



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

**Mr. Shyam Bahadur**, Research Scholar  
M.G.C.G.V. Chitrakoot, Satna (M.P.)  
**Dr. Shrikrishna Patel**, I/C Principal  
D.A.V. Training College, Kanpur (U.P.)

### 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 namely Speed and Explosive leg strength and one Psychological Components Sports 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 strength showed significant difference between football players and volleyball players whereas in case of sports aggression showed insignificant difference between football players and volleyball players

**Keywords:** Aggression, Speed, Explosive Strength, Volleyball and Football.

### 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 operationalized 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. It's true that the movement pattern executed by the volleyball players 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

The purpose of the study is to compare the speed and explosive strength and Aggression of Volleyball and Football players. 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. For this study the following physical and physiological variables was chosen:

- Speed (50m dash)
- Explosive leg strength (Standing Broad Jump)
- Sports Aggression Inventory by Anand Kumar and P.S. Shukla

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 speed has 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	0.969	.137	0.417	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 ( $6.87 \pm .969$ ) respectively and Football Players shows value of mean and standard deviation ( $7.29 \pm .718$ ) 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 significance. The graphical representation of mean and SD of volleyball and football Players on speed has been presented in Figure 1.

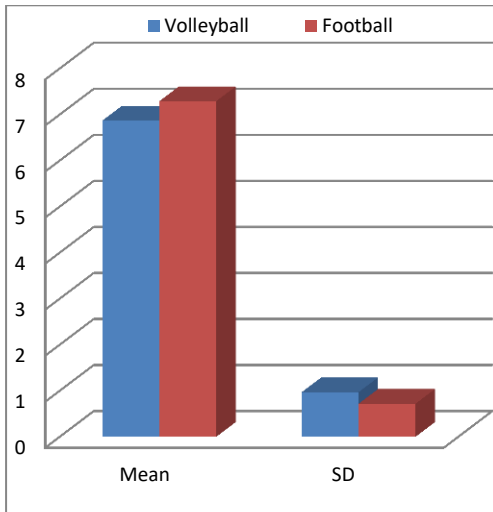


Figure 1- Comparison of Mean and SD Scores in volleyball player and football players on Speed

TABLE - 2  
SIGNIFICANCE OF DIFFERENCE BETWEEN VOLLEYBALL AND FOOTBALL PLAYERS ON EXPLOSIVE LEG STRENGTH

Groups	Mean	SD	SE Mean	DM	"t" ratio
Volleyball	2.20	.307	.043	0.039	3.25*
Football	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 ( $2.20 \pm .307$ ) respectively and Football Players shows value of mean and standard deviation ( $2.24 \pm .224$ ) 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.

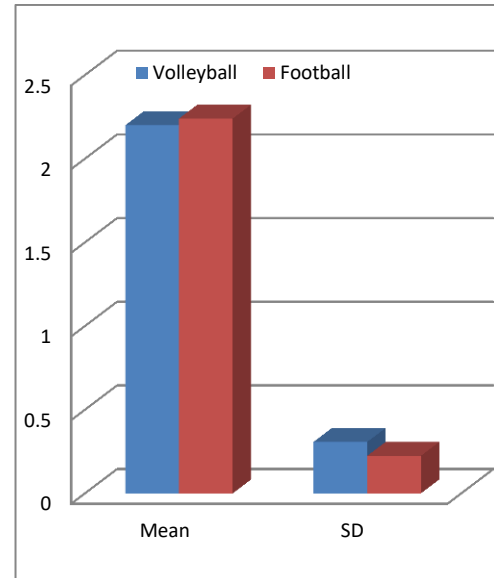


Figure 2-Comparison of Mean and SD Scores in volleyball player and football players on explosive leg strength

TABLE - 3  
SIGNIFICANCE OF DIFFERENCE BETWEEN VOLLEYBALL AND FOOTBALL PLAYERS ON AGGRESSION

Groups	Mean	SD	SE Mean	DM	"t" ratio
Volleyball	11.32	2.91	0.411	2.36	.205
Football	13.68	2.83	0.400		

\*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 ( $11.32 \pm 2.91$ ) respectively and Football Players shows value of mean and standard deviation ( $13.68 \pm 2.83$ ) 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 significance. The graphical representation of mean and SD of volleyball and football Players on Aggression has been presented in Figure 3..

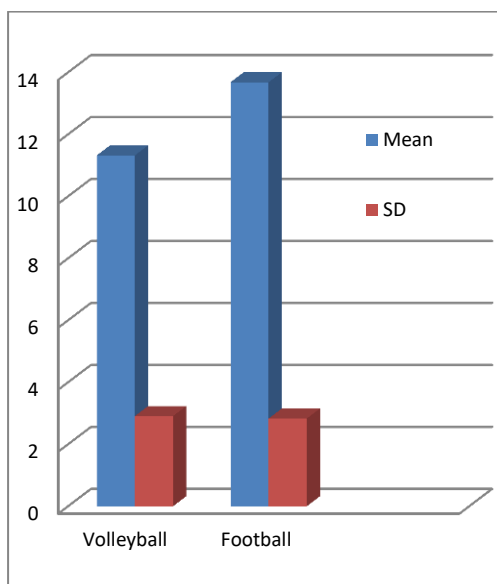


Figure 3- Comparison of Mean and SD Scores in volleyball players and football players on Aggression

### Discussion

The findings of the study in relation to speed showed 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 possess 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 have to pass the ball with power and also have to take jumps for header shot. Same way in volleyball, players have 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 aggression showed insignificant difference between football players and volleyball players. This may be attributed to the fact that aggression is 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. 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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