



ORIGINAL RESEARCH PAPER

Physical Education

COMPARATIVE ANALYSIS ON THE LEVEL OF SELECTED PHYSICAL FITNESS VARIABLES BETWEEN COLLEGE GOING FOOTBALL AND VOLLEYBALL PLAYERS

KEY WORDS: Physical fitness variables, College going football and volleyball players.

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ABSTRACT

INTRODUCTION:- Fitness is the ability to function efficiently in an active environment that suits our personal interests and goals. Physical fitness is one's ability to execute daily activities with optimal performance, endurance, and strength with the management of disease, fatigue, and stress and reduced sedentary behavior. **PURPOSE :-** Purpose of the study was to analyze the Physical Fitness Variables between College Going Football Players And Volleyball Players at Ghatal Rabindra Satabarshiki Mahavidyalaya, Ghatal, Paschim Medinipur, W.B. **MATERIALS & METHODS:-**To achieve the purpose, sixty (60) male Football Players and sixty (60) Volleyball Players of Ghatal Rabindra Satabarshiki Mahavidyalaya, Ghatal, Paschim Medinipur, W.B. age ranging between 18-23 years were randomly selected for the study. To measure the physical fitness level of football and volleyball players **AAPHER YOUTH fitness test battery** was used. The training schedule was fixed in the morning session as well as in the afternoon session minimum time duration 45-60 minutes per session with various types of physical activities like warming up, warm down, running, jumping and resting time between the exercises. The Independent Paired-'t' test was conducted for evaluate the data and the level of significance is fixed at 0.05 level of confidence. **RESULTS & DISCUSSION:-**The data was analyzed statistically by computing mean, standard deviation and 't'-test. It was observed that there was significant difference in weight, pull ups, sit ups, standing broad jump, shuttle run, 50 yard dash and 600 yard run and walk. There was no significant difference in height between the two groups. Result showed Volleyball players are better in arm and shoulder strength in comparison to Football players. Football players are superior in all other test items in comparison to Volleyball players. It is also evident that the calculated value of the variable is more than the table value at 0.05 level of significant. So the result is significant. The hypothesis is accepted due to the significant result.

CONCLUSION:- On the basis of the obtained result , the following conclusion may be drawn.....

1. Volleyball players are better in arm and shoulder strength in comparison to Football players.
2. Football players are superior in all other test items in comparison to Volleyball players.

INTRODUCTION

Physical fitness has been of great significant in the lives of human beings from time immemorial. In the pre-historic times, Physical fitness was the key element of the survival of human beings. Hence survival of fitness is the dictum. Even the civilization of Sparta, Athens and Rome in the history of the world have stressed Physical fitness or physical training as an important objective of the educational programme (Nixon John, E. and Jewell Ann E, 1969). In general, muscle strength, endurance, flexibility, nutrition, and mental health are all crucial in fitness. It is a state of health and well-being and, more specifically, the ability to perform aspects of sports, occupations and daily activities. Physical fitness is generally achieved through proper nutrition, moderate-vigorous physical exercise, and sufficient rest. It involves the performance of the heart and lungs, and the muscles of the body. And, since what we do with our bodies also affects what we can do with our minds. **According to Nixon, "Physical Fitness refers to the organic capacity of the individual to perform the normal task of daily living without undue fatigue or tiredness having reserves of strength and energy available to meet satisfactorily any emergency demands suddenly placed upon him."** Fitness is the condition of being physically fit and healthy attributes that include but are not limited to mental acuity, cardio-respiratory endurance, muscular strength, muscular endurance, body composition, and flexibility. While there is a standard definition for fitness, each individual can have their own personal understanding of what fitness means. To some individuals, being fit means the ability to complete a marathon or lift a lot of weight. In another, it could mean walking around the block without becoming short of breath. Definition of fitness will be influenced by our interests, physical abilities, and goals. It is important for every individual to keep their personal definition of fitness within a healthy framework this means we should have realistic expectations and maintain balance and moderation in all aspects of life. Fitness influences to some degree qualities such as mental alertness and emotional stability. Physical fitness is the basis of all the activities of individuals to perform them efficiency and effectively.

Football and Volleyball are the most popular games in the world and require high-level of motor ability, strength, speed agility, endurance .balance, co-ordination and skillful bodily movement. **The purpose of the study was to compare the physical fitness level of college going football and volleyball male players (age 18-23 years).** The findings of the present study will encourage the youth of the nation to participate in Games and Sports.

COMPONENTS OF FITNESS

Physical fitness comprises of several components and muscular strength and endurance, resistance to disease, cardio-vascular and respiratory endurance, muscular power, flexibility, speed, agility, co-ordination, balance and accuracy. **Barik and Banerjee (1990)** viewed that Speed, endurance, strength and agility were increased significantly after training.

- 1. STRENGTH** – It is the ability to overcome resistance or to act against resistance. Strength may be classified as follows:-
- I. Maximum strength
 - II. Explosive strength
 - III. Strength Endurance

2. ENDURANCE- It is the ability to do sports movements with the desired quality and speed under conditions of fatigue. It is the product of all psyche and physical organism and systems. It is directly or indirectly connected with high performance.

It may be classified as follows:-

- I.** Muscular Endurance
- II.** Cardio-vascular Endurance
- III.** Basic Endurance
- IV.** General Endurance
- V.** Specific Endurance

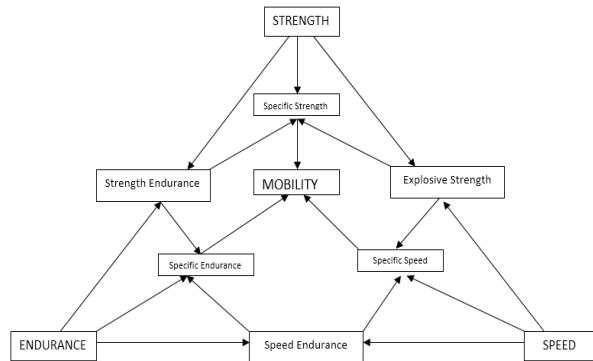
3. SPEED- It is the performance prerequisite to do motor actions under given conditions in minimum possible time. It is the ability to execute any work in the minimum possible time. Speed is an integral part of every games and sports. It may be three types–

- I. Maximum speed
- II. Elastic strength
- III. Speed endurance

There are five types of speed abilities namely-

- i) Reaction ability
- ii) Movement speed
- iii) Acceleration ability
- iv) Locomotor ability
- v) Speed endurance

RELATIONSHIP BETWEEN STRENGTH, ENDURANCE AND SPEED



PURPOSE OF THE STUDY:-

Purpose of the study was to **“Comparative analysis on the level of physical fitness variables between college going football players and volleyball players”**.

HYPOTHESIS:-

It was hypothesized that there was a significant difference on physical fitness variables between college going football players and volleyball male players.

METHODOLOGY:-

SUBJECTS:- Total sixty (60) college going football and volleyball male players were randomly selected from Ghatal Rabindra Satabarshiki Mahavidyalaya, Ghatal, Paschim Medinipur, West Bengal. They were divided into two groups. In football group contains thirty (30) subjects. And in volleyball group contains thirty (30) subjects. The age of the subject was collected from the office records.

PROCEDURE:- Thirty (30) Football and thirty (30) Volleyball players (age 18-23 years) were randomly selected from Ghatal Rabindra Satabarshiki Mahavidyalaya, Ghatal, Paschim Medinipur, West Bengal. Football and Volleyball players are those boys who regularly used to go for physical activities willingly and took part in various types of matches and tournaments. The random group design was used for the study. Random sampling method was employed. AAHPER youth fitness test battery was administered to measure physical fitness level of Football and Volleyball players.

AAHPER Youth fitness test battery includes the following items for boys

- 1. Pull-Up ----- to measure arms and shoulder strength of the subjects
- 2. Bend knee sit-up -----to measure abdominal strength of the subjects
- 3. Standing broad jump ----- to measure explosive strength and power of the subjects
- 4. Shuttle run ----- to measure agility of the subjects
- 5. 50yarddash -----to measure the speed of the subjects
- 6. 600 yard run & walks -----to measure endurance of the subjects

Tools used for the present study were Measuring –Tape, Stop Watch, Standing Height stand and Weighing Machine. Age of the subject was taken from their college records. Both the groups were same in age.

STATISTICAL ANALYSIS:-

The Independent Paired-‘t’ test was conducted for evaluate the data and the level of significance was fixed at 0.05 level of confidence. To get the final result Mean, SD, Mean Difference and ‘t’-test were calculated.

RESULTS AND DISCUSSION

The result of the study is discussed under the following table with the graphical presentation.

Table-1 Calculation Of Mean And T-ratio Of Height And Weight Of Football And Volleyball Male Players

| Items | Mean Football Players | Mean Volleyball Players | Mean Difference | t-ratio |
|--------|-----------------------|-------------------------|-----------------|---------|
| Age | 19.90 | 19.90 | 0.00 | ---- |
| Height | 59.85 | 61.25 | 1.40 | 1.85 |
| Weight | 50.54 | 52.74 | 2.20 | 3.76* |

*Significant at 0.05 level

Table-1 shows that both the group i.e. Football and Volleyball players are same in age and approximately same in height. But a significant difference existed between Football and Volleyball players in terms of weight. The Table shows that the Mean difference of age of Football and Volleyball players was 0.00. The Mean height of Football and Volleyball players was 59.85 and 61.25 respectively and t-value (1.85) appeared insignificant. The Mean weight of Football and Volleyball players was 50.54 and 52.74 respectively and t-value (3.76) appeared significant.

Table-2 Calculation Of Mean And T-ratio Of Various Physical Fitness Variables Of College Going Football And Volleyball Male Players

| Srl. No | Variables | Mean Football players | Mean Volleyball Players | Mean Difference | t-ratio |
|---------|-----------------------|-----------------------|-------------------------|-----------------|---------|
| 1 | Pull ups | 6.95 | 9.05 | 2.10 | 4.46* |
| 2 | Sit ups | 20.58 | 18.54 | 2.04 | 3.06* |
| 3 | Standing Broad Jump | 36.80 | 32.30 | 4.50 | 8.60* |
| 4 | Shuttle Run | 10.15 | 11.26 | 1.11 | 2.52* |
| 5 | 50 Yard Dash | 10.26 | 11.45 | 1.19 | 2.76* |
| 6 | 600 Yard Run and Walk | 10.50 | 11.57 | 1.07 | 3.16* |

*Significant at 0.05 level

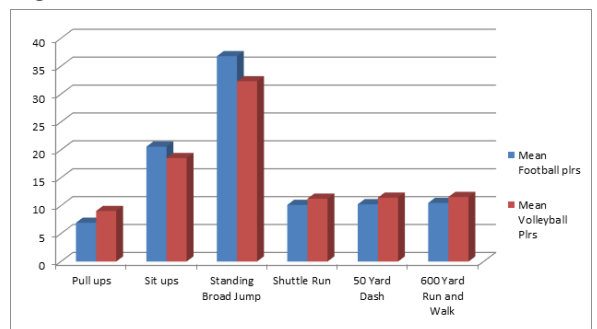


Fig. 2: Graphs Showing the AAHPER Youth Physical Fitness Test between Means of college going Football and Volleyball male players

Table-2 gives information regarding selected physical fitness variables like Pull ups, Sit ups, Standing Broad Jump,

Shuttle Run, 50 Yard Dash and 600 Yard Run and Walk of Football and Volleyball players. Table shows that there were significant differences in all the variables of Football and Volleyball players. The Mean Difference of Pull ups, Sit ups, Standing Broad Jump, Shuttle Run, 50 Yard Dash and 600 Yard Run and Walk of football and volleyball players were 2.10, 2.04, 4.50, 1.11, 1.19 and 1.07 respectively. t-test was applied and t-value of Pull ups, Sit ups, Standing Broad Jump, Shuttle Run, 50 Yard Dash and 600 Yard Run and Walk were 4.46, 3.06, 8.60, 2.52, 2.76 and 3.16 respectively which were significant at 0.05 level of confidence. **Chottopadhyay (1982)** made an attempt to compare the physical fitness of the university level soccer and hockey players. The criterion measures selected for assessing the physical fitness were resting pulse rate. Cooper's 12 min. Run / walk and AAHPER fitness test battery and he found out that there is significant difference only in 50 yards dash in favour of the soccer team and pull-ups in favour of the hockey team. **Jaimitra (1966)** took fifty four randomly selected male subjects to determine the effects of selected exercises on the physical fitness of sedentary adults. The subjects were divided into two groups. One is an experimental group and other is control group. Experimental group was subjected to a training programme in selected exercises for six weeks. The study concluded that these was significant gains in mean of the experimental group in abdominal strength and leg power and decreased the resting pulse rate.

CONCLUSION

Many research studies have been done on the various types of physical training programmes. On the basis of the results obtained from the present empirical investigation and within the limitation, the following conclusions may be drawn.

1. The Volleyball players are heavier in comparison to Football players.
2. Both the groups are approximately same in height.
3. Volleyball players are better in arm and shoulder strength in comparison to Football players
4. Football players are better in abdominal strength in comparison to Volleyball players
5. Football players are better in explosive strength in comparison to Volleyball players
6. Football players are better in agility in comparison to Volleyball players
7. Football players are better in speed in comparison to Volleyball players
8. Football players are better in endurance in comparison to Volleyball players

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