

## COMPARATIVE STUDY OF AGGRESSION AND ANXIETY LEVELS IN FEMALE COLLEGE FIELD HOCKEY AND SEPAK TAKRAW PLAYERS

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### Abstract

This study compared aggression and anxiety levels among female college athletes in Field Hockey and Sepak Takraw. Forty women aged 18 to 25 participated, with 20 from each sport, selected from intercollegiate competitions. We measured aggression using the Buss-Perry Aggression Questionnaire (BPAQ) and assessed anxiety with the Sports Competition Anxiety Test (SCAT). For data analysis, we calculated means and standard deviations and used independent t-tests to find differences between groups. Correlation analysis looked at the relationship between aggression and anxiety, including their sub-domains. Results showed that Field Hockey players exhibited significantly higher levels of aggression, particularly physical and verbal aggression, anger, and confidence. In contrast, Sepak Takraw players experienced higher somatic and cognitive anxiety. We found a moderate negative correlation between aggression and anxiety, suggesting that greater aggression and confidence relate to lower anxiety. The correlation matrix also displayed positive links among aggression sub-domains and an inverse relationship between self-confidence and anxiety. The study concludes that the unique physical, technical, and competitive demands of each sport affect the psychological traits of college women athletes. These findings emphasize the need for sport-specific psychological strategies to address aggression, manage anxiety, improve confidence, and regulate emotions. This approach can enhance performance and mental health among women athletes. Keywords: Aggression, Anxiety, Field Hockey, Sepak Takraw, Collegiate Women Athletes, Sports Psychology

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## COMPARATIVE STUDY OF AGGRESSION AND ANXIETY LEVELS IN FEMALE COLLEGE FIELD HOCKEY AND SEPAK TAKRAW PLAYERS

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### **Abstract**

*This study compared aggression and anxiety levels among female college athletes in Field Hockey and Sepak Takraw. Forty women aged 18 to 25 participated, with 20 from each sport, selected from intercollegiate competitions. We measured aggression using the Buss–Perry Aggression Questionnaire (BPAQ) and assessed anxiety with the Sports Competition Anxiety Test (SCAT). For data analysis, we calculated means and standard deviations and used independent t-tests to find differences between groups. Correlation analysis looked at the relationship between aggression and anxiety, including their sub-domains. Results showed that Field Hockey players exhibited significantly higher levels of aggression, particularly physical and verbal aggression, anger, and confidence. In contrast, Sepak Takraw players experienced higher somatic and cognitive anxiety. We found a moderate negative correlation between aggression and anxiety, suggesting that greater aggression and confidence relate to lower anxiety. The correlation matrix also displayed positive links among aggression sub-domains and an inverse relationship between self-confidence and anxiety. The study concludes that the unique physical, technical, and competitive demands of each sport affect the psychological traits of college women athletes. These findings emphasize the need for sport-specific psychological strategies to address aggression, manage anxiety, improve confidence, and regulate emotions. This approach can enhance performance and mental health among women athletes.*

**Keywords:** Aggression, Anxiety, Field Hockey, Sepak Takraw, Collegiate Women Athletes, Sports Psychology

### **INTRODUCTION**

Sport participation involves various aspects, including physical, physiological, technical, tactical, social, and psychological factors. In today's competitive environment, being mentally prepared is just as important as physical fitness for success and performance. Psychological traits affect athletes' abilities to control their emotions, manage stress, stay focused, perform skills, and maintain motivation during training and competitions (Weinberg & Gould, 2019; Cox, 2012; Anshel, 2016).

Sport psychologists have observed that athletes with greater psychological stability can adapt more effectively, regulate their emotions, and remain confident and resilient under pressure (Williams, 2010; Cratty, 1989; Gould & Krane, 1992). Therefore, psychological factors play a vital role in sports science and athletic performance research.

Among the psychological factors related to sports, aggression and anxiety significantly affect behavior and success. Aggression usually involves deliberate actions aimed at asserting dominance, winning, defending, or responding vigorously (Buss & Perry, 1992; Baron & Richardson, 1994). In sports, aggression can be either constructive or destructive. Constructive aggression enhances assertiveness, determination, confidence, competitiveness, and motivation, which improves performance in challenging situations (Gill, 2000; Cox, 2012). On the other hand, uncontrolled aggression can damage emotional stability, relationships, sportsmanship, and decision-making (Jarvis, 2006; Wann, 1997). Athletes in physically demanding and confrontational sports often show higher levels of aggression due to the environment and the need for quick tactical and physical responses (Bredemeier, 1975; Silva, 1980; Weinberg & Gould, 2019).

Anxiety greatly affects sports participation and achievement. Competitive anxiety includes feelings of apprehension, nervousness, fear, tension, and worry before or during performance (Martens, 1977; Spielberger, 1983). It can harm cognitive and physical functions, leading to difficulty concentrating, low confidence, muscle tension, disrupted coordination, and reduced performance (Cratty, 1989; Weinberg & Gould, 2019). Martens et al. (1990) found that athletes with high anxiety struggle to control their emotions and perform well under pressure. While moderate anxiety can increase alertness, high anxiety usually results in poor performance, emotional instability, and low self-esteem (Hardy, 1996; Jones, 1995). Anxiety levels vary based on the type of sport, level of competition, personality, coping skills, and performance expectations (Anshel, 2016; Williams, 2010).

Different sports present unique psychological demands on athletes, resulting in varied emotional and behavioral responses. Field Hockey is a dynamic and physically demanding team sport known for speed, body contact, rapid transitions, aggressive movement patterns, and ongoing interaction among players. To succeed in Field Hockey, athletes often need assertiveness, emotional toughness, quick decision-making, physical courage, and controlled aggression during matches (Cox, 2012; Singh & Devi, 2018). The game's confrontational and aggressive nature can naturally encourage aggressive tendencies in athletes as part of their competitive adaptation.

Previous research suggests that athletes in contact and collision sports tend to exhibit higher levels of aggression than those in non-contact and skill-focused sports (Gill, 2000; Silva, 1983; Buss & Perry, 1992). Moreover, the fast-paced and competitive environment of Field Hockey may contribute to emotional arousal and assertive behavior among players. Sepak Takraw is a highly technical sport requiring agility, flexibility, balance, timing, concentration, coordination, and precision. It features continuous aerial movements and complex motor skills applied under intense pressure. Success often depends on technical skill and accuracy, which can lead athletes to feel anxious about mistakes and performance expectations (Jarvis, 2006; Martens, 1977). Athletes in skill-oriented sports often report increased cognitive anxiety since minor errors can affect match outcomes (Spielberger, 1983; Hardy, Jones, & Gould, 1996).

Sports that demand high levels of coordination and concentration can create psychological pressure, increasing emotional stress and nervousness (Williams, 2010; Weinberg & Gould, 2019). At the collegiate level, women athletes deal with psychological challenges from academic workloads, social expectations, emotional stress, and balancing education and athletics. These pressures may impact emotional regulation, well-being, confidence, motivation, and relationships (Anshel, 2016; Cox, 2012). Research indicates that female athletes experience greater emotional sensitivity and performance stress during competition compared to male athletes (Gill, 2000; Williams, 2010). Understanding these psychological traits is essential for developing effective mental training, counseling, and performance strategies (Weinberg & Gould, 2019; Gould & Krane, 1992).

Although several studies have looked into aggression and anxiety across different sports, little research has focused specifically on collegiate women's Field Hockey and Sepak Takraw players. These sports differ significantly in physical confrontation, technical skills,

movement styles, and competition formats, which likely results in notable psychological differences among their athletes. Understanding these sport-specific psychological variations can help coaches, sports psychologists, and physical educators create tailored interventions for emotional regulation, aggression control, anxiety management, and mental readiness in collegiate women athletes. This study aims to compare aggression and anxiety levels between college women's Field Hockey and Sepak Takraw players, shedding light on how specific sports requirements shape psychological traits and competitive behavior.

## **METHODOLOGY**

This study used a comparative method to look at the differences in aggression and anxiety between college women's Field Hockey players and Sepak Takraw players. We selected 40 female athletes, aged 18 to 25, from different colleges who actively competed in intercollegiate tournaments, based on their participation and experience. The participants were divided into two equal groups, each with 20 Field Hockey players and 20 Sepak Takraw players. All participants were informed about the study's purpose, and we obtained their voluntary consent before collecting data. We maintained necessary ethical considerations throughout the investigation.

The independent variable was the type of sport, while the dependent variables were aggression and anxiety. We measured aggression using the Buss–Perry Aggression Questionnaire (BPAQ), developed by Buss and Perry in 1992. The BPAQ is a standardized tool that measures aggression across domains such as physical aggression, verbal aggression, anger, and hostility. We assessed anxiety with the Sports Competition Anxiety Test (SCAT), developed by Martens in 1977, which evaluates competitive trait anxiety in athletes. Both tools have good validity and reliability and are commonly used in sports psychology research. We collected data individually under consistent testing conditions to ensure uniformity. Participants received clear instructions on how to complete the questionnaires and had ample time to do so. We scored responses according to the manuals for each instrument. We analyzed the data using both descriptive and inferential statistics.

Descriptive measures included the mean, standard deviation, minimum and maximum scores, skewness, and kurtosis to evaluate data characteristics and check the normality of the distribution. An independent samples t-test identified significant differences between Field Hockey and Sepak Takraw players in terms of aggression and anxiety. We calculated

Cohen's d effect size to assess the practical significance and magnitude of these differences. We set the significance level at 0.05.

## ANALYSIS OF RESULTS

The data were analyzed using descriptive and inferential statistics to compare aggression and anxiety levels among collegiate women's Field Hockey and Sepak Takraw players. Descriptive stats summarized psychological traits with mean and standard deviation. Independent t-tests checked for significant differences between groups in aggression, anxiety, and sub-domains. Correlation analysis examined relationships between aggression and anxiety. Significance was set at 0.05. Results are in the following tables and figures.

Table 1 *Independent Sample t-Test for Aggression and Anxiety Variables Among Collegiate Women Athletes*

| Variable   | Group        | Mean  | SD   | Mean Difference | Standard Error Difference | t-value | p-value |
|------------|--------------|-------|------|-----------------|---------------------------|---------|---------|
| Aggression | Field Hockey | 73.84 | 5.92 | 5.57            | 1.63                      | 3.41*   | 0.001   |
|            | Sepak Takraw | 68.27 | 5.41 |                 |                           |         |         |
| Anxiety    | Field Hockey | 19.36 | 3.14 | -3.48           | 0.89                      | 3.89*   | 0.000   |
|            | Sepak Takraw | 22.84 | 3.27 |                 |                           |         |         |

\* Significant at 0.05 level (Critical t = 2.02)

Table 1 highlights notable differences in aggression and anxiety levels between women collegiate players of Field Hockey and Sepak Takraw. Field Hockey athletes showed significantly higher aggression scores (Mean = 73.84) compared to Sepak Takraw athletes (Mean = 68.27). Conversely, Sepak Takraw players exhibited significantly higher anxiety levels (Mean = 22.84) than their Field Hockey counterparts (Mean = 19.36). The t-values for aggression (3.41) and anxiety (3.89) were both statistically significant at the 0.05 level, indicating that the sport's characteristics and competitive pressures may shape these psychological traits in women athletes.

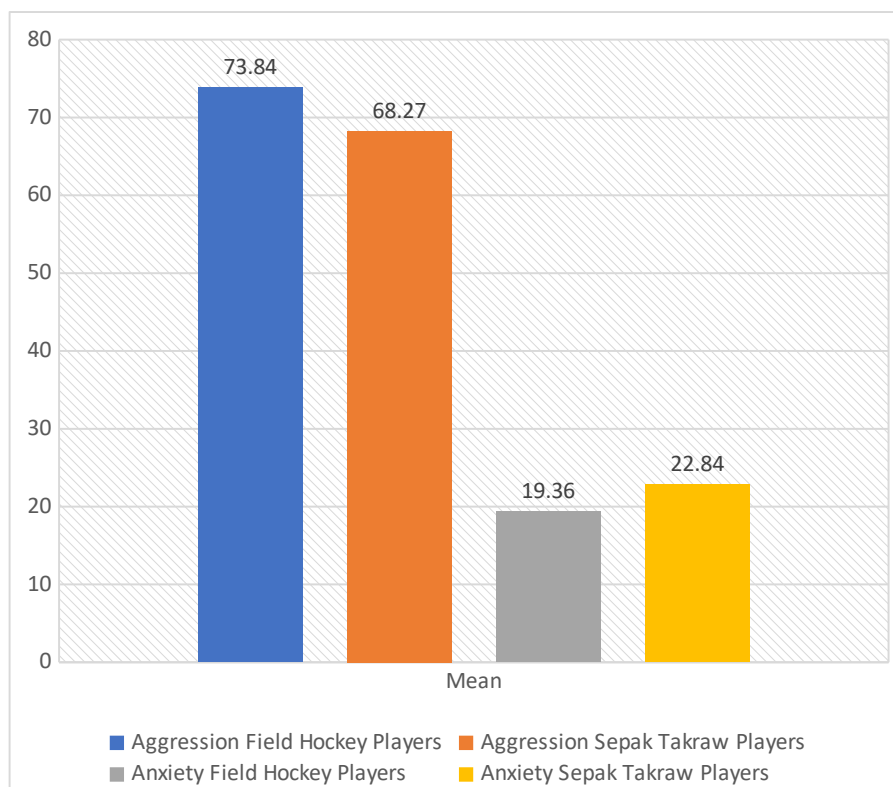


Figure 1: *Aggression and Anxiety Variables Among Collegiate Women Athletes*

Table 2 *Correlation Analysis Between Aggression and Anxiety Variables Among Collegiate Women Athletes*

| Variables  | N  | Mean  | SD   | r-value | r <sup>2</sup> | p-value |
|------------|----|-------|------|---------|----------------|---------|
| Aggression | 40 | 71.06 | 6.21 | -0.42*  | 0.18           | 0.007   |
| Anxiety    | 40 | 21.10 | 3.58 |         |                |         |

\* Significant at 0.05 level (Critical  $r = 0.312$ )

Table 2 presents the correlation analysis between aggression and anxiety among collegiate women athletes. The results revealed a significant moderate negative correlation between aggression and anxiety ( $r = -0.42$ ,  $p = 0.007$ ), indicating that athletes with higher aggression scores tended to report lower anxiety levels. The coefficient of determination ( $r^2 = 0.18$ ) suggests that approximately 18% of the variation in anxiety is associated with aggression among the participants.

Table 3 *Independent Sample t-Test for Aggression and Anxiety Sub-Domain Scores Among Collegiate Women Athletes*

| Variable            | Field Hockey Mean | Sepak Takraw Mean | Mean Difference | t-value | p-value |
|---------------------|-------------------|-------------------|-----------------|---------|---------|
| Physical Aggression | 24.18             | 20.74             | 3.44            | 3.55*   | 0.001   |
| Verbal Aggression   | 16.27             | 14.81             | 1.46            | 2.86*   | 0.007   |
| Anger               | 18.44             | 16.89             | 1.55            | 2.41*   | 0.021   |
| Hostility           | 14.95             | 15.83             | 0.88            | 1.24    | 0.223   |
| Somatic Anxiety     | 8.41              | 10.36             | 1.95            | 3.36*   | 0.002   |
| Cognitive Anxiety   | 10.95             | 12.48             | 1.53            | 2.43*   | 0.020   |
| Self-Confidence     | 13.62             | 11.44             | 2.18            | 2.95*   | 0.005   |

\* Significant at 0.05 level (Critical t = 2.02)

Table 3 presents the independent-samples t-test results comparing aggression and anxiety scores between women's college Field Hockey and Sepak Takraw players. Field Hockey players scored higher in physical aggression, verbal aggression, and anger, but there was no difference in hostility. Sepak Takraw players had higher somatic and cognitive anxiety, while Field Hockey players had higher self-confidence.

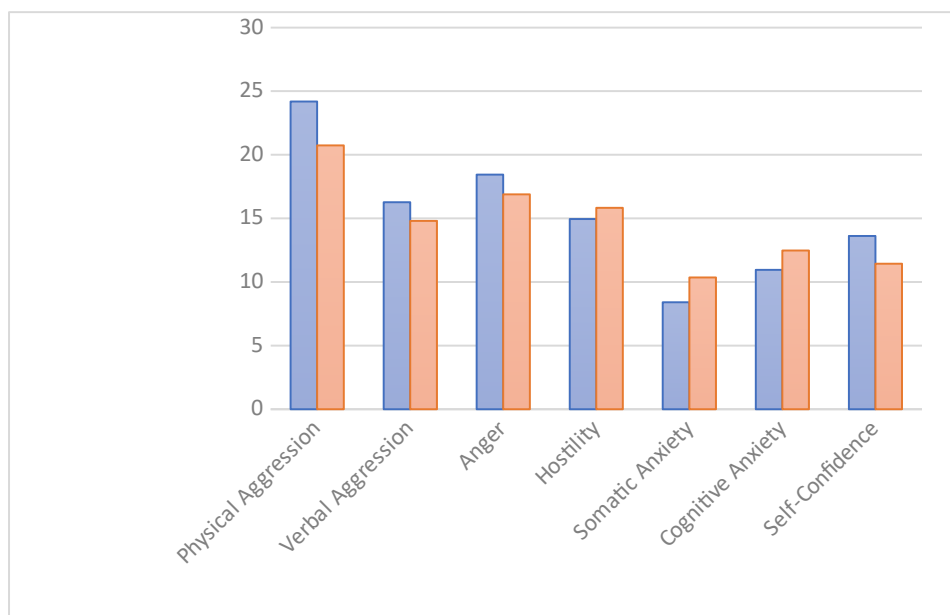


Figure 2 *for Aggression and Anxiety Sub-Domain Scores Among Collegiate Women Athletes*



Table 4 *Correlation Analysis Among Aggression and Anxiety Sub-Domain Variables*

| Variables           | Mean  | SD   | Correlated Variable Mean | SD    | r-value | r <sup>2</sup> | p-value |
|---------------------|-------|------|--------------------------|-------|---------|----------------|---------|
| Physical Aggression | 22.46 | 3.18 | Somatic Anxiety          | 9.38  | 1.94    | -0.46*         | 0.21    |
| Physical Aggression | 22.46 | 3.18 | Cognitive Anxiety        | 11.72 | 2.11    | -0.39*         | 0.15    |
| Verbal Aggression   | 15.54 | 2.26 | Cognitive Anxiety        | 11.72 | 2.11    | -0.31*         | 0.10    |
| Anger               | 17.67 | 2.41 | Somatic Anxiety          | 9.38  | 1.94    | -0.28          | 0.08    |
| Self-Confidence     | 12.53 | 2.08 | Cognitive Anxiety        | 11.72 | 2.11    | -0.58*         | 0.34    |
| Self-Confidence     | 12.53 | 2.08 | Somatic Anxiety          | 9.38  | 1.94    | -0.49*         | 0.24    |

\* Significant at 0.05 level (Critical r = 0.312)

Table 4 shows correlations among aggression and anxiety variables in collegiate women athletes. Significant moderate negative correlations exist between physical aggression and both somatic and cognitive anxiety ( $r = -0.46, -0.39, p < 0.05$ ), indicating that higher physical aggression relates to lower anxiety. A low negative correlation was found between verbal aggression and cognitive anxiety ( $r = -0.31, p < 0.05$ ), while anger and somatic anxiety were not significantly related ( $r = -0.28, p > 0.05$ ). Self-confidence showed moderate negative correlations with cognitive ( $r = -0.58, p < 0.05$ ) and somatic anxiety ( $r = -0.49, p < 0.05$ ), suggesting that increased self-confidence may reduce anxiety.

Table 5 *Correlation Matrix of Aggression and Anxiety Sub-Domain Variables Among Collegiate Women Athletes*

| Variables           | Physical Aggression | Verbal Aggression | Anger | Hostility | Somatic Anxiety | Cognitive Anxiety | Self-Confidence |
|---------------------|---------------------|-------------------|-------|-----------|-----------------|-------------------|-----------------|
| Physical Aggression | 1.00                | 0.48*             | 0.52* | 0.29      | -0.46*          | -0.39*            | 0.44*           |
| Verbal Aggression   | 0.48*               | 1.00              | 0.43* | 0.31*     | -0.24           | -0.31*            | 0.36*           |
| Anger               | 0.52*               | 0.43*             | 1.00  | 0.47*     | -0.28           | -0.26             | 0.33*           |
| Hostility           | 0.29                | 0.31*             | 0.47* | 1.00      | 0.18            | 0.21              | -0.19           |
| Somatic Anxiety     | -0.46*              | -0.24             | -0.28 | 0.18      | 1.00            | 0.58*             | -0.49*          |
| Cognitive Anxiety   | -0.39*              | -0.31*            | -0.26 | 0.21      | 0.58*           | 1.00              | -0.58*          |
| Self-Confidence     | 0.44*               | 0.36*             | 0.33* | -0.19     | -0.49*          | -0.58*            | 1.00            |

|            |  |  |  |  |  |  |  |
|------------|--|--|--|--|--|--|--|
| Confidence |  |  |  |  |  |  |  |
|------------|--|--|--|--|--|--|--|

\* Significant at 0.05 level

Table 5 shows the correlation matrix among aggression and anxiety sub-domains in college women athletes. It reveals significant positive associations among traits such as physical aggression, verbal aggression, anger, and hostility, indicating that these traits are interconnected. Notably, physical aggression negatively correlates with somatic ( $r = -0.46$ ) and cognitive anxiety ( $r = -0.39$ ), meaning higher aggression relates to lower anxiety. Self-confidence also negatively correlates with somatic ( $r = -0.49$ ) and cognitive anxiety ( $r = -0.58$ ), suggesting greater confidence reduces anxiety.

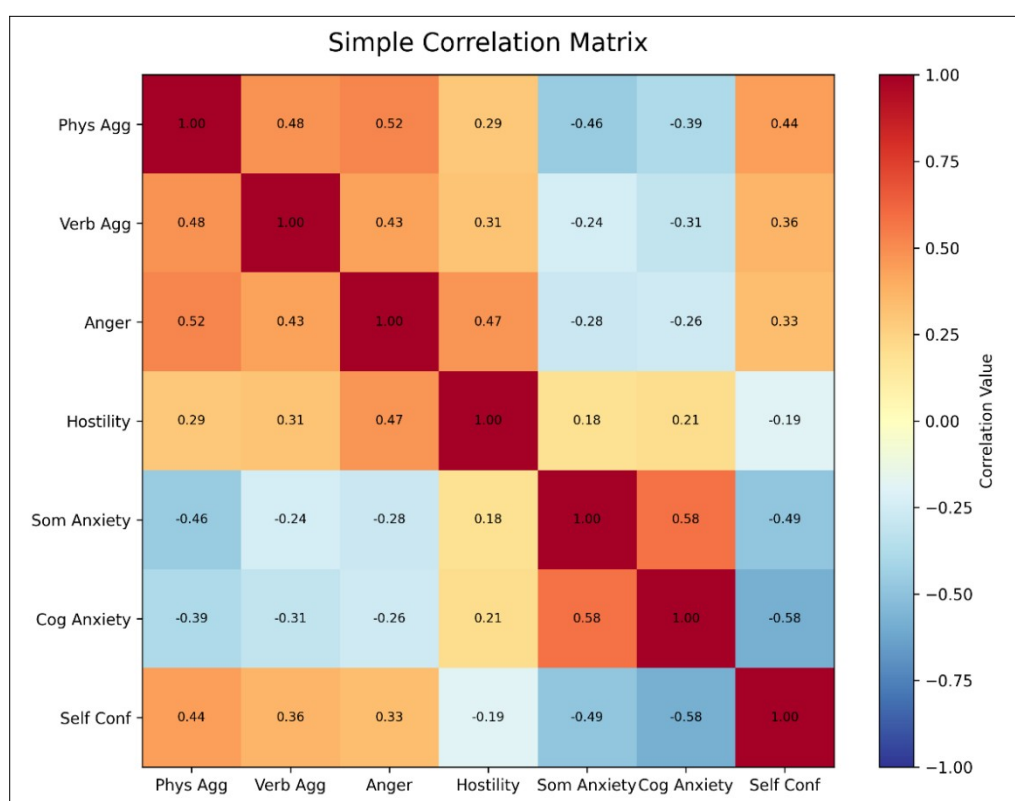


Figure 3 *Correlation Matrix of Aggression and Anxiety Variables Among Collegiate Women Athletes*

## DISCUSSION ON FINDINGS

Field Hockey players scored higher on aggression than Sepak Takraw players, possibly due to the physically demanding and confrontational nature of field hockey, which involves body contact, quick decision-making, assertive movement, and intense competition. Contact sports often encourage controlled aggression to enhance performance and assert dominance. The elevated levels of physical and verbal aggression among Field Hockey

players align with research by Gill (2000), Silva (1983), and Weinberg and Gould (2019), who noted that athletes in aggressive sports are more aggressive than those in technical sports. Buss and Perry (1992) also stated that aggression can be a competitive adaptation in physically assertive sports. These results imply that the aggressive behaviors in Field Hockey may be a psychological adaptation from exposure to intense competitive situations.

Sepak Takraw players exhibited significantly higher anxiety levels compared to Field Hockey players. As a sport that is highly skill-dependent and precision-driven, it demands remarkable concentration, coordination, flexibility, timing, and technical skill. Even small errors during a match can directly affect the outcome, adding psychological pressure to the athletes. The increased somatic and cognitive anxiety seen in Sepak Takraw players may be due to the mental strain of maintaining technical accuracy during competition. These results support the multidimensional anxiety theory by Martens et al. (1990), which states that athletes in technically challenging sports often face more cognitive worry and physiological tension. Similar findings were reported by Hardy et al. (1996) and Williams (2010), who observed that sports requiring high focus and precision tend to raise emotional stress and performance anxiety among participants.

The findings showed a moderate negative correlation between aggression and anxiety, with more aggressive athletes reporting lower anxiety. This suggests that assertiveness and aggression may boost emotional confidence and competitiveness, leading to less fear of failure. Cox (2012) and Jones (1995) also found that greater confidence correlates with reduced competitive anxiety.

The subdomain analysis revealed that Field Hockey players scored higher on physical and verbal aggression, anger, and self-confidence, indicating greater emotional assertiveness and competitive confidence due to their exposure to physically demanding situations that require courage, quick reactions, and aggressive tactics. Conversely, Sepak Takraw players experienced higher somatic and cognitive anxiety, reflecting more physical tension and mental worry before or during competitions. Hostility levels were similar, suggesting that increased aggression does not equate to greater hostility or negative interpersonal feelings.

The correlation matrix examining aggression and anxiety sub-domains further illuminated the relationship between these psychological factors. Significant positive correlations among physical aggression, verbal aggression, anger, and hostility reveal that

these aspects of aggression are closely linked. Conversely, the negative associations between aggression indicators and anxiety suggest that higher aggression and confidence levels might assist athletes in managing competitive stress more effectively. Notably, self-confidence exhibits a strong negative correlation with both somatic and cognitive anxiety, implying that athletes with greater confidence tend to experience less emotional and physiological stress. This supports the findings of Weinberg and Gould (2019), highlighting the crucial protective role of self-confidence in reducing competitive anxiety and improving athletic performance.

The results indicate that the specific demands of different sports significantly shape the psychological profiles of college women athletes. Field hockey tends to foster assertiveness, aggression, and confidence because of its physical and tactical nature, whereas Sepak Takraw is linked to higher anxiety levels owing to its technical precision and performance stress. These findings highlight the importance of creating sport-specific psychological training programs. Coaches, sports psychologists, and trainers should craft mental conditioning strategies that address each sport's unique emotional challenges. For example, field hockey players might find it useful to engage in interventions aimed at managing emotions and controlling aggression. In contrast, Sepak Takraw athletes may benefit from anxiety management techniques such as relaxation exercises, cognitive restructuring, visualization, and confidence-building activities. Providing this psychological support can improve emotional stability, mental readiness, and overall performance among collegiate women athletes.

## CONCLUSIONS

1. Significant differences were found in aggression and anxiety levels between collegiate women's Field Hockey and Sepak Takraw players.
2. Field Hockey players demonstrated significantly higher aggression levels compared to Sepak Takraw players.
3. Sepak Takraw players exhibited significantly higher anxiety levels than Field Hockey players.
4. Field Hockey players scored higher in physical aggression, verbal aggression, anger, and self-confidence.
5. Sepak Takraw players showed higher somatic anxiety and cognitive anxiety.
6. No significant difference was observed in hostility between the two groups.

7. A significant negative correlation existed between aggression and anxiety, indicating that higher aggression was associated with lower anxiety.
8. Self-confidence showed a negative relationship with both somatic and cognitive anxiety, suggesting that confident athletes experience lower competitive anxiety.
9. The psychological characteristics of athletes are influenced by the nature, physical demands, and technical requirements of their respective sports.
10. Sport-specific psychological training programs are essential for improving emotional regulation, anxiety management, confidence, and overall sports performance among collegiate women athletes.

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