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Competitive Anxiety Levels among Female Athletes of The Central Java PPLOP Sepak Takraw Team

Nur Fatma Amalia Putri*, Tri Aji

Sports Coaching Education, Faculty of Sports Science, Universitas Negeri Semarang, Indonesia

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Abstract

Background: Competitive anxiety is an important psychological factor that may influence athletes' readiness and performance during competition. However, empirical evidence regarding competitive anxiety among female sepak takraw athletes remains limited, particularly at the provincial athlete development level. **Objectives:** This study aimed to examine the anxiety levels of female athletes from the Central Java PPLOP Sepak Takraw program when facing competition. **Method:** A descriptive quantitative approach was employed. The participants consisted of 11 female PPLOP Sepak Takraw athletes from Central Java. Data were collected using the Competitive State Anxiety Inventory–2 Revised (CSAI-2R), which comprises 17 items rated on a 4-point Likert scale. Data analysis was conducted using descriptive statistics, including the mean, median, mode, standard deviation, minimum and maximum scores, and anxiety level classification. Data processing was carried out with the assistance of Microsoft Excel software. **Result:** The results showed that athletes' anxiety scores ranged from 20 to 39, with a mean score of 32.64, a median of 33, and a standard deviation of 5.35. Based on the anxiety level classification, 10 athletes (90.91%) were categorized as having low anxiety, while 1 athlete (9.09%) fell into the very low anxiety category. No athletes were classified as having high or very high anxiety. **Conclusion:** These findings indicate that, overall, female athletes of the Central Java PPLOP Sepak Takraw program exhibit relatively low levels of anxiety when facing competition.

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*Correspondence E-mail: amaliaputri17@students.unnes.ac.id

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INTRODUCTION

A long-standing and profoundly ingrained sport in Indonesian culture is sepak takraw, sometimes referred to as sepak raga. Even though it is widely acknowledged, its application in many settings is still restricted to demonstration rather than methodical performance development (hanif, 2023). Competitive performance has significant multifaceted problems in the context of athlete professionalism, particularly in Central Java.

The development of athletes at the provincial level focuses primarily on physical condition and technical skills, while psychological aspects tend to receive less attention (Asnawi et al., 2022). In fact, psychological factors such as anxiety are a crucial factor that directly influences athletic performance in a competitive environment (Weinberg & Gould, 2023). Previous research by

Haffyandi et al. (2024) shows that 65% of athletes suffer from moderate to high levels of anxiety, which negatively affects their concentration, motor coordination, and decision-making speed during competition.

Similar to soccer, sepak takraw is a fast-paced activity that demands exact eye-foot coordination, which puts participants under a lot of psychological strain (Alficandra et al., 2021). Female athletes face an even greater difficulty. According to Herdinan et al. (2023) Compared to their male counterparts, female athletes typically display higher levels of competitive anxiousness. This finding is confirmed by Annisa & Kurniawan Afif (2022), who observe that female athletes are more likely to experience physical and cognitive anxiety, particularly during large events, corroborate this conclusion.

Field observation of female athletes in the PPLP Central Java shows worrying symptoms of anxiety, including rapid heartbeat, trembling, and reduced accuracy in serving and smashing at critical moments of competition. These psychological problems have had a systemic impact on performance results. Data from the Ministry of Youth and Sport (2021) shows that the Central Java women's team dropped from a consistent third to seventh place in the 2023 PPLP National Championship.

Although research has been conducted on competitive anxiety in volleyball (Arwin et al., 2023), badminton (Liloi et al., 2023), and pencak silat (Fahrurrozi et al., 2023)There remains a clear research gap regarding female sepak takraw athletes at the PPLP level. Previous studies by Fahrurrozi et al. (2023) and Aljabar et al. (2026) did not provide a specific gender-based in-depth analysis. The uniqueness of this study lies in its comprehensive investigation of psychological attributes specific to female athletes in the PPLP environment, where performance targets and a structured training system create specific psychological demands.

As a first step toward intervention, identifying athletes' anxiety levels is crucial before designing appropriate psychological training programs. Although various intervention strategies, such as cognitive behavioral therapy (CBT) and imagination training, have been proposed by Nurjanah et al. (2018), Ineffective resource usage may result from using these strategies without precise assessment data. In order to precisely map the aspects of cognitive and somatic anxiety, this study takes a fundamental approach by doing quantitative assessments using conventional tools.

Thus, this study aims to describe the level and distribution of competitive anxiety among female athletes of the Central Java PPLOP Sepak Takraw program using the Competitive State Anxiety Inventory-2 Revised (CSAI-2R) as a preliminary descriptive assessment. In addition, this study also presents the distribution of anxiety based on its multidimensional components, including cognitive anxiety, somatic anxiety, and self-confidence. The findings are expected to provide baseline psychological data that can assist coaches in designing appropriate training programs. However, this study does not aim to analyze causal relationships or determining factors,

but rather to provide an initial descriptive overview of athletes' psychological conditions before competition.

METHOD

In order to objectively describe athletes' anxiety levels based on numerical data, this study used a descriptive quantitative research approach. This method enables the systematic gathering, processing, and display of data to precisely represent athletes' anxiety conditions (Subhaktiyasa et al., 2025). The study was carried out at the Central Java PPLOP Sepak Takraw program in 2025. Eleven female athletes who were enrolled in the Central Java PPLOP Sepak Takraw program made up the research participants. There were no age restrictions in place. All active female athletes who were willing to engage were included as research subjects using a complete sampling technique.

Data was collected using a 17-item closed-ended questionnaire with a 4-point Likert scale. The questionnaire was administered one day before the athletes participated in an official competition, during a scheduled preparation session. This timing was intentionally selected to capture athletes' psychological conditions in a situation close to actual competition, thereby reflecting competitive state anxiety rather than general (trait) anxiety. The results of the instrument testing revealed that factor loading values for every item ranged from 0.44 to 0.83, and squared multiple correlations ranged from 0.19 to 0.69. One day before to their participation in an official competition event, the athletes were given the questionnaire during a scheduled team preparation session.

This timeframe was intended to capture athletes' psychological circumstances close to the competition situation, thereby expressing competitive state anxiety rather than general trait anxiety. Each participant filled out the questionnaire independently while being supervised by the researcher to ensure consistency in data collection. The instrument's reliability coefficients varied between 0.61 and 0.86. Divergent validity testing found a non-significant connection ($r = -0.120$), and convergent validity testing yielded a correlation coefficient of 0.722 (Putra & Guntoro, 2022).

The collected data were analyzed using descriptive statistical techniques, including the calculation of mean values, frequency distributions, and percentages, to describe the anxiety levels of female sepak takraw athletes in facing competition. Data analysis was conducted using Microsoft Excel software.

RESULT AND DISCUSSION

Result

Four categories are used to interpret athletes' anxiety levels based on Table 1:

Table 1 Anxiety Level Interpretation Criteria

Interval	Category
17–29	Very Low
30–42	Low
43–55	High
56–68	Very High

Extremely low (17–29), low (30–42), high (43–55), and very high (56–68). The anxiety scores of female athletes in the Central Java PPLOP Sepak Takraw program were interpreted using these criteria.

The classification of anxiety levels in this study was based on the theoretical score range of the CSAI-2R instrument (17–68). The total range was divided into four equal intervals to represent very low, low, high, and very high anxiety levels. However, it is important to note that this classification is based on theoretical score distribution rather than normative population data, and therefore should be interpreted with caution.

Table 2 Descriptive Statistics Results

Descriptive Statistics	Value
Mean	32,64
Mode	30, 31, 33, dan 37
Median	33
Standard Deviation	5,35
Minimum	20
Maximum	39

Note: Multiple modes indicate a multimodal data distribution

The descriptive statistical analysis presented in Table 2 shows that the average anxiety score was 332.64, with a median value of 33. Several mode values were identified - 30, 31, 33, and 37 - indicating that the data distribution was multimodal. A standard deviation of 5.35 indicates relatively low variability in anxiety levels among athletes. The anxiety score recorded was 20, while the highest score was 39.

Table 3 Anxiety Level Classification of Female PPLOP Sepak Takraw Athletes in Competition

Interval	Classification	Frequency	Percentage (%)
17–29	Very Low	1	9,09
30–42	Low	10	90,91
43–55	High	0	0
56–68	Very High	0	0
Total		11	100

The classification results presented in Table 3 show that most athletes were categorized in the low anxiety category, with 10 athletes (90.91%). Meanwhile, one athlete (9.09%) fell into the very low anxiety category. None of the athletes were classified as having high or very high levels of anxiety.

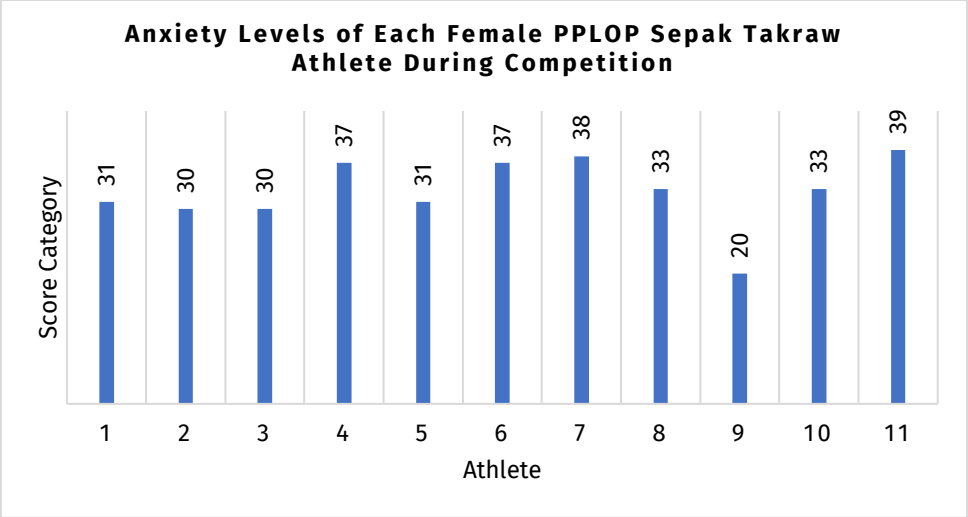


Figure 1 Bar Chart of Anxiety Levels of Each Female PPLOP Sepak Takraw Athlete During Competition

Figure 1 further illustrates that all anxiety scores ranged between 20 and 39, with the majority concentrated within the 30–37 interval.

In addition to the overall anxiety score, further analysis was conducted based on the multidimensional structure of the CSAI-2R. The results of the subscale analysis are presented in Table 4.

Table 4 Descriptive Statistics of CSAI-2R Subscales

Subscale	Mean	Standard Deviation	Category
Cognitive Anxiety	8.73	1.92	Low
Somatic Anxiety	10.18	2.11	Low
Self-Confidence	13.73	1.85	Moderate–High

Overall, these results suggest that although athletes experience low levels of cognitive and somatic anxiety, they demonstrate relatively higher self-confidence when approaching competition.

Discussion

According to the study's findings, female athletes in the Central Java PPLOP Sepak Takraw program typically have competitive anxiety levels in the low category. This result implies that when it comes to competition, athletes typically retain very steady psychological circumstances. However, as this study used a descriptive design, the findings shouldn't be taken as proof that improved performance is directly correlated with low anxiety. Rather, the results offer a preliminary account of competitors' mental states before the competition.

According to multidimensional anxiety theory, competitive anxiety consists of cognitive anxiety, somatic anxiety, and self-confidence, each of which may influence performance differently (Weinberg & Gould, 2023). Cognitive anxiety is associated with negative expectations and worry, whereas somatic anxiety refers to physiological arousal such as increased heart rate and muscle tension. In contrast, self-confidence plays a facilitative role in enhancing performance.

It is also important to consider potential response bias when interpreting the results. Because the data were collected through self-report questionnaires, athletes may have provided

socially desirable responses or underreported their anxiety levels. Such bias may occur when athletes feel pressure to present themselves as mentally strong in front of coaches or researchers. Future studies could reduce this limitation by combining questionnaire data with qualitative interviews or observational methods.

These findings are consistent with the study by Muliyani & Syah (2025), which reported that athletes with higher skill levels and greater competitive experience tend to exhibit lower levels of competitive anxiety compared to less experienced athletes. This highlights the important role of continuous training and repeated exposure to competitive pressures in the psychological preparation of athletes. In the context of Sepak Takraw, mastering basic techniques such as serve, smash, and block, as well as a sold understandingof game strategy, can boost athletes' confidence and help reduce excessive anxiety.

In addition, research by Rachudu & Rumini (2025) shows a strong link between competitive anxiety, confidence, and flow state in athletes. Athletes who can maintain a low level of anxiety are more likely to achieve a flow state characterized by intense concentration and full commitment to the sporting activity. These findings are consistent with the results of this study, which found that low levels of anxiety in female PPLOP Sepak takraw athletes may contribute to increased concentration and sustained engagement during competition.

Athletic performance is not solely determined by psychological variables, though. Festiawan (2020) shows how improvements in tactical and technical skills have a big impact on match results. Similarly, Pratama & Utami (2024) Note that mental exhaustion can lower technical performance efficacy in both offensive and defensive scenarios. The results of this study show that both cognitive and somatic anxiety are in the low category, while self-confidence is relatively higher. This pattern suggests that athletes may be able to regulate negative thoughts and physiological tension effectively, while maintaining a positive belief in their abilities.

Based on these findings, it can be concluded that anxiety management is an essential component of the psychological readiness of sepak takraw athletes; however, it must be integrated with a structured technical and physical training program. This study is limited by its relatively small sample size and reliance on a quantitative questionnaire approach. Therefore, future research is recommended to involve a larger sample and use mixed methods, such as interviews and observations, to gain a more comprehensive understanding of the role of anxiety in the competitive performance of sepak takraw athletes.

From a theoretical perspective, the relationship between anxiety and performance is not always linear. The arousal–performance relationship suggests that a moderate level of arousal may lead to optimal performance, rather than extremely low or high anxiety levels. Therefore, the low anxiety levels observed in this study should not be directly interpreted as optimal or ideal without considering performance outcomes.

Furthermore, the findings of this study should be interpreted cautiously due to the use of self-report instruments. Athletes may provide socially desirable responses, especially in a

competitive environment where psychological strength is highly valued. This may lead to an underestimation of actual anxiety levels.

CONCLUSION

This study describes the competitive anxiety levels of female athletes in the Central Java PPLOP Sepak Takraw program using a descriptive quantitative approach. The findings indicate that most athletes fall within the low anxiety category, with low levels of cognitive and somatic anxiety and relatively higher self-confidence.

These findings may indicate a relatively stable psychological condition when approaching competition. However, this study does not examine performance outcomes or causal relationships; therefore, the results should not be interpreted as evidence that low anxiety directly leads to better performance. Future research is recommended to:

1. Analyze the relationship between anxiety and performance
2. Include larger samples
3. Examine determining factors such as competitive experience and social support
4. Apply mixed-method approaches for deeper analysis.

AI DISCLOSURE STATEMENT

The authors declare that no generative AI tools were used to generate, analyze, interpret, synthesize, or write the scientific content of this manuscript.

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