

Cognitive Anxiety, Somatic Anxiety and Self-Confidence Are Related to The Performance of DKI Jakarta POMNAS Pencak Silat Athletes in 2025: A Gender Perspective

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Abstract

An athlete's performance—specifically that of a pencak silat athlete—is determined not only by physical, technical, and tactical factors but also by psychological ones. Key psychological factors include anxiety and self-confidence. The objectives of this study were to determine if there is a relationship between cognitive anxiety and the performance of DKI Jakarta POMNAS pencak silat athletes in 2025; to determine if there is a relationship between somatic anxiety and their performance; to determine if there is a relationship between self-confidence and their performance; and to identify differences in the influence of these psychological factors (cognitive anxiety, somatic anxiety, and self-confidence) based on gender. A correlational research method with a cross-sectional approach was employed. The subjects consisted of 12 DKI Jakarta POMNAS athletes (10 male and 2 female). The CSAI-2 questionnaire was used to measure levels of cognitive anxiety, somatic anxiety, and self-confidence, while athletic performance was assessed based on match results in the POMNAS pencak silat competition. The results indicate that there are relationships between cognitive anxiety, somatic anxiety, and self-confidence and the athletes' performance. Furthermore, differences in the patterns of these psychological variables were observed based on gender: female athletes exhibited higher levels of both cognitive and somatic anxiety, whereas male athletes tended to have higher levels of self-confidence. These findings are expected to contribute to the scientific development of sports psychology and serve as a basis for recommending mental training programs for university-level pencak silat athletes.

Keywords: Cognitive Anxiety, Gender, Pencak Silat, Self-Confidence, Somatic Anxiety

1. Introduction

Athletic achievement serves as an indicator of the success of long-term development processes involving physical, technical, tactical, and psychological aspects. In modern competitive sports, understanding psychological factors has become increasingly important, as an athlete's mental state is known to play a significant role in match performance (Weinberg & Gould, 2019). Athletes possessing strong physical and technical skills do not always deliver optimal performances under competitive pressure unless supported by adequate psychological readiness (Williams & Krane, 2021). Consequently, the study of psychological factors—such as competitive anxiety and self-confidence—is highly relevant to the context of achieving success in sports.

Pencak silat, an Indonesian traditional martial art, has evolved into a competitive sport contested at both national and international levels, including events such as the Asian Games, the SEA Games, and the World Championships (PB IPSI, 2023). This development requires athletes to possess comprehensive readiness, encompassing not only technical and physical aspects but also emotional regulation and mental preparedness before and during matches (Budiarto & Rahmawan, 2021). In pencak silat competitions, athletes face high-pressure situations stemming from various sources, including opponents, spectators, coaches, and personal objectives such as upholding a reputation or achieving medal targets.

Such conditions can trigger specific psychological reactions that influence an athlete's performance, notably competitive anxiety. Martens et al (1990) explain that competitive anxiety consists of two primary components: cognitive anxiety and somatic anxiety. Cognitive anxiety involves worry, self-doubt regarding one's abilities, and negative thoughts concerning potential

failure in the competition. Meanwhile, somatic anxiety relates to physiological responses such as increased heart rate, excessive sweating, respiratory irregularities, and muscle tension.

Research indicates that cognitive anxiety can impair an athlete's focus and concentration, thereby negatively affecting decision-making abilities during competition (Jones & Hardy, 1996). Meanwhile, somatic anxiety has the potential to disrupt movement coordination as well as offensive and defensive techniques in “pencak silat” matches, which require motor stability (Hanton et al, 2015). However, anxiety responses do not always have a detrimental effect on performance. Based on Optimal Arousal Theory and Catastrophe Theory, specific levels of anxiety can actually enhance performance if the athlete is able to manage them adaptively (Hardy, 1990). In addition to competitive anxiety, another psychological variable that contributes significantly to achievement is self-confidence. Vealey (1986) defines self-confidence as an individual's belief in their capacity to execute specific actions effectively within a sports context. Athletes with high levels of self-confidence are better able to cope with competitive pressure, maintain sharper focus, and demonstrate more effective decision-making during competition (Bandura, 1997). In martial arts such as “pencak silat”, self-confidence determines an athlete's willingness to attack, execute techniques with precision, and maintain control throughout the match (Sutrisno & Yudiana, 2021).

Research shows an inverse relationship between competitive anxiety and self-confidence, where an increase in anxiety is often accompanied by a decline in self-confidence (Vealey & Chase, 2017). However, this relationship can be influenced by various factors, including competitive experience, coaching support, emotion regulation strategies, and gender (Nicholls et al., 2009). The gender aspect is a crucial consideration in sports psychology, as there are indications that male and female athletes may respond differently to competitive pressure (Clark, 2020). Several studies have found that female athletes tend to exhibit higher levels of cognitive and somatic anxiety compared to their male counterparts (Lazarević et al., 2018). This phenomenon may be influenced by hormonal factors, social perceptions of gender roles in sports, and differences in stress-coping strategies (Mellalieu et al, 2019). However, recent research indicates that female athletes with extensive competitive experience actually possess superior pressure-management skills compared to male athletes (Rahmadani & Yusuf, 2023). This suggests that differences in anxiety responses are shaped not only by biological factors but also by experience, mental training, and the social environment.

The National Student Sports Week (POMNAS) is the largest sports competition for university students in Indonesia. The athletes competing in this event are primarily high-achieving regional and national athletes who also represent their respective universities (Kemenpora, 2024). In the context of the 2025 POMNAS in DKI Jakarta, “pencak silat” stands out as a premier event characterized by intense competition, given the participation of athletes with prior experience in National Championships (Kejurnas), the National Student Sports Week (POPNAS), and international events.

This situation presents psychological challenges for athletes, who must contend with competitive pressure, performance demands, and expectations from both their university communities and their regions. Consequently, research examining the relationship between cognitive anxiety, somatic anxiety, self-confidence, and the performance of “pencak silat” athletes in this context is highly relevant. Such research is also vital due to the limited number of academic studies exploring the link between psychological factors and “pencak silat” athlete performance through a gender lens, particularly at the university competition level.

2. Method

This study employs a quantitative approach, utilizing a descriptive method with a correlational design. This study was conducted in September 2025, coinciding with the Student Sports Week held in Solo, Central Java specifically at the KH. Ahmad Dahlan Edutorium Building of Universitas Muhammadiyah Surakarta (UMS). Data collection took place from September 19 to 27, 2025. The subjects of this study were 12 Pencak silat athletes from DKI Jakarta, consisting of 10 males and 2 females. To measure levels of cognitive anxiety, somatic anxiety, and self-confidence, the Competitive State Anxiety Inventory-2 (CSAI-2) questionnaire—developed by Martens et al (1990) was used; it comprises 27 questions covering cognitive state anxiety, somatic state anxiety, and self-confidence. The analysis involves Pearson product-moment correlation. The interpretation of results links the findings to sports psychology theories and the cultural context of pencak silat.

3. Result and Discussion

Tabel 1. Characteristic of Responden (N=12)

Variable	Chategory	n	%
Gender	Male	10	83.3
	Female	2	16.7
Age	Mean ± SD: 21,45 ± 1,55		
	Min–Max: 21–23 years		

This study aims to examine the relationship between cognitive anxiety, somatic anxiety, and self-confidence and the performance of DKI Jakarta pencak silat athletes competing in the 2025 POMNAS, using a sample of 12 athletes—comprising 10 males (83.3%) and 2 females (16.7%). These three psychological variables were analyzed to determine their contribution to the athletes' performance in a formal national-level competition.

Tabel 2. Result of The Correlation Test Between Cognitive Anxiety, Somatic Anxiety and Self-Confidence with The Performance of DKI Jakarta POMNAS Pencak Silat Athletes

Variable	Correlation Coefficient (r)	Sig.
Cognitive Anxiety with Performance	0,255	0,021
Somatic Anxiety with Performance	0,597	0,048
Self-Confidence with Performance	0,219	0,043

The Pearson product-moment calculation results show a value of 0.021 (< 0.05), meaning the null hypothesis (Ho) is rejected and the alternative hypothesis (H1) is accepted; this indicates a relationship between cognitive anxiety and the performance of DKI Jakarta POMNAS pencak silat athletes in 2025. For somatic anxiety, the value is 0.048 (< 0.05), meaning Ho is rejected and H1 is accepted, indicating a relationship between somatic anxiety and the performance of DKI Jakarta POMNAS pencak silat athletes in 2025. Finally, for self-confidence, the value is 0.043 (< 0.05), meaning Ho is rejected and H1 is accepted, indicating a relationship between self-confidence and the performance of DKI Jakarta POMNAS pencak silat athletes in 2025. Analysis results indicate a negative relationship between cognitive anxiety and athlete performance; this means that the higher the cognitive anxiety experienced by the athletes, the lower the performance they display during competition. These findings align with research by Martens et al (1990), which explains that cognitive anxiety—manifesting as negative thoughts, fear of failure, and excessive self-evaluation—can impair focus, decision-making accuracy, and motor skills during a match.

In the context of Pencak Silat athletes, cognitive anxiety can stem from opponent pressure, coaching expectations, suboptimal preparation, and judges' evaluations. Athletes with high levels of cognitive anxiety tend to exhibit technical errors, a decline in tactical focus, and slow reactions during matches. This condition is consistent with the Cognitive Attention Model proposed by (Eysenck and Calvo, 1992), which states that high anxiety disrupts information processing systems, thereby reducing performance in competitive situations.

Thus, these research findings reinforce the view that managing mental anxiety is a crucial aspect of achieving optimal performance in combat sports such as Pencak Silat. Research findings indicate a negative relationship between somatic anxiety and performance, although the strength of this relationship is not as pronounced as that of cognitive anxiety. Somatic anxiety encompasses physiological responses such as muscle tension, elevated heart rate, excessive sweating, and tremors. This aligns with the views of (Weinberg and Gould,2019), who state that physiological responses can impair fine motor control, thereby affecting movement accuracy in judged or scored disciplines such as “jurus” (artistic forms) and “tarung” (combat).

Among the athletes in this study—particularly those in the combat category—increased somatic anxiety can affect the timing of punches and kicks, thereby influencing match scores. However, as noted by Hardy and Parfitt (1991), certain athletes are able to transform physiological anxiety into positive energy, depending on their emotional interpretation and competitive experience.

Thus, while somatic anxiety influences performance, its effect depends on whether the athlete interprets these bodily symptoms as a threat or as a sign of readiness for competition. The research findings indicate a significant positive relationship between self-confidence and athlete performance; this suggests that the greater an athlete's confidence in their technical abilities, strategy, and mental readiness, the higher the likelihood of achieving optimal results. This aligns

with sports self-confidence theories proposed by Bandura (1997) and Vealey (2001), which identify self-confidence as a primary predictor of athletic performance.

Among POMNAS Pencak Silat athletes, self-confidence correlates with competitive experience, mental resilience, coaching support, and the level of technical mastery. Athletes with high self-confidence are generally better able to minimize fear, control the pace of the match, and make superior strategic decisions compared to those with low self-confidence. Although the female sample size in this study was limited to only two individuals, the data trends indicate that female athletes exhibited higher anxiety scores (both cognitive and somatic) and lower levels of self-confidence compared to their male counterparts. These findings align with research by (Woodman and Hardy, 2003), which reported that female athletes tend to experience higher levels of competitive anxiety than males due to factors such as emotional sensitivity, social pressure, and performance expectations.

However, the limited number of female participants means that this interpretation is merely observational; further research involving a more representative sample of respondents is required.

4. Conclusion

The conclusions of this study are as follows: there is a relationship between cognitive anxiety and the performance of DKI Jakarta “pencak silat” athletes at the 2025 POMNAS; there is a relationship between somatic anxiety and the performance of DKI Jakarta “pencak silat” athletes at the 2025 POMNAS; there is a relationship between self-confidence and the performance of DKI Jakarta “pencak silat” athletes at the 2025 POMNAS; and female athletes exhibit higher anxiety scores (both cognitive and somatic) and lower levels of self-confidence compared to male athletes.

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