

Psychological Skills in Adolescent Badminton Players

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ABSTRACT

This study aimed to describe the psychological skill profiles of adolescent badminton athletes at PB Pendowo Semarang based on six dimensions: motivation, self-confidence, anxiety control, mental preparation, team emphasis, and concentration. This study employed a quantitative descriptive approach with a cross-sectional design involving 20 adolescent badminton athletes aged 12–18 years selected through total sampling. Data were collected using the Psychological Skills Inventory for Sports–Youth Version Short Form (PSIS–Y–SF), which measures six dimensions of psychological skills. Data analysis was conducted using descriptive statistical techniques, including mean, standard deviation, minimum and maximum values, and frequency distribution. The findings showed that motivation demonstrated the strongest psychological profile, followed by mental preparation and self-confidence, indicating generally positive psychological readiness among the athletes. Motivation obtained the highest mean score ($M = 13.95$), with 85% of athletes categorized as very high. Mental preparation ($M = 13.30$) and self-confidence ($M = 12.80$) also showed relatively high profiles. In contrast, anxiety control and concentration demonstrated more varied category distributions and lower mean scores, indicating inconsistencies in athletes' emotional regulation and focus during competition. Team emphasis was predominantly categorized as moderate, suggesting that teamwork and group interaction among athletes still require improvement. These findings indicate that adolescent badminton athletes generally possess strong motivation, confidence, and mental readiness; however, aspects related to anxiety control, concentration, and teamwork still need further development. The results of this study may serve as a reference for coaches in designing more targeted psychological training programs for adolescent badminton athletes.

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INTRODUCTION

Badminton is one of Indonesia's leading and rapidly growing sports, characterized by many associations and tournaments ranging from regional to international levels, as evidenced by the emergence of promising young athletes competing in badminton competitions across the country (Yogaswara & Pratama, 2022). This situation demonstrates that badminton is a highly competitive sport, requiring athletes to master

not only physical skills but also psychological resilience and strategic thinking to optimize their performance (Maksum & Indahwati, 2023). In the context of performance development, it has been shown that young athletes face high levels of training and competition pressure, which can potentially lead to physical and psychological issues (Thompson et al., 2022; Zhou et al., 2023). Therefore, sports psychology is essential for addressing these issues and enhancing the well-being of badminton athletes.

Psychological factors are widely recognized as important determinants of athletic performance and competitive achievement (Lochbaum et al., 2022; Wiyata et al., 2022). A study indicates that an athlete's success or failure in achieving goals in a particular sport is influenced by psychological factors, which account for 80% to 90% of an athlete's performance in a competitive context (Weinberg & Gould, 2011). Sports psychological factors such as motivation, self-confidence, anxiety control, team emphasis, mental preparation, and concentration are fundamental factors contributing to an athlete's performance and the achievements of badminton athletes (Maulana et al., 2025; Volgemute et al., 2025). Nevertheless, these psychological aspects are often overlooked by coaches in sports training (Edo & Utami, 2024). Essentially, understanding an athlete's psychological profile is a crucial aspect of enhancing and managing performance while maintaining their mental health (Permana et al., 2022). Therefore, athletes are expected to possess psychological skills tailored to their specific sport to achieve success (Dongoran et al., 2019).

A review of previous studies reveals that existing research on the psychological skills of adolescent badminton athletes has primarily focused on theory-based analyses of the role of sports psychology in performance enhancement, consequently this approach has not provided a clear picture of the athletes' actual conditions on the court (Bafirman et al., 2024; Simandjuntak et al., 2024). Other studies have developed multifactorial psychological profiles that integrate athletes' personalities, psychological skills, and psychophysiological performance indicators, however these studies have generally involved athletes from various sports and therefore have not specifically described the psychological skills of adolescent badminton players (Volgemute et al., 2026). Other studies have examined psychological aspects such as self-confidence, stress, tension, and anxiety, but have not focused on psychological skills comprehensively as a broader, integrated whole. Meanwhile, research has emphasized resilience and achievement motivation, thus failing to identify the overall foundational psychological skills of athletes as the basis for performance (Wang et al., 2025; Zakiyah et al., 2026). Other research indicates that the high pressure of training and competition on badminton athletes also has the potential to cause psychological problems such as burnout and a tendency to drop out of the sport, thus psychological skills (motivation, self-confidence, anxiety control, mental preparation, team emphasis, and concentration) serve as protective factors in maintaining athletes' performance and participation (Wiyata et al., 2022).

Although research has been conducted at PB Pendowo, the study was limited to two variables—resilience and achievement motivation—with athletes aged 13–15 as

subjects (Zakiyah et al., 2026). This indicates that no study has yet comprehensively mapped the full range of basic psychological skills among badminton athletes within the context of that club. In contrast, this study involves athletes aged 12–18, thereby covering the developmental phase from early to late adolescence and depicting the variation in athletes' psychological characteristics across a broader range of adolescent ages. Therefore, this study aims to fill this gap by identifying and describing the comprehensive psychological skill profiles of PB Pendowo athletes. These findings are expected to provide coaches with a solid empirical foundation for designing targeted mental training programs tailored to the athletes' specific developmental needs.

The present study offers a specific contribution by providing a comprehensive description of psychological skills among adolescent badminton athletes at PB Pendowo Semarang. This differs from previous studies, which placed greater emphasis on theory-based research, involved athletes from various sports, and conducted partial analyses of specific variables. This study presents a comprehensive profile of athletes' basic psychological skills as the foundation for performance using the Psychological Skills Inventory for Sports – Youth Version Short Form (PSIS-Y-SF), an instrument specifically designed for young athletes that comprehensively measures six dimensions of psychological skills within a single integrated analytical framework. Another novelty lies in the use of the research findings as a basis for designing more targeted mental training programs for athletes, based on their actual needs and aligned with the stages of adolescent development.

METHODS

This study employed a quantitative descriptive approach with a cross-sectional design. The population of this study consisted of adolescent badminton athletes from PB Pendowo Semarang aged 12–18 years. The sampling technique used was total sampling, resulting in a sample size of 20 participants. Data collection was conducted directly with respondents by distributing questionnaires during training sessions after obtaining approval from the club management. Prior to data collection, participants were informed about the objectives of the study and agreed to participate voluntarily. This study was conducted in accordance with research ethics principles, and informed consent was obtained from participants and the club management prior to data collection. The instrument measured six dimensions of psychological skills, including motivation, self-confidence, anxiety control, mental preparation, team emphasis, and concentration. Previous studies reported satisfactory construct validity via Confirmatory Factor Analysis (CFA) as well as good internal consistency with a Cronbach's alpha value of ≥ 0.829 (Milavic et al., 2019). The version adapted into Indonesian was subsequently further validated through expert assessment with a consensus coefficient of $r = 0.798$ (Fatonah et al., 2026). Subsequent reliability testing conducted in the present study using the Cronbach's Alpha coefficient yielded a value of $\alpha = 0.842$ across 18 questionnaire items. These findings indicate that the instrument demonstrated good internal consistency

reliability and was considered appropriate for assessing the psychological skills of adolescent badminton athletes.

Data analysis was conducted using IBM SPSS Statistics version 26 and Microsoft Excel 2024 through descriptive statistical techniques, including the mean (M), standard deviation (SD), minimum and maximum values, and frequency distribution for each psychological dimension. Score categorization was determined using an ideal norm approach based on the ideal mean (Mi) and ideal standard deviation (SDi), which are commonly applied in psychological research employing Likert-scale instruments (Azwar, 2012). Since each subscale consists of three items measured on a 5-point Likert scale, the ideal minimum and maximum scores are 3 and 15, resulting in $M_i = 9$ and $SD_i = 2$. The classification of psychological skill scores was established by applying the ideal mean and ideal standard deviation, resulting in five interpretive categories ranging from very low to very high. The score classification criteria are presented in Table 1.

Table 1.
 Score Categorization Criteria

Interval	Category
12.6 - 15.0	Very High
10.2 - 12.6	High
7.8 - 10.2	Moderate
5.4 - 7.8	Low
3 - 5.4	Very Low

RESULTS AND DISCUSSION

Result

This study was conducted to determine the characteristics of the psychological skills of adolescent badminton athletes from PB Pendowo Semarang across six components: motivation, self-confidence, anxiety regulation, mental preparation, team orientation, and concentration. The collected data were analyzed using descriptive statistical procedures, including calculations of the mean, standard deviation, minimum score, and maximum score. The findings obtained from the statistical analysis are presented as follows.

Table 2.
 Descriptive Statistics of Psychological Skills

Psychological Skill Dimensions	N	Min	Max	Mean	Std. Deviation
Motivation	20	9	15	13.95	1.791
Self-confidence	20	9	15	12.80	2.067
Anxiety Control	20	3	15	9.50	3.940
Mental Preparation	20	9	15	13.30	2.105
Team Emphasis	20	6	15	10.05	2.685
Concentration	20	3	15	8.95	3.748

Based on the descriptive statistics, motivation ($M = 13.95$, $SD = 1.79$) and mental preparation ($M = 13.30$, $SD = 2.10$) showed the highest mean scores among all psychological skill dimensions. Self-confidence also showed a relatively high mean score

(M = 12.80, SD = 2.07). Conversely, anxiety control (M = 9.50, SD = 3.94) and concentration (M = 8.95, SD = 3.75) had the lowest mean scores and the highest variability among the measured dimensions. Team emphasis (M = 10.05, SD = 2.68) was categorized as moderate.

Following descriptive analysis, scores for each dimension were converted and classified into five performance categories based on Mi and SDi criteria. The categorization distribution for each dimension is presented in Table 3.

Table 3.
 Distribution of Category Levels

	Motivation		Self-Confidence		Anxiety Control		Mental Preparation		Team Emphasis		Concentration	
	F	%	F	%	F	%	F	%	F	%	F	%
Very High	17	85	10	50	5	25	14	70	4	20	3	15
High	1	5	6	30	3	15	3	15	2	10	5	25
Moderate	2	10	4	20	6	30	3	15	12	60	5	25
Low	0	0	0	0	3	10	0	0	2	10	3	15
Very Low	0	0	0	0	4	20	0	0	0	0	4	20
Total	20	100	20	100	20	100	20	100	20	100	20	100

Based on the distribution presented in Table 3, the psychological skill profiles of PB Pendowo athletes varied across the six measured dimensions. Motivation showed the highest profile, with 85% of athletes classified in the very high category, followed by mental preparation (70%) and self-confidence (50%), indicating generally positive psychological readiness among the athletes. In contrast, anxiety control and concentration showed more varied distributions across categories, including moderate, low, and very low levels, reflecting inconsistencies in athletes' ability to manage pressure and maintain focus during competition. Team emphasis was predominantly classified in the moderate category (60%), suggesting that teamwork and group interaction among athletes still require further development. Overall, these findings indicate that athletes possess relatively strong psychological skills, particularly in motivation, confidence, and mental readiness, while aspects related to emotional regulation, concentration, and team dynamics remain areas that need improvement to support more stable competitive performance.

Discussion

This study aims to analyze the psychological skill profiles of adolescent badminton athletes at PB Pendowo Semarang based on six dimensions, namely motivation, self-confidence, anxiety control, mental preparation, team emphasis, and concentration. The findings showed that the psychological skill profiles of athletes varied across each measured dimension. Motivation reflected the strongest psychological condition, followed by mental preparation and self-confidence, which generally reflected positive psychological readiness among the athletes. Meanwhile, team emphasis was predominantly categorized as moderate, whereas anxiety control and concentration demonstrated more varied category distributions. These findings indicate that athletes generally possess strong psychological strengths in motivation, confidence, and mental readiness, but still require

further development in aspects related to teamwork, emotional control, and concentration to support more stable performance during competition.

Motivation

Motivation showed the strongest psychological profile among PB Pendowo athletes, with a mean score of 13.95 and 85% (17 athletes) classified in the very high category. This indicates a strong internal drive, both during training and in competition. Badminton training involves intensive and repetitive practice that requires both physical and mental endurance. The high level of motivation shown by the athletes reflects their desire to continue improving and achieving success. This finding is supported by recent research indicating that intrinsic motivation plays a key role in maintaining training consistency and enhancing athletic performance (Alkawasbeh & Akroush, 2025). Other research shows that motivation also contributes to athletes' effort and perseverance in coping with the demands of training and competition (Liu & Fu, 2024).

Self-Confidence

Self-confidence showed a relatively strong psychological profile, with a mean score of 12.80. Most athletes were classified in 50% (10 athletes) in the very high category and 30% (6 athletes) in the high category, indicating that the athletes have strong confidence in their abilities. Self-confidence is crucial in badminton because the game moves quickly and requires split-second decision-making during rallies. Athletes with high self-confidence tend to be more assured in executing techniques and are able to maintain consistency in their play during matches. Similar findings have been reported in previous sport psychology studies, which indicate that self-confidence is a key factor influencing performance in competitive situations (Lochbaum et al., 2022). Previous studies have reported that self-confidence contributes to performance stability and helps athletes manage anxiety during competition (Parnabas et al., 2023). Thus, self-confidence is one of the key factors in supporting a badminton player's performance.

Anxiety Control

In contrast to the previous two aspects, anxiety control demonstrated a more varied distribution across categories, with 30% of athletes classified in the moderate category and 20% in the very low category, indicating that athletes' ability to cope with pressure is not yet consistent. The fast-paced and dynamic nature of badminton can create psychological pressure, especially during crucial points that determine the final outcome of a match. Such conditions may reduce performance stability and decision-making accuracy during competition. These findings are consistent with research indicating that competitive anxiety affects athletes' performance and must be managed so that it does not interfere with their performance during competition (Amaro & Brandão, 2023). In addition, other studies have shown that athletes with good self-control tend to be better able to make quick and accurate decisions during competition (Suratmin & Yudhistira, 2024). Therefore, developing anxiety control skills should be a focus of psychological training so that badminton players can perform with greater composure and stability during matches.

Mental Preparation

Mental preparation demonstrated a positive psychological profile, with a mean score of 13.30 and 70% (14 athletes) classified in the very high category, indicating that the athletes are well-prepared psychologically for competition. This aspect plays a role in helping athletes stay focused, read the flow of the game, and adapt to rapid changes in pace. This is important because the nature of badminton demands quick reactions and mental stability. These findings are consistent with research indicating that psychological factors such as focus, emotional regulation, and mental preparedness significantly contribute to performance in competitive sports (Ayranci & Aydin, 2025). In addition, athletes who are mentally well-prepared tend to be able to direct and control their movements more effectively, thereby minimizing the psychological distractions that arise during competition (Nugraha et al., 2021). As such, mental preparation is a key factor in maintaining the quality and consistency of a badminton player's performance.

Team Emphasis

Team emphasis was predominantly categorized as moderate, with a mean score of 10.05 and 60% of athletes classified in the moderate category. This finding suggests that teamwork among athletes has not yet developed optimally. In badminton, matches include singles, doubles, and team events, indicating that badminton contains both individual and team characteristics. In addition to competition, teamwork is also evident during practice through interactions with coaches and teammates. Positive team dynamics may contribute to athletes' motivation, self-confidence, and mental preparedness before competition (Ihsan et al., 2024; Muñoz et al., 2023). In addition, team cohesion can strengthen loyalty and group dynamics (Ita et al., 2022). Therefore, teamwork is a crucial factor in supporting the psychological development of badminton athletes.

Concentration

Concentration showed the weakest psychological profile among the measured dimensions, with a mean score of 8.95. The distribution was relatively varied, with 25% of athletes classified in the high category, 25% in the moderate category, and 20% in the very low category. This indicates that some athletes are not yet able to maintain optimal concentration during fast-paced and dynamic badminton matches. In badminton, concentration is crucial because athletes must react quickly, anticipate their opponent's moves, and execute shots accurately in a split second; thus, any loss of focus can directly lead to an increase in errors. These findings are consistent with previous studies stating that concentration is an important psychological factor influencing athletic performance, especially in sports requiring speed and precision (Lochbaum et al., 2022). Similarly, other studies emphasize that concentration contributes to maintaining performance stability among badminton athletes (Donie et al., 2023).

CONCLUSION

Based on the research findings, adolescent badminton athletes at PB Pendowo Semarang demonstrated varying psychological skill profiles across the measured dimensions. Motivation showed the strongest psychological profile, followed by mental

preparation and self-confidence, indicating generally positive psychological readiness among the athletes. These findings suggest that the athletes generally possess strong motivation, confidence, and mental readiness during training and competition. Meanwhile, anxiety control, concentration, and team emphasis demonstrated more varied psychological skill profiles and still require further development, particularly in emotional regulation, focus, and teamwork during competition. The results of this study contribute to the development of sports psychology research, particularly in badminton, by providing an overview of the psychological skills of adolescent athletes that can serve as a foundation for developing more targeted mental training programs. These findings may serve as a reference for coaches in designing more targeted psychological training programs for adolescent badminton athletes. However, this study has limitations because it uses a descriptive design, which prevents a deep explanation of the relationships between variables, and the sample size is limited to a single club, so the results cannot be widely generalized. Furthermore, the use of a questionnaire instrument allows for subjective bias from respondents. Therefore, future research is recommended to involve a broader sample from various competition levels and to use a correlational, longitudinal, or mixed-methods research design to provide a more comprehensive understanding of the relationship between psychological skills and the performance of badminton athletes.

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