# **COMPARATIVE STUDY OF SPEED, EXPLOSIVE STRENGTH AND AGGRESSION OF VOLLEYBALL AND FOOTBALL PLAYERS**

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**Abstract**

The purpose of the study is to compare the speed and explosive strength and Aggression of Volleyball and Football players. One hundred male state level players of Uttar Pradesh (Sultanpur, Pratapgarh, Jaunpur and Allahabad districts) were selected as participants. For this study two Physical Components namelySpeed and Explosive leg strength and one Psychological ComponentsSports Aggression were used for comparison between football and volleyball players. To find out the significant difference between the state level volleyball and football players on each of the selected physical and psychological variables, the test of significance (independent‘t’-test) was employed and the hypothesis was tested at 0.05 level of significance. The findings of the study in relation to speed and explosive leg strengthshowed significant difference between football players and volleyball players whereas in case of sports aggressionshowed insignificant difference between football players and volleyball players

**Keywords**: Aggression, Speed, Explosive Strength.

**INTRODUCTION**

The fitness components are traits that athletes must develop to physically prepare for sport competition. Sports training programs are designed to build these mechanisms in the proper proportions that match the requirements of each sport. A basic definition of physical fitness is "the ability to complete daily tasks with energy, reduce health risks due to inactivity, and be able to participate in a variety of physical activities. Five fitness components that are deemed health-related are: cardio, strength, endurance, flexibility, and body composition In addition, speed, agility, power, balance, and coordination have been identified as performance-related. All of these traits exist to some degree in most sports, but developing certain combinations is important in any given sport. While definitions are assigned to qualities that represent what "fitness" is, it can be operational zed in different ways for each sport.

In other words, fitness for one sport is somewhat different for another. In today’s society, sports and physical fitness play essential role in physical well-being. In this material world man does not get enough time for doing physical activity. Spectral concept of health emphasize that the health of an individual is not static it is a dynamic phenomenon and a process of continuous change. The physical aspect of health is probably the easiest to understand. The state of physical health implies the concept of perfect functioning of the body**. (DehorahA.West and Charle A Bucker)**

It’s true that the movement pattern executed by the volley balers’ is somehow different than the Football players. But both the games required high degree of motor fitness and psychological stability. The researchers were interested to compare the difference in few motor fitness components speed, and explosive strength and psychological qualities; aggression between state level players of the said games.

**METHODOLOGY**

**Purpose:** The purpose of the study is to compare the speed and explosive strength and Aggression of Volleyball and Football players.

**Selection of Participants:** One hundred male subjects in Uttar Pradesh (Sultanpur, Pratapgarh, Jaunpur and Allahabad) were selected as participants for the purpose of study. Keeping in view the objectives, the players were categorized into two groups namely Volleyball players (50 male) and football players (50 male). The state level player comprised of those who had represented in Senior state competitions held in India only were selected as subjects for purpose of the study who were true representative to the population of Indian player.

**Selection of Variables**

For this study the following physical and physiological variables was chosen:

1. **Physical Components**
2. Speed
3. Explosive leg strength
4. **Psychological Components**
5. Sports Aggression Inventory (SAI)

**Administration of Tests**

The research scholar put in the maximum effort and meticulous care to attain precision and accuracy in the measurements. Sophisticated instruments and standard procedures were used to assess the performance on different variables.

**50-meter dash**

**Test objective** – to measure speed.

**Equipments** – stopwatches, with a split second time.

**Administration and directions** – two lines are marked on the floor 50 yards apart. One line is used as a starting line and the other as the finish line. On the signal ready? Go! The subjects start running at their best to reach the finish line at their earliest. The signal ‘Go’ is accompanied with the downward sweep of the starter’s arm to give the visual signal to the timers who stand at the finish line.

**Scoring** – the interval between the starting signal and the instant subject crosses the finish line is the score of the test. The time is recorded correct up to tenth of a second.

**Standing Broad Jump**

**Test objective:** To measure the explosive leg strength.

**Equipment:** Measuring Tap & Play ground.

**Procedure:** The subject was asked to stand behind the marked line with the swing of the hand and slightly bending knees and without taking any double jump, the subject was asked to jump in forward direction. Three trials were permitted and out of three best jumps were recorded.

**Score**: The score was measured by determining the best trial in meters.

**Aggression Test**

The aggression questionnaire of Anand Kumar and P.S. Shukla will be distributed to the volleyball and football players. The direction will be read out by the researcher at a dictation speed to make the subjects understand about what they will be exactly required to do.

This inventory consisted to 25 items in which 13 items will be keyed “Yes” and rest of 12 will be keyed “No”. The statement which will be keyed “Yes” are 1, 4, 5, 6, 9, 12, 14, 16, 18, 21, 22, 24 and 25 and the statement which will be keyed “No” are 2, 3, 7, 8, 10, 11, 13, 15, 17, 19, 20 and 23.

**Scoring**

1. For each item score will be “1”. The maximum score might be 25 and minimum score might be zero.
2. Score obtained by each subject on each statement will be added up which represented one’s total score on Aggression. Scores will be added separately for volleyball and football players.

**Statistical Analysis Used for Analysis of Data:** To find out the significant difference between the state level volleyball and football players on each of the selected physical and psychological variables, the test of significance (independent‘t’-test) was employed and the hypothesis was tested at .05 level of significance.

**RESULTS AND DISCUSSION**

The mean difference between Volleyball player and Football player in relation to speedhas been presented in Table 1

**TABLE - 1**

**SIGNIFICANCE OF DIFFERENCE BETWEEN VOLLEYBALL AND FOOTBALL PLAYERS ON SPEED**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Groups** | **Mean** | **SD** | **SE Mean** | **DM** | **“t” ratio** |
| Volleyball Players | 6.87 | .969 | .137 | .417 | 4.78\* |
| Football Players | 7.29 | .718 | .101 |

\*Significant at 0.05 level

t.05(98) = 1.98

Table-1 reveals the descriptive analysis of volleyball and football players in speed. In case of volleyball players shows value of mean and standard deviation (6.87 ± .969) respectively and Football Players shows value of mean and standard deviation (7.29 ± .718) respectively.

It is evident from Table-1 that there was a significant difference between the means of the volleyball player and football Players on speed (50 meter Run) since the obtained value of 't' (4.78) was higher than the tabulated value of 't' (1.98) which was required to be significant at (98) degree of freedom with 0.05 level of confidence.

The graphical representation of mean and SD of volleyball and football Players on speed has been presented in Figure 1.

**Figure 1-** Comparison of Mean and SD Scores in volleyball player and football players on Speed

**TABLE - 2**

**SIGNIFICANCE OF DIFFERENCE BETWEEN VOLLEYBALL AND FOOTBALL PLAYERS ON EXPLOSIVE LEG STRENGTH**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Groups** | **Mean** | **SD** | **SE Mean** | **DM** | **“t” ratio** |
| Volleyball Players | 2.20 | .307 | .043 | .039 | 3.25\* |
| Football Players | 2.24 | .224 | .032 |

\*Significant at 0.05 level

t.05(98) = 1.98

Table-2 reveals the descriptive analysis of volleyball and football players in explosive leg strength. In case of volleyball players shows value of mean and standard deviation (2.20 ± .307) respectively and Football Players shows value of mean and standard deviation (2.24 ± .224) respectively.

It is evident from Table-2 that there was a significant difference between the means of the volleyball player and football Players on explosive leg strength (Standing Broad Jump) since the obtained value of 't' (3.25) was higher than the tabulated value of 't' (1.98) which was required to be significant at (98) degree of freedom with 0.05 level of confidence.

The graphical representation of mean and SD of volleyball and football Players on explosive leg strength has been presented in Figure 2.

**Figure 2-**Comparison of Mean and SD Scores in volleyball player and football players on explosive leg strength

**TABLE - 3**

**SIGNIFICANCE OF DIFFERENCE BETWEEN VOLLEYBALL AND FOOTBALL PLAYERS ON AGGRESSION**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Groups** | **Mean** | **SD** | **SE Mean** | **DM** | **“t” ratio** |
| Volleyball Players | 11.32 | 2.91 | .411 | 2.36 | .205 |
| Football Players | 13.68 | 2.83 | .400 |

\*Significant at 0.05 level

t.05(98) = 1.98

Table-3 reveals the descriptive analysis of volleyball and football players in Aggression. In case of volleyball players shows value of mean and standard deviation (11.32 ± 2.91) respectively and Football Players shows value of mean and standard deviation (13.68 ± 2.83) respectively.

It is evident from Table-3 that there was no significant difference between the means of the volleyball player and football Players on Aggression since the obtained value of 't' (.205) was less than the tabulated value of 't' (1.98) which was required to be significant at (98) degree of freedom with 0.05 level of confidence.

The graphical representation of mean and SD of volleyball and football Players on Aggression has been presented in Figure 3..

**Figure 3-** Comparison of Mean and SD Scores in volleyball players and football players on Aggression

**Discussion**

The findings of the study in relation to speedshowed significant difference between football players and volleyball players. The reason might be because of the fact that speed is inherent quality of sports person. Players of state level posses some basic quality of their sports. Since football is a fast sporting event in comparison to volleyball. And therefore the football players of state level must have greater inborn physical components like speed, inside them to perform better in their sports. So this might be the reason for positive difference between football and volleyball players.

The findings of the study in relation to the explosive strength performance as measured by standing broad jump between the players of volleyball and football show significant difference. It may be due to the nature of movements and skills of the game require more explosive leg power. In football the players has to pass the ball with power and also has to takes jumps for header shot. Same way in volleyball, players has to use his explosive leg strength for taking spontaneous jumps many times for spiking the ball and also during jump serve

The findings of the study in relation to sports aggressionshowed insignificant difference between football players and volleyball players. This may be attributed to the fact that aggressionis the infliction of an aversive stimulus either physical verbal or gestural, upon one person by another. Aggression is not an attitude but behavior and most critically, it is reflected in acts committed with the intent to physical harm **(Tenenbaum Gershon et al).**

It is acknowledged that some players progress upwards primarily because of their ability to fight. Toughness and willingness to fight have become important in establishing a positive identity. This aggressive attitude is mostly found in body contact sports. Since the football is semi contact sports and volleyball is non contact sports, hence present study showed insignificant difference on aggression component.

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