

ANXIETY LEVELS IN FEMALE AND MALE COLLEGIATE BADMINTON PLAYERS: A COMPARATIVE STUDY

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Abstract

In modern sports training, the training methods for badminton players have also changed a lot. Players need good physical and physiological health, as well as good mental health. Anxiety can be seen as a physiological and psychological state characterised by cognitive, somatic, emotional, and behavioural components. Anxiety differs from fear because it distinguishes between future and present dangers. This study aims to compare the difference in sports anxiety between female and male badminton players. A total of 48 Collegiate-level badminton players aged 18 to 21 participated in this study. They were divided into two groups: 24 female and 24 male players. The Sports Anxiety Scale 2 (SAS-2) was utilised to compare sports anxiety, and an Independent sample t-test was used in the study; the significance level was set at 0.05 and 0.01. Female Badminton players have higher Sports Anxiety compared to Male Badminton players. Female players exhibit higher levels of somatic anxiety and worry than male players. However, there is no significant difference in concentration disruption between the female and male players.

Keywords: Sports Psychology, Anxiety, Worry, Concentration, Mental Health, Sports Performance

INTRODUCTION

Badminton is hand-eye coordination and focus-oriented game that requires high stamina and concentration levels. To meet these demands, players must demonstrate exceptional anticipation, superb flexibility, keen eyesight, excellent skills in faking and feinting, and highly technical abilities (Kumar et al., 2013). In the modern age of sports training, the training methods for badminton players have also changed a lot. Players of higher calibre and ambition have realised that these techniques, tactics, and strategies will not yield any results without proper fitness. Therefore, other training is as important as playing on the court for Badminton players (Kumar et al., 2013).

David Barlow defines anxiety as "a negative mood state that's focused on the future, where a person does not feel prepared to deal with upcoming negative events. It differs from fear because it distinguishes between future and present dangers". Anxiety can also be described as a feeling of agony, dread, terror, or apprehension. Anxiety is not the same as fear. Fear is how we think and feel in response to something we see as a threat. Anxiety involves behaviours linked to fight-or-flight reactions, like trying to defend ourselves or escape. It happens when we face situations that feel out of control or unavoidable, even if they are not dangerous. (Kumar et al., 2013).

Various studies have demonstrated the impact of psychological factors on sports performance (Bamaniya, 2016). Due to the stress from an upcoming competition, athletes may experience anxiety, which can negatively impact their performance in sports. Anxiety can be seen as a physiological and psychological state characterised by cognitive, somatic, emotional, and behavioural components. (Bamaniya, 2016; Parmar et al., 2023). In various situations, anxiety and stress are natural components of our daily lives, but when they exceed the normal range, then they must be addressed immediately. Otherwise, the mental health of the individual will suffer. Every student faces stress at some point in their academic journey, regardless of age, gender, education level, or parents' occupation. Athletes are prone to stress, anxiety and depression; cognitive and psychosomatic complaints can become chronic. These issues can arise from factors related to spokespersons, family, and institutions. (Karmakar et al., 2021; Parmar et al., 2023). Fulfilling the competition's demands and performing well under pressure are inherent aspects of competitive sports. (Craft et al., 2003). Athletes who strive for excellence in a competitive environment are at a higher risk of anxiety and depression (Gulliver et al., 2015).

Competitive anxiety causes muscle tension, nervousness, inability to make decisions, feeling overwhelmed, feeling out of control, trembling, nail-biting, and increased sweating, ultimately negatively affecting sports performance (Bamaniya, 2016). Competitive stress is reported to increase cognitive anxiety while decreasing self-confidence in tennis players, particularly more for the losing player compared to the winning player (Filaire et al., 2009; T. Rathod et al., 2021; Schober, 2018). Due to high arousal levels, athletes experience

cognitive anxiety, which can be seen as negative self-talk, negative self-image, inability to focus, lack of attentiveness and performance-related worries; somatic anxiety symptoms such as nervousness, increased heart rate, biochemical changes and muscle, which possibly affects the athlete negatively at cognitive, emotional, and behavioural levels, such as strain, stress, depression or inability to cope with the expectations of the team (Carr, 2003; Khan et al., 2017; K. Rathod et al., 2021; Weinberg & Gould, 2011).

The analysis of psychological variables showed that multivariate analysis of anxiety sub-factors at the pre-competitive stage was insignificant between badminton and tennis players, with a Wilks' lambda value of 0.773 ($p= 0.555$). This indicates that male badminton and tennis players experience similar levels of anxiety before the competition, with Wilks' lambda value serving as a measure of the difference in anxiety levels (Arya et al., 2023). The findings indicated that university athletes displayed more significant levels of cognitive and somatic anxiety compared to those competing in state and district events. In contrast, national-level athletes demonstrated the lowest levels of both cognitive and somatic anxiety (Parnabas et al., 2020).

METHODOLOGY

Statement of the Problem

This study aims to compare the sports anxiety between female and male badminton players, including its sub-factors.

Subjects for the Study

A total of 48 badminton players from Ahmedabad were selected for this study, and their ages ranged between 18 and 21. All players participated in collegiate-level badminton tournaments. The total sample was divided into two groups, with 24 female and 24 male badminton players.

Selection of Tool

To compare the differences in sports anxiety between female and male badminton players, the Sports Anxiety Scale 2 (SAS-2) was utilised. The scale has three subscales: Somatic Anxiety, Worry, and Concentration Disruption.

Data Collection

To compare the sports anxiety of female and male badminton players, SAS-2 was administered to the players a few days before the tournament. After players had filled out the scale, scoring was done according to the scoring key of the SAS-2. Players needed to circle the number that says what they usually felt before or during the tournament from 1 to 4 for 15 statements; scores range between 15 and 60, where 15 means lower sports anxiety and 60 means higher sports anxiety.

Statistical Analysis

An independent sample t-test was used to compare the anxiety of female and male badminton players. The data were analysed using Excel and SPSS, and the significance levels were set at 0.05 and 0.01.

RESULTS

Table 1
Comparison of Sports Anxiety Among Female and Male Badminton Players

Gender	Mean	N	SD	t	Level of Significance
Female	40.58	24	2.34	2.800	0.05
Male	36.08	24	7.52		

Table 1 shows the Mean and standard deviation (SD) scores of Sports Anxiety for female players: 40.58 ± 2.34 and for male players: 36.08 ± 7.52 . The calculated t is 2.800, higher than the tabulated t. The level of significance is 0.05. Figure 1 shows the Mean difference between Female and Male players.

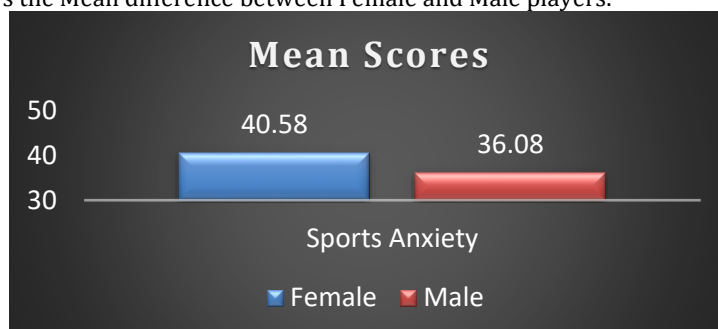


Figure 1: Comparison of Mean Scores of Sports Anxiety between Female and Male Badminton Players

Table 2
Comparison of Somatic Anxiety Among Female and Male Badminton Players

Gender	Mean	N	SD	t	Level of Significance
Female	13.04	24	1.04	2.607	0.05
Male	11.21	24	3.28		

Table 2 shows the Mean and standard deviation (SD) scores of Somatic Anxiety for female players: 13.04±1.04 and for male players: 11.21±3.28. The calculated t is 2.607, higher than the tabulated t. The level of significance is 0.05.

Table 3
Comparison of Sports Worry Among Female and Male Badminton Players

Gender	Mean	N	SD	t	Level of Significance
Female	13.96	24	1.20	3.148	0.01
Male	11.71	24	3.29		

Table 3 shows the Mean and standard deviation (SD) scores of Worry for female players: 13.96±1.20 and for male players: 11.71±3.29. The calculated t is 3.148, higher than the tabulated t. The level of significance is 0.01.

Table 4
Comparison of Concentration Disruption Among Female and Male Badminton Players

Gender	Mean	N	SD	t	Level of Significance
Female	13.58	24	1.41	0.865	Not Significant
Male	13.21	24	1.59		

Table 3 shows the Mean and standard deviation (SD) scores of Concentration Disruption for female players: 13.58±1.41 and for male players: 13.21±1.59. The calculated t-value is 0.865, which is lower than the tabulated t-value, indicating that the result is statistically not significant.

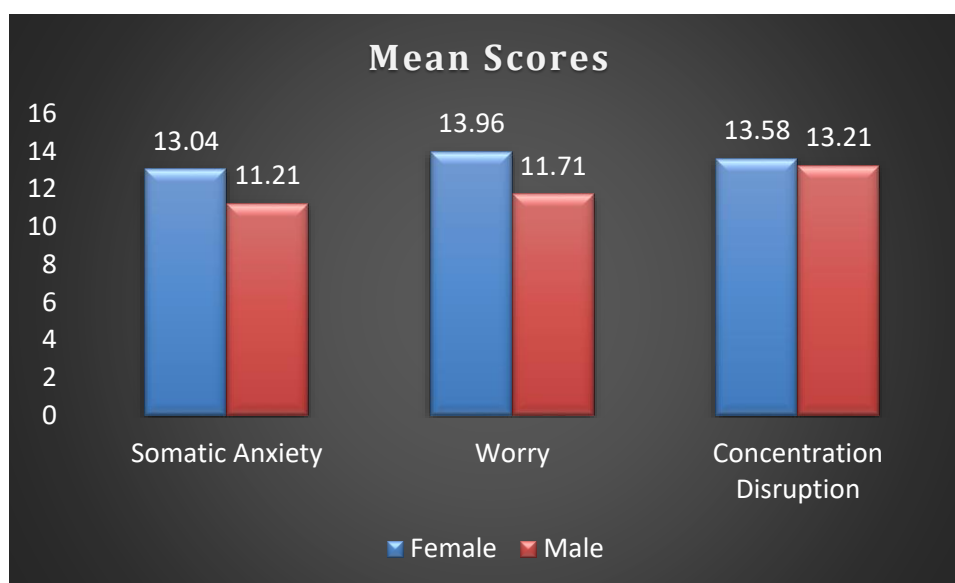


Figure 2: Comparison of Mean Scores of Sports Anxiety Sub-Factors between Female and Male Badminton Players

The graphical representation of the mean scores for the sub-factors, such as somatic anxiety, worry, and concentration disruption, is shown in Figure 2.

DISCUSSION

It can be seen in Table 1 that the calculated t is 2.800, which is significant at 0.05, which means there is a significant difference in sports anxiety between female and male badminton players. Figure 1 shows the mean difference between Female (40.58) and Male (36.08) athletes. Female badminton players score higher in sports anxiety than male players, which means female badminton players have higher sports anxiety compared to male badminton players. Researchers also studied sub-factors of sports anxiety separately. In somatic anxiety, calculated t is 2.607, which is significant at 0.05 level of significance, which can be seen in Table 2, and calculated t for worry between female and male badminton players is 3.148, which can be seen in Table 3,

which is significant at 0.01 level. It shows that there are significant differences in somatic anxiety and worry among female and male basketball players. In contrast, the calculated t for concentration disruption is 0.865, which can be seen in Table 4, which shows no significant difference in concentration disruption between female and male players. The comparison of mean scores of somatic anxiety (Female- 13.04, Male- 11.21), worry (Female- 13.96, Male- 11.71) and concentration disruption between Males (13.21) and Females (13.58) basketball players can be seen in Figure 2. Somatic anxiety and worry levels are higher in female badminton players compared to their male counterparts. However, the two groups have no statistically significant difference in concentration disruption. This indicates that concentration is low for both female and male players.

A previous study supporting the results of this study showed that female basketball players have higher anxiety than male basketball players; for example, a study by Uike (2019) proves that female players recorded higher scores in cognitive and somatic anxiety than male players did. A research study found that male and female sports participants had average scores of 20.60 and 22.50, with standard deviations of 2.89 and 3.15, respectively. The results indicate that female athletes experience significantly higher levels of sports competitive anxiety than male athletes in state-level tournaments (Kumar & Dhapola, 2004). In the study conducted in Turkey aimed to determine the relationship between competition anxiety and performance in male and female college basketball players, female athletes were observed to have higher anxiety scores compared to male athletes (Özerkan, 2003). In a study focusing on the state and trait anxiety levels of athletes participating in intercollegiate premier basketball league competitions, researchers found a significant gender difference in state anxiety levels. Specifically, female players exhibited higher anxiety scores compared to male players (Dönmez, 2019).

For instance, in a study carried out to compare the state and trait anxiety levels and determine the effects of different factors on the state and trait anxiety level in male soccer players aged 13-15, it was observed that male soccer players had high anxiety levels than female players (Karabulut et al., 2013). Another similar study related to the pre-competition anxiety level of folk dancers found similar results and stated that male dancers had significantly higher pre-competition state anxiety scores (Hacicaferoğlu et al., 2015). The results presented above differ from those obtained in the current study, highlighting a notable contrast in findings.

In a study carried out to determine the anxiety level of undergraduate international taekwondo athletes before a competition and study it depending on several factors, it was concluded that gender had no significant effect on the anxiety level of the athletes (Bingöl et al., 2012). Cemil et al. (2016) carried out a study to determine whether gender affects the anxiety level of amateur team athletes. While the age range of the athletes was 18-25, there was no significant difference between the State and Trait anxiety levels of male and female athletes.

CONCLUSION

Female Badminton players score higher in Sports Anxiety than Male players, which means Female Badminton players have higher Sports Anxiety compared to Male Badminton players. Female badminton players experience higher levels of somatic anxiety and worry compared to male players. However, the two groups have no statistically significant difference in concentration disruption. These results may arise from a variety of factors, including fewer facilities, limited coordination, reduced exposure to high-level competitions, differences in personality, thought processes, cognitive structures, and fewer incentives for female players compared to male players may play a role. Furthermore, physiological arousal can impact performance, as individuals may interpret their physiological symptoms differently.

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