



Comparative Analysis Of Achievement Motivation And Aggression Among University- Level Volleyball Players According To Playing Positions

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Abstract

The purpose of the present study was to compare sports achievement motivation and aggression among university-level volleyball players according to their playing positions. Volleyball is a highly competitive team sport in which psychological characteristics significantly influence athletic performance and competitive behaviour. Different playing positions in volleyball involve different technical and tactical responsibilities, which may affect the psychological characteristics of players.

A total of 105 male university-level volleyball players from different universities of Chhattisgarh were selected randomly as subjects. The selected players were equally divided into three groups consisting of libero, attacker, and setter players. Sports Achievement Motivation Test (SAMT) developed by M. L. Kamlesh (1990) and Sports Aggression Inventory (SAI) developed by Anand Kumar and Prem Shankar Shukla (1998) were used for the collection of data. Mean, standard deviation, Analysis of Variance (ANOVA), and Post Hoc analysis were employed for statistical analysis.

The findings of the study revealed statistically significant differences among libero, attacker, and setter volleyball players with respect to achievement motivation and aggression. Attacker players demonstrated the highest achievement motivation and aggression levels, followed by setter players, whereas libero players recorded the lowest scores among the three groups.

The study concluded that psychological variables differ according to the playing positions of volleyball players and highlighted the importance of position-specific psychological preparation and mental training in volleyball coaching programmes.

Keywords: Achievement Motivation, Aggression, Volleyball, Playing Positions, Sports Psychology, University Players.

Introduction

Modern competitive sports require not only physical fitness and technical skill but also psychological preparedness. In today's highly competitive sports environment, athletes frequently face pressure situations, emotional challenges, and performance expectations that directly influence their sports performance. Psychological factors such as motivation, emotional stability, confidence, concentration, and aggression therefore play an important role in determining athletic success.

Volleyball is one of the most dynamic and psychologically demanding team sports. The game requires rapid decision-making, coordination, emotional control, confidence, and teamwork. In volleyball, players perform specialized roles according to their playing positions. Attackers are mainly responsible for offensive play and scoring points, setters organize offensive coordination and tactical execution, whereas liberos primarily focus on defensive stability and ball control. Because of these specialized responsibilities, psychological characteristics may differ among players belonging to different playing positions.

Achievement motivation refers to an athlete's desire to achieve success, overcome challenges, and perform effectively during competition. Highly motivated players generally demonstrate greater determination, confidence, persistence, and competitive orientation during sports participation.

Aggression is another important psychological variable in sports. Controlled aggression contributes positively toward assertiveness, confidence, and competitive intensity, whereas uncontrolled aggression may negatively affect emotional balance and performance consistency. In volleyball, offensive playing positions such as attackers often require aggressive actions including spiking and blocking, while defensive positions such as libero demand emotional stability and controlled behaviour.

Very limited studies have examined achievement motivation and aggression among volleyball players according to playing positions, particularly at the university level in the Indian context. Therefore, the present study was undertaken to compare achievement motivation and aggression among university-level volleyball players according to their playing positions.

Objectives of the Study

1. To compare sports achievement motivation among libero, attacker, and setter volleyball players.
2. To compare aggression among libero, attacker, and setter volleyball players.
3. To examine positional differences in psychological characteristics among university-level volleyball players.

Hypotheses

1. Significant differences would exist in sports achievement motivation among libero, attacker, and setter volleyball players.
2. Significant differences would exist in aggression among libero, attacker, and setter volleyball players.

Methodology

Selection of Subjects

The present study was conducted on 105 male university-level volleyball players selected from different universities of Chhattisgarh. The age of the subjects ranged between 18 and 27 years. Random sampling technique was adopted for the selection of subjects.

The selected subjects were equally divided into three groups according to their playing positions:

- 35 Libero players
- 35 Attacker players
- 35 Setter players

Variables of the Study

Independent Variable

- Playing Positions
 - Libero
 - Attacker
 - Setter

Dependent Variables

- Sports Achievement Motivation
- Aggression

Tools Used

1. Sports Achievement Motivation Test (SAMT) developed by M. L. Kamlesh (1990)
2. Sports Aggression Inventory (SAI) developed by Anand Kumar and Prem Shankar Shukla (1998)

Statistical Techniques

The collected data were analyzed statistically using:

- Mean
- Standard Deviation
- One-Way ANOVA
- Post Hoc Test

The level of significance was fixed at 0.05.

Results and Findings

Table 1
Descriptive Statistics of Sports Achievement Motivation

Playing Position	Mean	Standard Deviation
Libero	25.03	0.822
Attacker	33.97	0.822
Setter	29.31	1.105

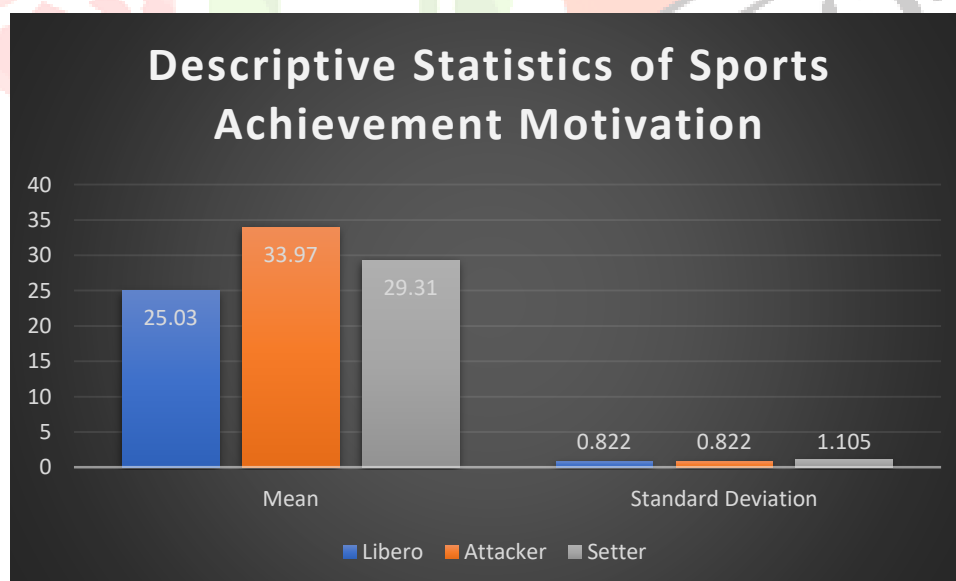


Fig. 1

Descriptive Statistics of Sports achievement motivation

Interpretation

The descriptive statistics reveal that attackers obtained the highest achievement motivation score (33.97), followed by setters (29.31), whereas liberos recorded the lowest mean score (25.03). The low standard deviation values indicate a high degree of uniformity in responses within each group.

The findings suggest that attackers possess a stronger desire to achieve success and excel in competition. Their role often demands decisive actions that directly influence match outcomes, which may contribute to higher levels of achievement-oriented behaviour.

Table 2
Analysis of Variance for Sports Achievement Motivation

Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1400.362	2	700.181	816.344	.000
Within Groups	87.486	102	.858		
Total	1487.848	104			

The ANOVA results yielded an F-value of 816.344, which was statistically significant at the 0.05 level ($p < .001$). This finding indicates that achievement motivation differs significantly among the three playing positions. Accordingly, the alternate hypothesis was failed to reject.

Table 3
Post Hoc Analysis for Sports Achievement Motivation

Comparison	Mean Difference	Sig.
Libero vs Attacker	-8.943*	.000
Libero vs Setter	-4.286*	.000
Attacker vs Setter	4.657*	.000

The post hoc analysis showed significant differences among all groups. Attackers demonstrated significantly higher achievement motivation than setters and liberos, while setters also scored significantly higher than liberos.

Interpretation

The higher achievement motivation among attackers may be linked to their responsibility for converting opportunities into points and influencing the outcome of matches. Setters also displayed strong achievement motivation because of their leadership role in coordinating team attacks. Libero players, although crucial for defensive success, may not experience the same level of achievement-oriented pressure associated with offensive roles.

Table 4
Descriptive Statistics of Aggression

Playing Position	Mean	Standard Deviation
Libero	11.51	1.067
Attacker	20.00	0.874
Setter	16.94	0.873

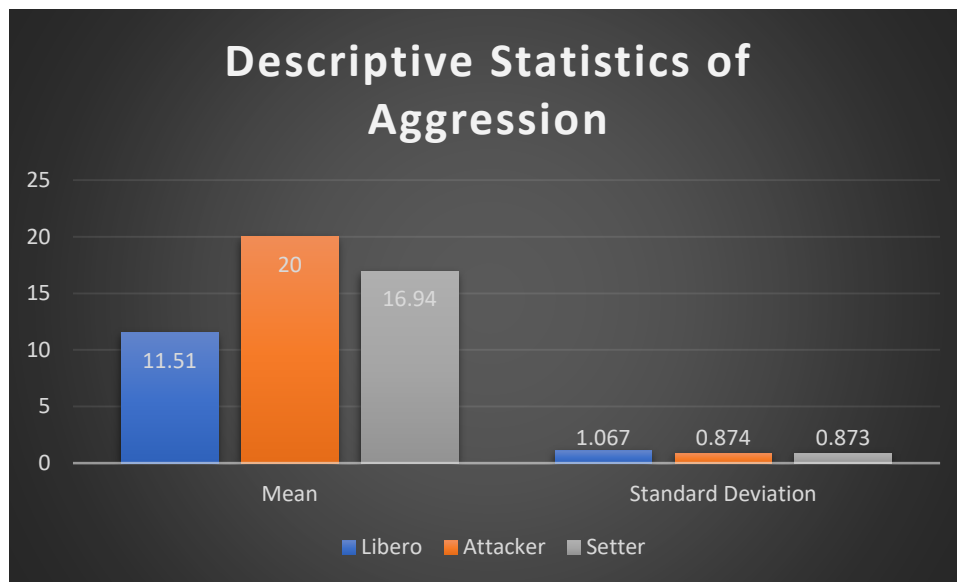


Fig. 2

Descriptive Statistics of Aggression

The descriptive statistics indicate that attackers recorded the highest aggression score (20.00), followed by setters (16.94), while liberos obtained the lowest mean score (11.51). The low standard deviation values suggest that the responses were relatively consistent within each group.

These findings imply that attackers exhibit greater aggressive tendencies during competition, which may be associated with the highly competitive and forceful nature of offensive actions such as spiking and blocking.

Table 5
Analysis of Variance for Aggression

Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1292.933	2	646.467	727.581	.000
Within Groups	90.629	102	.889		
Total	1383.562	104			

The ANOVA results produced an F-value of 727.581, which was significant at the 0.05 level ($p < .001$). This indicates that aggression levels differed significantly among libero, attacker, and setter volleyball players.

Table 6
Post Hoc Analysis for Aggression

Comparison	Mean Difference	Sig.
Libero vs Attacker	-8.486*	.000
Libero vs Setter	-5.429*	.000
Attacker vs Setter	3.057*	.000

The post hoc analysis revealed significant differences among all three groups. Attackers showed significantly higher aggression than setters and liberos, while setters also demonstrated significantly higher aggression than liberos.

Interpretation

The higher aggression scores observed among attackers may be explained by the competitive demands of their role, which requires assertiveness, confidence, and the ability to dominate opponents during offensive play. Setters displayed moderate aggression because of their responsibility for directing team strategy and maintaining game control. Libero players demonstrated the lowest aggression levels, reflecting the defensive and stabilizing nature of their role.

Discussion

The findings of the present study revealed significant differences in achievement motivation and aggression among volleyball players according to their playing positions.

Attacker players demonstrated the highest achievement motivation among the three groups. This may be because attackers are directly responsible for scoring points and contributing to team victory during crucial moments of competition. Their offensive responsibilities require confidence, determination, persistence, and a strong desire to achieve success.

Setter players also demonstrated considerable achievement motivation because of their role in organizing offensive play and maintaining tactical coordination within the team. Libero players showed comparatively lower achievement motivation levels because their role mainly focuses on defensive stability and rally continuation rather than direct scoring responsibilities.

The findings related to aggression revealed that attacker players possessed significantly higher aggression levels than setters and liberos. Offensive actions such as spiking and blocking require assertiveness, confidence, power, and competitive intensity. Controlled aggression therefore becomes an important psychological quality for attacker players.

Setter players demonstrated moderate aggression because of their tactical and leadership responsibilities, whereas libero players showed comparatively lower aggression due to the defensive nature of their role. The findings of the present study support previous sports psychology research suggesting that psychological characteristics vary according to positional responsibilities and competitive demands in volleyball.

Conclusion

On the basis of statistical analysis and interpretation of findings, the following conclusions were drawn:

1. Significant differences existed among libero, attacker, and setter volleyball players with respect to sports achievement motivation.
2. Attacker players demonstrated the highest achievement motivation levels among the three groups.
3. Significant differences existed among libero, attacker, and setter volleyball players with respect to aggression.
4. Attacker players demonstrated the highest aggression levels compared to setters and liberos.
5. Setter players demonstrated moderate levels of achievement motivation and aggression.
6. Libero players recorded comparatively lower achievement motivation and aggression levels.
7. The study concluded that psychological characteristics differ according to the playing positions of volleyball players.
8. The findings highlighted the importance of position-specific psychological preparation and mental skills training in volleyball coaching programmes.

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