



## COMPARATIVE STUDY OF AGGRESSION BETWEEN BASKETBALL AND VOLLEYBALL PLAYERS

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### **Abstract:**

The purpose of the study was to “**compare the aggression between basketball and volleyball players**”. Method: Sixty male interuniversity basketball ( $N_1=30$ ) and volleyball ( $N_2=30$ ) players from Punjabi university Patiala, Punjab, India were selected as the subjects for the study. The subjects were represented North zone Inter-varsity competition and all India inter-varsity championship in their respective sports and age ranging from 18 to 24 years. These subjects were selected in terms of purposive sample from respective games. The sport aggression inventory (SAI) standardized by Mr. Anand Kumar and Mr. Prem Shankar Shukla (1998) was used for this study. It was hypothesized that there would be significant difference between basketball and volleyball players on the degree of aggression. The independent ‘t’ test was used to compare the degree of aggression between basketball and volleyball players. The level of significance for testing the hypothesis was set at 0.05 level of confidence. **Findings:** The mean and standard deviation of the score of basketball players was 14.5 and 1.19 respectively whereas the mean and standard deviation of the score of volleyball players was 11.06 and 1.33 respectively. The calculated t- value was **10.48** which showed significant difference between basketball and volleyball players on the degree of aggression. ( $t_{cal}=10.48 > t_{tab}=2.009$ ). The aggression level of basketball players was found to be higher than the volleyball players. The t-value required to be significant for 58 degree of freedom was 2.009 at 0.05 level of confidence.

**Keywords:** sports aggression inventory, aggression, volleyball, basketball

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## 1. Introduction

In sport, aggression is a characteristic that can have many negative as well as positive effects on performance. Aggression is defined as *“any type of behaviour intended toward the goal of harming or injuring another lived being who is motivated to avoid such treatment”*. Most people view aggression as a negative psychological characteristic; however, some sport psychologists agree that aggression can improve performance (Widmeyer & Birch, 1984). This is called an assertive behaviour (Bredemeier, 1994), where a player will play within the rules of the sport at a very high intensity, but will have no intention to harm an opponent. In sport, aggression has been defined into two categories: hostile aggression and instrumental aggression (Silva, 1983). Hostile aggression is when the main aim is to cause harm or injury to your opponent. Instrumental aggression is when the main aim is to be non-aggressive but to win the ball. Coulomb and Pfister (1998) conducted a study looking at aggression in highlevel sport. They found that experienced athletes used more instrumental aggression in which they used to their advantage and that hostile aggression was less frequently used. Experienced athletes used self-control to help them with their aggression.

Aggression in sport can be caused by a number of factors. The most identifiable reasons are the rules of the game (level of physical contact), frustration, instinct, presence, arousal, environmental cues, self-control and also the behaviour of those around. Other factors in aggression include personality, media involvement, coaching, role models and the society we live in. The following is an insight into the term aggression in sport, using the social learning theory and environmental cues theory I will explain examples of each theory and try and contrast them.

Frustration is known to play a key role in aggression. It is the view that is innate and also something that is learned (aggression). It can occur in many different circumstances and one of those can be an athlete not achieving his or hers goal targets. Having a point disallowed or being fouled by an opponent on more than one occasion can lead to frustration. Dollard (1939) argues that aggression is innate and only occurs in a frustrating situation but Miller (1941) claimed to differ. He stated that it was frustration that made aggression more likely, he also stated that for one or more reasons athletes won't show this aggression in their profession. An example of this can be when a coach under uses a player, who out of professionalism or even out of respect for the coach won't show aggression. However, this could affect the personal life of an athlete, where they keep all there aggression out of their profession and channel it into their social life. This is related to Freud's notion of displacement, where we want to do something we know is not acceptable for instance confront the coach, but for some reason keep it channeled.

Burris (1955) conducted a study on aggression in boxers and wrestlers as measured by projective techniques. In this study, Rosenzweig P. F. conducted selected TAT Pictures, and a sentence completion test was administered at intervals throughout the season to the following college groups. Nine boxers, eight wrestlers, nine cross-country runners and seventeen control subjects. The tests were analyzed for number, severity, and direction of aggressive responses. Significant differences indicated that the boxers were least aggressive of the groups, and that they tended to direct their aggressive feelings inwardly (intropunitive) rather than outwardly upon persons or things in their environment (extra punitive).

Ciccolerlla and Elizabeth Margaret, (1978) conducted a study to determine any differences in aggression of male and female Athletes. Subjects for this study included male and female under graduate students at Alma College and Brigham young university who participated intervarsity in basketbal, softball (baseball for men), tennis, and swimming during the 1977-78 academic calendar year. The study employed the Minnesota Multiphase Personality Inventory (MMPI) as the measuring instrument. The scales of the MMPI selected to determine aggression were 2 (depression), 3(hysteria), 4(psychopathic deviancy), 5(masculinity - femininity) and 9(hypomania). The statistical analysis included a univariate analysis of the five selected MMPI scales and an inspection of group mean profiles. The conclusion of this study was that female varsity athletes were more aggressive than male varsity athletes.

Husman and F. Burris (1955) conducted a study on aggression in boxers and wrestlers as measured by projective techniques. In this study, Rosenzweig P. F. conducted selected TAT Pictures, and a sentence completion test was administered at intervals throughout the season to the following college groups. Nine boxers, eight wrestlers, nine cross-country runners and seventeen control subjects. The tests were analyzed for number, severity, and direction of aggressive responses. Significant differences indicated that the boxers were least aggressive of the groups, and that they tended to direct their aggressive feelings inwardly (intropunitive) rather than outwardly upon persons or things in their environment (extra punitive). Indications were that the intensity and direction of aggression of these various athlete and non-athlete groups were quite different. The Thematic Apperception test was judged the best instrument for assessing aggression.

McGuire et al (1992) conducted a study on aggression as a potential mediator of the home advantage in professional Ice Hockey. Based on the subject - defined delineation between aggressive and non-aggressive ice hockey penalties established by Midmeyer and Brich, 13 measures were used on data collected from the official game reports and penalty records of the National Hockey League for the 1987-1988 seasons. Both macro-analytic and micro analytic strategies and analyses were employed. Initial

analysis revealed that home team won 58.3 percent of the decided games. Further analyses showed a significant interaction between game location and performance. Home team incurred more aggressive penalties in game they won whereas visiting teams incurred more aggressive penalties in games they lost. Implication for the potential role of aggression in contribution to the home advantage is discussed.

Ranbir Singh Dahiya (1986) conducted a study with an objective to find out the difference between combative sportsman and track & field athlete on aggression with the hypothesis that combative sportsman are like to differ from track & field athlete in aggression. The data was collected during 12<sup>th</sup> inter University Championship / athletic meet held at North India University in 1998-1999, 249 combative Sportsman and 210 track & field athletes were randomly drawn for conducting the study. Aggression score test standardized by Pati 1976, Containing 16 options were used to assess the aggression behavior of the individual. The Combative mean score indicate that athlete had significantly higher level of aggression compare to combative sportsman.

Reusser and Janet (1987) conducted a study on an analysis of the aggressive and nonaggressive behavior of a college basketball coach. An inter-collegiate female basketball coach selected by the investigator was videotaped six times during the 1985-86 basketball season. The data were systematically analyzed by Cheffer's Adaptation of Flanders Interaction Analysis System and the emotional dimension of Cheffer's system, CAFIAS. She find out that the subject did not become more aggressive while losing as opposed to winning. More aggressive behavior was exhibited during home games when compared to away games. The subject became more aggressive when first and second halves were compared and became less aggressive as the season progressed. The subject was silent for more extended period of time and emitted more directive behavior as the season progressed.

## **2. Methods**

### **2.1 Subjects**

Sixty male interuniversity basketball ( $N_1=30$ ) and volleyball ( $N_2=30$ ) players from Punjabi university Patiala, Punjab, India were selected as the subjects for the study. The subjects were represented North zone Inter-varsity competition and all India inter-varsity championship in their respective sports and age ranging from 18 to 24 years. These subjects were selected in terms of purposive sample from respective games.

## **2.2 Selection of Variables**

Aggression level considered as a variable for this study. The sport aggression inventory (SAI) standardized by Mr. Anand Kumar and Mr. Prem Shankar Shukla (1998) was used for measuring aggression level of basketball and volleyball players.

## **2.3 Hypothesis**

It was hypothesized that there would be significant difference between basketball and volleyball players on the degree of aggression.

## **2.4 Collection of data**

The criterion measure chosen to test the hypothesis was the scores obtain in sport aggression inventory (SAI) standardized by Mr. Anand Kumar and Mr. Prem Shankar Shukla (1998).

## **2.5 Administration of Test**

Based on expert opinion and by personal understanding the sports aggression inventory by Anand Kumar and Prem Shankar Shukla (1998) questionnaire was used. The aggression questionnaire was distributed to basketball and volleyball players. To ensure maximum cooperation from the subjects the investigator had a meeting with selected subjects in presence of coach. Subjects were oriented and explained regarding the purpose and the procedure of the questionnaire. Sports Aggression Inventory consists of 25 items in which 13 items are keyed "YES" and 12 are keyed "NO". The statements which are keyed "YES" are 1,4,5,6,9,12,14,16,18,21,22,24 and 25 and the statements which are keyed "NO" are 2,3,7,8,10,11,13,15,17,19,20 and 23.

## **2.6 Scoring of Questionnaire**

Maximum score for each statement was one. Sores obtained for each statement was added up which represent an individual's total score on aggression.

## **2.7 Statistical Procedure**

In order to compare the aggression level between basketball and volleyball players, the independent t-test was employed. The level of significance chosen to test the hypothesis was 0.05,  $P < 0.05$ .

## **3. Findings**

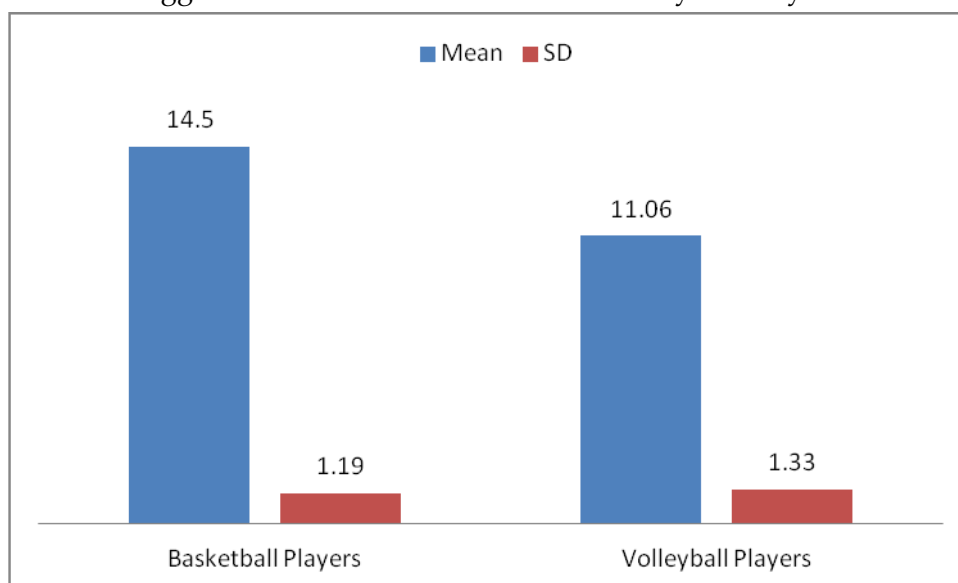
Findings pertaining to the variable aggression which was subjected to the independent 't' test has been given in Table 1.

**Table 1:** Significance Difference of Mean of Aggression between Basketball and Volleyball Players

Group	Basketball Players	Volleyball Players
Mean	14.5	11.06
Stand. Dev.	1.19	1.33
Variance	1.431	1.78
N	30	30
t-ratio	10.48*	
Degrees of Freedom	58	
Critical Value	2.009	
P- value	0.00001	

Table 1 reveals that the mean and standard deviation of the score of basketball players was 14.5 and 1.19 respectively whereas the mean and standard deviation of the score of volleyball players was 11.06 and 1.33 respectively. The calculated t- value which was calculated as **10.48\*** (**P=0.00001**) which showed significant difference between basketball and volleyball players on the degree of aggression. ( $t_{cal}=10.48 > t_{tab}=2.009$ ).

**Figure 1:** Comparison of Mean Scores of Aggression between Basketball and Volleyball Players



#### 4. Discussion

The present study was conducted to compare the aggression between university level male basketball and volleyball players. Results of the present study showed that basketball players have exhibited statistically significant differences with regard to aggression as compared to volleyball players. While comparing the means, basketball

players had shown greater aggression than volleyball players. It may be due to the nature of play of basketball players because they used to compete with their opponents directly whereas volleyball players do not contact with their opponents.

#### **4.1 Discussion of Hypothesis**

In the light of findings of the study, the hypothesis that there would be significant difference between basketball and volleyball players on the degree of aggression was accepted.

#### **5. Conclusions**

Within the limitations of the study, the findings pertaining to the study resolved statistically significant difference of aggression between university level basketball and volleyball players. The results show that university level basketball players had significantly greater aggression than volleyball players.

Within the limitations of the present study following conclusions may be drawn:

1. In regard to aggression, there was a significant difference between the means of University level male basketball and volleyball players.
2. The aggression level of basketball players was found to be higher than the volleyball players.

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