Analysis of Badminton Athletes' Anxiety Levels Before the Match

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ABSTRACT

This study aims to determine the level of anxiety of badminton athletes of the Tugu Muda Semarang badminton club before the match. Anxiety is one of the psychological factors that can affect an athlete's performance, especially when facing competitive situations. This study uses a quantitative descriptive approach with a survey method. The sample consisted of 30 athletes in the U-13 and U-15 age groups, both male and female. The instrument used was the State-Trait Anxiety Inventory (STAI) questionnaire. The results showed that the average level of anxiety of athletes before the match was 59.79%, which is categorised as severe anxiety. Of the total respondents, 17 athletes (57%) experienced severe anxiety, 8 athletes (27%) had moderate anxiety, 4 athletes (13%) had mild anxiety, and 1 athlete (3%) did not experience anxiety. High anxiety is influenced by pressure to win, expectations of coaches or parents, and fear of failure. This condition can reduce the focus, self-confidence, and emotional stability of athletes. Therefore, psychological interventions such as progressive muscle relaxation and supportive counselling are needed to help reduce anxiety and improve mental readiness. The results of this study are expected to be the basis for the preparation of a more comprehensive training program, including mental aspects. In conclusion, attention to the psychological condition of athletes is important to support optimal performance, especially in dealing with pressure during competition.

AUTHORS' CONTRIBUTION

A. Conception and design of the study;
B. Acquisition of data;
C. Analysis and interpretation of data;
D. Manuscript preparation;
E. Obtaining funding

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INTRODUCTION

Badminton is one of the most popular sports in Indonesia and even in the world. This sport can be played by men and women in various age groups (Dameria et al., 2023). The quality and success of an athlete are determined by physical, technical, tactical and psychological aspects (Hidayat et al., 2023). Sports psychology is an important factor that is often overlooked, but it plays a crucial role in determining an athlete's performance and success (Lochbaum et al., 2022). Sports psychology examines the psychological factors of players, coaches and individuals involved, to help develop athletes to achieve peak performance and achievement so that their abilities can grow as best they can without being hampered by personality aspects (Suhariyanto et al.,

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2024). Badminton athletes need high mental toughness because they often experience pressure before a match, which can impact their performance (Ahady et al., 2024). One of the psychological factors that is often a concern in sports is anxiety (Fadhilah Setiawan, 2022). Anxiety is an uncontrolled negative emotional state related to activity in the body (Kemarat et al., 2022). Each individual will experience anxiety at different levels, which is due to differences in experience, level of sensitivity, and their response to existing situations (Kurniawan et al., 2021).

In sports, anxiety is categorised by nature or duration, and symptoms or manifestations (Barros et al., 2022). Anxiety based on traits or circumstances consists of trait anxiety and state anxiety (Saviola et al., 2020). Trait anxiety is an internal, innate trait or part of a person's personality (Kikkawa et al., 2023). State anxiety is an emotional response to activities that cause sudden anxiety or to certain situations (Madsen et al., 2022). Anxiety based on symptoms or manifestations consists of cognitive anxiety and somatic anxiety (Zaidan et al., 2025). Cognitive anxiety is anxiety related to thoughts and mental processes that involve negative thoughts, including worries about failure or the results of the match, such as feelings of worry, fear, shame, tension, anxiety, surprise and insecurity (Gabrys & Wontorczyk, 2023). Somatic anxiety is a physical manifestation related to the body's physiological response to stress or pressure that involves symptoms such as cold sweats, heart palpitations, increased blood pressure, tremors, the urge to defecate or urinate and so on (Mercader-Rubio et al., 2023). High levels of anxiety cause decreased performance because they interfere with the athlete's focus and motor coordination (Bates, 2023).

In a study entitled "Analysis of the Anxiety Level of Persika FC Football Players After Experiencing Injuries in Facing a Match", it is explained that anxiety can arise both before and during a match. This condition is caused by the psychological pressure experienced by the players when competing, as well as by the dynamic nature of sports competitions, which can change at any time due to game developments or the influence of environmental factors (Aceng, Susokabasla., Arif Fadli, Muchlis., Ridho, Bahtra., Hadi Pery, Fajri., 2023). Another study entitled "Anxiety and Self-Confidence of Athletic Athletes Before the Match" revealed that an athlete's achievement is significantly influenced by two main psychological factors, namely the level of anxiety and self-confidence. These two aspects are closely related, both from the individual's internal side and from external influences. In the context of preparation before the match, if the mental and physical training process is carried out properly and in a directed manner, then this can prevent performance failures that originate from the athlete's psychological condition (Permana et al., 2022).

Another study that discusses anxiety in the context of sports was conducted by Hasan Basri through a work entitled "Anxiety Levels of Cricket Athletes Before the Match". The study explains that external pressure in the form of high demands and expectations can trigger doubts and feelings of anxiety in athletes. This condition ultimately has an impact on the emotional intelligence of athletes, especially in facing competitive situations during matches (Basri et al., 2023). In a study entitled "Pre-

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Competition Anxiety Levels in KONI Athletes in South Solok Regency" it is explained that anxiety arises as a response to fear of negative judgment from many spectators, which is considered a form of threat to the athlete's self-esteem. This is related to the tendency of society to give positive appreciation to athletes who win, while athletes who lose are more susceptible to receiving negative judgments, thus triggering psychological pressure before the match (Fania & Wulandari, 2023).

Based on several previous studies that have been presented, it shows that studies on anxiety in the context of sports are still dominated by a general approach, without specialising in certain sports. In particular, research that deeply highlights the aspect of anxiety in badminton athletes is still relatively limited. This limitation indicates a gap in the literature that needs to be bridged through more focused research. Therefore, this study is directed to specifically examine the level of anxiety experienced by badminton athletes, with the scope of the Semarang City area. This study aims to gain a more comprehensive understanding of the manifestation of anxiety in badminton athletes, both in the context of training and before the match. The results obtained are expected to provide a scientific basis for formulating appropriate and contextual psychological intervention strategies to minimise the negative impact of anxiety on athlete performance. In addition, this study is expected to contribute to enriching the scientific treasury in the field of sports psychology, especially in the development of studies on anxiety in badminton athletes at the regional level.

METHODS

This study uses a quantitative descriptive research design with a questionnaire and survey methods. The population of the study were PB. Tugu Muda Semarang athletes, with a sample of 30 athletes, were taken using the purposive sampling technique, with details of the age categories of U-15 athletes and U-13 athletes, both male and female. Data collection in this study was non-tested by providing questionnaires and documentation. The data analysis technique applied in this study was quantitative descriptive analysis presented in the form of a percentage. The instrument used was the STAI State-Trait Anxiety Inventory (Fania & Wulandari, 2023).

The measurement scale on the State-Trait Anxiety Inventory (STAI) instrument uses a four-point format in the form of a Likert Scale, which is designed to measure the level of anxiety based on certain statements. The alternative answers that can be selected include Very Unsuitable (STS), Unsuitable (TS), Suitable (S), and Very Suitable (SS). As for the STAI dimension, respondents are required to choose one of the alternative answers according to the conditions that athletes often or generally feel. The alternative answers that can be chosen by respondents include Never (TP), Sometimes (KK), Often (S) and Always (SL).

In answering the questionnaire statement choices, subjects are asked to state whether they are appropriate or inappropriate to the contents of the statement. For favourable statements, the assessment moves from 4 to 1, while unfavourable

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statements are scored the other way around. Create a preparation table and data content table, and calculate the frequency and alternatives given using the formula:

$$P = \frac{f}{N} \times 100\%$$

Explanation:

P = Percentage

f = Frequency

To determine the maximum score, use the formula:

Maximum Score = Number of Questions × Highest Score per Item

To determine the achievement score, use the formula:

$$\text{Achievement score} = \frac{score\ obtained}{maximum\ score} \times 100\%$$

To determine the level of achievement, use the formula:

$$\text{Achievement level} = \frac{achievement\ score}{maksimum\ score} \times 100\%$$

In this study, researchers applied four classification categories to assess the criteria for the level of anxiety experienced by PB. Tugu Muda athletes before the match. The four categories include: normal (not anxious), mild anxiety, moderate anxiety, and severe (high) anxiety. The purpose of this classification is to facilitate the identification process and to help researchers understand the psychological condition of athletes in more detail and structure. The advantage of using the State-Trait Anxiety Inventory (STAI) instrument in this study is its ability to provide a clear quantitative picture of the level of anxiety, thus facilitating the analysis process and grouping of respondents based on the scores obtained. The guidelines for interpreting the STAI scores used in this study are as follows:

1. A score of 20–29 indicates that the athlete is in a non-anxious or normal condition,
2. A score of 30–37 indicates that the athlete is experiencing mild anxiety,
3. A score of 38–44 indicates moderate anxiety,
4. A score of 45–80 indicates that the athlete is in a severe/high anxiety condition.

Through this classification, researchers can assess the extent to which anxiety affects the mental readiness of athletes before competing and can provide relevant input for mental training programs and psychological interventions (Budianti et al., 2020).

RESULTS AND DISCUSSION
Result

The following is the distribution of the results of the anxiety level data before competing in PB. Tugu Muda Semarang City athletes, the total achievement score can be obtained as much as 1435, while the maximum score is 2400. From the results of distributing questionnaires to 30 respondents with 20 statements, the total number of answers "always" was 58 (10%), answers "often" as many as 200 (33%), answers "rarely" as many as 247 (41%) and answers "never" as many as 95 (16%). Furthermore, the total achievement score is divided by the maximum score multiplied by 100%.

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$$Achievement\ level = \left(\frac{achievement\ score}{maksimum\ score}\right) \times 100\%$$

$$= \left(\frac{1435}{2400}\right) \times 100\% = 59{,}79\%$$

Based on the results obtained, the level of achievement of anxiety before competing in PB is. Tugu Muda Semarang City athletes reached a percentage of 59.79%. To find out the anxiety category more specifically, an interval scale is needed. This scale is used as a reference in determining the classification of anxiety levels based on the range of scores obtained. The details of the interval scale and classification of anxiety levels are presented as follows:

Table 1.

interval scale and classification of anxiety levels

Category	Interval	Frequency	Percentage
Not Anxious	20-29	1	3%
Low anxiety	30-37	4	13%
Moderate anxiety	38-44	8	27%
High Anxiety	45-80	17	57%

Based on the interval scale and classification of the anxiety level and the results of the STAI instrument assessment, it was found that 1 athlete did not experience anxiety complaints, 4 experienced mild anxiety, 8 athletes experienced moderate anxiety, and 17 athletes experienced severe anxiety. Thus, it can be concluded that the percentage of anxiety levels before the match in PB is. Tugu Muda Semarang City athletes reached 59.79%. Based on the classification table that has been presented previously, this percentage is included in the "Heavy/High" category because it is in the interval range of 57%–100%. To provide a clearer picture of the level of anxiety of athletes before competing, it can be seen in the following illustration or diagram:
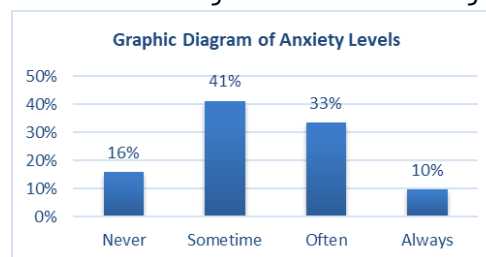

Figure 1.

Graphic Diagram of Anxiety Levels

Discussion

Based on the research results, it is known that the level of anxiety before the match in PB Tugu Muda Semarang City athletes reached 59.79%, which is included in the high category. This shows that the majority of athletes experience significant anxiety before the match. This high level of anxiety has the potential to negatively affect athlete performance, such as the emergence of severe mental pressure, inability to show the best performance, to unsatisfactory match results.

Anxiety in the context of sports is a common emotional state in athletes, especially before competition. This feeling of anxiety usually arises as a result of pressure to win,

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high expectations from oneself and others, and fear of failure (Lestari et al., 2021). When anxiety is not managed properly, it can disrupt concentration, hinder strategic decision-making, reduce self-confidence, and increase the likelihood of errors and even failure during a match (Wijayanti & Hartini, 2021).

Psychologically, before the match, various changes occur in the athlete. Athletes are required to be able to accept pressure, maintain concentration, and increase mental toughness to face tough challenges during the match (Maulidya & Jannah, 2021). However, not all athletes have the same ability to manage the pressure. When the hope or target of competing encounters obstacles, anxiety arises that continues to haunt the mind, thus reducing mental readiness. Common indicators of anxiety in athletes include:

1. Inability to release pressure during a match
2. Doubt in making strategic decisions
3. Loss of self-confidence
4. Increased frequency of unusual technical errors

Anxiety is often triggered by stress, which is the body's response to physical or emotional disturbance or pressure. In this context, anxiety is a psychological manifestation of stress, which, if left untreated, can impact an athlete's overall behaviour and performance (Mahmud, 2024). To help athletes deal with anxiety, appropriate anxiety management strategies are needed. The goal is not to eliminate anxiety but to reduce it to a manageable level so that it does not hinder the athlete's performance and activities (A.Stephen et al., 2022).

One technique that can be used is progressive muscle relaxation, which is a method of relaxing the body's muscles that are tense due to anxiety. This technique can provide a calming effect, help stabilise emotions, and increase the mental readiness of athletes before the match (Maisa et al., 2022). In addition, supportive counselling is also a useful approach, especially for athletes with mild complaints. This counselling aims to provide psychological support individually or in groups, with a focus on strengthening self-confidence and healthy emotional expression (M Ludfi Shuli Sudhen et al., 2023). Some examples of cases that can be handled through supportive counselling include:

1. Athletes who feel less confident despite having good potential, but lack experience or "flying hours".
2. Athletes who experience mild tension, such as "stage fright", before a match.
3. Athletes who are individually confident but have difficulty trusting their teammates, which hinders teamwork.

Counselling can be done in two forms, namely individually (for individual sports) and in groups (for team sports such as soccer or volleyball). In this supportive counselling process, athletes are also given space to do catharsis or deep emotional expression, which helps reduce emotional stress and increase their psychological readiness before competing.

CONCLUSION

Based on the results of the study conducted on athletes of PB Tugu Muda Semarang City, it can be concluded that the level of anxiety before the match is in the high category, which is 59.79%. This finding shows that most athletes experience significant

psychological pressure before the match, which has the potential to significantly reduce performance if not managed properly. Anxiety experienced by athletes stems from various factors, such as pressure to win, personal and external expectations, and fear of failure. Symptoms of anxiety are reflected in the form of inability to cope with pressure, hesitation in making decisions, loss of self-confidence, and a tendency to make technical errors during the match. Psychological changes that occur before the match require athletes to have mental toughness and the ability to regulate emotions effectively. In this case, anxiety management strategies such as progressive muscle relaxation and supportive counselling have proven to be relevant approaches to help athletes control anxiety so that it does not interfere with their performance on the field. Supportive counselling not only helps athletes healthily express emotions, but can also increase self-confidence, improve communication within the team, and form a positive mindset in dealing with competitive pressure. This approach is important to be given appropriately according to the characteristics and needs of athletes, both individually and in a group setting. Thus, the results of this study underline the importance of paying attention to the psychological condition of athletes before competing. Coaches, sports psychologists, and team management are expected to be able to integrate psychological approaches into training programs and match preparation to minimise anxiety, improve mental readiness, and optimise athlete performance at various levels of competition.

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