprotein and Triglycerides than that of Experimental group II of training at the end of eight week period of time.
2. Experimental group II (*Natural supplementation with 1 km walking*) showed significant Improvement on High Density Lipoprotein and testosterone than that of Experimental group II at the end of eight week period of time.

**FINDINGS:** After incorporate statistically technique, it was found that a significant decrease in low density and triglycerides in the experimental group I (*Statin supplementation with 1 km walking*), and also found that high density lipoprotein and testosterone significantly increase due to eight week of **Natural Supplementation with 1 km walking training**.

The two types of supplementation with 1 km walking adopted in this study, on the whole, brought about significantly both positive and negative changes from the respective Experimental groups. But in the Natural Supplementation has great potential to increase the good cholesterol, anti-inflammation, metabolism, cardiovascular function and increased testosterone secretion without any side effects.

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# ROLE OF 5 GL-DOCTOR'S IN SPORTS INJURY

By

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## Introduction

Any kind of injury can occur during or before participation in any sports or various physical activities.

Injury can be divided in two parts

1. Traumatic – Produced after collision like in Basketball game Finger fracture, Thumb Sprain, ankle sprain etc
2. Non-Traumatic - without collision like illness, infection, blood pressure etc.

## Doctor's Role

In both types of Injuries 80 % to 90% of cases are minor and easily treatable.

Doctor's role is

- To find Injury type.
- To give proper treatment including medicine.

## Problems for Doctors

It is quite difficult to remember and diagnose all kind of injuries and treatment due to a large number of types and medicines. For example

If we take Knee Injury out of N injuries then

There are nine types, like

Knee Bursitis

Knee Cartilage

Knee Contusion

Knee Dislocation

Knee Sprain

Knee Strain

Knee Synovitis with effusion

Kneecap Dislocation

Kneecap Fracture

Now to diagnose and treat one of these say **Knee Strain**

One has to follow

1. Diagnosis on the basis of number of question (A)
2. Decision on the basis of answers and comparing with standard.(B)
3. Treatment on the basis of problem and First Aid, Physiotherapy and medicines remembered.(C)

So if we calculate the **LOAD** for a Sports Doctor, minimum it will be

$N=100$

$A=10$

$B=10$

$C=FA+P+M = 5+5+5=15$

**LOAD=N\*(A+B+C)**

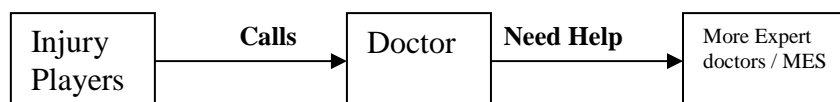
$= 100*(10+10+15)$

$=3500$  rules

where

**LOAD  $\propto$  N.**

## 5 GL DOCTORS(MES)



5 GL doctor is Software. It is medical expert system. 5 GL stands for 5<sup>th</sup> generation computer language. Expert system and its programming tools are example of this.

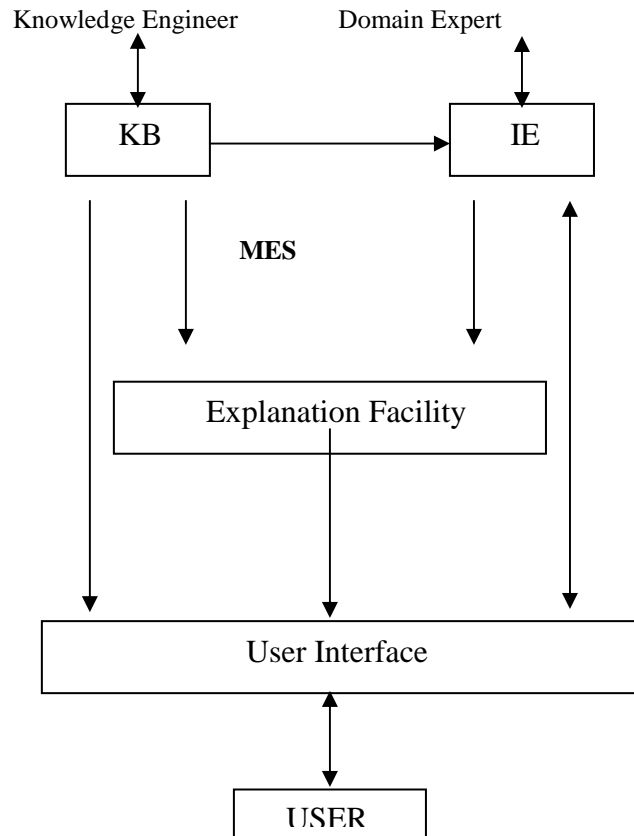
5GL is about building an expert system only. It works on the building conversation basis. Number of questions will be asked and by collecting answers it will give solution

## Expert System

As we know an expert is a person who is able to do things the rest can't. Here Expert system is a computer program using expert knowledge to attain high levels of performance in a narrow problem area. An expert system's knowledge is obtained from expert sources like experts, texts, journals, articles etc.

5GL is MES because knowledge is obtained from medical sources.

## MES Architecture



KB – Stores domain knowledge

IE – Reasons with this knowledge for solving problems (performs the task of matching)

KE- Involved in the development of the IE, structure of KB and UI

EF – Facility to answer query of type 'WHY', 'HOW' in the form of 'YES', 'NO'.

UE – Provides the needed facilities for the user to communicate with MES.

Domain Expert – Transfers the entire knowledge about the domain (injury & treatment)

Some standard Medical Expert Systems are:

MYCIN, EMYCIN, CADUCEOUS etc.

### WORKING PROCESS OF 5GL Doctor

It works on the basis of production rule

IF <condition> THEN <action>

e.g

```
IF    player has pain when moving or stretching the knee
AND   muscle spasm in the knee area
AND   swelling over the injury
AND   crepitation feeling and sound when injured area is pressed with finger
AND   calcification of the muscle
THEN  Knee Strain
AND   Give first aid RICE
AND   ice massage 3 to 4 times a day
AND   take whirlpool treatment
AND   Give Aspirin , Ibuprofen
```

**Requirement for MES:**

Laptop/Palmtop Computers

***Process of Development***

1. Data collection
2. Software Development.

***CONCLUSION***

5 GL Doctor is intended for sport's doctor who are

1. Very experienced.
2. Very well qualified.
3. Highly intelligent.
4. Highly Cautious.

On the basis of symptoms/sign/history/injury/trauma a sport's doctor can include in their player's documentation. So a doctor could tick the more important condition, which he should have quickly, consider. The main motivation is

- Replication of expertise, providing many copies of an expert's knowledge so it can be consulted even when the Doctor is not personally available.
- Union of expertise, providing in one place the union of what several different Doctor's known about different specialties.
- Documentation, providing a clear record of the best knowledge available for handling a specific injury.
- From the knowledge base search the injury type on the basis of symptoms and give advise to take appropriate medicine to cure the problem.

# EFFECT OF SELECTED YOGIC PRACTICES AND PHYSICAL EXERCISES ON BIO-CHEMICAL VARIABLES AMONG COLLEGE WOMEN STUDENTS

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## ABSTRACT

The purpose of the study was Find out the Effect of Selected Yogic Practices and Physical Exercises on Bio-Chemical Variables among College Women Students. The study was conducted on 20 women students of Queen Mary's College, Chennai, Tamil Nadu were selected as subjects. The selected subjects were divided in two groups. Group I underwent the selected yogic practices training and Group II underwent the physical exercises. The subject age ranged from 18 to 23 years. The subjects were selected at random from the College Women Students. The study was formulated as pre post test and pre experimental design. The yogic practice group had significant improvement in body cholesterol and improved triglyceride, HDL and LDL.

**Key words:** Yogic practices, physical exercises, cholesterol, High Density

## INTRODUCTION

The word "yoga" is derived from the Sanskrit root yuj which means "to yoke" the related meaning is "to focus attention on" or "to use". In philosophical terms, the union of the individual self, paramatma, is yoga. The union results in a pure and perfect state of consciousness in which the feeling of "I" simply does not exist. Prior to this union is the union of the body with mind, and the mind with the self yoga is thus a dynamic, internal experience which integrates the body, the senses, the mind, and the intelligence, with the self.

## METHODOLOGY

To achieve the purpose of this study 20 college women students of Queen Mary's College, Chennai, Tamil Nadu were selected as subjects. The selected subjects were divided into two groups. Group I, underwent the selected yogic practices and Group II underwent the physical exercises. The subject's age ranged from 18 to 23 years. The subjects were selected at random from the college women students. The study was formulated as pre post test pre experimental design.

The statistical analysis of the result obtained from the selected yogic practices and physical exercises on bio-chemical variables for college women students and their age ranged from 18-23 years. To find out the effect of selected yogic practices and physical exercises on bio-chemical variables among college women students, and to determine the significant improvement of the study. To find out the mean differences between the selected yogic practices group and physical exercises group the 't' ratio was used as statistical techniques.

## RESULTS AND DISCUSSIONS

**TABLE I**

**SIGNIFICANCE DIFFERENCE BETWEEN THE INITIAL AND THE FINAL MEANS OF THE SELECTED YOGIC PRACTICES AND PHYSICAL EXERCISE GROUPS ON CHOLESTEROL IN Mg/dl**

GROUP	TESTS	MEAN	STANDARD DEVIATION	STANDARD ERROR	"t" RATIO
<b>SELECTED YOGIC PRACTICES GROUP (N=10)</b>	<b>PRE-TEST</b>	174.6000	12.05727	3.81284	1.1771
	<b>POST TEST</b>	167.9000	6.40226	2.02457	
<b>PHYSICAL EXERCISE GROUP (N=10)</b>	<b>PRE-TEST</b>	175.700	9.67299	3.05887	0.546
	<b>POST TEST</b>	178.1000	7.51960	2.37791	

Not Significant at 0.05 level of confidence.

"t" value required at 0.05 level = 2.262 with the degrees of freedom = 9.

The statistical result shown in Table I indicate that the final mean (167.90) is decreased than the initial mean (174.60) for selected yogic practices group. This shows the cholesterol level is decreased in selected yogic

practices group. In the physical exercise group the final mean (178.10) is higher than the initial mean (175.70). The “t” value (1.1771) for selected yogic practices group and (0.546) for the physical exercise group derived from ‘t’ test is lower than the table value (2.262) with degrees of freedom 9 and at 0.05 level of confidence. Hence, the result shown by the selected yogic practices and physical exercise group for cholesterol is not significant.

#### ANALYSIS OF TRYGLYCERIDES

The table of statistical description revealed that effect of selected yogic practices and physical exercise groups on triglycerides.

**TABLE II**

**SIGNIFICANCE DIFFERENCE BETWEEN THE INITIAL AND THE FINAL MEANS OF SELECTED YOGIC PRACTICES AND PHYSICAL EXERCISE GROUPS ON TRIGLYCERIDES IN Mg/dl**

GROUP	TESTS	MEAN	STANDARD DEVIATION	STANDARD ERROR	“t” RATIO
<b>SELECTED YOGIC PRACTICES GROUP (N=10)</b>	<b>PRE-TEST</b>	146.80	19.57209	6.18924	3.727*
	<b>POST TEST</b>	159.60	15.86190	5.01597	
<b>PHYSICAL EXERCISE GROUP (N=10)</b>	<b>PRE-TEST</b>	147.60	17.83380	5.63954	2.201
	<b>POST TEST</b>	173.80	38.51926	12.18086	

\*Significant at 0.05 level of confidence.

“t” value required at 0.05 level = 2.262 with the degrees of freedom = 9.

The statistical result presented in the table II denotes that in both the selected yogic practices and the physical exercise groups the final means are higher than the initial means. The calculated “t” value for selected yogic practices group is (3.727) is higher than the table value which is observed to be highly significant at 0.05 level of confidence. In physical exercise group the “t” value is (2.201) almost it reaches the table value but it is not significant.

#### ANALYSIS OF HIGH DENSITY LIPOPROTEIN (HDL)

The statistical results shown in the Table III shows the effect of selected yogic practices and physical exercise groups on HIGH DENSITY LIPOPROTEIN (HDL) (“good cholesterol”).

**TABLE III**

**SIGNIFICANCE DIFFERENCE BETWEEN THE INITIAL AND THE FINAL MEANS OF SELECTED YOGIC PRACTICES AND PHYSICAL EXERCISE GROUPS ON HIGH DENSITY LIPOPROTEIN (HDL) IN Mg/dl**

GROUP	TESTS	MEAN	STANDARD DEVIATION	STANDARD ERROR	“t” RATIO
<b>SELECTED YOGIC PRACTICES GROUP (N=10)</b>	<b>PRE-TEST</b>	35.90	2.60128	0.82260	3.083*
	<b>POST TEST</b>	33.60	2.01108	0.63596	
<b>PHYSICAL EXERCISE GROUP (N=10)</b>	<b>PRE-TEST</b>	33.70	2.62679	0.83066	1.039
	<b>POST TEST</b>	34.80	1.68658	0.53333	

\*Significant at 0.05 level of confidence.

“t” value required at 0.05 level = 2.262 with the degrees of freedom = 9.

The above Table III shows that the “t” value of selected yogic practices group for HDL (3.083) is higher than the table value. Hence it shows that it was found to be highly significant at 0.05 level of confidence. But in the physical exercise group the “t” value for HDL is lesser than the table value, so it was found to be not significant at 0.05 level of confidence.

### ANALYSIS OF LOW DENSITY LIPOPROTEIN (LDL)

The statistical results shown in the Table IV explain the effect of selected yogic practices and physical exercise groups on LOW DENSITY LIPOPROTEIN (LDL) ("bad cholesterol")

**TABLE IV**

**SIGNIFICANCE DIFFERENCE BETWEEN THE INITIAL AND THE FINAL MEANS OF SELECTED YOGIC PRACTICES AND PHYSICAL EXERCISE GROUPS ON LOW DENSITY LIPOPROTEIN (LDL) IN Mg/dl**

GROUP	TESTS	MEAN	STANDARD DEVIATION	STANDARD ERROR	"t" RATIO
SELECTED YOGIC PRACTICES GROUP (N=10)	PRE-TEST	110.50	10.53302	3.33083	1.657
	POST TEST	105.10	8.3858	2.65183	
PHYSICAL EXERCISE GROUP (N=10)	PRE-TEST	106.60	5.08156	1.60693	0.187
	POST TEST	107.10	7.69488	2.4333	

Not Significant at 0.05 level of confidence.

"t" value required at 0.05 level = 2.262 with the degrees of freedom = 9.

The statistical result presented in Table IV denotes that the initial mean of LDL (110.50) of selected yogic practices group is higher than the final mean (105.10) and the "t" value (1.657) is lower than the table value. Therefore it is not significant at 0.05 level. In the physical exercise group also the "t" value is less than the table value, it was also found to be not significant.

### DISCUSSION ON FINDINGS

Based on the analysis of statistical results, of the selected yogic practices and physical exercise groups on all selected bio-chemical variables, it is clearly observed that the selected yogic practices for eight weeks helped to decrease the body cholesterol levels. The result show that for both the selected yogic practices and the physical exercise groups the triglycerol level has increased through the eight week training programme. Hence the hypothesis was accepted here. The statistical analysis shown that the selected yogic practices and the physical exercise programme helped in increasing the "good" cholesterol that is HDL. The selected yogic practices group has improved higher than the physical exercise group. Hence the hypothesis was accepted. The statistical actual results obtained from the "t" test showed that there were some decrements in LDL ("bad" cholesterol). Hence it was not significant.

On the basis of statistical analysis of the result and discussion on findings of this study, it was evident that regular selected yogic practices programme and physical exercise programme has helped to improve "good" cholesterol HDL, triglycerides and also helps to reduce the LDL "bad" cholesterol levels in the body.

Hence, the tentatively assumed hypothesis has been accepted in case of triglycerides and HDL "good" cholesterol. The hypothesis was rejected in case of LDL "bad" cholesterol and cholesterol levels. Hence the hypothesis of the study was partially accepted.

### CONCLUSIONS

From the statistical analysis of data, with the limitations imposed by the experimental conditions the following conclusions were drawn:

1. The selected yogic practices group had significantly improved in body cholesterol
2. The selected yogic practices group had insignificantly improved in triglyceride, HDL and LDL.
3. The physical exercise group had insignificantly improved in cholesterol, triglyceride, HDL and LDL.
4. The reason may be for insignificant was the selected subjects were under gone various physical activities in their curriculum, so no possibility of improvement on above variables for Football players.
5. When the selected yogic practices group was compared with physical exercise group, there was significant improvement in triglyceride and HDL.

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# A STUDY OF STRENGTH TRAINING PERFORMANCE OF NORMAL AND OBESE MALE STUDENTS

By

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## Abstract

The purpose of this study is to find out the strength training performance of both the categories i.e. normal weight and obese students. Further more to find out the best performer with regard to strength among these two groups. A pre and post test was conducted on a group of 30 students in the age group of 19 to 20 years enrolled for the weight lifting course in the semester of 2009 academic year at KFUPM, Saudi Arabia. The selected subjects were given a 40 minutes of strength training schedule twice a week for a period of 10 weeks. The minimum muscular strength test was employed on the subjects i.e. leg press and bench press. The following were the objectives of the study –To find out the level of performance of both the categories. To compare both the categories and to find out the best performer. The statistical tools used were mean, S.D, 't'-test. It is concluded that both the categories improve in their performance in strength training. The Obese students were the best performers in strength training. Further more it is concluded that the obese students perform best in leg press exercise which makes a huge dominance in the performance and left par behind to the normal weight category subjects in compare with the overall strength performance.

**KEYWORDS:** leg press, bench press, categories, schedule, muscular strength.

**INTRODUCTION:** Strength training (ST) is the use of resistance to muscular contraction to build the strength, anaerobic endurance, and size of the skeletal muscles. There are many types of methods of strength training, i.e. pushing, or pulling with the weights. In recent days S.T has attracted to one and all globally. S.T is beneficial to all sports men and women since it improves overall physical fitness .This apart there are lot of benefits from S.T, as it helps to strengthen the bones, decrease the resting blood pressure, improves muscular strength, muscular endurance, improves overall physical fitness, makes the heart more efficient, has a beneficial effect on almost all the major and minor 650+ muscles, also ST can provide significant functional benefits and improvement in overall health and well-being, and makes one feel strong and confident.

The main purpose of the study was to find out the level of performance of both the categories, to compare both the groups, and to find out the best performer among them pertaining to the strength.

**METHOD:** A group of 30 male students each from both the categories i.e. normal Category and obese in the age of 20 years enrolled in the weight lifting course for the 2009 academic year were selected as subjects for the study. The sample was randomly selected from a group of 120 students who were in the above training .The tests which were selected for the study were leg press(L.P), bench press (B.P), . The procedure of all these exercises was explained and demonstrated before the pre and post test administration. A schedule of 40 minutes S.T program was employed on the subjects twice a week for a Period of 10 weeks. A post test was conducted at the end of 10<sup>th</sup> week.

**RESULT AND DISCUSSION:** The result of this study is very interesting and noteworthy. In fact these weight lifters have shown much improvement in their performance and proper technique while executions during the post test.

The pre test result shows that both the groups are all most nearly same in performance in leg press and bench press exercises respectively. The post test results reveals that both groups improved in muscular strength test i.e. leg press and bench press. This is universal fact that obese individuals are having less fitness levels and in many sports they cannot participate or excel. But in strength they are not par behind with the other weight category, they are very good performers, but they are also more dominant in performance with compare to other group performance. This is to make a note about obese students, this body type is known as endomorphic and greatly suitable for the power, and throws events. The physical education teachers and coaches should make a note and select this body types for this events in future.

Leg press is one of the basic exercise which helps to take care of the strength of the lower extremity. A sports person with good lower strength can carry his body with ease and his performance will be enhanced. Leg press help in the improvement and total development of thigh muscles, which ultimately results in the improved strength performance of the students. The leg press exercise mainly works on the quadriceps, gluteal muscles, adductor group, erector spinae, abdominal muscles, and the hamstrings. Leg press machine design with the angle of 40 degree is ideal and best for making good improvement.



The upper part of the body of a person indicates how the personality can make a difference in appearance. It is seen that almost a high percentage of people develop the chest muscles to give the look of huge and strong. The importance of having more strength in chest is quite understandable as the vital organs are located in this part. The reasons now are very clear why athletes tend to develop the upper body. B.P exercise develops pectoralis major muscle, pectoralis minor, anterior deltoid, serratus anterior and coracobrachialis. The B.P exercise is a test for upper body and one of the events in power lifting.

The results of the study is as under

The means, S.D, and 't'- test of the subjects are presented in the tables & graphs

From 1 to 4.

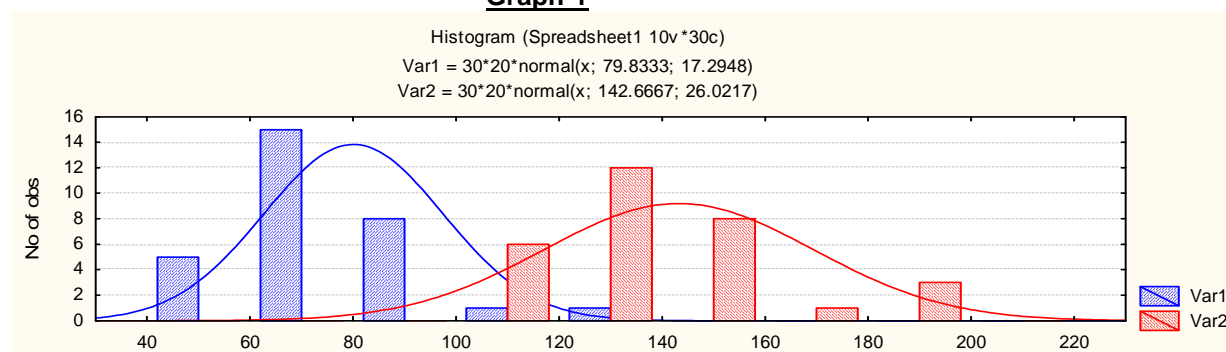
**Table-1**

Sl. No.	Test	No. of Subjects	Mean	SD	Df	't' Value
1	Pre- test L.P	30	79.83	17.29	29	29.3617
2	Post-test L.P	30	142.67	26.02		

P-value=0.000, 't'-test for dependent samples marked difference are significant at  $p < 0.05$

Table-1, above indicates the results with regard to leg press. The subjects with the training have shown improvement in the performance of leg press from pre to post with the mean and S.D being (79.83, 142.67) and (17.29, 26.02) respectively. The improvement is quite encouraging and significant ( $p < 0.0001$ ).

**Graph-1**



The above graph, shows the mean values and SD of the normal category students with regard to their leg press performance from pre to post

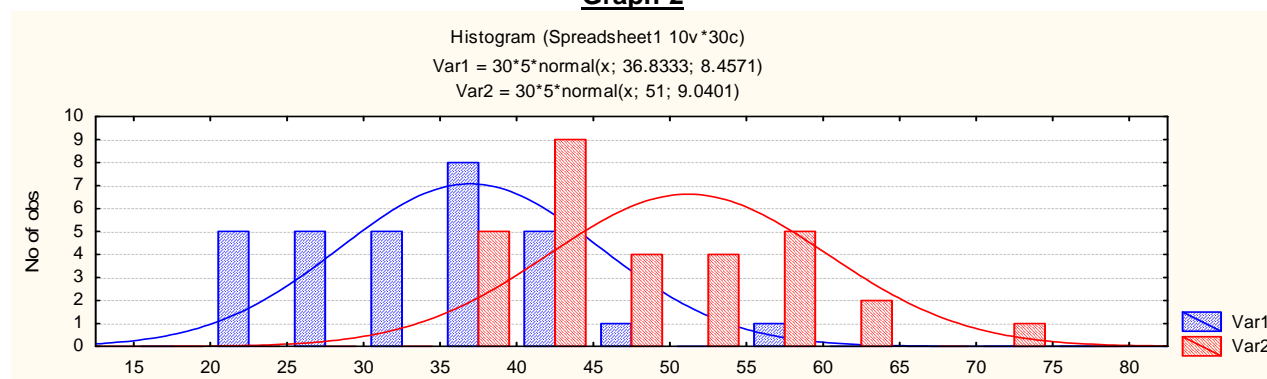
**Table-2**

Sl. No.	Test	No. of Subjects	Mean	SD	Df.	'T' Value
1	Pre- test B.P	30	36.83	8.46	29	29.244
2	Post-test B.P	30	51.00	9.04		

P-value=0.000, 't'-test for dependent samples marked difference are significant at  $p < 0.05$

The above table indicates the mean, S.D and 't'-test of the B.P which is one of the events of power lifting. The mean and S.D in the pre and post test are () and () respectively. The data clearly speaks of an improved performance from pre to post scores of the students which is significant at ( $p < 0.0001$ ).

**Graph-2**



The above graph, shows the mean values and SD of the normal category students with regard to their bench press performance from pre to post

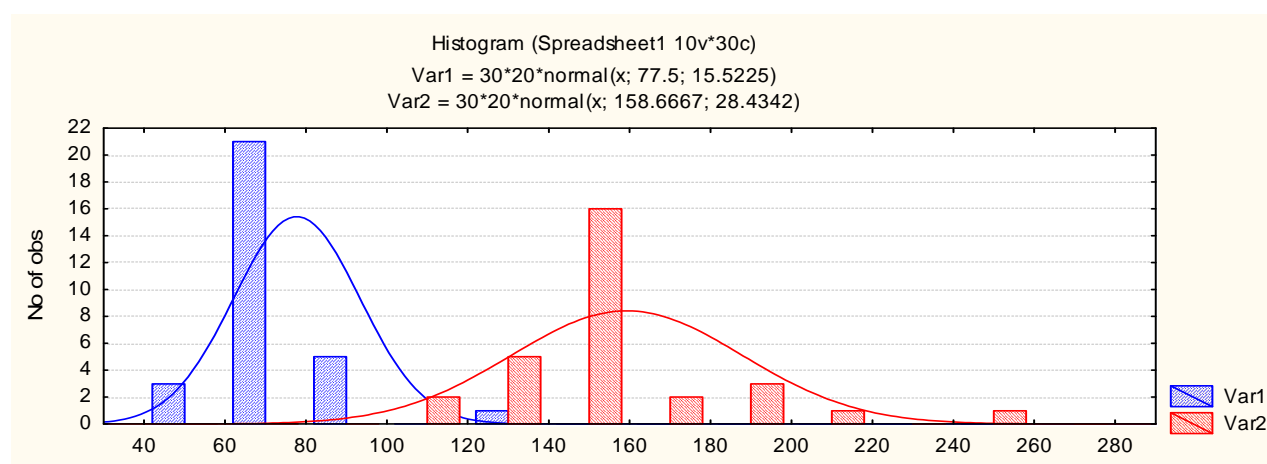
**Table-3**

Sl. No.	Test	No. of Subjects	Mean	SD	Df.	'T' Value
1	Pre- test L.P	30	77.50	15.52	29	30.32
2	Post-test L.P	30	158.67	28.43		

P-value=0.000, 't'-test for dependent samples marked difference are significant at  $p < 0.05$

The above table shows the mean, S.D and t-test of the leg press exercise. The mean and S.D in the pre and post test are (77.50, 158.67) and (15.52, 28.43) respectively. The data clearly speaks of an outstanding improved performance from pre to post scores of the obese students which is highly significant at ( $p < 0.0001$ ).

**Graph-3**



The above graph, shows the mean values and SD of the obese students with regard to their leg press performance from pre to post

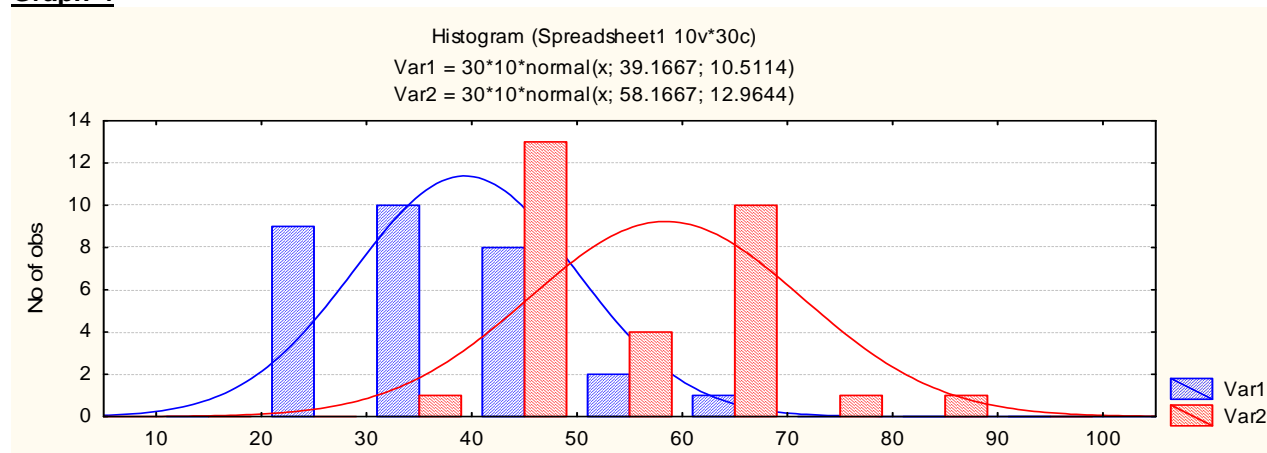
**Table-4**

Sl. No.	Test	No. of Subjects	Mean	SD	Df	'T' Value
1	Pre- test B.P	30	39.16	10.51	29	23.47
2	Post-test B.P	30	58.16	12.96		

P-value=0.000, 't'-test for dependent samples marked difference are significant at  $p < 0.05$

Table-4, above indicates the mean, S.D and 't'-test of the B.P which is one of the events of power lifting. The mean and S.D in the pre and post test are (39.16, 58.16) and (10.51, 12.96) respectively. The data clearly speaks of an improved performance from pre to post scores of the obese students which is highly significant at ( $p < 0.0001$ ).

**Graph-4**



The above graph, shows the mean values and SD of the obese students with regard to their bench press performance from pre to post

**CONCLUSION:** It is concluded from this study, that there was a marked improvement in the performance of the students from both the groups in strength exercises regard to leg press and bench press exercises respectively, which is quite significant.

The students from both the groups have shown a highly marked improvement in performance of leg press, which shows the interest and strength among the students for this event, which is very encouraging and significant.

Further more with regard to the comparison among the two categories the obese students performed well and they are more dominant in the performance pertaining to the leg press exercise, which makes a huge difference in the overall performance between the two groups.

### **Acknowledgement**

*The author thanks to the subjects for their cooperation in making this study successful and the authorities of KFUPM.*

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# A STUDY ON THE RELATIONSHIP BETWEEN SKILL PERFORMANCE AND SELECTED PHYSICAL FITNESS VARIABLES OF HAND BALL PLAYERS

BY

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## ABSTRACT

**Purpose:** To examine the relationship between skill performance and selected physical fitness variables of hand ball players of Osmania University, Hyderabad, India.

**Method:** A sample size of 30 handballers were randomly selected from the players undergoing rigorous training camp for the All India Inter University tournament. The age of the subjects ranged between 18 to 22 years. Defensive ability, passing ability, and dribbling ability were taken as independent variables under the skill performance. For physical fitness variables, speed, explosive power, agility, cardio-respiratory endurance, and flexibility were taken into consideration. Defensive ability, passing ability, and dribbling ability was assessed by defense movement test, passing test, and control dribbling test. The tests selected for the physical fitness variables are as under. For Speed 50m run, for explosive power sergeant jump, for agility 6 x 10m shuttle run, for cardio-respiratory endurance 12 min run/walk test and for flexibility bend & reach test. The statistical tool used was Pearson product moment correlation.

**Results:** The data indicated some interesting results. Defensive ability had positive correlation with speed and agility whereas explosive power, cardio-respiratory endurance, and flexibility had a negative correlation. The passing ability had a negative correlation with speed & agility and a positive correlation with explosive power, cardio respiratory endurance, and flexibility. The skill of dribbling had a positive correlation with speed and agility, a negative correlation with explosive power and was insignificantly correlated to cardio respiratory endurance and flexibility.

**Conclusions:** The results showed that defensive ability performance can be improved by good speed & agility. A player can excel in passing if he has a better explosive power, cardio respiratory endurance, and flexibility. The skill of dribbling can be taken care if a player has speed and agility.

**Key words:** Fitness, Rigorous, Dribbling, Agility, explosive power, Flexibility.

**INTRODUCTION:** Sports and games in the modern era occupy a very prominent and important place in the life of people and also in every sphere of life. Sport consists of physical activity carried out with a purpose for competition, for self-enjoyment, to attain excellence, for the development of a skill, or more often, some combination of these. A Sport is typically characterized by physical activity, competition, self-motivation and a scoring system. Sports differ in their dependence upon a set of individuals or team skills, as well as in the ways in which they have their participants compete.

As fitness and sports go hand in glove there is a need to develop the ability in an individual to play the game with good skill and perform consistently well. There are many sports which a person can choose from. One such sport is Handball which is a very popular modern indoor game with fast and quick action. Handball is an Olympic sport with 166 countries affiliated to world body, and approximately 795,000 teams and 19 million players. The concept of the game and rules make high physical and technical demands on the players. Successful performance in handball requires the ability to generate power combined with other physical parameters and precise skills to achieve desired results. It is identified that the present handball players perform mainly the movements such as quick starting, sudden change in direction, sudden stopping, sudden acceleration, quick jumping and shuttling with and without the ball. The fundamental techniques which are highly skillful in handball are passing, receiving, dribbling, shooting, faking, and feinting. Mere skills can never assure victory, as a player has to possess requisite fitness components. The fitness variables help to elevate the "skills" to higher levels of performance in the game. Physical fitness and technical skills are interrelated and based on the line of this statement the investigator was keen and became interested to study the "Relationship between Physical Fitness and Skill Performance, which will highlight the importance of physical fitness on skills like dribbling, passing, and defensive movements considered as vital and widely needed by a handball player.

**METHOD:** Thirty hand ball players of Osmania University who were undergoing the coaching camp for participation in the All India Inter varsity tournament were selected as subjects for this study. They were in the age group of 18 to 22 years. The following skill performance such as defensive ability, passing ability, and dribbling ability were taken as independent variables. With regard to physical fitness variables speed, explosive power, agility, cardio-respiratory endurance and flexibility were taken into consideration under the dependent variable. Defensive ability, passing ability, and dribbling ability were assessed by defense movement test, passing test, and control dribbling test respectively. Speed was assessed by 50m run, explosive power were assessed by sergeant jump, agility was assessed by 6 x 10m shuttle run, cardio-respiratory endurance was assessed by 12 min run/walk and

flexibility was assessed by bend and reach test .All the test were administered during the morning session of the coaching camp. The statistical tool used to find out the relationship between the skill performance and selected physical fitness variables was Pearson product moment correlation. The level significance of was fixed at 0.05 level.

**RESULTS AND DISCUSSION:** It is a known fact that every game needs the specific skills which are essential for success in the competitions. The execution of the skill can be aesthetic and graceful if the individual possesses the requisite fitness components. The fitness components required differ as per the demands of the skills and the game. Handball is an exiting and fast modern game involving varied fitness components. The results of the study showed that there was a significant correlation between the physical fitness components and the selected handball skills. Some of the studies in this area have confirmed the above results. Nagaroki (1998) in his study concluded that training develops physical fitness and skills in the game. Further Mark Tonner Keven (2005) confirmed in his study that fitness factors and skill tests are interrelated to each other. Subramanian (1991) found out that training resulted in significant improvement in general physical fitness and basketball skills.

**Table-1**

Mean, standard deviation and correlation value between defensive ability and speed, explosive power, agility, cardio respiratory endurance, flexibility.

<b>Defensive ability vs fitness variables</b>	<b>mean</b>	<b>SD</b>	<b>'r'</b>
Defensive ability	16.33	2.17	
Speed	7.62	0.83	0.72*
Defensive ability	16.33	2.17	
Explosive power	60.82	6.57	-0.57*
Defensive ability	16.33	2.17	
Agility	13.77	2.69	0.61*
Defensive ability	16.33	2.17	
Cardio respiratory endurance	2750	190.28	-0.33*
Defensive ability	16.33	2.17	
Flexibility	13.73	3.87	-0.19*

Significant at 0.05 level of confidence

In the table-1 the analysis of the defensive ability with the physical fitness variables is indicated. From the above table it is clearly observed that there exists a positive correlation between defensive ability and speed and agility. Besides it also showed that the defensive ability is negatively correlated with explosive power, cardio respiratory endurance, and flexibility.

**Table-2**

Mean, standard deviation and correlation value between passing ability and speed, explosive power, agility, cardio respiratory endurance, flexibility.

<b>Passing ability vs fitness variables</b>	<b>Mean</b>	<b>SD</b>	<b>'r'</b>
Passing Ability	63.57	5.00	
Speed	7.62	0.83	-0.16
Passing Ability	63.57	5.00	
Explosive power	60.82	6.57	0.38*
Passing Ability	63.57	5.00	
Agility	13.77	2.69	-0.21*
Passing Ability	63.57	5.00	
Cardio respiratory endurance	2750	190.28	0.79*
Passing Ability	63.57	5.00	
Flexibility	13.73	3.87	0.69*

Significant at 0.05 level of confidence

Passing ability of subjects was correlated with selected physical fitness variables and the data is presented in table-2. The table clearly reveals that there is a positive correlation with explosive power, cardio respiratory endurance, and flexibility. The results also clearly indicate that passing ability has negative correlation with agility. This apart there is an insignificant correlation between passing ability & speed.

**Table-3**

Mean, standard deviation and correlation value between dribbling ability and speed, explosive power, agility, cardio respiratory endurance, flexibility.

<b>Dribbling ability vs fitness variables</b>	<b>Mean</b>	<b>SD</b>	<b>'r'</b>
Dribbling Ability	13	2.49	
Speed	7.62	0.83	0.87*
Dribbling Ability	13	2.49	
Explosive power	60.82	6.57	-0.82*
Dribbling Ability	13	2.49	

Agility	13.77	2.69	0.95*
Dribbling Ability	13	2.49	
Cardio respiratory endurance	2750	190.28	-0.22
Dribbling Ability	13	2.49	
Flexibility	13.73	3.87	-0.39

Significant at 0.05 level of confidence

Table -3 clearly reveals that dribbling ability has positive correlation with speed and agility. There is a negative correlation between passing ability and explosive power. Besides the results also reveal that there is an insignificant correlation between dribbling ability and cardio respiratory endurance and flexibility.

The result of the study showed that there was a significant correlation between speed with defensive ability and dribbling ability. Further speed has a significant relationship with passing ability. With regard to the fitness components of agility and explosive power the study had showed significant relationship with all the skill abilities.

#### **CONCLUSIONS:**

It is concluded that

- 1) Defensive ability can be performed in the best possible manner if the player has speed and agility.
- 2) Defensive ability performance has no effect by explosive power, cardio respiratory endurance, and flexibility as they are negatively influenced.
- 3) Passing ability of a player can be enhanced if he has better cardio-respiratory endurance, explosive power, and flexibility.
- 4) Agility has negative influence on passing ability.
- 5) Passing ability may not be influenced by speed.
- 6) Dribbling ability may be positively influenced by speed and agility.
- 7) Explosive power has a negative influence on dribbling ability.

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# RECOVERY FOR SPORTS PERFORMANCE IN RUSSIA

N.Ramesh,SAI Athletics Coach

For this How Russia has taken care to prepare their teams to Olympics & world championships below some of the examples

**Massandra park** it is established in 1880 in the area of 42 acres with 250 variety of medicinal plants from Italy, Spain, France. The park located slightly hill type area so walking running improves general fitness with lower body strength. These trees throw special oils in air which makes breathing very comfortable (general population stay here to heal asthma). Some of the trees throw energy which delays the tiredness so that more volume of physical activity could be done. Since more oxygen available from trees recovery will be very fast.

**Black Sea:** It is located by side of the Massandra park having sauna bath at beach side. Massage, sauna bath & swim in black sea body gets cured from training damage (general people come here to get rid of skin diseases). Due to different salts available in black sea water.

**Stay:** Hours of sleep, living conditions, amount of sleep **quality of sleep room temperature, with plenty of fresh air**, all this possible since a.c. rooms built with plenty of fresh air from surrounding trees. Generally sleeps may fall 8-10 hours, & one hour nap is very restorative if taken one half hour after lunch. Zero pollution since away from city. Room temperature they prefer between 63-65 degrees.

**Food:** Russian principle for sportsmen. Never forget variety, don't eat the same things day after day because the body adapts to them. According to phase of the training they change the food eg; competition phase the food which consist of energy and recovery etc. **According here theory diet must not only meet calorie needs it must also supply the body with the ability to quickly adapt to a variety of training stressors.** The best recommendation is to avoid fried foods, peanut, butter, whole milk, most cheeses, TV dinners, fast food and other junk food.

**VARIETY: Russian** keeps Athletes fresh avoiding monotony of training by changing training environment regular basis, changing the gyms, every few weeks running surface or court, your workout partners.

**MUSIC: They use music during training has been researched extensively in the Russia.** Special music played during training and also in recovery.

# A Comparative Study for Flexibility and Jumping Ability between Young Basketball and Soccer Players

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**Abstract**

**Objective:** The purpose of this study was to compare soccer and basketball players' physical condition at the ages of 13 until 16 years old.

**Methods:** Flexibility (sit & reach test) and jumping ability tests (squat jump, counter movement jump, counter movement jump with arm swing using the force platform by Bosco, were made in a total sample of 50 athletes (25 soccer players and 25 basketball players). Comparisons between these two sports took place, in each of the groups based on age (17, 18, 19, 20, 21 years old).

**Results:** Statistical analysis showed significant differences between soccer and basketball athletes at flexibility and jumping ability, mostly at the age of 17. In all tests, mean values were in favor of soccer players.

**Conclusions:** The present study supports the conclusion that at the ages of 17 to 21, soccer players seem to have much better physical condition compared to basketball players at parameters such as flexibility and lower limb muscle strength. Further research should be made taking into consideration the type and load of training, as well as the level of growth of the athletes at these ages.

**Key words:** soccer, basketball, flexibility, jumping ability, age.

## Introduction

There is a great number of athletes that play basketball and soccer today, which leads to the assumption that these two sports are among the most popular in the world. Basketball and soccer are dynamic sports that demand an intensive load of training to satisfy the high demands placed.

It must also be emphasized that besides the differences, these two sports present some important similarities in their kinetic characteristics, such as starting, jumping, feinting or sprinting for small distances. Furthermore, athletic abilities such as coordination, agility, flexibility and power are very important in both sports. Those kinetic characteristics, demand highly developed muscle power of the lower limbs, as well as flexibility for better movement and injury prevention.

It must be stressed that jumping ability controls only the power-speed ability, because for achieving peak strength in high velocities such as jumping, landing or defensive movement, better coordination is needed as well as the use of high contraction kinetic units type II. The most valid way of measuring and evaluating lower limb power is a maximum vertical jump performed in two different ways. First from the squat static position and secondly from the standing position with a counter movement.

Another important factor that describes an athlete's physical condition is also flexibility. Besides the fact that flexibility is very important for athletic performance, it is also highly correlated to athletes jumping ability and as a result with lower limbs strength and therefore the reason that flexibility is a factor concluded in most research studies that describe physical condition.

The values of physical condition parameters are highly correlated with the type of sport, age, sex as well as with the division that athletes compete producing different measures for muscle strength and flexibility.

The effects of training in muscle strength and flexibility variables, for soccer and basketball athletes during adolescence, are still a research topic that has not been thoroughly studied yet.

The purposes of this study were to measure flexibility and lower limb muscle strength in soccer and basketball players and compare the different age groups between the ages of thirteen and sixteen.

## METHODOLOGY

**Sample:** The sample of this study consisted of 25 soccer and 25 basketball players, members of very well organized and highly competitive teams of Osmania University Hyderabad A.P., India, in the age group of 17 to 21 years old. From these players, 25 were soccer players (17 years old: 5 players, 18 years old: 5 athletes, 19 years old: 5 athletes, 20 years old: 5 athletes and finally 21 years old: 5 athletes), and 25 basketball athletes (17 years old: 5 players, 18 years old: 5 athletes, 19 years old: 5 athletes, 20 years old: 5 athletes and finally 21 years old: 5 athletes),

**Selection:** The sample was stratified to achieve better homogeneity of physical characteristics, and technical ability level. It is noticeable that these athletes were also under an intensive load of training during their daily practice.

**Measurement:** The tests performed, measured two of the most important parameters that define physical condition:

- a) Flexibility
- b) Lower limb muscle strength.



The sit and reach test which measures range of motion was used to test athletes' flexibility. For lower limb muscle strength (power-speed), three different jumping ability tests took place using the electronic device of the force platform by Bosco (Bosco, Luhtanen & Komi, 1983).

These tests were: 1.squat jump, 2. counter movement jump, and 3. counter movement jump with arm swing. Only one trial was accepted in which athletes gave the best of their effort.

### STATISTICAL ANALYSIS.

Comparisons of the flexibility and jumping ability test values was conducted, between soccer and basketball players in each of the groups based on age (17,18,19, 20 and 21 years old). For data analysis, t-test for independent samples was used with a significance level of  $p < .05$ .

The main assumption of this study was that the values of flexibility and jumping ability between soccer and basketball players present no statistically significant difference. As a result, training styles as well as the demands of its sport are not responsible for variation and differences in these age groups in the level of flexibility and lower limbs power-speed ability.

### RESULTS

The results of this study showed that differences existed between soccer and basketball players in flexibility and lower limbs power-speed values.

Statistical analysis for flexibility showed significant differences between soccer and basketball players in the ages of 20 ( $\text{sig}=.530$ ,  $p<.004$ ), 19 ( $\text{sig}=.318$ ,  $p<.002$ ), 18 ( $\text{sig}=.219$ ,  $p<.000$ ) and 17 years old ( $\text{sig}=.828$ ,  $p<.001$ ). In all cases, mean values were in favour of soccer players.

Regarding the lower limbs power-speed ability level based on the force platform of Bosco, statistical analysis illustrated that significant differences existed for: a. The squat jump in the age of 19 ( $\text{sig}=.029$ ,  $p<.003$ ), b. The counter movement jump in the ages of 19 ( $\text{sig}=.034$ ,  $p<.001$ ) and 18 ( $\text{sig}=.168$ ,  $p<.010$ ) and finally c. the counter movement jump with arm swing in the age of 19 ( $\text{sig}=.467$ ,  $p<.001$ ). Again in all cases the mean values were in favour of soccer players.

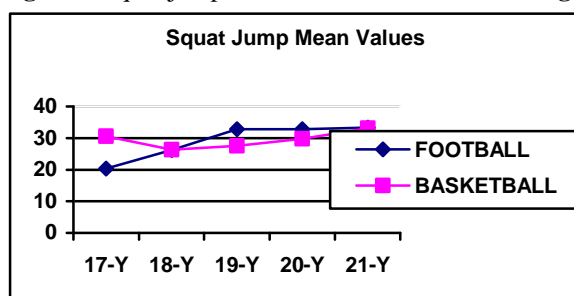
**Table.1.** Mean values for flexibility and jumping ability tests at both sports and all ages.

	Squat jump	Counter movement jump	Counter movement jump with arm swing	Sit and reach
Football 17old	26.27	28.63	32.77	-3.45*
Basketball 17old	26.29	27.43	32.66	2.96
Football 18old	32.85	31.22*	36.83	7.83*
Basketball 18old	27.54	27.82	34.83	-0.96
Football 19old	32.79*	35.41*	41.87*	-8.59*
Basketball 19old	29.78	31.94	37.95	-3.02
Football 20old	34.29	36.46	43.08	-11.57*
Basketball 20old	34.04	36.01	42.03	-3.56
Football 21old	33.29	36.06	42.15	-10.25*
Basketball 21old	33.12	36.06	42.13	-3.17

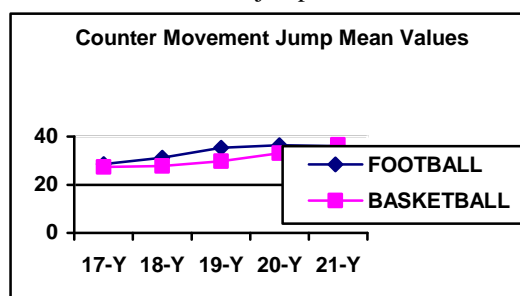
#### • Significant difference ( $p < .05$ )

Furthermore, it appeared that in all cases and at all ages the values registered, presented to be higher for soccer players, especially in the age of 19 years old, where the differences appeared to be higher. This phenomenon was even more evident for flexibility (figures1, 2,3,4).

**Figure.1** Squat jump test mean values



**Figure.2** Counter movement jump mean values



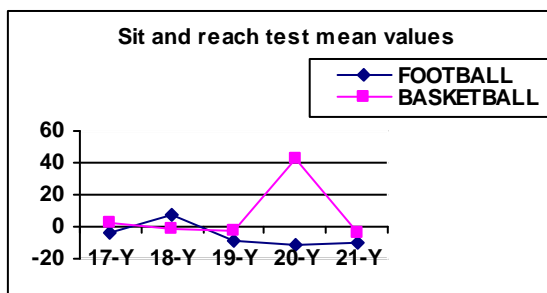
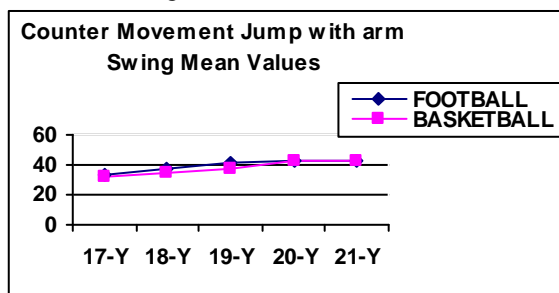
**Figure.3** Counter movement jump with arm

**Figure.4** Sit and reach test mean values

Swing

Mean

Values



## DISCUSSION

Despite the fact that basketball and soccer seem to have several similarities during competition in parameters such as jumping, starting, sprinting for small distances and conditioning, demands in athletic abilities such as speed, power, agility and coordination, present differences in training.

For flexibility alone, the greatest differences that were observed in the present study between soccer and basketball players, may lead to the conclusion that little concern is given for flexibility improvement through practice in young basketball players. Even though the test values present some improvement as the athletes become older, the mean values for basketball players performing the sit and reach test are considered to be generally low. The results of this study on flexibility seem to agree with aforementioned statement, since significant differences appeared also for jumping ability values between basketball and soccer athletes, mainly at the age group of 19 year olds.

In the present study, it is evident that training may affect lower limb muscle strength in these two sports, especially, in the ages of 18 and 19, where the values of the jumping ability were in favour of soccer players.

## CONCLUSION

A conclusion supported by the evidence of the present study is that at the ages of 17 to 20, soccer players seem to have a much better physical condition compared to basketball players at parameters such as flexibility and lower limb muscle strength.

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# **“A Comparative Study of High Intelligence and Low Intelligence of Interuniversity Players Respect to Aggression”**

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## **Introduction**

Intelligence comes from the Latin verb intellegere, which means "to understand". By this rationale, intelligence (as understanding) is arguably different from being "smart" (able to adapt to one's environment). At least two major "consensus" definitions of intelligence have been proposed. First, from Intelligence: Known's and Unknowns, a report of a task force convened by the American Psychological Association in 1995: Individuals differ from one another in their ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, to overcome obstacles by taking thought. Although these individual differences can be substantial, they are never entirely consistent: a given person's intellectual performance will vary on different occasions, in different domains, as judged by different criteria. Concepts of "intelligence" are attempts to clarify and organize this complex set of phenomena. Although considerable clarity has been achieved in some areas, no such conceptualization has yet answered all the important questions and none commands universal assent. Indeed, when two dozen prominent theorists were recently asked to define intelligence, they gave two dozen somewhat different definitions.

There are two broad categories of aggression.


These include hostile, affective, or retaliatory aggression and instrumental, predatory, or goal-oriented aggression. Empirical research indicates that there is a critical difference between the two, both psychologically and physiologically. Some research indicates that people with tendencies toward affective aggression have lower IQs than those with tendencies toward predatory aggression. If only considering physical aggression, males tend to be more aggressive than females. One explanation for this difference is that females are physically weaker than men, and so need to resort to other means. Females of different cultures have a variety of non physical means to cause harm to their husbands. On Bellona Island, a culture based on male dominance and physical violence, women tend to get into conflicts with other women more frequently than with men. When in conflict with males, they rarely use physical means. They instead make up songs mocking the man, which spread across the island and humiliate him. If a woman wanted to kill a man, she would either convince her relatives to kill him or hire an assassin. These are both forms of indirect aggression since the aggressor (female) is trying to hurt someone without putting herself in direct danger.

## **METHODOLOGY**

### **Aim and Objectives of the study:**

 To Examine of Intelligence and Aggression of Interuniversity players.

### **Hypothesis:**

 Low Intelligence Interuniversity players have significantly high Aggression than High Intelligence Interuniversity players.

### **Sample:**

For the present study 50 players were selected from various College Players.of Aurangabad. The effective sample consisted of 50 subjects.The age range of subjects where 18 to 22 years.


### **Tools:**

#### **Dr. G.C. Pati (1976) Aggression Scale :**

This test is developed and standardized by Dr. G.C. Pati the test consisted of 16 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 0.82 with Spearman Brown formula. The validity coefficient was found 0.71.

#### **Verbal Intelligence Test:**

This test is developed and standardized by R.K. Ojha and K. Ray Choudhury (1994). The test consisted of 203 Items. The subjects were required to respond to each item in terms of 'YES' OR 'NO'. The reliability coefficient of the test was found 0.87 with Spearman Brown formula. The validity coefficient was found 0.91.

 **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

**Variables of the study:**

**Independent:** 1) Gender a) Male b) Female

**Dependant:** 1) Intelligence 2) Aggression

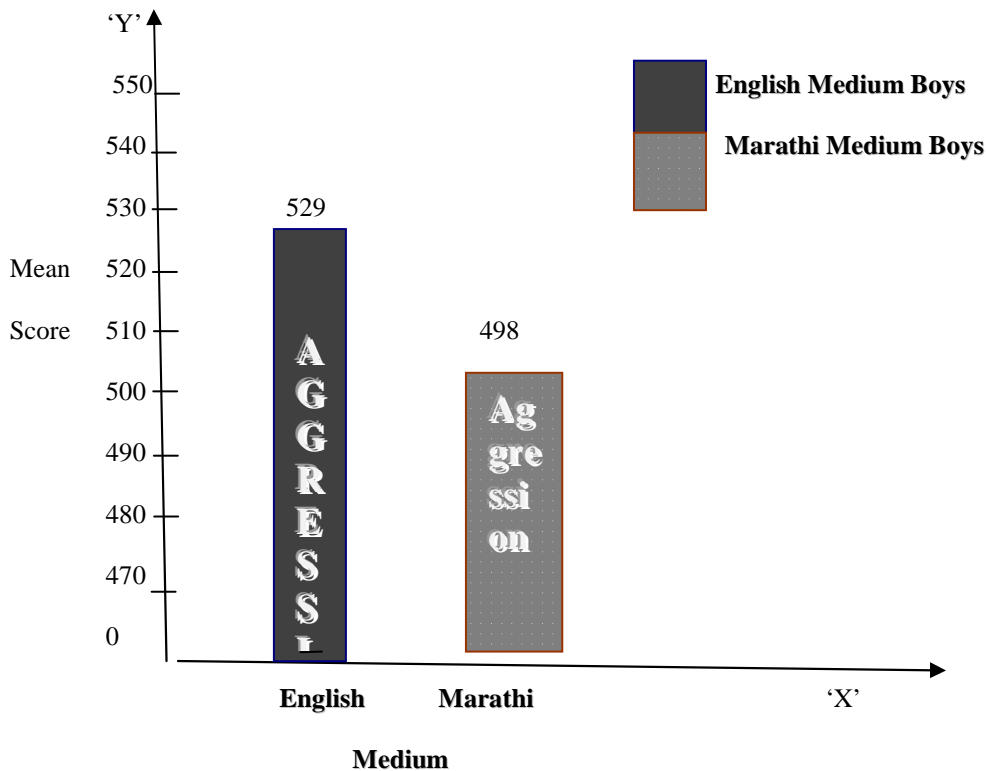
**Statistical treatment of data:**

First data were subjects to descriptive statistics i.e. mean and standard deviation. And “t” Test has been used

**High Intelligence and Low Intelligence Interuniversity Players Shows the mean S.D and ‘t’ value of factors ‘Aggression’**

Sportsman	MEAN	SD	N	DF	t
High Intelligence	529	40.71	25	48	2.87**
Low Intelligence	498	35.41	25		

Significant at 0.01 levels\*\*



The results related to the hypothesis have been recorded. Mean of Aggression score of the High Intelligence Interuniversity Players is 529 and that of the Low Intelligence Interuniversity Players 498 The difference between the two mean is highly significant ‘t’= 2.087, df =48.

**Results:**

Low Intelligence Interuniversity players have significantly high Aggression than High Intelligence Interuniversity players.

**Reference**

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# **A STUDY ON THE EFFECT OF HILL RUNNING FOR DEVELOPMENT OF ENDURANCE AMONG COLLEGE ATHLETES IN HYDERABAD**

By

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## **ABSTRACT**

The aim of the present study was to study the effects of Hill Running for the development of Endurance Among College Athletes in Hyderabad. 40 Male Students between the ages of 18 to 24 Years i.e.20 Experimental Group and 20 Control Group were taken for the Study.The 6 Week endurance training program for experimental group was given which includes more Hill running sessions on alternate days and Controlled Group was given the general Training. The Pre and Post Training 12 Min run/walk Cooper Test were used to evaluate the effects of Hill Training among Experimental and Control Group. The 12 Min Run/Walk was significantly increased in Hill Running Group i.e. experimental group. This Study shows that the Hill Running may results in the most Physiological and Physical Performance Capacity among College Men.

Key words: Endurance, Physiological, Hill Running etc.

## **INTRODUCTION:**

Endurance is a conditional ability.It is primarily determined by energy liberation process.Endurance is directly or indirectly of high importance in all sports. Endurance is the ability to do sports movements, with the desired quality and speed, under conditions of fatigue. Endurance is a very important ability in sports. In sports endurance ensures optimum speed of motor actions. Good endurance also ensures high quality or skill of movement execution which finds expression in accuracy, precision, rhythm, consistency etc. Endurance training results in the improvement of functioning of various organs and systems of the human body. This in turn improves the ability to recover quickly from training and competition load. The importance of endurance for recovery assumes much more relevance during completion i.e. in between heats, rounds, matches on successive days. Endurance performances are of different nature indifferent sports. Endurance activities have been found to be of high value for maintenance of good organic health, for increasing the general resistance against infection and for cure and treatment of various diseases and metabolic disorder.

Running on Hills is a form of Strength training that can improve speed and endurance on the track and road. Hill Running increase the intensity of training and builds strength because of the resistance they offer when running. Hill Running has a strengthening effect as well as boosting the athletes power and is ideal for athletes who depend on high running speeds. To reduce the possibility of injury hill training should be conducted once the athlete has a good solid base of strength and endurance.

Hill Training offers the following benefits.

- a. Helps develop power and muscle elasticity.
- b. Improves stride frequency and length.
- c. Develops co-ordination, encouraging the proper use of arm action during the driving phase and feet in support phase.
- d. Develops control and stabilization as well as improved speed (down hill running)
- e.promotes strength endurance.
- f.develop maximum speed and strength (short hills)
- g.Improves lactate tolerance (Mixed hills)

## **METHODOLOGY:**

Aim: To find out the effects of Hill Running for development of Endurance among College Athletes in Hyderabad.

Sample:The sample for present study is 40 College Male Athletes from various Colleges of Osmania Univesity. The Experimental Group Sample is 20 College Male Athletes and Controlled Group Sample is 20 College Male Athletes.

Tools: 12 Min Cooper Test is used for collection of Data

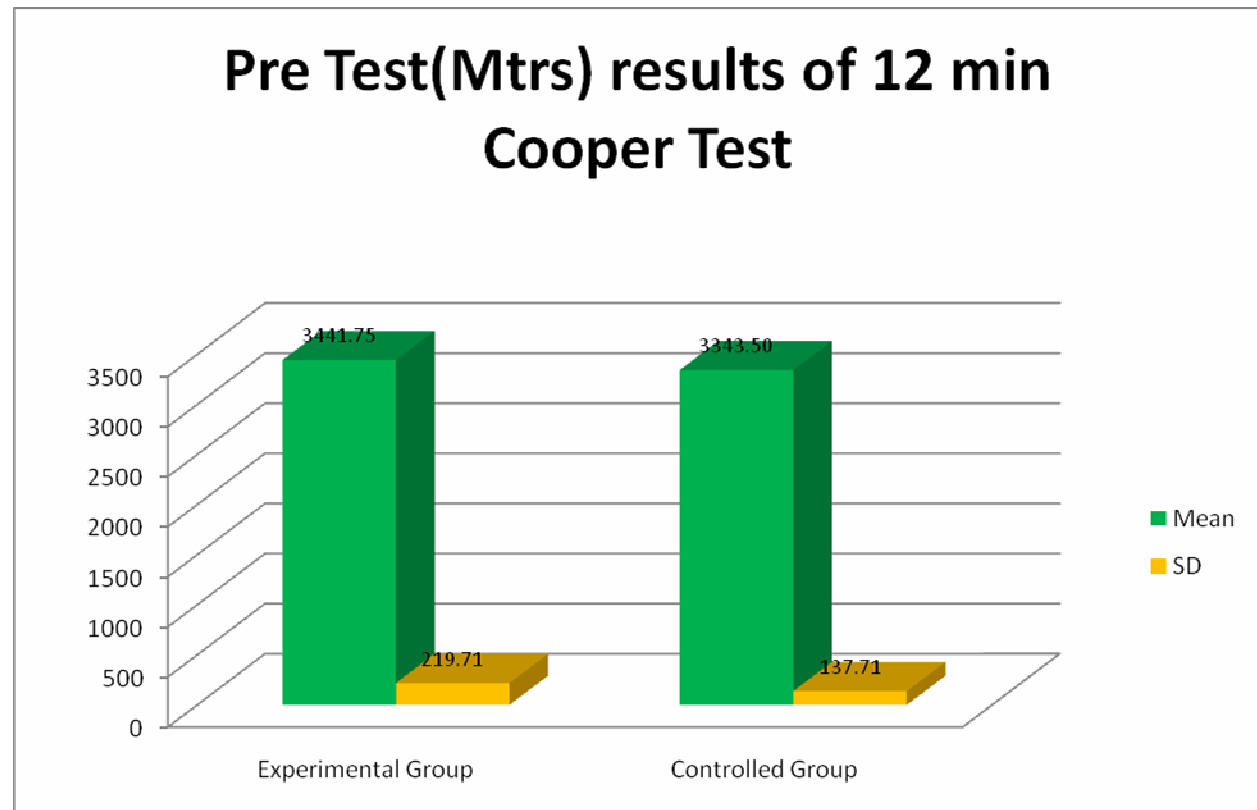
Procedure of data Collection:

The 12 Min Cooper Test were used for Pre Test for Experimental Group and Controlled Group and results was recorded. The 6 weeks training were given to Experimental Group which consists of Hill Running Sessions on alternate days.The Hill Running Sessions includes Short Hills,Medium Hills,Long Hills,Mixed Hills were given training to experimental group. The controlled group was given the general training. After Six weeks Training the Post Test were conducted experimental group and controlled group.The athletes generally hail from different socio-economic status, different dietary habits, mode of living etc. certain factors like daily routine, life style and food habits which would have an effect on the performance of both groups could not be controlled.

## RESULTS AND DISCUSSIONI

The Table No.1 showing the Mean,S.D.Values obtained by Experimental Group and Controlled Group in Pre – Test. There is difference Of 98 Meters among the performance of both groups in pre test.

Pre Test(Mtrs) Results of 12 min Cooper Test	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Experimental Group	20	3441.75	219.71	49.13	1.69453	38.00	0.10
Controlled Group	20	3343.50	137.71	30.79			



The Table No.2 is showing the Post Test performance of Experimental Group and Controlled Group . Due to Hill Running There is the difference of 420 Meters between Experimental Group and Controlled Group.

Post Test(Mtrs) Results of 12 min Cooper Test	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Experimental Group	20	3725.50	238.89	53.42	6.440721	38.00	0.00
Controlled Group	20	3305.00	167.87	37.54			

## Post Test(Mtrs) results of 12 min Cooper Test

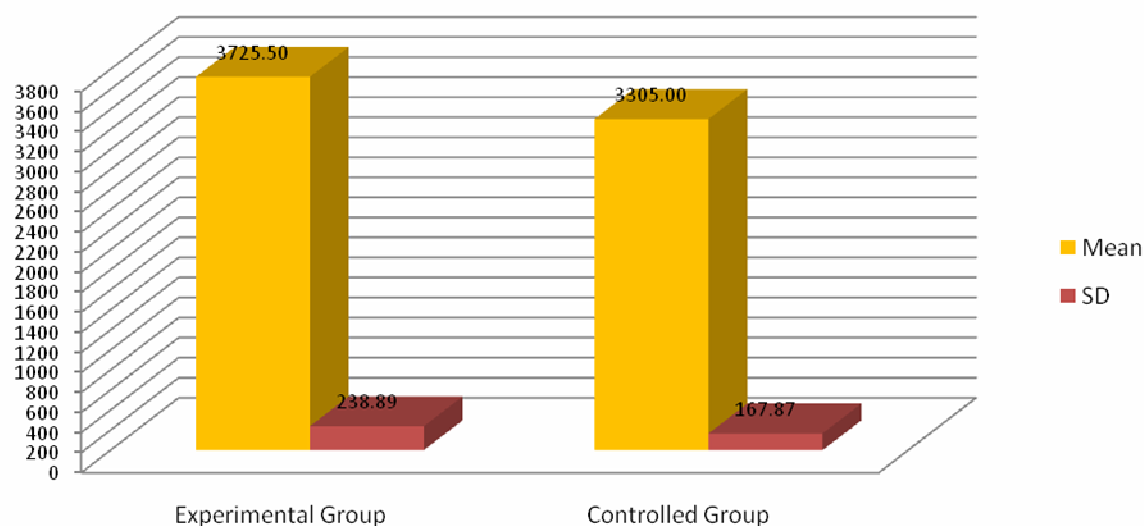
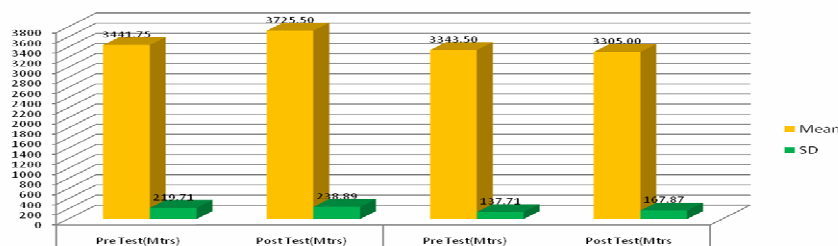


Table No.3 is showing the Pre-Test slight difference in performance of experimental and controlled group and in Post Test there is a vast difference in Performance of experimental and controlled. The Experimental group has improved a lot due to Hill Running upto 284 Meters between Pre Test to Post Test. Due to the General Training the Controlled Group Performance has reduced to 38 Meters between Pre Test to Post Test.

GROUP	Results of 12 min Cooper Test	Mean	N	Std. Deviation	Std. Error	t	df	Sig. (2-tailed)
Experimental Group	Pre Test(Mtrs)	3441.75	20.00	219.71	49.13	-15.82	19.00	0.00
	Post Test(Mtrs)	3725.50	20.00	238.89	53.42			
Controlled Group	Pre Test(Mtrs)	3343.50	20.00	137.71	30.79	2.35	19.00	0.03
	Post Test(Mtrs)	3305.00	20.00	167.87	37.54			

## Results of 12 min Cooper Test



#### RECOMMENDATIONS:

Hill Running results in the calf muscles learning to contract more quickly and thereby generating work at a higher rate, they become more powerful. The calf muscles achieves this by recruiting more muscle fibres, around two or three times as many when compared to running on the flat. Hill running improves stride frequency and stride length. Hill Running is recommended for endurance athletes more in off season and less in season.

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# WARMING UP AND STRETCHING EXERCISES WILL REDUCE THE RISK OF SPORTS INJURIES

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## INTRODUCTION

The warm up activities are a crucial part of any exercise regime of sports training. The importance of a structured warm up routine should not be underestimated when it comes to the prevention of sports injury. An effective warm up has a number of very important key elements. These elements, or parts, should all be working together to minimize the likelihood of sports injury from physical activity.

Warming up prior to any physical activity does a number of beneficial things, but primarily its main purpose is to prepare the body and mind for more strenuous activity. One of the ways it achieves this is by helping to increase the body's core temperature, while also increasing the body's muscle temperature. By increasing muscle temperature you're helping to make the muscles loose, supple and pliable.

- The general warm up
- Static stretching
- The sports specific warm up
- Dynamic stretching

### 1) General warm up

The general warm up should consist of a light physical activity, like walking, jogging, easy swimming, stationary bike, skipping or easy aerobics. Both the intensity and duration of the general warm up (or how hard and how long), should be governed by the fitness level of the participating athlete. Although a correct general warm up for the average person should take about five to ten minutes and result in a light sweat.

The aim of the general warm up is simply to elevate the heart rate and respiratory rate. This in turn increases the blood flow and helps with the transportation of oxygen and nutrients to the working muscles. This also helps to increase the muscle temperature, allowing for a more effective static stretch. Which brings us to part two.

### 2) Static stretching

Static stretching is a very safe and effective form of basic stretching. There is a limited threat of injury and it is extremely beneficial for overall flexibility. During this part of the warm up, static stretching should include all the major muscle groups, and this entire part should last for about five to ten minutes.

Static stretching is performed by placing the body into a position whereby the muscle or group of muscles to be stretched is under tension. Both the opposing muscle group (the muscles behind or in front of the stretched muscle), and the muscles to be stretched are relaxed. Then slowly and cautiously the body is moved to increase the tension of the muscle, or group of muscles to be stretched. At this point the position is held or maintained to allow the muscles and tendons to lengthen.

### 3) Sport specific warm up

The first two parts of the warm up carried out thoroughly and correctly, it is now safe to move onto the third part of an effective warm up. In this part, the athlete is specifically preparing their body for the demands of their particular sport. During this part of the warm up, more vigorous activity should be employed. Activities should reflect the type of movements and actions which will be required during the sporting event.

### 4) Dynamic stretching

A correct warm up should finish with a series of dynamic stretches. However, this form of stretching carries with it a high risk of injury if used incorrectly. It should really only be used under the supervision of a professional sports coach or trainer. Dynamic stretching is more for muscular conditioning than flexibility and is really only suited for professional, well trained, highly conditioned athletes. Dynamic stretching should only be used after a high level of general flexibility has been established.

During this last part of an effective warm up it is also important to keep the dynamic stretches specific to the athlete's particular sport. This is the final part of the warm up and should result in the athlete reaching a physical and mental peak. At this point the athlete is most prepared for the rigors of their sport or activity.

## CONCLUSIONS:

Stretching is one of the most under-utilized techniques for improving athletic performance and getting rid of those annoying sports injuries. Don't make the mistake of thinking that something as simple as stretching won't be effective.

The above study forms the basis of a complete and effective warm up. However, this entire process is somewhat of an 'ideal' or 'perfect' warm up, that this is not always possible, or convenient in the real world. Therefore, the individual athlete must become responsible for assessing their own goals and adjusting their warm up accordingly.

# **THE ROLE OF YOGA PRACTICES ON ALDOSTERONE HORMONE SECRETION IN THE HOCKEY PLAYERS( WOMEN)**

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## **Abstract:**

The purpose of this study was to investigate the effect of yogasana training on the responses of serum Aldosterone hormone concentration during high intensity exercise. 22 subjects Hockey players (women) aged 18-21 years were selected for the purpose of this study. 11 subjects each were assigned to control and experimental groups at random. Experimental group under went six weeks yogasana training programme. The criterion variable serum Aldosterone hormone was tested through the Micro Biological assessment. Both the groups were tested after 70 minutes of hockey match. Pre-test were tested without training (yogasana), and then Post-test were tested after training (yogasana training given to experimental group only) over 70 minutes of hockey match. The results of ANACOVA for the data obtained showed that after six weeks of training, Experimental group (yogasana group) had significantly less concentration of Aldosterone hormone secretion when compared to the control group immediately after 70 minutes of hockey match., less than the pre-training value ( $P < 0.5$ ).

## **Introduction:**

Yoga was a boon of our ancients. It was fruitful theory and practical behavior of human being. In the sense of biological, physiological and psychological yoga is the essential subject in daily life to develop good health. It was recognized by the human being through the orthodox culture. In the sight of Anatomy and physiology endocrine system was trigger point to regulate the bio-metabolism in the body. The endocrine system effected with human natural behavior. Behavior under control of the brain thought. Integration of healthy mind and healthy mind was controlled through the yoga.

In the subject of physical education, the development of physical fitness components are basically depends on endocrine hormones secretions in the Glucocorticoids and Mineralocorticoid. Among the hormones Aldosterone is one of the important hormones secreted by adrenal glands on kidneys. Aldosterone hormone helps to regulate the body's water, salt, fluids and electrolytes in our body. The mainly work to control re-absorption of sodium chloride, potassium and hydrogen concentration in the blood plasma to induced stimulation of classical mineralocorticoid receptors. Aldosterone hormone exhibits it effects in other organs, such as the heart, blood vessels and central nervous system. Mal secretion of this hormone it will lead to fatigue, headache, high blood pressure, muscle weakness, hypokalemia and intermittent or temporary paralysis my be accrued. In Physical Education activity cannot successful without the effect of this endocrine system.

## **Methodology:**

The purpose of the study was to analyse the effect of yoga (asanas) on selected biological changes. This study has been carried following the steps of methods. **Selection of subjects:** This study was conducted on random sample of 22 Hockey players (women) aged 18 to 20 years, which are divided into two group {control group (n=11) and experimental group (n =11)}. **Selection of Variable:** Find out biological changes of Aldosterone hormone secretion among the selected subjects. **Selection of Training:** Yoga (asanas) training was given to subjects of experimental group every day half an hour before going (according to the pilot study) regular practice of the game. This training programme was given to the experimental group for six week. **Selection of Test:** Through the Blood specimen collection, Aldosterone levels were measured by radioimmunoassay (RIA). **Test Administration:** Blood is typically drawn from a vein, usually from the inside of the elbow of the subjects. The Aldosterone concentrations of the subjects were assessed one times in a single test (after participation of the game) Pre-test was conducted without given any yogaasanas training. Post-test were conducted after completion of yogasana training programme (six weeks). **Scoring:** According to clinical observation, Aldosterone level was in 2 to 16 ng/dL or 5 to 41 ng/dL(In lying down 55.48 to 443.84, in standing 138 to 1137.34pmol/L) following the statistical analysis.

## **Statistical Analysis:**

The data collected from two groups pre-test and post-test, after 70 minutes of matches on selected variable (Aldosterone), were statistically examined for significant difference, if any, by applying the analysis of covariance (ANACOVA). The table – I shows mean and standard deviation for the data on Aldosterone hormone by the analysis of anacova, pre and post data were collected from the subjects immediately after the completion of the game.

Table – I

ANALYSIS OF COVARIANCE FOR THE DATA ON ALDOSTERONE(P mol/L) AMONG THE CONTROL AND EXPERIMENTAL GROUPS PRE AND POST TREATMENT(YOGASANA)

		Control Group	Experimental Group	Source of variance	Df	Sum of Squares	Mean Squares	'F' ratio
Pre-test	Mean	318.69	317.87	Between	1	73	3.73	<b>0.00</b>
	± SD	31.55	36.34	Within	20	3160.37	1158.02	
Pre-test	Mean	367.86	332.42	Between	1	909.38	6909.38	<b>7.58</b>
	± SD	34.64	24.97	Within	20	3232.03	911.60	
Adjusted Post-Test	Mean	367.77	332.52	Between	1	331.33	6831.33	<b>7.68</b>
				Within	19	5894.47	889.18	

Significant at 0.05 level of confidence . the value for significance at 0.05 with df 1 and 20, 1 and 19 are 4.35, 4.38 respectively.

The mean values of Aldosterone hormone secretion for control and experimental groups were graphically represented in Figure – (a).

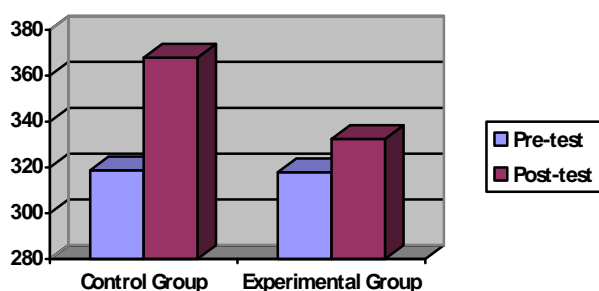


Figure-(a) THE MEAN VALUES OF ACTH HORMONE SECRETION, BOTH CONTROL AND EXPERIMENTAL GROUPS BEFORE AND AFTER TREATMENT.

#### Findings and Conclusions:

This study proved that those who have additional practice of yogasana have improved endocrine resistance rather than the control group. The time and intensity of exercise will dictate the level of Aldosterone release. If the exercise for more than 60 minutes, even at a high intensity, the subject's electrolyte stores will decrease significantly and the increased stress with low amount of Aldosterone secretion ( $P < 0.05$ ). Due to the practice of yogasana control of stress management and effect of low amount of Aldosterone, subjects were improved ability to tolerate physical exercise intensity with less amount of Aldosterone.

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# COMPETENCIES OF TEACHER EDUCATORS - A STUDY

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## INTRODUCTION:

Competencies are general descriptions of the abilities needed to perform a role in the organization. Competencies are described in terms such that they can be measured. It's useful to compare competencies to job descriptions. Job descriptions typically list the tasks or functions and responsibilities for a role, whereas competencies list the abilities needed to conduct those tasks or functions. Consequently, competencies are often used as a basis for training by converting competencies to learning objectives.

Teacher education and job performance of a teacher are the contexts in which the term 'competency' is used. Competencies are the requirements of a competency based teacher education, which includes knowledge, skills and values the trainee teacher must demonstrate for successful completion of the teacher education programme.

### 1.1.2. METHODOLOGY:

The fundamental purpose of this investigation is *to appraise the teacher competencies of teacher educators of B.Ed, Colleges*. Hence, this study falls under non-experimental designs and a normative survey is employed to elicit appropriate information from the respondents.

The universe of the present study consists of Hyderabad District in the State of Andhra Pradesh. The sample constitutes ten Teacher Trainees from each of the twelve B.Ed Colleges in the district.

Accordingly, a questionnaire was developed, with a slight modification of the questionnaire developed by *Shian Leou (1998)* from the National Kaohsiung Normal University, Kaohsiung, Taiwan, ROC and it consists of Part-A, and Part-B.

**Part- A:** Its fundamental purpose is to test the perceptions of teacher trainees on teacher competencies. It comprises ten questions related to teacher trainee's general perceptions of their teachers.

**Part- B:** In this section, FOUR competencies were focused:

- a) Teaching skills,
- b) Material Organization and Presentation
- c) Management of the Learning Environment,
- d) Teaching Attitudes

### 1.1.3 FINDINGS, DISCUSSIONS AND CONCLUSIONS:

Before drawing a curtain on this study it is appropriate to say that this investigation has showed a set of consistent findings and gleaned much about teaching competencies of the teacher educators in Hyderabad District in the State of Andhra Pradesh and their contribution towards prospective teachers' success is outlined.

Research Question: 1, ***ARE THE COMPETENCIES OF TEACHER EDUCATORS REALLY BENEFIT THE TEACHER TRAINEES IN THEIR ACADEMIC SUCCESS?***

Undeniably, the research established that there were a lot of contributing factors towards this quite baffling part of teacher competencies. Greatest wealth of societies is educated manpower. Societies can develop and sustain their development as long as they make use of qualified work force. Starting point of raising qualified and competent persons is to raise the qualified teachers.

Adequate knowledge in the content areas would be essential for any teacher to perform competently. The acquisition of knowledge and understanding of any subject would not be just a matter of collecting facts and information about the subject, more importantly, it is learning to think in a way that is characteristic of that discipline be it Mathematics, Physics or History. For example, a teacher of Physics expects knowledge about the physical world or arrives at generalizations regarding the physical phenomena not by authority of another person or a book but by a verification process, which is typical of the way in which the knowledge in Physics is built. Also, the knowledge, thus, acquired are organized conceptually to provide a conceptual structure to the discipline of Physics, which is coherent and stable. Furthermore, the way a teacher 'handles' a subject or a discipline is influenced by his/her beliefs and attitudes with regard to the subject. This investigation has identified two basic types of teachers. These are not absolute opposites but are persons with tendencies towards one extreme or the other. Another major cause is that students decide in favour of a certain answer on account of analogy; certainly contribute for their academic success.

Effective teaching involves talking regularly with learners about their learning, and listening to them. Interaction in classroom is often dominated by the teacher. Learners can become more equal partners in the classroom if they are given more opportunities to formulate their own questions, express their own thoughts and make their own meaning. Teachers have both the right and the responsibility to develop a climate in the classroom which supports effective learning.

Thus, the present research amply mirrored the competencies of teacher educators do have an indelible impression on teacher trainees that would lead them to green pastures of academic success.

Research Question: 2, ***ARE THE TEACHER EDUCATORS ARE FULFILLING THEIR RESPONSIBILITIES IN ENHANCING THE STANDARDS OF FUTURE TEACHERS?***

The job of the teacher is to learn to know when to let the learners struggle to achieve the learning objectives and when to assist them in the learning process. As teachers, we are required to understand and appreciate the fact that individuals learn in different ways, at different paces and benefit from different kinds of support.

The changes that took place in schools have *changed the roles of teachers*, too. In the past teachers used to be the major source of knowledge, the leader and educator of their students' school life. Teachers would organize after-school activities. They used to be the authority in the class and often took over the role of parents. Nowadays, teachers provide information and show their students how to tackle them. Although they are still considered to be a kind of leader in the class, they can be thought of as facilitators in the learning process. They are supporters rather than educators and also advisors towards parents.

Teachers must always remember that they are the eyes and ears of society and that whatever they do, the difference between official hours and off hours is relative. They have to demonstrate not only professional competencies and skills, but also social responsibilities as mirrors of society.

Thus, the present investigation has explicitly exhibited varied indicators how the teacher educators are fulfilling their responsibilities in enhancing the standards of their prospective teachers.

Research Question: 3, ***DO THE TEACHER TRAINEES HAVE A POSITIVE PERCEPTION ON TEACHING COMPETENCIES OF TEACHER EDUCATORS IN B.ED COLLEGES?***

The inquiry reveals that the teacher trainees had positive perceptions with regard to teaching competencies of their teacher educators, except in the field of teaching skills, where most of the respondents have shown reluctance with regard to possessing good writing skills by their teacher educators.

Finally, the study shows quantifiable evidence to support the view that teacher trainees do possess positive attitudes towards teaching competencies of their teacher educators.

#### **1.1.4 IMPLICATIONS OF THE STUDY:**

The findings of the present study are of practical as well as theoretical importance to the teachers and also to teacher trainees.

The findings of the present study give teachers educators some hints and guidelines to overcome student teachers problems. Research shows that collaboration between teacher educators and teacher trainees would definitely solidify teaching competencies of teacher educators. Teaching competence is a crucial component which has significant implications while the instructional process is organized. This cuts across both roles of a teacher i.e., as an input and as a system. It has various dimensions such as content knowledge, instructional planning, student motivation, presentation and communication skills, evaluation competencies and classroom management skills. While the teacher would require all these

dimensions to a reasonable extent, it is in the manifestation of these in an integrated manner that makes him effective in the classroom context.

Moreover, these finds would lend a helping hand to the prospective *teacher trainees* to ape and imitate their teacher educators in obtaining right kind of competencies to be practiced in their future classrooms.

Furthermore, these findings would also help *authorities* responsible for implementation of various policy matters, in providing a congenial atmosphere in making the teacher educators to become a role model for future teachers, which in turn will have a profound impact on the teacher trainees to achieve a greater academic success. The need of a generation of teachers who aim to develop learners instead of teaching them, who help their pupils to become independent (learning to learn), who provide students with motivation and interest for life-long learning and urge them to become autonomous learners, is essential in the education of the future.

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# **The impact of Suryanamaskar on flexibility among college students**

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## **Abstract**

The objective of the study was to determine the effects of suryanamaskar (sun salutations) on the flexibility of selected physical education students from Government College of Physical Education, Osmania University, Hyderabad. The subjects for this study were selected from the Government College of physical education, Hyderabad Osmania University. A total of 20 male subjects were selected and used as one practice group. Suryanamaskar was considered the independent variable and flexibility was considered the dependent variable. Test was for flexibility. The repeated measures design was used for this study. Only one group of 20 participants was created. Tests were administered in equal intervals of two weeks. The tests started four weeks prior to the suryanamaskar (SN) treatment and took place every two week thereafter, for a total of, three times. Tests took place every two weeks during the treatment and after the completion of the treatment, they were continued for the following four week period. To determine the effect of suryanamaskar on flexibility of selected Government College of physical education students of Osmania University, Hyderabad, one way ANOVA was used at 0.05 levels of significance. In relation to flexibility, a significant ( $p < 0.05$ ) effect of suryanamaskar was found.

**Key words** - suryanamaskar, physical education, flexibility

## **Introduction**

Suryanamaskar application and versatility make it one of the most useful and complete methods to bring about health and vigor while at the same time preparing an adept for the deeper processes of yoga. It is based on three elements: rhythm, energy and form. Form is evident in the twelve postures which are always performed in the same sequence. Such steady and continuous performance of postures which are coordinated with the breath activates the subtle energy called prana. This steady and rhythmic flow reflects the rhythm of the universe, such as biorhythms of the body, which were expressed in the past by the science of the twelve zodiac phases. The rhythmic superimposition of the form and energy of suryanamaskar on our psychosomatic organism is a transforming force since it activates the psychic body in a completely different way than what any modern sport or game can do.

The benefits of a suryanamaskar practice are so wonderful and so many that for example, in the late 1940's, Shri Chhatrapati Shivaji Maharaj (1868-1951; Raja of Aundh 1909-1947) made suryanamaskar a compulsory part of the physical training program in his kingdom's schools. He helped to popularize suryanamaskar as a simple physical exercise for the all-round development of an individual. Similarly, the director of the Department of physical education at Shri Eurobond Ashram says in his booklet that "a complete cycle of suryanamaskar consists of ten or twelve movements .....through which one gets a good stretch and thorough exercise of the whole body. The body thus becomes strong, supple, agile and healthy. suryanamaskar is a system of exercise for a common man". In fact, some experts, including Ayurvedic physicians, consider suryanamaskar to be "the crest jewel of exercises". Coronary blocks can also be treated through life style changes in which yoga played a crucial part. For this reversing heart disease program is running credited suryanamaskar as "the most beneficial yogic practice" for their heart patients. It is so highly regarded that entire books have been written on this single practice.

## **Experimental**

### **Subjects**

The subjects for this study were selected from the Government College of physical education students, Osmania University, Hyderabad, and A.P. A total of 20 male subjects were selected and used as one practicing group.

### **Variables**

Suryanamaskar (sun salutations) was considered as independent variable and flexibility was considered as dependent variable.

### **Test for flexibility**

Flexibility of back and leg muscles was measured by the Sit and Reach test. The subject was asked to remove shoes and place his feet against the testing box while sitting on the floor with straight knees. Then the subject was asked to place one hand on the top of the other so that the middle fingers of both hands were together at the same length. Bending of the knees was not allowed. The subject was asked to lean forward and place his hands without bouncing over the measuring scale lying on the top of the box for at least one second. The score was expressed in number of centimeters. Three trials are given and the highest score was recorded.

### **Experimental design**

The Repeated Measures Design was used for this study. Only one group of 20 participants was created. Tests were administered in equal intervals of two weeks. The tests started four weeks prior to the Suryanamaskar (SN) treatment and took place every two weeks, for three times. Thereafter, tests took place every two weeks during the treatment and after the completion of the treatment, they were continued for the following four week period.

Experimental treatment Suryanamaskar (sun salutations) practice for all subjects were assembled at Government College of physical education, Osmania University, Hyderabad, and A.P. and were briefed on the general objectives and requirements of suryanamaskar practice.

Subjects were administered the suryanamaskar practice in addition to regular taking part in all other activities as scheduled by the Government College of physical education, Domalaguda, Osmania University, Hyderabad, and A.P.

Suryanamaskar training was carried out for a period of six weeks, six times per week (excluding university holidays) Between 7<sup>th</sup> September, 2009 and 20<sup>th</sup> October 2009. The scheduled time of the practice lasted for 45 minutes between 6:30 a.m. and 7:15 a.m. and was conducted instead of the students' regular conditioning period. Each and every practice period was concluded with five minutes of Shavasana.

Each day of the first week, suryanamaskar practice was demonstrated to the group by the research scholar and the most important points were reviewed several times. Afterwards, a review of the most important points and common mistakes was conducted once per week. Individual practice correction of suryanamaskar was conducted every day on an ongoing basis. Additionally, a number of stretching exercises were taught in order to give facilitate better and more accurate execution of the individual practice of asanas which are part of the suryanamaskar cycle.

Statistical analysis to determine the effect of suryanamaskar on flexibility variable of selected subjects from Government College of physical education, Domalaguda, Osmania University, Hyderabad, and A.P. One Way ANOVA was used at 0.05 level of significance.

## Results and Discussion

The mean values and standard deviations of different trials are shown in Table 1. It appears from Table 2 that the computed value of F in relation to the flexibility is greater than the required F (7,152) to be significant at 0.05 level of significance. Since the F-value was found to be significant, the Least Significant Difference (L.S.D.) Post Hoc test was applied for inter-group comparison (Table 3).

**Table 1** Mean and Standard Deviation of eight different trials on flexibility

Trials	Mean	Standard Deviation
1	11.0500	8.10279
2	11.5750	8.33710
3	11.3250	8.31972
4	13.9500	7.11170
5	15.8750	6.91656
6	17.3500	6.11534
7	15.6750	6.34175
8	14.6500	6.63543

and Trial 2, Trial 1 and Trial 3, and Trial 2 and

**Table 2** Analysis of variance of flexibility in eight different trials

Sources of variation	DF	Sum of Square	Mean Sum of Square	F	Sig.
Between Groups	7	793.394	113.342	2.136	0.043
Within Groups	152	8064.350	53.055		

**Table 3** Least Significant Difference (L.S.D.) Post Hoc test for comparison of the means of the trials of the effect of suryanamaskar on flexibility

Paired Means		Mean Difference (I-J)	Sig
I	J		
Trial 1	Trial 2	-0.52500	0.820
	Trial 3	-0.27500	0.905
	Trial 4	-2.90000	0.210
	Trial 5	-4.82500(*)	0.038
	Trial 6	-6.30000(*)	0.007
	Trial 7	-4.62500(*)	0.046
	Trial 8	-3.60000	0.120
Trial 2	Trial 3	0.25000	0.914
	Trial 4	-2.37500	0.304
	Trial 5	-4.30000	0.064

	Trial 6	-5.77500(*)	0.013
	Trial 7	-4.10000	0.077
	Trial 8	-3.07500	0.184
Trial 3	Trial 4	-2.62500	0.256
	Trial 5	-4.55000	0.050
	Trial 6	-6.02500(*)	0.010
	Trial 7	-4.35000	0.061
	Trial 8	-3.32500	0.151
Trial 4	Trial 5	-1.92500	0.405
	Trial 6	-3.40000	0.142
	Trial 7	-1.72500	0.455
	Trial 8	-0.70000	0.762
Trial 5	Trial 6	-1.47500	0.523
	Trial 7	0.20000	0.931
	Trial 8	1.22500	0.596
Trial 6	Trial 7	1.67500	0.468
	Trial 8	2.70000	0.243
Trial 7	Trial 8	1.02500	0.657

\* The mean difference is significant at the 0.05 level.

1. There is no significant difference between Trial 1  
*Namaskara - an Ancient Indian Exercise*. Orient Longman: Hyderabad.  
Trial 3, This shows that no improvement took place in flexibility before the start of the treatment.
2. There is significant difference between Trial 3 and Trial 6. This shows that the treatment proved to be effective in the improvement of flexibility.
3. There is no significant difference between Trial 3 and Trial 4, Trial 4 and Trial 5 and Trial 5 and Trial 6. This indicates that the short duration (two weeks) of the treatment does not result in any flexibility effect.
4. There is significant difference between Trial 3 and Trial 6. This indicates that three intervals (two weeks each) are sufficient to bring a change in flexibility.
5. There are no significant differences between Trial 6 and Trial 7, Trial 7 and Trial 8 and between Trial 6 and Trial 8. This shows that the effect of suryanamaskar remains for two weeks even after a pause in treatment but the achieved performance decreases significantly after four weeks of rest.

It is being confirmed that physiological parameters like heart rate, blood pressure, oral temperature, skin temperature in resting condition responses to maximal and sub-maximal exercise, body flexibility, etc. They found a significant improvement in performance at sub-maximal level of exercise. Shoulder, hip, trunk and neck flexibility improved in the yoga group. A significant increase in flexibility for the hip, hip and trunk, and neck for the yoga Group was also reported. The significant effect of various Hatha yogic practices on flexibility was also reported previously. The present study confirmed that yoga in general has a significant impact on flexibility and specifically that suryanamaskar also supports in this effect all other yogic asanas and practices. The Post Hoc Least Significant Difference Test in relation to flexibility shows that the duration of the six weeks of the treatment was sufficient to bring about significant difference (Mean Difference = -6.025). The study also shows that the effect of dynamic suryanamaskar remains for two weeks even after a pause in treatment but the achieved performance decreases significantly after four weeks of rest.

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# STRESS MANAGEMENT THROUGH YOGIC PRACTICES – AN EMPIRICAL STUDY

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## INTRODUCTION

In today's life day-to-day problems are the results of mental stress. Generally, your body is also affected due to fear whether it is obvious, hidden or imagined. Harvard's Cardiologist Herbert Benson says, "Having a knee-jerk response to stress and running away from struggle in life is not the right way to deal with it."

Mental stress affects our work differently and sometimes our efficiency level increases and ultimately proves to be beneficial. This type of instant energy helps us in fighting against death, unbearable pain or an emergency situation.

Practice of Yoga, Pranayam and meditation reduces mental stress, stress hormones and increases the secretion of beneficial hormones like encephalins and endorphin, and balances sympathetic and parasympathetic system. This has a favourable effect on the body and the person becomes disease-free. Sympathetic and parasympathetic systems are recognized as Surya and Chandra Nadi respectively.

## METHODOLOGY

The participants are divided into two groups on the basis of double sampling. Group A (study group, number – 63) was taught Pranayam and was made to practice it for at least two hours every day. Whereas Group B (Control group, number 56) was restricted from practicing Pranayam and they were given vegetarian food. There was no restriction on the calories intake. The parameters for exclusion from camp were diabetes, high blood pressure, liver and kidney diseases, pregnancy or breast-feeding condition, alcohol addiction, and people consuming medicines to simulate ovarian glands. After the camp the participants of Group A were asked to continue the practice of Pranayam for one or two hours daily for a period of three months. The group B participants were asked to lead a normal life.

On the basis of fixed parameters blood samples were collected on the first day and in the third month without practice of Yoga. After night long fasting, blood samples were taken to test the presence of Beta-endorphin in EDTA, whereas blood sugar from blood was collected to test the presence of fat, creatinine, nitrogen factors, SGPT, breast stimulating hormone, AETH, cortisol etc. Biochemical tests were done with primary methods, whereas AETH was completed with cortisol; breast stimulating hormone and Beta-endorphin was completed with Elisa or IARMA ascorbas. The tests were done on the basis of selection by clinical and pathological studies and a lot of biochemical assumptions were derived. Independent bioanalysis did the analysis of the study.

## Results

**Comparison of characteristics of baseline:** Around 119 healthy youth were selected. Group A (Yoga group, number-63) and Group B (Control group, number – 56) were same on the basis of weight, basal metabolism, systolic blood pressure and diastolic blood pressure.

**Stress hormones:** On the basis of baseline for Control and test group, there was no difference between blood cortisol, breast-simulating hormone, endorphin and AETH level.

The participants of Yoga group showed significant drop in weight, basal metabolism, systolic blood pressure, and diastolic blood pressure. There was a significant change in mean of breast simulator, endorphin and cortisol after three months. This showed significant drop in weight, basal metabolism, systolic and diastolic blood pressure compared to the Control group with regular practice of Yoga at home.

**Comparison of standards with baseline after three months:** There was a significant drop in weight, basal metabolism, systolic blood pressure, and diastolic blood pressure in participants of Yoga group after three months. There was considerable change in the levels of weight and basal metabolism, and endorphin levels in participants of the Control group.

**Finding:** The hormone level had reduced in participants compared supervised short-term practice of Pranayam. Although the Control group practicing Pranayam at home without supervision did not show significant effect on stress hormone level. There is a need to study the effect of supervised regular practice of Pranayam on stress.

**Special feature (first day) of Baseline between Yoga Group and Control Group**

	Group	Number	Mean	Standard Deviation	Probable value
<b>Age</b>	Yoga Group	58	36.33	7.44	0.033
	Control Group	53	33.45	6.59	
<b>Weight</b>	Yoga Group	63	69.52	11.83	0.57
	Control Group	56	68.33	11.33	
<b>Height</b>	Yoga Group	62	164.83	7.07	0.63
	Control Group	56	165.58	9.83	
<b>Systolic Blood Pressure</b>	Yoga Group	63	120.57	16.26	0.7
	Control Group	56	121.54	10.87	
<b>Diastolic Blood Pressure</b>	Yoga Group	63	81.4	7.65	0.75
	Control Group	56	81.86	8.37	
<b>Basal Metabolism</b>	Yoga Group	62	25.64	4.43	0.56
	Control Group	56	25.13	5.09	
<b>Endorphin</b>	Yoga Group	61	44.71	56.62	0.32
	Control Group	51	35.25	44.99	
<b>ACTH</b>	Yoga Group	63	26	10.73	0.16
	Control Group	54	21.39	9.61	
<b>PRL</b>	Yoga Group	63	162.55	127.50	0.75
	Control Group	56	170.53	149.46	
<b>Cortisol</b>	Yoga Group	63	277.83	100.23	0.79
	Control Group	56	273.63	79.27	

**Comparison of various standards in Yoga Group after 3 months**

	Group	Number	Mean	Standard Deviation	Probable value
<b>Weight</b>	Base Line	47	70.32	12.25	0.0001
	3 Months	47	67.58	11.36	
<b>Basal Metabolism</b>	Base Line	46	25.87	4.34	0.0001
	3 Months	46	24.82	3.86	
<b>Systolic blood pressure</b>	Base Line	48	112.38	17.26	0.01
	3 Months	48	116.96	15.97	
<b>Diastolic blood pressure</b>	Base Line	48	81.38	80.30	0.06
	3 Months	48	78.46	11.24	
<b>Cortisol</b>	Base Line	49	278.91	107.03	0.007
	3 Months	49	236.76	79.01	
<b>PRL</b>	Base Line	49	174.64	137.65	0.44
	3 Months	49	162.73	85.18	
<b>ACTH</b>	Base Line	49	26.26	11.21	0.0001
	3 Months	49	14.75	5.37	
<b>Endorphin</b>	Base Line	47	50.15	58.72	0.0001
	3 Months	47	12.24	22.49	

**Comparison of various standards in Control Group after 3 months**

	Group	Number	Mean	Standard Deviation	Probable value
<b>Weight</b>	Base Line	45	67.56	11.68	0.0001
	3 Months	45	66.18	10.46	
<b>Basal Metabolism</b>	Base Line	45	25.14	5.33	0.0001
	3 Months	45	24.62	4.95	
<b>Systolic blood pressure</b>	Base Line	45	121.38	10.64	0.001
	3 Months	45	114.44	10.25	
<b>Diastolic blood pressure</b>	Base Line	45	81.38	7.74	0.011
	3 Months	45	78.22	7.46	
<b>Cortisol</b>	Base Line	43	260.84	74.35	0.3
	3 Months	43	260.84	74.35	

	3 Months	43	246.70	84.24	
<b>PRL</b>	Base Line	43	161.24	74.33	0.3
	3 Months	43	169.94	89.57	
<b>ACTH</b>	Base Line	41	20.39	9.19	0.0001
	3 Months	41	14.53	6.74	
<b>Endorphin</b>	Base Line	38	31.59	39.70	0.005
	3 Months	38	9.79	18.43	

#### Comparison of change (per cent) in Yoga and Control groups

<b>ACTH – Baseline to 3 months</b>	Yoga Group	49	-38.15	22.01	0.003
	Control Group	41	-19.30	33.67	

#### Compliance of Yoga participants in Experiment Group

Yoga Group practice	No:	Min	Max	Mean	Standard Deviation
Every week	48	2.00	7.00	6.0	1.35
Everyday hours	49	.25	3.50	1.23	.59
Every week hours	46	1.00	24.50	7.61	4.49

#### Results:

1. Control group: Number of people who did not practise Yoga – 56  
No significant changes noticed on the basis of old samples.
2. Yoga group: Total number of people who practised Yoga – 63  
After the practice of Yoga at home for 3 months, weight, basal metabolism, systolic blood pressure, diastolic blood pressure, endorphin, breast stimulating hormones, and cortisol hormones had reduced.

#### Summary

1. Weight, basal metabolism, systolic blood pressure, diastolic blood pressure, endorphin, breast-stimulating hormones, cortisol hormones had reduced in Yoga group.
2. There was no significant difference in Control group, which did not practice Yoga.
3. It was recommended that the study should be continued for a longer duration.

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# **A STUDY ON THE PHYSICAL FITNESS AMONG TABLE TENNIS AND LAWN TENNIS PLAYERS IN HYDERABAD**

BY

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**P.Ravi Shanker, B.R.Laxmaiah**

The aim of the present study was to study the difference in Physical Fitness among Table Tennis and Lawn Tennis Players in Hyderabad. 15 Male Table Tennis Players and 15 Lawn Tennis Players between the age group of 16 Years to 20 Years were taken for the Study. The AAPHER Youth Fitness Test consisting of 6 Items were used for the Study. It was found that Lawn Tennis Players have good Physical Fitness compare to the Table Tennis Players. This study shows that the Lawn Tennis Players are good because they do good Physical Training compare to Table Tennis Players. The Lawn Tennis Players are having very good speed , strength and endurance.

Key words:Physical fitness, speed, strength, endurance.

## **INTRODUCTION:**

Through out the history of man kind Physical fitness has often been an important or essential objective of various groups and governments. Early Greek and Chinese Civilizations were concerned with the Physical development of the Individual. Each changes in civilization through the ages brought a change in the need of Physical fitness. Fit persons are the nations pride and they are an asset to the country in all respects of progress and development. In fact countries like USA,Germany,Russia, China,France etc. have insisted on military training for the people of the respective countries who can work hard for trade and business who also well extend a helping hand in protecting the country at the time of invasion by the enemies.All Living Individual have some degree of physical fitness and this degree may be interpreted in terms of their capacity for performance and their endurance in Physical activities.

Physical fitness is general state of good physical health. Physical fitness is the ability to endure, beat with stand stress and carry on in circumstances where an unfit person could not continue. In order for one to be considered Physically fit, heart, Lungs and muscles have to perform at a normal level for the Individual to continue feeling capable of performing an activity.

competitive sports participant to possess a high degree of Physical fitness. Lawn Tennis and Table Tennis players are also require Physical fitness to perform well in the competition and also in training.

## **METHODOLOGY:**

Aim: To find out the Physical Fitness among the Lawn Tennis and Table Tennis Players in Hyderabad.

Sample:15 Lawn Tennis and 15 Table Tennis Players of Hyderabad has taken for the study.

Test Administration:

To find out the Physical Fitness the AAPHER Youth Fitness Test consisting of the following Items are used in the - study.

- 1.Pull Ups
- 2.Sit Ups
- 3.Shuttle Run
- 4.Standing Broad Jump
- 5.50 Yard Dash
- 6.600 Yard Run

The above Tests are conducted among Lawn Tennis and Table Tennis Players

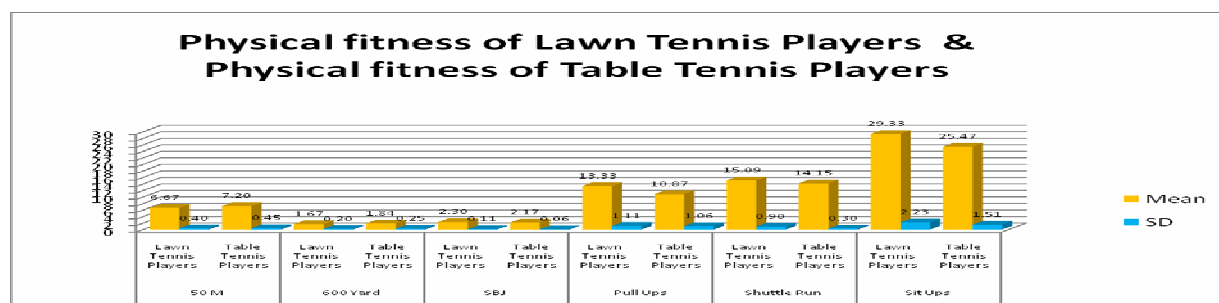
## RESULTS AND DISCUSSION:

Table 1 and Bar Diagram showing the performance of Physical Fitness among Lawn Tennis and Table Tennis Players. It is found Lawn Tennis Players are having good performance then Table Tennis Players in 50 Yard Dash, 600 Yard Run, Standing Broad Jump, Pull ups and Situps and Table Tennis Players are found good in Shuttle Run.

The difference in Physical Fitness between Lawn Tennis Players and Table Tennis Players are due to Lawn Tennis Players are playing Tennis on Tennis Court and Table Tennis Players are playing on Table Tennis Table.

Table: 1

	GROUP	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
50 Y	Lawn Tennis Players	15	6.67	0.40	0.10	-3.38	28.00	0.00
	Table Tennis Players	15	7.20	0.45	0.12			
600 Yard	Lawn Tennis Players	15	1.67	0.20	0.05	-2.07	28.00	0.05
	Table Tennis Players	15	1.84	0.25	0.06			
SBJ	Lawn Tennis Players	15	2.30	0.11	0.03	4.23	28.00	0.00
	Table Tennis Players	15	2.17	0.06	0.02			
Pull Ups	Lawn Tennis Players	15	13.33	1.11	0.29	6.22	28.00	0.00
	Table Tennis Players	15	10.87	1.06	0.27			
Shuttle Run	Lawn Tennis Players	15	15.09	0.90	0.23	3.80	28.00	0.00
	Table Tennis Players	15	14.15	0.30	0.08			
Sit Ups	Lawn Tennis Players	15	29.33	2.23	0.57	5.57	28.00	0.00
	Table Tennis Players	15	25.47	1.51	0.39			



## RECOMENDATIONS:

It is recommended that Lawn Tennis Players requires Physical Fitness Training for enhancing the performance. It is advised to Coaches include the Physical Fitness programs in their Schedules.

## References:

1.Science of Sports Training, Hardayal Singh.

# **A STUDY ON THE PHYSICAL FITNESS AMONG SOFT BALL AND HAND BALL PLAYERS IN HYDERABAD**

BY

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And

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## **ABSTRACT**

The aim of the present study was to study the difference in Physical Fitness among Soft Ball and Hand Ball Players in Hyderabad. 10 Hand Ball Players and 10 Soft Ball Players between the age group of 16 Years to 20 Years were taken for the Study. The AAPHER Youth Fitness Test consisting of 6 Items were used for the Study. It was found that Hand Ball Players have good Physical Fitness compare to Soft Ball Players. This study shows that the Hand Ball Players are good because they do good Physical Training compare to Soft Ball Players. The Hand Ball Players are having very good speed, and endurance.

Key words:Physical fitness, speed, , endurance.

## **INTRODUCTION:**

Physical fitness is defined as the state or condition of being Physically sound and healthy, especially as the result of exercise and proper nutrition. It is thus, a state of general well being, marked by physical health as well as mental stability. Physical fitness is not just about having a lean body, it is about having cardiovascular endurance, as well as a strong immunity system, and most importantly, a satisfied and happy state of mind. Physical fitness is composed of general and specific fitness. It can be health and skill related physical fitness. Physical fitness refers to the organic capacity of the individual to perform the tasks of the daily living without undue tiredness and fatigue and still have a reserve of strength and energy available to meet satisfactorily sudden emergency placed upon him. Physical fitness provides capacity for activity. Modern Competitive performance demands severe training every day throughout the year to maintain fitness for performance at peak level. The techniques and skills in sports and games have advanced dramatically which demands the competitive sport participant to possess a high degree of physical fitness. Hand Ball and Soft Ball require Physical Fitness to enhance the Performance.

## **BENEFITS OF PHYSICAL FITNESS:**

- 1.Improved Health
- 2.Improved sense of well being.
- 3.Improved appearance.
- 4.Enhanced Social Life
- 5.Increased Fitness.

## **METHODOLOGY:**

Aim: To find out the Physical Fitness among the Hand Ball and Soft Ball Players in Hyderabad.

Sample:10 Hand Ball and 10 Soft Ball Players of Osmania University has taken for the study.

Test Administration:

To find out the Physical Fitness the AAPHER Youth Fitness Test consisting of the following Items are used in the study.

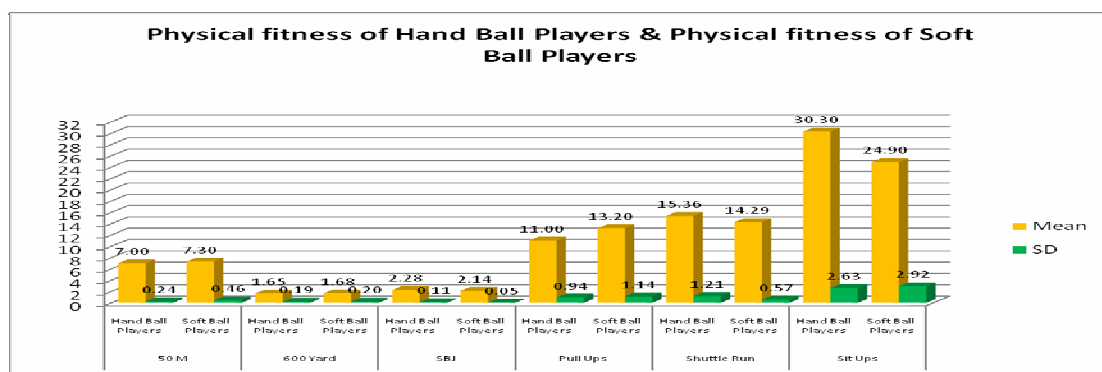
- 1.Pull Ups
- 2.Sit Ups
- 3.Shuttle Run
- 4.Standing Broad Jump
- 5.50 Yard Dash
- 6.600 Yard Run

The above Tests are conducted among Hand Ball and Soft Ball Players.

	GROUP	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
50 Y	Hand Ball Players	10	7.00	0.24	0.08	-1.81	18.00	0.09
	Soft Ball Players	10	7.30	0.46	0.15			
600 Yard	Hand Ball Players	10	1.65	0.19	0.06	-0.36	18.00	0.72
	Soft Ball Players	10	1.68	0.20	0.06			
SBJ	Hand Ball Players	10	2.28	0.11	0.04	3.62	18.00	0.00
	Soft Ball Players	10	2.14	0.05	0.02			
Pull Ups	Hand Ball Players	10	11.00	0.94	0.30	-4.71	18.00	0.00
	Soft Ball Players	10	13.20	1.14	0.36			
Shuttle Run	Hand Ball Players	10	15.36	1.21	0.38	2.54	18.00	0.02
	Soft Ball Players	10	14.29	0.57	0.18			
Sit Ups	Hand Ball Players	10	30.30	2.63	0.83	4.35	18.00	0.00
	Soft Ball Players	10	24.90	2.92	0.92			

### RESULTS AND DISCUSSION:

Table and Bar Diagram is Showing the Physical Fitness of Hand Ball Players and Soft Ball Players. It is found that the Hand Ball Players are good in 50 Yard Dash, 600 Yard Run, Standing Broad Jump and Situps and Soft Ball Players are good in Pull Ups and Shuttle Run. Hand Ball Players are Playing in the ground that is why the physical fitness is good compare to the Soft Ball Players.



### RECOMMENDATIONS:

The Hand Ball Players and Soft Ball Players must be given good Physical conditioning Training to enable them to improve the performance in sports and Games.

### References:

Donald K. Mathew, Measurement in Physical Education.  
Ikeda, Naniko, comparison of Physical fitness.

# EFFECT OF PLYOMETRIC TRAINING, CIRCUIT TRAINING AND COMBINED TRAINING ON SELECTED PHYSIOLOGICAL COMPONENTS AMONG THE SECONDARY STUDENTS.

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## INTRODUCTION :-

Competition plays a vital role in today's modern era where records are being practically rewritten and are being excelled mostly in every successive competition. To achieve something in the high level competition one must undergo continuous and systematic plan of training right from child hood.

Cardio Respiratory Endurance and Muscular Endurance are basic physiological need in all sports and games activities, particularly in longer durational activities. Cardio Respiratory endurance is the ability of the circulatory system to keep the muscles supplied with Oxygen and Nutrients and to keep the muscles free of waste products during long duration activity. Various training methods are designed to enhance the above fitness components like Circuit Training, Interval Training and Plyometric Training, etc.

## STATEMENT OF THE PROBLEM:-

The purpose of the study was to compare the Effect of Plyometric Training, Circuit Training and Combined Training on selected fitness components among the secondary students.

## METHODOLOGY:-

Researcher used four different Training groups on selected fitness components to achieve the above purpose .It was decided to selected the untrained school Boys of Ekashila High School Warangal in the age group of 14-15 years those who have not participated intensively in games and sports or any special coaching programme. However they were allowed to attend the regular physical education classes in school.40 students were selected randomly by lot from the total population of 300 subjects after eliminating physical handicapped students . Then they were divided into four equal groups randomly consisting of 10 subjects in each group .The groups were named randomly by lot as Plyometric Training group ,Circuit Training group ,Combined training group and control group and their performance were measured before and after 12-weeks of Training. In Plyometric Training eight exercises (four for Upper body and four for lower body ).In circuit Training eight exercises were used. The combined Training group subjects were asked to join with the Plyometric Training group on Tuesday, Thursday ,Saturday & Monday, Wednesday and Friday with Circuit Training group .The following component and test items were used.

1):-Cooper's 12 minutes Run/Walk to measure Cardio Respiratory Endurance

2):-Sit-Ups to measure Muscular Endurance

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

## RESULTS AND DISCUSSION

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

**Table:1.1 Results of consolidated 't' test 12 Minute Run/Walk**

Test Items	Obtained "t" value				Required value at 0.05 level
	Plyometric Training group	Circuit Training group	Combined Training group	Control group	
12 minute Run/walk	100.98*	11.76*	53.67*	0.57	2.03

\*significant at 0.05 level

From Table:1 it is observed that the performance of the Training groups improved significantly with result to 12 minute Run/walk and sit-ups. These results supported by C.Nicholas, A Ratamess N.A

**Table:1.2 Analysis of covariance. 12-Minute Run /Walk**

Source of variation	d.f	SSx	SSy	SSxy	SSyx	MSSyx
Treatment group Mean	N-1 4-1=3	2537	1299612	455506	1215118.53	405039.51
Error	N-K-1 40-4-1=35	1221672	1329382	1142377	261153.20	7461.52
Total	38	1224209	2628994	1187927.6	1476271.73	

\*significant at 0.05 level,  $F_{yx}=54.28$   $F_{0.05}=2.88(3,35)$

Since obtained values varies and are also greater than the Table value  $F_{0.05}$  it is concluded that all the Training methods are not equally effective, in improving the performance of Cardio Respiratory Endurance . In order to find out which Training method is more effective. Pair wise comparison analysis on adjusted means of post test data was carried out.



**Table:1.3 Schiff's Post Hoc Test.12-Minute Run/Walk Comparison Adjusted Post Test Mean**

Control Group	Plyometric Training Group	Circuit Training Group	Combined Training Group	Mean Difference	Confidence Interval 0.05 Level
1763	2192			429	139.09
1763		2153		390	
1763			2188	425	
	2192	2153		39	
	2192		2188	4	
		2153	2188	35	

Table :1.3 shows that the Training methods Plyometric Training group and Combined Training group are equally effective and also Combined Training and Circuit Training are equally effective

**Table:2.1 Results of consolidated 't' test Sit-ups**

Test Items	Obtained "t" value				Required "t" value at 0.05 level
	<u>Plyometric Training group</u>	<u>Circuit Training group</u>	<u>Combined Training group</u>	<u>Control group</u>	
Sit-ups	80*	118.75*	69*	1.43	2.03

\*significant at 0.05 level

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

**Table:2.2 Analysis of covariance. Sit-ups**

Source of variation	d.f	SSx	SSy	SSxy	SSyx	MSSyx
Treatment group Mean	N-1 4-1=3	3.06	646.28	26.13	600.56	20.18
Error	N-K-1 40-4-1=35	209.32	187.1	182	28.86	0.82
Total	38	212.38	833.38	208.13	658.28	

\*significant at 0.05 level,  $F_{yx}=244.12$   $F_{05}=2.88(3,35)$

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

**Table :2.3 Schiff's Post Hoc Test .Sit-ups Comparison Adjusted Post Test Mean**

Control Group	Plyometric Training Group	Circuit Training Group	Combined Training Group	Mean Difference	Confidence Interval 0.05 Level
15.1	21.8			6.7	1.49
15.1		22.1		7	
15.1			22.6	7.5	
	21.8	22.1		0.3	
	21.8		22.6	0.8	
		22.1	22.6	0.5	

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

# EFFECT OF SELECTED COMBINATION OF PHYSICAL ACTIVITIES ON THE RESPONSIVENESS OF ARM – SHOULDER CO- ORDINATION AMONG SCHOOL CHILDREN.”

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**Back ground and Introduction:** Physical activity especially play activities are highly essential to enhance the motor abilities like balance, agility and coordination (Rinne M, Passanen M et al. 2010). Coordination ability of children which is considered as more of Psycho-physiological in origin is considered as one important motor ability to excel in various play activities and vice versa. Play could be an effective means of bringing significant improvements in the coordination activities of individuals (Poulsen A A, Jiviani J M et al. 2007). School physical education and sports activities are highly beneficial in developing the motor abilities like agility and coordination (Walther C, Schuler G. 2007). Motor skills of individuals depend on the motor abilities and hence development and consolidation of physiological apparatuses of these abilities must be a priority during the developing age (Branta C, Haubenstricker J et al. 1984). Periodical testing and evaluating the motor ability patters of children must be an essential aspect in school physical education program to best provide a vision on how to develop the motor abilities of children to strengthen their psycho-physiology (Faught G, Caimay J et al. 2008). Participation in generic forms of physical activities like free play, freehand exercises and rhythmic make children to develop motor abilities to their fullest form especially during the developmental age (El Haber N, Erbas B et al. 2008 and Lindstrom P J, Suni J H et al. 2009). Multi joint coordination is essential to perform sensitive coordinative activities like dancing and also gross coordination activities like throwing etc. To achieve high levels of multi joint coordination the development of proprioceptors of joints is an essential aspect (Verschueren S M, Swinnen S P et al. 1999). Neuromuscular type exercises are to be tested to know the effect of these on various motor ability factors of children. Hence, the present study aimed to study the effect of some generic forms of exercises like free play activities combined with freehand exercises and rhythmic of whole body.

**Objective of the study:** to study and compare the effect of free play activities combined with free hand exercises and rhythmic of whole body on the responsiveness of arm-shoulder coordination among the various age group school children.

**Methodology:** A total of 200 students with 50 students in each group representing four age groups were involved in the research study. So, there were four groups called 8 to 10 yrs age group, 11 to 13 yrs age group, 14 to 16 yrs group and above 16 years but below 20 years students groups. The students involved in the study were never been involved in any kind of specialized athletic training or sports training previously. The study was conducted strictly adhering to the human subject experimentation ethics as per the local ethics committee recommendations. All the precautions were taken for the safety of the individuals of the study and written acknowledgements were also obtained after explaining about the whole experimentation. Activities included for the study as experimental variables were Free hand exercises involving whole body for ten to fifteen minutes as warm up followed by rhythmic exercises involving the whole body followed by Basketball play activity for fifteen to half an hour. The whole session of the activity ranged between thirty minutes to one hour keeping the age matching principle. Arm-shoulder coordination was measured through the soft ball throw performance. The performance was measured for two times once at the baseline and the second time after the experimentation period of three months was over. Analysis of Covariance (ANCOVA) statistical technique was used to find whether there was significant difference among the four age groups on their arm-shoulder coordination ability because of the experimental variable. Adjusted post test means were compared for further comparison and discussion. The level of significance used was 0.05.

**Results:** Since the obtained F value in the table I (23.01) is more when compared to the table F Value of 2.66, the experimental exercise variables selected for the experiment to test their effect on motor ability factor of Arm-shoulder coordination caused significant change among the four experimental groups of the research study. Table II depicts that 17 to 19 yrs group showed highest post test mean with 59.66 ft, followed by 14 to 16 yrs with 51.46 ft, 11 to 13 yrs age group with 48.7 ft and followed by 8 to 10 yrs age group with 40.7 ft. Since, the adjusted post test mean comparisons would not bring out the source of significant difference because of the experiment; the Scheffe's Post Hoc Individual comparison test was done. Table III elicits that the difference between the 11 to 13 yrs and 17 to 19 yrs age group means is 1.35, which is less when compared to the Comparison Difference (CD), obtained i.e. 1.57. The difference between the 11 to 13 yrs age group mean and 8 to 10 yrs age group mean is 2.29, which is higher when compared to the CD obtained i.e. 1.57.

**TABLE I**  
**Analyses of Covariance for Soft Ball throw of Motor ability**

ANCOVA TABLE					
SOURCE	DF	SS	MS	F	CR.F
TOTAL	199	1084.377			
BG	3	282.4578	94.15261	23.01219	2.66
WG	196	801.9188	4.091423		

**TABLE II**  
**Adjusted post test means for Soft Ball throw of the four groups**

GROUPS	N	MX	MY	MY.X
8to10	50	36.96	40.7	49.47564
11to13	50	42.8	48.7	51.77489
14to16	50	48.62	51.46	48.85366
17to19	50	55.42	59.66	50.4158

**TABLE III**  
**Scheffe's post hoc individual comparison for Soft Ball Throw of four groups**

CD FOR SCHEFFE'S TEST
$CD = \sqrt{(a-1)F_{((2(MsError)/n))}} = 1.57$

INDIVIDUAL COMPARISONS FOR SOFT BALL THROW			
GROUPS AND VALUES	11to 13	17to19	8to10
	51.77	50.42	49.48
17to19 50.42	1.35 n.sig		
8to10 49.48	2.29 sig	0.94 n.sig	
14 to 16 48.85	2.92 sig	1.57 .sig	0.63 n.sig

The difference between the 11 to 13 yrs age group mean and 14 to 16 yrs age group mean is 2.92, which is higher when compared to the CD obtained i.e. 1.57. The difference between the 17 to 19 yrs age group mean and 8 to 10 yrs age group mean is 0.94, which is less when compared to the CD obtained i.e. 1.57. The difference between the 17 to 19 yrs age group mean and 14 to 16 yrs age group mean is 1.57, which is not higher when compared to the CD obtained i.e. 1.57. The difference between the 8 to 10 yrs age group mean and 14 to 16 yrs age group mean is 0.63, which is less when compared to the CD obtained i.e. 1.57. 17 to 19 years age children group of the experimentation could not get the significant increments in their Arm-shoulder coordination when compared to the 8 to 10 and 14 to 16 age children groups of experimentation. The most benefited group of the experimentation in the Arm-shoulder coordination factor of the Motor ability is 11 to 13 years age children group and followed by the 17 to 19 years age children group. There is no significant effect on the 14 to 16 years age children group and 8 to 10 years age children group of the experimentation.

**Conclusion:** 11 to 13 years and 17 to 19 years age children groups of the experimentation alone has experienced significant effect on the Arm-Shoulder Coordination factor of the motor ability because of the experimental exercise variables, when compared to the other three groups of experimentation viz 8 to 10 years, 11 to 13 years and 17 to 19 years.

**References:**

1. Rinne M, Passanen M et al. "Is Generic Physical activity or specific physical exercise associate with motor abilities?" Med Sci Sports Exerc. 2010, 42(9); 1760-68.

# Nutrition and Sports Performance

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## INTRODUCTION:

“You are what you eat.” It may be a cliché, but this statement has considerable meaning for all athletes. Physical activity requires muscle contractions. Muscle contractions require adenosine tri phosphate (ATP), which is the specific type of energy that powers these contractions. The breakdown of large nutrients from food yields ATP. These nutrients, often referred to as fuel or energy-yielding nutrients, are carbohydrates, proteins and fats. Their consumption can impact physical performance in a variety of ways.

## ENERGY

Energy nutrients, measured in terms of kilocalories (kcal) are stored in the body differently. Fat, which is typically the largest energy reserve, is stored as adipose (fat) tissue and in the muscle cell. Carbohydrates are stored as glycogen, and these stores are confined to muscle and the liver. Protein stores are restricted to mostly muscle.

## CARBOHYDRATE

There are two types of carbohydrates: simple (sugars) and complex (grains, starchy vegetables). Both are good sources of energy. Although muscles primarily use carbohydrates (CHO) and fats for energy, there are some organs that can only use carbohydrates in the form of blood glucose. When a diet is deficient in energy and/or CHO, the body will use protein stores (muscle) to make glucose. Regardless of how much fat an individual has stored, he/she cannot make significant amounts of glucose from it. Therefore, extremely low kcal diets or low CHO diets can result in loss of muscle tissue.

High CHO diets can increase muscle glycogen levels. This is important for individuals who do prolonged, moderately high- to high-intensity aerobic exercise that is limited by low muscle glycogen levels. Low glycogen levels can be related to fatigue in these activities. In addition, low glycogen levels may be responsible for fatigue in predominately anaerobic activities lasting three minutes or more. Studies also show that slower overall sprint speed, such as in the latter parts of prolonged athletic contests like soccer and ice hockey may be due to muscle glycogen depletion. Finally, low muscle glycogen stores may lead to a decrease in exercise intensity during training.

## PROTEIN AND FAT

Compared to the average individual, many athletes have a slightly higher protein requirement. However, most American athletes receive enough protein from their diet without the need for protein or amino acid supplements provided that their energy intake is sufficient. Those athletes potentially at risk for inadequate protein intake are those who are dieting or vegetarian.

Fat intake should be at a moderate level in an athlete's diet. High fat intakes are associated with performance deficits that are often due to the low carbohydrate content of these diets. Low fat intakes are often associated with low calorie diets which, as mentioned previously, are associated with fatigue.

## TIMING OF MEALS

Pre-exercise food guidelines will vary from athlete to athlete depending on the sport/event. As a general guideline, meals that are high in CHO, low in fat and fiber, moderate in protein, with extra fluid and appropriate portions are best. This is similar to the basic diet plan recommended for most athletes: CHO 55 – 70 percent, protein 12 - 15 percent, fat 20 - 25 percent, adequate kcal, variety of foods and limited alcohol.

The timing of the meals varies with intensity of exercise and personal tolerance to food. Suggestions include the following: large meals should be consumed four to six hours before exercise, lighter meals two to three hours before exercise and snacks half-hour to one hour before exercise. Eating breakfast and lunch is important! Athletes should try to avoid running out of fuel during the day.

## SUPPLEMENTS

The American College of Sports Medicine (ACSM) has several publications on various sports nutrition topics. The following topics are a sample from ACSM publications. For more information, please refer to the ACSM Web site at <http://www.acsm.org>.

- **Vitamins and Minerals –**

Physical activity may increase the need for some vitamins and minerals; however, the increased requirement generally can be attained by consuming a balanced diet based on a variety of foods. Individuals at risk for low vitamin and/or mineral intake are those who consume a low energy diet for extended periods of time. These individuals are at risk of developing a marginal, subclinical (without obvious symptoms) nutrient deficiency.

- **Creatine –**

Recent data indicates that creatine supplementation may enhance the physiological adaptations to resistance (strength) training in men and women, probably a result of being able to train more intensely. Athletes most likely to gain from creatine supplementation are those who participate in short-term sports/events (intense bouts of exercise). Nearly all research examining creatine supplementation has been obtained in the laboratory.

There are few field studies documenting beneficial effects of creatine supplementation during specific sports and competitions. Athletes considering supplementation are encouraged to contact ACSM for more information.

- **Caffeine –**

Often referred to as a nutritional ergogenic aid (helps athletic performance), caffeine has no nutritional value. Ingested caffeine is quickly absorbed from the stomach and peaks in the blood in one to two hours. Caffeine has the potential to affect all systems of the body, as it is absorbed by most tissues. It has been shown in some studies to increase performance during prolonged endurance exercise and short-term intense exercise lasting approximately five minutes. Athletes should be aware that there is an IOC allowable limit, and high doses of caffeine may result in the disqualification of an athlete from competition.

- **Fluids –**

To help prevent dehydration athletes should drink before they are thirsty, because exercise can diminish the thirst response. General guidelines include drinking two to three cups of water two to three hours before exercise, and 15 minutes before exercise drinking one to two cups of water. During every 15 to 20 minutes of exercise, one cup of water should be consumed. After exercise, the athlete should drink 16 ounces of water for every one pound of weight loss. Symptoms of dehydration are a dark urine color, small volume of urine, elevated heart rate, and headache. If any of these occur, you should increase your consumption of fluids. For most individuals, water is the best fluid. For more specific guidelines, see the ACSM Exercise and Fluid Replacement Position Stand at [www.acsm.org](http://www.acsm.org).

## **REFERENCES:**

Position Paper of the American Dietetic Association, Dietitians of Canada, and the American College of Sports Medicine: Nutrition and athletic performance. J Am Diet Assoc. 2000; 100:1543-1556.

# COMPARISON OF PHYSICAL FITNESS VARIABLES BETWEEN BASKET BALL PLAYERS AND FOOT BALL PLAYERS

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## INTRODUCTION

Physical Education aims to keep people “healthy”. Sound mind in a sound body is a common saying. Physical activities involve a whole man not his body and his body and muscles only. The view of physical fitness is interesting because it widens the definition into those characteristics which are related to a person’s health those that reflect that individual’s level of skill or performance.

## PURPOSE OF THE STUDY

The purpose of the study is to find out the “comparison of physical fitness variable between Foot Ball players and Basket Ball players.

The study was restricted to 30 male Foot Ball players and 30 male Basket Ball player of different Degree College in Warangal District in the age group between 18 and 25 years.

The independent variables were restricted to following selected strength parameters. Cardiovascular endurance, Strength and Explosive power.

## METHODOLOGY

In this Chapter the selection of subjects, selection of variables, reliability of data, testers reliability, instrument reliability, test administration and statistical technique for analyzing the data have been described.

### Test Administration

Cardio-Vascular Endurance (9 minutes run and walk test) purpose. The purpose of this test is to measure the cardio respiratory endurance. 9 minutes run and walk test was conducted on a 400 mtrs. standard track. Completed distance (No. of laps and distance covered) was recorded as a score.

## STATISTICAL TECHNIQUE

One way analysis of variance (ANOVA) for interpreting the results as recommended by Clarke and Clarke. The data were analyzed with the computer using ‘SPSS’ statistical package. The level of confidence was fixed at 0.05 level of confidence.

### Analysis of Data

The collected data on cardio vascular endurance, strength and explosive power of Foot Ball players and Basket Ball players have been statistically analyzed and presented in Table 1, 2 & 3. Table-1 shows that mean value of cardio vascular endurance of Foot Ball players was 1443.33 and standard deviation was 145.47 and the mean value of cardio vascular endurance of Basket Ball players was 1416.67 and standard deviation 111.68, resulted in an ‘F’ ratio of 0.63.

## MEAN OF CARDIO VASCULAR ENDURANCE FOR FOOT BALL PLAYERS AND BASKET BALL PLAYERS

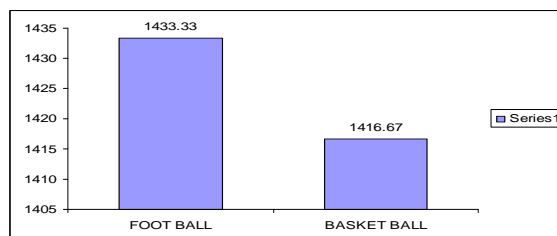


Figure – 1

The table-2 shows that mean value of strength of Foot Ball players was 5.78 and standard deviation was 0.17 and the mean value of strength of Basket Ball players was 5. and standard deviation was 0.16, resulted in an ‘F’ ration of 5.62. The table value required for significance was DF 1 and 58 was 4006 at 0.05 level confidence. The obtained F ration of 5.62 indicates that there is a significant variation among Basket Ball players and Foot Ball players mean on strength, as the obtained value was higher than the table value required for significance at 0.05 levels.

## MEAN OF STRENGTH FOR FOOT BALL PLAYERS AND BASKET BALL PLAYERS

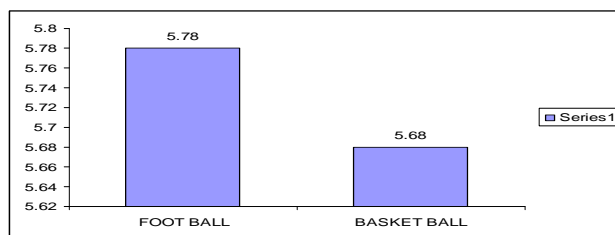


Figure – 2

The table-3 shows that mean value of explosive power of Foot Ball players was 3.72 and standard deviation was 0.14 and the mean value of explosive power of Basket ball players was 3.71 and standard deviation was 0.14, resulted in an 'F' ratio of 0.21.

The table value required for significance was DF 1 and 58 was 4006 at 0.05 level of confidence. The obtained F ratio of 0.21 indicates that there is no significant variation among Basket Ball and Foot Ball players mean on explosive power, as the obtained value was lower than the table value required for significance at 0.05 levels.

## MEAN OF EXPLOSIVE POWER FOR FOOTBALL PLAYERS AND BASKET BALL PLAYERS

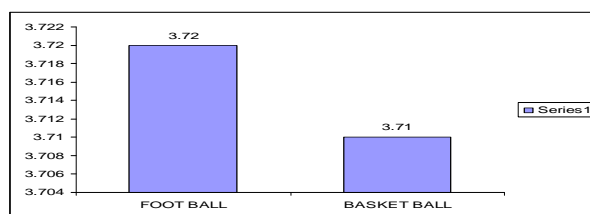


Figure – 3

## CONCLUSIONS

The results of the study revealed that there is no significant difference among the players of basketball and Football on selected physical fitness such as cardio vascular endurance and explosive power. The results of the study reveal that there is a significant difference among the players of basketball and Football on selected physical fitness variables such as strength.

## RECOMMENDATIONS

The following are the suggestions for the future studies in the light of the results of the study. This study may be conducted on different age groups, Sex and different variables.

# A Study of Successful Sportsman and Unsuccessful Sportsman Respect to Tough minded and Tender minded

**Dr. Quadri Syed Javeed**

Associate Professor, M.S.S College, Jalna

## Introduction:

Personality psychology is a branch of psychology that studies personality and individual differences. One emphasis in this area is to construct a coherent picture of a person and his or her major psychological processes (Bradberry, 2007). Another emphasis views personality as the study of individual differences, in other words, how people differ from each other.

Personality can be defined as a dynamic and organized set of characteristics possessed by a person that uniquely influences his or her cognitions, motivations, and behaviors in various situations (Ryckman, 2004). The word "personality" originates from the Latin persona, which means mask. Significantly, in the theatre of the ancient Latin-speaking world, the mask was not used as a plot device to disguise the identity of a character, but rather was a convention employed to represent or typify that character.

## Aim and Objectives of the study:

 To Examine of tough minded and tender minded of successful Sportsman and unsuccessful Sportsman.

**Sample:** Selected the successful national Sportsman from the various events those who win the matches. unsuccessful national Sportsman from the various game who loss the matches. For the present study 80 players were selected. The age range of subjects where 18 to 25 years.

**Tools: 16 PF Test:** S.D.Kapoor test was used for measuring Personality. All the 187 items of the scale are presented in simple and brisk style. Each of the 187 item has five answers. (Multiple Choices) Overall the average short interval reliability for forms (A+B) is .80. This type of evidence is described as criterion-related test validity.

## 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 10 to 15 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 were administered and field copies of each test was collected. Following the same procedure, the whole data were collected.

**Variables: Independent Variable: Age** a) 18-21 b) 22-25

**Dependent Variable:** Tough minded

## Statistical treatment of data:

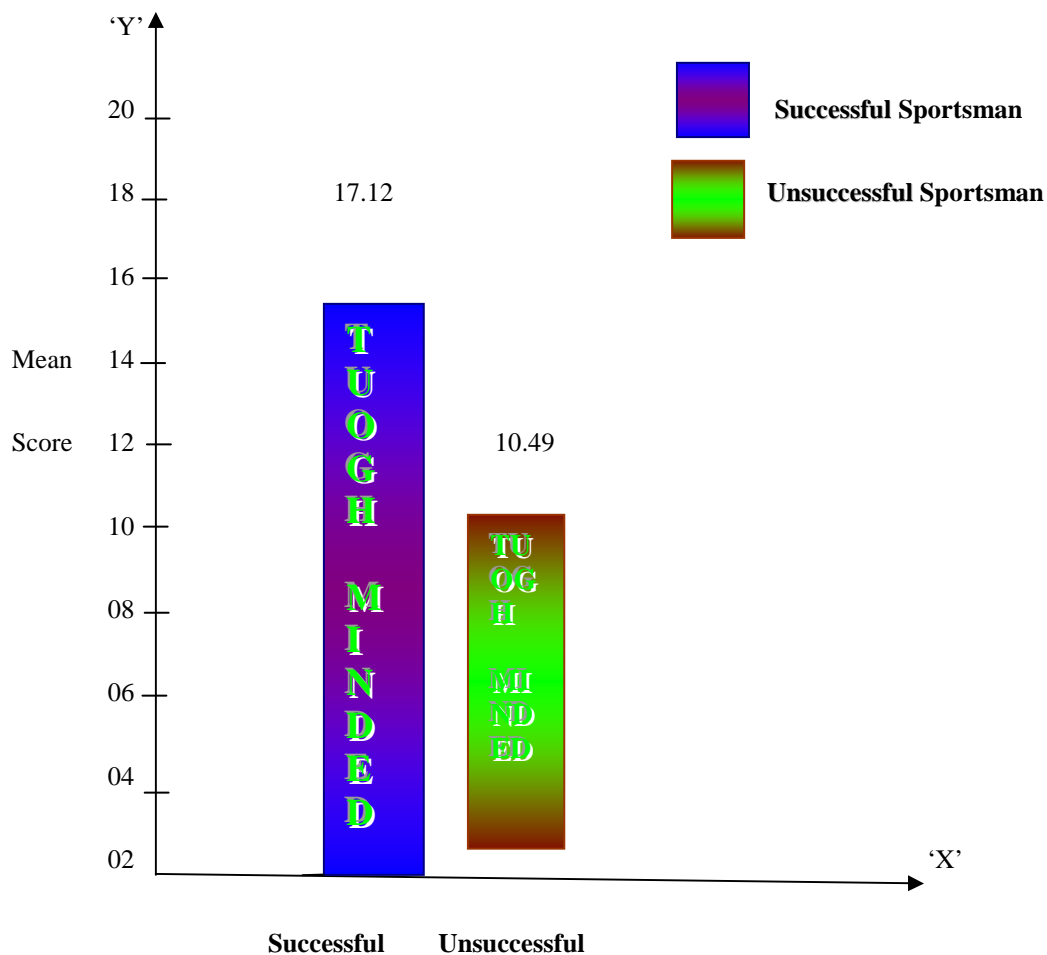
Data were subjects to descriptive statistics i.e. mean and standard deviation. And "t" Test has been used.

**Successful National Sportsman and Unsuccessful National players Shows the mean S.D and 't' value of factors 'Tough Minded'**

Sportsman	MEAN	SD	N	DF	t
Successful National Sportsman	17.12	3.39	40	78	8.09**
Unsuccessful National Sportsman	10.49	3.81	40		

Significant at 0.01 levels\*\*





The results related to the hypothesis have been recorded. Mean of tough minded score of the Successful Sportsman is 56.09 and that of the unsuccessful Sportsman 46.92 The difference between the two mean is highly significant ' $t=8.09$ ,  $df=78$ ).

#### Results:

- Successful Sportsman have significantly better tough minded than unsuccessful Sportsman (Tender minded).

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## **PSYCHOLOGICAL PREPARATION OF AN ATHLETE**

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Sports Psychology today is an independent component of the complex sports sciences. It deals with the behavioural mechanism of the body in sports situations. Genetic factors contribute to the establishment of the core psychological frame – work over which all other forces operate. Influence of nutrition is a determinant factor, especially in the early formative stage as well as during the initial years of a sports man. Child develops emotional reactions, and needs guidance and careful handling at every stage at home as well as at the institution of instruction.

Psychological behaviour is shaped through participation in sports and games. The efficacy of mass participation, the stimulus of the peer-grouping and the joy of achievement, all these contribute to the enrichment of the child to facilitate the development of healthy attitudes and the right outlook towards life in general.

In the early stage of learning sports skills motivation and the aptitude play an important role. At the higher level skill learning certain personality traits form the pre- requisites, they are the level of aspiration, the capacity to project through, the temperamental adjustments to defeat.

Psychological aspects of the competitive sports form a class by themselves. There exists a definite correlation between the performance potential and the emotional balance. Emotional disturbances have indelible impact on the physical performance capacity of an athlete. Emotional tension, anxiety and apprehension, creep-in even among the top players, which may induce an uncontrollable sport of force, over shooting the desired target, emotionally disturbed states, uncontrollable movements and injury potential is very high.

Psychological training aims at the training of the Athletes to develop adjustability and adaptability to diverse conditions of emotional stress and strain. Environmental factors like behaviour of the crowd or spectators on the performing player also have an impact on the performance. Constant practice is needed to attain perfection. Experience in playing under adverse conditions and unfavourable environments and psychological impacts gained during lost games, pave way for better emotional adjustments and mastery in subsequent game situations.

Psychological training aims to relax and concentrate will give successful and improved results of performance. In this context the role of yoga exercises are prescribed during the process of pre and post competition as tension reducers. At the same time yogic exercises sharpen the power of concentration. To assess the emotional state of the competitor at the pre-competitive stage several psychomotor skill tests are devised involving the reaction time and the capacity to adjust to the psychic stimuli. On the basis of the results indicating the state of the mind of the competitor the coach plans the psychological guidance and

counseling, and even may modify the strategy of the game, as far as the individual is concerned. The mental efforts made by an athlete, sometimes with the help of coach or other to adjust arousal and activation levels upward in order to support optimum performance. Performance is believed to rise in the linear way because increased arousal and activation are believed to elicit dominant and well – learned responses. Responses those are likely to be the correct ones during the latter stages of learning. Thus, in well learned tasks, with increased activation performance is likely to be improved. Children and youth persist and become better at a sport because they are introduced early to the activity and find it fun. At the same time they discover, that they have talent worth developing. Next they are introduced to a capable coach who prepares them for high levels of competition and helps them make sport a part of their life style.

**Behavioural modification** may operate on two levels simultaneously or on one level at a time. First a coach may modify an athlete's performance of a given complex skill via regular by administered rewards and punishments. Second, the coach may mold the attitudes and more general aspects of the practice and performance situation.

The coach must operationally decide that what behaviour should be changed and what steps are needed for better performance. Coaches are required to analyze carefully skills and skill components and attitudes that are in obvious need of change. Finally the achievement of measurable out comes may prove motivating to the athlete and the team.

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# The Effect of Cardiovascular Reactivity During Teaching An Emerging Occupational Stress on School Teachers

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## ABSTRACT

**Background:** Stress is the ultimate gift the school teachers get during the teaching and handling of children. There are a large number of cases where they have undergone Coronary artery bypass graft (CABG) in recent years in the country. The objective of the study was to assess the cardiovascular reactivity (CR) as a determinant of stress in teachers.

**Subjects :** School teachers (n=33; males 13, Females 20 ) with no major risk factors such as smoking, diabetes, Hypertension, hyperlipidemia (age 23 -40 years , teaching experience > 5 years, teaching hours 6-8 hours/day) volunteered for the study.

**Methods:** Resting heart rates in the early morning (RHR) and resting blood pressure (RBP); teaching heart rates (THR) and blood pressure (TBP) during their teaching hours were measured with the help of polar heart rate monitoring system and standard manometer. Their heart rates (THR2) and blood pressure (TBP2), rate of physical exertion at the end of class is also recorded with the help of RPE (perceived rate of exertion) scales.

**Results:** The investigation indicated significantly higher THR2's ( $p<0.05$ ) and TBP2 ( $p<0.05$ ) than the THR1, TBP1. But their physical exertion was very light 7 of Borg's scale of RPE. The increment in heart rates and blood pressure were higher when compared to increments in physical exertion. Study indicated that CVR during continuous verbal communication as abrupt increase in BP & HR occurred.

**Conclusions:** It is concluded that the CVR during teaching may be due to sympathetic drive and stress during shouting to control the students (crowded classes). Prolonged exposure to such stress without correct coping strategies may emerge as a potential risk factor for hypertension and coronary diseases. Biochemical determinants of oxidative stress need to be evaluated in teachers.

**Key words:** Teachers, stress, cardiovascular reactivity, heart rate, RPE scales.

## INTRODUCTION

School teachers face high amounts of stress during teaching and handling of young students. Classrooms which are present in developing countries remain overcrowded, and schools in rural areas consists more aged children for their classes due to late education. Teachers face intensive verbal communication, prolonged standing, high volume of workload and studies have shown incidence of cancer, vehicular accidents and heart disease in primary and secondary school teachers. Cardiovascular reactivity, the abrupt increase in blood pressure and heart rate that occurs during stress is emerging as a potential risk factor for hypertension and coronary artery diseases. It is recorded that a large number of teachers have been found to have undergone Coronary artery bypass graft (CABG) in the recent years as observed in ongoing retrospective study of 6000 CABG patients (unpublished data) in Apollo Hospitals, Hyderabad, A.P. India. Intention of the current study was to measure the heart rate, blood pressure to assess the cardiovascular reactivity in teachers during teaching hours in schools.

## METHODS

A total of thirty three school teachers (20 females & 13 males) with no major risk factors such as smoking, diabetes, hypertension and hyperlipidemia volunteered for the investigation. They were aged between 22 to 32 years and with a teaching experience of > 3 years with teaching hours of 6 -8 per day. Personal interviews were conducted with individuals to understand their problems in depth. These teachers belong to primary school and teaching students from nursery to fifth class. The resting heart rates (RHR) of teachers were noted by self measurement by the subjects; as radial pulse (beats /min) for three consecutive days 2 and average was taken as RHR. Their morning blood pressure (RBP) was measured with standard manometer. Their heart rates (THR1), blood pressure (TBP1) were measured at the beginning of the First class of the day. Their heart rate (THR2) and blood pressure (TBP2) were measured immediately at the end of the last class of the day. Heart rates recorded with the help of Polar Sport Tester PE 4000 'heart rate monitoring system (Polar Electro, Made in Finland) the rate of physical exertion both at the beginning and at the end of class was recorded with the help of Borg Scale of perceived rate of exertion (RPE) . The help of the medical professional was taken for measuring the blood pressure.

## RESULTS

The study indicated that most of the schools have more female teachers than males; Physical characteristics of the primary school teachers are listed in Table 1.

**Table: 1**  
**Physical Characteristics of subjects (n=33, Males13, Females 20)**

Age in years	23-32
Height in cm	153- 174
Weight in Kg	58- 82
Resting Heart Rate(RHR beats/min)	59-72
Resting Blood Pressure(RBP:mm of Hg)	90-120
Systolic Pressure(lying)	68-78
Diastolic Pressure(lying)	

The resting heart rate (RHR) and resting blood pressure (RBP) measured was within normal ranges for all the subjects. The THR, TBP measured at the beginning of the first class were marginally higher than the resting levels.

**TABLE 2: Comparison of 'CR' before and after the classes**

Variables measured	Before First class ( Mean +/- SD)	End of the last class (Mean +/- SD )	Level of Significance P
Heart rate (beats/min)	90+/- 12	133 +/- 10 ***	< 0.005
Systolic blood pressure (mm of Hg)	112 + / -16	140 + / - 8 **	< 0.005
Diastolic blood pressure (mm of Hg)	76 +/- 8	80 +/- 9 *	< 0.05
RPE Scales (Borg)	' 6 '	Very, very light ' 7 '	NS

The THR2, TBP2 were significantly ( $p<0.005$ ) higher than the THR1 and TBP1 (Table 2) in all the teachers irrespective of their age. When all the subjects were told to use Borg scales RPE for their physical exertion , significant number of Teachers chose very very light 7 and less; there were no significant differences between the chosen scale of RPE at the beginning and at the end of their classes of the day.

## DISCUSSION

It was evident in the present study that verbal communication and relationship in the form of teaching and shouting in primary school resulted in increase in PR and BP. There were significant increments (Table 2) in heart rates and blood pressures noted at the end of the classes in all the teachers. When the teachers were asked to rate exertion, during teaching both before and after, the perception of tiredness and physical exertion, they perceived minimal physical exertion at the end of teaching. RPE has been most commonly used to assess subjectively the degree of difficulty of carrying out physical tasks. In the present investigation, teachers were taught how to use the RPE and were found to have no differences during exhaustive teaching classes. Blood pressure changes during speech were studied by many authors and in certain situations, changes greater than 20 percent in systolic and diastolic blood pressure and heart rate can occur within 30 seconds after the initiation of human speech and similar findings were noted now. In one of the study, individuals with higher resting base line pressures tended to show greater increases during talking than did those with lower pressures; 20-40 % occurred within 30 seconds after the initiation of human speech. Increase in blood pressure and heart rate (the laboratory, medical clinic, class room and home) were noted; and significant positive correlation was also observed between the level of resting pressures and the magnitude increase in pressure while talking. This indicates that primary school teachers undergo moderate to severe stress during their occupation resulting in cardio vascular reactivity without much physical exertion.

Although there are many factors such as fitness levels, workload on individuals' personality can influence CR, which needs to be, evaluated in future studies. Similar effects may be studied in professions involving counseling and prolonged talking.

## CONCLUSIONS

It is concluded from the present study that the primary teachers undergo cardio vascular reactivity during their teaching hours especially at the end of the day. Prolonged exposure to such CR may pose risk for cardiovascular diseases. Teachers need to practice good stress coping skills and relaxation techniques to reduce the risk of stress related illnesses. More controlled studies on large population for longer duration are needed to standardize stress free teaching skills.

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# **A STUDY ON THE ROLE OF YOGA FOR REFINEMENT OF EDUCATIONAL PROCESS IN MODERN GLOBALIZING WORLD**

Dr. Sangeeta S.  
Bamman and Dr. Sateeshkumar M. Dongre

## **ABSTRACT**

Yoga is the science of living and as such, is trend to incorporate in daily life. It works on all aspects of the person, physical, mental, emotional, psychic and spiritual. Yoga lays foundation stone where upon the education system may flourish in all areas. The aim of this study is to search out the role of yoga for refinement of educational process, in modern globalizing world. Yoga positively concerned with educational process, it gives promotion of will power and development of perseverance in students and education of self-realization etc. It was concluded that Yoga practices may be helpful in giving good support to education.

## **INTRODUCTION**

Yoga is a system of personality-development, transformation of consciousness and integration within the human system leading to the complete well-being commonly, the term Yoga education has been referred to as the training and teaching process of Yoga, though it should also be seen as the application of Yoga techniques to bestow better support to the educational process. The target of both the disciplines is the same and that is enhancement of socially useful potentials of human personality. To achieve this target, Yoga lays foundation whereupon the education system may be structured.

Modern educationists are taking interest in improving the quality of education with the help of Yoga. Therefore, it is high time to think seriously on the inclusion of Yoga and Yogic values in education. Here, Yogic values refer to the holistic and spiritual development of life and the world.

### **POSITIVE ASPECTS OF YOGA:**

There are several positive aspects of Yoga for refinement of educational process in modern Globalizing world, As follows,

#### **SELF-EDUCATION (EDUCATION OF RELISATION):**

Yoga renders self-education. Yoga is nothing but the education of self-awareness. Yoga teaches how to live with wisdom, not with the worldly orientations.

Present education causes orientation. Towards

external world to such an extent that on gradually starts losing the awareness of his was being i.e. self-awareness.

The process of self-education is quite clear and it comprises five progressive steps or levels as below:

1. Introduction with corporeal sheath or level (physical body) of the self, this is the most external level.
2. Developmental of awareness of vital sheath or Level (psychosomatic system) of the self: This is most internal system.
3. Finding mental sheath (psychological processes) of the self: This level of self helpful in concentration and fluctuations of mind are controlled
4. Approaching the Gnostic of the self: This level of self is helpful in making him good artist or scientist or writer.
5. Realization Beatific Sheath: This level of self-helpful in realization of the beatific level of the self.

#### **DEVELOPMENT OF GENERAL AWARENESS:**

Education in the modern age emphasizes on power and manner of attention, so with the awareness of Yogic values, slowly one experiences the joy present in his surrounding and after a time finds himself deeply connected with his surrounding and after a time finds himself deeply connected with his external environment and starts appreciating the truths of ecology. Meanwhile one should also be trained to feel his inner visceral and vegetative activities and to tip into more and more profound psychic aspects. So the general awareness leading to the deeper appreciation and realization should be the essence of yoga in education.

#### **PROMOTION OF UNIQUENESS:**

While discussing the role of Yoga in education, the individual difference and uniqueness of a person should be given due place. When supreme consciousness is reflected through the individual uniqueness of sundry souls, it gives an exclusive pleasure and vividness in the creation. Otherwise, the world will be monotonous. Yoga believed in the uniqueness of the individual soul, that's why in yoga, many a paths and practices were prescribed for aspirants for their spiritual development.

#### **UNFOLDMENT OF CREATIVE CONSCIOUSNESS:**

Eventually the practice of Yoga may one self-centered and introverted. Creativity is the fragment of internal development. As one's inner self effloresces, one starts emitting some goodness in his surrounding, in the things present around him. Giving a good order to the external things, which is also useful for the society, is the right manifestation of internal development. All the established Yogis were living in society, contributed something significant for the public and they never over locked their external world in spite of having no deep attachment for anything, except the internal bliss. Yoga is way of communication further causes a tendency of creativity and finally leads to the vitality.

## **MANAGEMENT OF MENTAL HEALTH:**

The applications of yoga – practices for management of mental problems are concerned; the Yogic techniques are mostly being used as adjunct to the other psychotherapeutic systems and as a part of psychosomatics rehabilitation relaxation training. Many psychologists on the basis of their experimental results and clinical experiences found that Yoga is an effective instrument of modification of human behaviour. Yoga maintains good positive health of the body and mind. Selected routine of Yogic exercises can certainly lead to a happy and successful healthy life.

## **TREATMENT OF PHYSICAL DIFFICULTIES:**

Yoga was duly emphasized that the practice of Yogic postures and yogic breathing, in addition to mental and ethical disorders is also able to alleviate physical pains and problems. A large number of medical research reports showing the efficiency of yogic practices in the management of variety of psycho physiological and functional problems were published in different journals.

## **MANAGEMENT OF STRESS DISORDERS:**

The Yoga with along recommended Yogic diet; reduce tension Yoga is a system, self-healing and mediation stabilizing the functioning of autonomic nervous system causes remarkable reduction in anxiety and hypertension. The Yogic refinement in psychological attitude can reduce tension improve health and resolve psychological conflicts. Both the internal and external environment can be balanced by such Yogic practice (Tripathi and Singh, 1984).

## **CONCLUSION:**

Yoga is way of life-integrated system of education for the body, mind inner spirit. The art of right living was perfected and practiced through yoga. Yoga positively concerned with Educational process, have been identified, positive aspects, those are promotion of will power and development of perseverance in students, education and training about inner-self, comprising introduction with corporeal Sheath (Physical body) of the Self, development of awareness of vital sheath (Psychic system) of the self, accessing to the psychic sheath (Psychological system) of the self, approaching the Gnostic sheath of the self escorting finally to the realization of the beatific sheath.

The said process of education and training about inner self, obviously also takes in the process of pursuit of the transcendental state of psyche leading to the development of wide- ranging awareness, uniqueness an promotion of uniqueness or talent in the students.

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# A COMPARATIVE STUDY OF PHYSIOLOGICAL PERFORMANCE AMONG ATHLETES AND NON-ATHLETES OF SOUTH KARNATAKA REGION

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## ABSTRACT

Sport from an inspirable part of the system of physical education. The purpose of the study is to compare and analyze the variations on selected physiological variables and performance of physical education students in South Karnataka region. To study the physiological tests between athletes and non-athletes physical education colleges of South Karnataka area. The present study was conducted on 100 male subjects from students bachelor of physical education colleges and master of physical education (athletes and non athletes) in the Bangalore University, Bangalore. The age of the subject were ranging from 18 to 25 years. Tests were conducted for physiological variables were conducted at the class rooms, college grounds, stadium, and Indoor stadium wherever adequate facilities were available to conduct the tests. Hence it was concluded that, through the athletes of physical education colleges affiliated to Bangalore University showed superior performances in many of the psychological components, they still need regular practice, hard work and professional determination and devotion to improve in strength, flexibility and power resting pulse rate and body fat percentage to attain perfect level of sportsmanship.

## INTRODUCTION

Physical education offers opportunity in competitive situation for physical, social, emotional and moral development. Sport from an inseparable part of the system of physical education. Sports and games are the best ways to earn social recognition and acquire a status in the modern society. The term motor ability is used synonymously with general athletic ability. There are many factors that contribute to successful performance in athletic skill.

In most of the advanced and developed countries, the awareness for motor learning and skill developed among children is very much scientific and prolonged which perhaps helped them to level of general fitness with motor abilities like power, speed, agility, balance, reaction time etc. are essential qualities required to be develops in the players.

## STATEMENT OF THE PROBLEM

The purpose of the study is to compare and analyze the variations on selected physiological variable components of physical education students in South Karnataka region.

## RESEARCH METHODOLOGY

The present study was conducted on 100 male subjects from students bachelor of physical education colleges and master of physical education (Athletes and non athletes) in the Bangalore University, Bangalore. The age of the subject were ranging from 21 to 25 years.

## DATA COLLECTION

The research scholar followed the following method for collection of data. Tests were conducted for physiological variables were conducted at the class rooms, college grounds, stadium and Indoor stadium wherever adequate facilities were available to conduct the tests. The research took assistance of the staff and Ph.D. scholars of physical education, MBBS students, Medical officers and staff of Bangalore University health center and physical education. Demonstration of all the test was given to the subjects and all effort were made by the researcher to ensure accuracy and uniformity in conducting the tests.

## ANALYSIS OF THE DATA

Physiological tests are analyzed and the results are discussed here.

**Table I**

Shows the Mean and SD of physiological variables of athletes and non athletes of physical education colleges affiliated to Bangalore University

Variables	Athletes		Non-athletes		‘t’
	Mean	SD	Mean	SD	
Resting pulse rate	68.23	3.00	68.47	3.46	1.84
Systolic blood pressure	116.87	3.47	117.13	2.59	2.00*
Dialostic blood pressure	76.23	2.57	76.60	3.32	3.08**
Vital capacity	4.09	0.61	3.99	0.51	3.33**
Body Fat percentage	16.74	2.26	16.86	2.28	0.042

\*Significant at 0.05 level

**\*\* Significant at 0.01 levels**

In physiological test, it is observed that there is no significant difference between in testing pulse rate and body fat percentage of athletes and non-athletes of physical education colleges affiliated to Bangalore University, Bangalore. In blood pressure (both systolic and diastolic) and vital capacity significant difference between in testing pulse rate and body fat percentage of athletes and non athletes of physical education colleges affiliated to Bangalore University, Bangalore. Athletes were found to be better than non athletes

### **CONCLUSION**

Hence it was concluded that though the sportsmen of physical education colleges affiliated to Bangalore University (South Karnataka) showed superior performances in many of the physiological components they still need regular practice, hard work and professional determination and devotion to improve in strength flexibility and power resting pulse rate and body fat percentage to attain perfect level of sportsmen ship.

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# **A STUDY ON THE PHYSICAL FITNESS AMONG SHUTTLE BADMINTON AND LAWN TENNIS PLAYERS IN HYDERABAD**

BY

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## **ABSTRACT**

The aim of the present study was to study the difference in Physical Fitness among Table Tennis and Lawn Tennis Players in Hyderabad. 15 Male Shuttle Badminton Players and 15 Lawn Tennis Players between the age group of 16 Years to 20 Years were taken for the Study. The AAPHER Youth Fitness Test consisting of 6 Items were used for the Study. It was found that Lawn Tennis Players have good Physical Fitness compare to the Shuttle Badminton Players. This study shows that the Lawn Tennis Players are good because they do good Physical Training compare to Shuttle Badminton Players.. The Lawn Tennis Players are having very good speed , strength and endurance.

Key words: Physical fitness, speed, strength, endurance.

## **INTRODUCTION:**

Physical fitness is general state of good physical health. Physical fitness is the ability to endure, beat with stand stress and carry on in circumstances where an unfit person could not continue. In order for one to be considered Physically fit, heart, Lungs and muscles have to perform at a normal level for the Individual to continue feeling capable of performing an activity. Physical fitness is often divided into the following categories in order for people to be able examine its components or parts. Particularly, Physical fitness is judged by:

1. Cardio vascular endurance: This is the ability of the body to deliver oxygen and nutrients to tissues and to remove wastes over sustained periods of time.

2. Muscular strength & endurance: Strength deals with the ability of the muscle to exert force for a brief time period, while endurance is the ability of a muscle, or group of muscles, to sustain repeated contractions or to continue to apply force against an inert object.

3. Flexibility: This denotes the ability to move joints and use muscles through their full range of motion.

4. Body composition: Considered as one of the components of fitness, composition refers to the body in terms of lean mass (muscle, bone, vital tissue, and organs) and fat mass. Actually, the optimal ratio of fat to lean mass is an indication of fitness. Performing the right set of exercise can help people get rid off body fat and increase or maintain muscle mass.

Physical fitness provides capacity for activity. Modern competitive performance demands severe training every day through out the year.

## **METHODOLOGY:**

Aim: To find out the Physical Fitness among the Lawn Tennis and Shuttle Badminton Players in Hyderabad.

Sample: 15 Lawn Tennis and 15 Shuttle Badminton Players of Hyderabad has taken for study.

Test Administration:

To find out the Physical Fitness the AAPHER Youth Fitness Test consisting of the following Items are used in the study.

1. Pull Ups

2. Sit Ups

3. Shuttle Run

4. Standing Broad Jump

5. 50 Yard Dash

6. 600 Yard Run

The above Tests are conducted among Lawn Tennis and Shuttle Badminton Players.

## **RESULTS AND DISCUSSION:**

Table 1 and Bar Diagram showing the performance of Physical Fitness among Lawn Tennis and Table Tennis Players. It is found Lawn Tennis Players are having good performance then Table Tennis Players in 50 Yard Dash, 600 Yard Run, Standing Broad Jump, Pull ups and Situps and Shuttle Badminton Players are found good in Shuttle Run.

The difference in Physical Fitness between Lawn Tennis Players and shuttle Badminton Players are due to Lawn Tennis Players are playing Tennis on Bigger Court compare to Badminton Court.

Table: 1

	GROUP	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
50 Y	Lawn Tennis Players	15	6.68	0.40	0.10	-3.38	28.00	0.00
	Badminton Players	15	7.21	0.45	0.12			
600 Yard	Lawn Tennis Players	15	1.68	0.20	0.05	-2.07	28.00	0.05
	Badminton Players	15	1.85	0.25	0.06			
SBJ	Lawn Tennis Players	15	2.31	0.11	0.03	4.23	28.00	0.00
	Badminton Players	15	2.19	0.06	0.02			
Pull Ups	Lawn Tennis Players	15	13.33	1.11	0.29	6.22	28.00	0.00
	Badminton Players	15	10.87	1.06	0.27			
Shuttle Run	Lawn Tennis Players	15	15.09	0.90	0.23	3.80	28.00	0.00
	Badminton Players	15	14.15	0.30	0.08			
Sit Ups	Lawn Tennis Players	15	29.33	2.23	0.57	5.57	28.00	0.00
	Badminton Players	15	25.47	1.51	0.39			

#### RECOMENDATIONS:

It is recommended that Lawn Tennis Players requires Physical Fitness Training for enhancing the performance. It is advised to Coaches include the Physical Fitness programs in their Schedules.

#### References:

- 1.Science of Sports Training, Hardayal Singh.
- 2.Running for Fitness by Sebastian and Peter Coe.

# **A STUDY ON THE PHYSICAL FITNESS AMONG KABBADI AND KHO KHO PLAYERS IN OSMANIA UNIVERSITY**

BY

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And

A. Xavier, Physical Fitness Trainer, O.U.

## **ABSTRACT**

The aim of the present study was to study the difference in Physical Fitness among Kabbadi and Kho Kho Players in Hyderabad. 15 Male Kabbadi Players and 15 Male Kho Kho Players between the age group of 18 Years to 28 Years were taken for the Study. The AAPHER Youth Fitness Test consisting of 6 Items were used for the Study. It was found that Kho Kho Players have good Physical Fitness compare to the Kabbadi. This study shows that the Kho Kho Players are good because they do good Physical Training compare to Kabbadi Players.. The Kho Kho Players are having very good speed, strength and endurance.

Key words:Physical fitness, speed, strength, endurance.

## **INTRODUCTION:**

Physical fitness is defined as the state or condition of being Physically sound and healthy, especially as the result of exercise and proper nutrition. It is thus, a state of general well being, marked by physical health as well as mental stability. Physical fitness is not just about having a lean body, it is about having cardiovascular endurance, as well as a strong immunity system, and most importantly, a satisfied and happy state of mind. Physical fitness is composed of general and specific fitness. It can be health and skill related physical fitness. Physical fitness refers to the organic capacity of the individual to perform the tasks of the daily living without undue tiredness and fatigue and still have a reserve of strength and energy available to meet satisfactorily sudden emergency placed upon him. Physical fitness provides capacity for activity. Modern Competitive performance demands severe training every day throughout the year to maintain fitness for performance at peak level. The techniques and skills in sports and games have advanced dramatically which demands the competitive sport participant to possess a high degree of physical fitness. Hand Ball and Soft Ball require Physical Fitness to enhance the Performance.

## **METHODOLOGY:**

Aim: To find out the Physical Fitness among the Kabbadi and Kho Kho Players in Osmania University

Sample:15 Kabbadi and 15 Kho Kho Players of Hyderabad has taken for study.

Test Administration:

To find out the Physical Fitness the AAPHER Youth Fitness Test consisting of the following Items are used in the study.

1.Pull Ups

2.Sit Ups

3.Shuttle Run

4.Standing Broad Jump

5.50 Yard Dash

6.600 Yard Run

The above Tests are conducted among Lawn Tennis and Shuttle Badminton Players.

## **RESULTS AND DISCUSSION:**

Table 1 and Bar Diagram showing the performance of Physical Fitness among Kabbadi and Kho Kho Players. It is found Kho Kho Players are having good performance then Kabbadi in 50 Yard Dash,600 Yard Run,Standing Broad Jump,Shuttle Run and Situps and Kabbadi Players are found good in Pullups.

Table: 1

	GROUP	N	Mean	Std. Deviation	Std. Error	t	df	Sig. (2-tailed)
50 Y	Kho Kho Players	15	6.66	0.40	0.10	-3.38	28.00	0.00
	Kabbadi Players	15	7.20	0.45	0.12			
600 Yard	Kho Kho Players	15	1.70	0.20	0.05	-2.07	28.00	0.05
	Kabbadi Players	15	1.86	0.25	0.06			
SBJ	Kho KhoPlayers	15	2.34	0.11	0.03	4.23	28.00	0.00
	Kabbadi Players	15	2.21	0.06	0.02			
Pull Ups	Kho Kho Players	15	12.12	1.11	0.29	6.22	28.00	0.00
	Kabbadi Players	15	14.10	1.06	0.27			
Shuttle Run	Kho Kho Players	15	13.90	0.90	0.23	3.80	28.00	0.00
	Kabbadi Players	15	14.15	0.30	0.08			
Sit Ups	Kho KhoPlayers	15	30.33	2.23	0.57	5.57	28.00	0.00
	Kabbadi Players	15	25.47	1.51	0.39			

#### RECOMENDATIONS:

It is recommended that Kho Kho and Kabbadi Players requires Physical Fitness Training for enhancing the performance. It is advised to Coaches include the Physical Fitness programs in their Schedules.

#### References:

- 1.Science of Sports Training, Hardayal Singh.
- 2.Running for Fitness by Sebastian and Peter Coe.

# **BACK PAIN AMONG OBESE STUDENTS**

By

**Dr.L.Om Prakash**

## **INTRODUCTION:**

Back Pain is one of the most common reasons people seek medical attention. Back Problems can be caused by an inordinately wide range of problems. It can exist alone, or it can be caused by a condition that occurs elsewhere in the body, with the pain being transmitted to areas of the back by the nervous system. Half of all adults will experience some form of low back pain during their life time. The fact that humans walk uprights put great pressure on the spine and the muscles that support it. Over time, factors Such as disease, accidents, poor posture and over exertion can lead to immediate and/or long term back problems.

## **CAUSES FOR BACK PAIN:**

1. Bruising of soft tissue 2. Disc Herniation 3. Facet Syndrome 4. Fibromyalgia 5. Muscle Pull 6. Muscle Strain 7. Muscle Tension 8. Over work and Low rest 9. Spinal Weakness 10. Irregular and disturbed sleep 11. Wrong Posture 12. Incorrect foot wear 13. Scoliosis 14. Indigestion and chronic acidity.

## **METHODOLOGY:**

SAMPLE: 20 Obese Students between the age group of 18 to 25 years studying in the Degree College.

TOOL: Personal Interview was taken regarding the Health Problems faced by the Obese students.

## **RESULTS AND DISCUSSION:**

It was found nearly 15 obese Students out of 20 Students is suffering from the back pain from acute to moderate back pain. All the Students has given advised to diagnosed their back pain. After one week of their reports. The researcher has given Physical Therapy along with the acupuncture to the students for six weeks. It was found that all the obese students has recovered well due to the treatment and Physical Exercise.

## **RECOMMENDATIONS:**

It was advised that all the Obese people must do physical exercise to maintain good health and to avoid health problems due to the over weight. People should avoid poor postures, should wear correct foot wear, should take balanced and proper diet, should avoid climbing on steep stairs or ladders etc.

# **EFFECT OF PHYSICAL EXERCISES ON EMOTIONAL STABILITY AND ACADEMIC STRESS OF HIGH SCHOOL BOYS STUDENTS OF ONGOLE**

By

**Syed Asifuddin**, Physical Director, Acharya Nagarjuna Univ., Ongole Campus, Ongole

## **ABSTRACT**

The aim of this study was to investigate the effect of Physical Exercises on emotional stability and academic stress of High School Boys Students of ongole. A Sample of 20 Students were taken for the Study. The Sample was randomly divided into two groups i.e. 10 Students experimental group and 10 Students control group. The experimental group and control group Pre Test were taken through questionnaire on emotional stability and stress and scores are recorded. The Experimental group given training in Physical exercises for six weeks and control group was not exposed to any physical activity. The Post Test is conducted on both the groups. The experimental group has showed the significant improvement in emotional and stress. It is recommended that the Physical exercises must be given to all the students after the school hours to maintain the emotional stability and stress.

**INTRODUCTION:** Sports Psychology is the scientific study of people and their behaviors in sport. The role of a sport psychologist is to recognize how participation in sport exercise and physical activity enhances a person's development. Today sport and exercise psychologists have begun to research and provide information in the ways that psychological well being and vigorous physical activity are related.

Exercise is an important part of overall Health. Exercise is Physical activity that is planned, Structured and repetitive for the purpose of conditioning any part of the body. Exercise is utilize to improve health, maintain fitness and is important as a means of Physical rehabilitation.

Emotional Stability is an important and useful state of being with emotions manage and under control, yet still having the ability to feel intense emotions and understand the reason for emotions, a power of in situation is gained.

Academic Stress is due to academic commitments, financial pressures and lack of time management skills. Academic stress is associated with a variety of negative health outcomes, including depression, anxiety and physical illness.

## **METHODOLOGY:**

**SAMPLE:** The sample for the study are 20 Male students which was taken randomly.

**TOOLS:** The Tools for the Study are:

1. Scale of Emotional Stability Question by Psy.com
2. Scale of Academic Stress from Bisht Battery of Stress Scale by Abh Bisht

**RESEARCH DESIGN:** Pre-Test, Post Test, Control Group Design were used for the present study.

The following are the procedure is adopted.

PHASE I : Pre – Test : Experimental Group		Control Group
1. Test of emotional stability		1. Test of emotional ability
2. Test on Stress		2. Test on Stress
PHASE II :		No Training on Physical Exercise
Training on Physical Exercises		
PHASE III: Post Test		
1. Test of emotional stability		1. Test of emotional stability
2. Test on Stress		2. Test on Stress

**DATA COLLECTION:** The Data were collected following the design and procedure. The data consists of Pre Test and Post Test scores on tests of emotional stability and stress. Gain scores of both groups were taken for emotional stability. Reduced scores of both groups were taken for stress.

## **RESULTS AND DISCUSSION:**

The experimental group has increased significantly in Pre Test and Post Test in emotional stability and reduced stress in Pre Test and Post Test. Hence Physical Exercise is very much compulsory for increasing the emotional stability and reducing the stress than control group.

## **RECOMMENDATIONS**

1. It is recommended for Students to practice in Physical fitness programs to maintain good health and to get the High level of performance.



# **“A Comparative Study of High Intelligence and Low Intelligence and Aggression of Interuniversity Players”**

**Prof. Devesh Pathrikar**, Arts, Science and Commerce College, Badnapur, Jalna

## **INTRODUCTION:**

Intelligence comes from the Latin verb *intellegere*, which means "to understand". By this rationale, intelligence (as understanding) is arguably different from being "smart" (able to adapt to one's environment). At least two major "consensus" definitions of intelligence have been proposed. First, from *Intelligence: Knowns and Unknowns*, a report of a task force convened by the American Psychological Association in 1995: Individuals differ from one another in their ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, to overcome obstacles by taking thought. Although these individual differences can be substantial, they are never entirely consistent: a given person's intellectual performance will vary on different occasions, in different domains, as judged by different criteria. Concepts of "intelligence" are attempts to clarify and organize this complex set of phenomena.

## **METHODOLOGY**

### **Aim and Objectives of the study:**

 To Examine of Intelligence and Aggression of Interuniversity players.

### **Sample:**

For the present study 50 players were selected from various College Players of Aurangabad. The effective sample consisted of 50 subjects. The age range of subjects was 18 to 22 years.

### **Tools:**

#### **Dr. G.C. Pati (1976) Aggression Scale:**

This test is developed and standardized by Dr. G.C. Pati the test consisted of 16 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 0.82 with Spearman Brown formula. The validity coefficient was found 0.71.

#### **Verbal Intelligence Test:**

This test is developed and standardized by R.K. Ojha and K. Ray Choudhury (1994). The test consisted of 203 Items. The subjects were required to respond to each item in terms of 'YES' OR 'NO'. The reliability coefficient of the test was found 0.87 with Spearman Brown formula. The validity coefficient was found 0.91.



#### **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 latter approach was adopted. The subjects were called in a small group of 20 to 25 subjects and their seating arrangements were made in a classroom. Following the instructions and procedure suggested by the author of the scale and tests, the tests were administered and field copies of each test were collected. Following the same procedure, the whole data were collected.

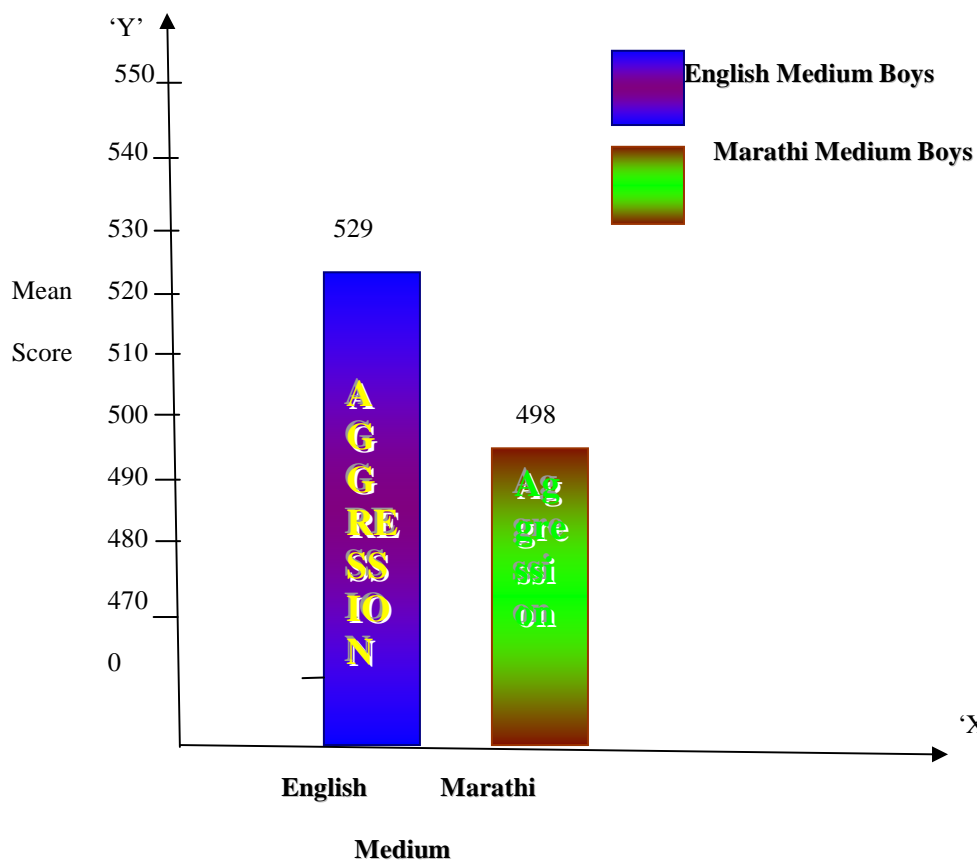
#### **Statistical treatment of data:**

First data were subjected to descriptive statistics i.e. mean and standard deviation. And "t" Test has been used

**High Intelligence and Low Intelligence Interuniversity Players Shows the mean S.D and ‘t’ value of factors ‘Aggression’**

Sportsman	MEAN	SD	N	DF	t
High Intelligence	529	40.71	25	48	2.87**
Low Intelligence	498	35.41	25		

**Significant at 0.01 levels\*\***



The results related to the hypothesis have been recorded. Mean of Aggression score of the High Intelligence Interuniversity Players is 529 and that of the Low Intelligence Interuniversity Players 498 The difference between the two mean is highly significant ‘t’= 2087, df =48.

#### **Results:**

- Low Intelligence Interuniversity players have significantly high Aggression than High Intelligence Interuniversity players.

#### **Reference**

Oberauer, K., Schulze, R., Wilhelm, O., & Süß, H.-M. (2005). Working memory and intelligence - their correlation and their relation: A comment on Ackerman, Beyer, and Boyle (2005). Psychological Bulletin, 131, 61–65.

## **EFFECT OF WEIGHT TRAINING FOR DEVELOPMENT OF EXPLOSIVE LEG POWER AMONG STUDENTS OF RAYALSEEMA COLLEGE OF PHYSICAL EDUCATION, PRODATTUR**

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### **ABSTRACT:**

The purpose of the present study to find out the effect of Weight training exercises for the development of Explosive Leg Power among the Students of Rayalseema College of Physical Education, Proddatur. The sample for the present study consists of 30 Male Students of Rayalseema College of Physical Education between the age group of 18 to 20 Years. Weight training exercises were given to Single group of 30 Students on alternate days i.e. three sessions per week for six weeks. Pre Test and Post Test were conducted on Standing Broad Jump. This study shows that due to the weight training exercises there is a improvement in explosive leg power.

Key words: Weight training, explosive leg power etc.

### **INTRODUCTION:**

Weight training is a common type of strength training for developing the strength and size of skeletal muscles. Sports where weight training is central are bodybuilding, weightlifting, powerlifting, Highland games, shotput, and javelin throw. Strength training is an inclusive term that describes all exercises devoted toward increasing physical strength. Weight training is a type of strength training that uses weights rather than elastic, Eccentric Training or muscular resistance to increase strength. Weight training usually requires different types of equipment; most common are dumbbells, barbells, and weight machines. Various combinations of specific exercises, machines, dumbbells, and barbells allow weight trainers to exercise body parts in one or more ways. Some exercise approaches use only bodyweight exercises such as press-ups that require no equipment, while others such as a pull-up require no weights but do require a pull-up bar that is strong enough to support the weight of the trainer.

Weight training is a type of physical exercise specializing in the use of resistance to induce muscular contraction which builds the strength, anaerobic endurance, and size of skeletal muscles. When properly performed, strength training can provide significant functional benefits and improvement in overall health and well-being, including increased bone, muscle, tendon and ligament strength and toughness, improved joint function, reduced potential for injury, increased bone density, increased metabolism, improved cardiac function, and elevated HDL (good) cholesterol. Strength training is primarily an anaerobic activity, although some proponents have adapted it to provide the benefits of aerobic exercise through circuit training.

### **METHODS AND MATERIALS:**

The sample for the present study consists of 30 Male Students of Rayalseema College of Physical Education between the age group of 18 to 20 Years. Weight training exercises were given to single group of 30 members on alternate days i.e. three sessions per week. Single Group design were used in the study.

The following are the weight training exercises were given alternate days 3 sessions per week for six weeks.

Biceps Curls	9. Good Morning.
Triceps Curls	10. Side Wards Bend
Bench Press	11. Heel Raising with Weights
Back Press	12. Leg Press
Bent Over Rowing	13. Push Ups
Up right Rowing	14. Sit Ups
Wrist Curls	15. Hack Squat
Half Squats	16. Dumbell Exercises

Pre Test and Post Test were conducted on Standing Broad Jump. This study shows that due to the weight training exercises there is a improvement in explosive leg power

#### RESULTS AND DISCUSSION:

Table ::1 Table I showing the values and Sig. (2-tailed) Pre- Test and Post - Test effect of weight training on development explosive leg power among RCPE students

Sl. No.	Test	N	Mean	SD	df.	't' value	Sig. (2-tailed)
1.	Pre	30	2.43	0.18	29	12.666	0.000
2.	Post	30	2.60	0.19			

#### CONCLUSIONS:

It is concluded that due to the weight training there is a improvement in explosive leg power.

#### RECOMMENDATIONS:

It is recommended that similar studies can be conducted on physical fitness items among the college students.

#### References:

Wikipaedia, Strength Training

## **EFFECT OF CORE STRENGTH TRAINING FOR DEVELOPMENT OF SPEED AMONG SOCCER PLAYERS OF RAYALSEEMA REGION**

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### **ABSTRACT:**

The purpose of the present study to find out the effect of Core Strength Training for the development of speed among soccer Men Players of Rayalseema. The sample for the present study consists of 20 Male soccer Players out of which 10 are experimental group and 10 are controlled group. Core Strength Training were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training for eight weeks. Pre Test and Post Test were conducted in 30 M Run to measure the speed among experimental group and controlled group. This study shows that due to the Core Strength training there is a improvement of experimental group in Speed and controlled group is decreased in performance of speed. In order to run faster the core strength training helps in improving the Stride length, Leg Power which helps in improving the speed among the soccer Players. **Key Words:**Core strength training, soccer Players, speed, Stride length etc.

### **INTRODUCTION:**

Core-strength exercises strengthen your **core** muscles, including your abdominal muscles, back muscles and the muscles around the pelvis. Strong **core** muscles make it easier to do many physical activities. You can do core-strength exercises on a carpeted floor or mat. Body weight, dumbbells, kettle bells, resistance bands and core strength exercises are good for rowing. This will achieve the goals of improved base strength, hypertrophy, muscular balance and fitness as well as general athleticism.

One of the primary aims of core exercise training is to prevent injuries that can occur if you don't properly support the spine. Core Exercises are important for developing all round fitness of Rowers. Core Exercises improve the balance and stability. Core exercises do not require the specialized equipment. It can be done with own body or little equipments. Core exercises include planks, sit-ups and fitness ball exercises. Strengthening core muscles may also help improve back pain

Soccer performance depends upon physiological, biomechanical, and environmental factors. The game demands diverse qualities from the players, and they need to be physically fit, technically proficient, tactically well-equipped, and well psyched up to resist the pressure of the game. Moreover, these game demands can be met via wellplanned and conducted training. Therefore, training should be programmed to make the players fit all these qualities. As a result, soccer training should address physical, technical, tactical, and psychological aspects.

## METHODOLOGY

Sample Of The Study:

For the present Study 20 Male Soccer Players of Rayalaseema has taken for the study.

Sl. NO	Name of the Region	Number of Foot Ball Players	Total number of subjects
1	Rayalaseema	Experimental group: 10	20
		Control group: 10	

The sample for the present study consists of 20 Male Soccer Players out of which 10 are experimental group and 10 are controlled group between the age group of 18-21 Years of Rayalaseema Region.

Core Strength training exercises such as side plank, abdominal crunch, bridge, flutter kicks etc are given Three times a week for eight weeks for experimental group of soccer Players and controlled group were given general training of soccer. Pre Test and Post Test were conducted in 30 M Run to measure the Speed among experimental group and controlled group.

### 30 M Run Test :

This test is to measure the speed .

## RESULTS AND DISCUSSION:

The Results of the Study shows that due to the core strength training that there is improvement of speed among soccer players.

**Table No. I: Mean values of 30 M run test between experimental and control group of Soccer Players**

Test Items	Group	Pre Test Mean	Post Test Mean	t	P - Value
30 M Run Test	Experimental	4.50	4.20	2.58	0.000
	Control	4.63	4.70		

In Table –I the Mean Values of Experimental Group is 4.50 and Control Group is 4.63 in Pre Test and Post Test is Experimental Group is 4.20 and Control Group is 4.70. The Experimental Group has increased from 4.50 to 4.20 in mean values due to Core Strength Training in speed compare the Control group mean is 4.70 in post test due to general training. The Results of the Study shows that due to the core strength training is very important to improve the speed among Soccer Players.

Soccer is the all body exercises which includes gluteus, core, shoulder, arms etc. It is concluded that Core Strength Training is good for soccer Players . This type of study is useful to coaches to give proper coaching for development of motor qualities for improvement of performance in soccer sport. Core Strength training can be done with or

with out equipment and also with the own body weight. Core Strength Training improves the Core muscles of the human body. It is good for development of motor qualities among the Sports Persons.

#### **CONCLUSION:**

This type of study is useful to coaches to give proper coaching for development of motor qualities for improvement of performance in sports. Strong Core muscles helps to do many physical activities efficiently.

#### **RECOMMENDATIONS:**

It is recommended that similar studies can be conducted on other sports and games and also female sports Persons

#### **References:**

Ebben WP, Kindler AG, Chirdon KA, Jenkins NC, Polichnowski AJ, Ng AV.. The effect of high-load vs. high-repetition training on endurance performance. J Strength Cond Res. 2004;18:513–517

# **A COMPARATIVE STUDY OF ENDURANCE AMONG RURAL STUDENTS AND URBAN STUDENTS OF RAYALASEEMA REGION**

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## **ABSTRACT:**

The sample for the present study consists of 30 male Rural Students and 30 Urban Students between the age group of 16 to 20 Years of Rayalaseema Region. To assess the Endurance the 12 Min Run Cooper Test is conducted with the help of qualified Technical officials of Athletics. The results of the study found rural students are having good endurance compare to Urban Students. It is due to the hard work involved in Rural students in daily life which makes them fitter than urban students. Key words: Endurance, Rural, Urban etc.

## **INTRODUCTION**

The way to improve the present scenario of education in rural India is the construction of schools in every village, providing proper and adequate infrastructure and other resources, using modern technologies in education, creating awareness about the importance of education and rights.

Urban schools are usually larger, enjoy greater responsibility for resource allocation, are less likely to experience staff shortages, are more likely to have a higher proportion of qualified teachers, and have higher student-teacher ratios than schools in rural areas and towns,

Nishan singh et al (January 2010) studied the physical fitness components of Rural and Urban Female students of Punjabi University, Patiala. In the present study, an attempt has been made to compare physical fitness components namely speed, strength, endurance, agility and flexibility between female students belonging to rural and urban set-ups. The study was carried out on 100 female students, 50 rural and 50 urban of Punjabi University, Patiala. The data was collected by use of measurements of height and weight as well as by application of tests like jumping, stepping, running, flexibility test, etc. The data was analyzed and compared with the help of statistical procedures in which arithmetic mean, standard deviation (S.D.), standard error of mean (SEM), t-test were employed. Rural female students were found to be superior in strength, endurance, speed and agility. Urban female students on the other hand, were found to be heavier and superior in tasks like flexibility.



## METHODOLOGY:

The sample for the present study consists of 30 male Rural Students and 30 Urban Students between the age group of 16 to 20 Years of Rayalaseema Region. To assess the Endurance the 12 Min Run Cooper Test is conducted with the help of qualified Technical officials of Athletics

## RESULTS AND DISCUSSION:

Table: I Comparison of **endurance** among Rural Students and Urban Students in 12 Min Cooper Test

Agility	N	Mean	Std.Deviation	t	Sig.
Tribal Students	30	2208.33	145.67	1.01	.000
Non Tribal Students	30	2175.00	101.49		

In Table –I the Mean Values of Rural in endurance is 2208.33 and Urban Students is 2175.00. Hence the Rural Students are having good Endurance compare to Urban Students.

## CONCLUSION:

1. It is concluded that Rural students are having good endurance than Urban Students.
2. Conditioning Program plays a major role for the development of motor qualities and skills among the Urban and Rural Students.

## RECOMMENDATIONS:

Similar studies can be conducted on other students and among females. This study also helps the physical educators and coaches to improve their training regime to excel in Sports and games.

## REFERENCES:

Nishan singh et al (January 2010) studied the physical fitness components of Rural and Urban Female students of Punjabi University, Patiala, Anthropologist