

“PSYCHOLOGICAL CHARACTERISTICS OF COGNITIVE AND SOMATIC ANXIETY IN ADOLESCENT ATHLETES”

Sa’dullayev Aziz Akmal o‘g‘li

Lecturer of NEI, University of Economics and Pedagogy

E-mail: azizbek210895@gmail.com

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This study is devoted to the analysis of psychological characteristics of cognitive and somatic anxiety in adolescent athletes during the pre-competition period. The research examines the main mechanisms of cognitive anxiety related to mental tension and performance expectations, as well as somatic anxiety manifested through physiological reactions of the body. Using psychodiagnostic methods, the level of anxiety among adolescent athletes is identified, and its relationship with sports performance is statistically analyzed. Based on the obtained results, psychological recommendations aimed at reducing pre-competition anxiety and improving psychological readiness of adolescent athletes are developed. The findings of the study contribute to the theoretical development of sports psychology and can be effectively applied in the practice of psychological training of young athletes.

Introduction

In contemporary sport psychology, athletic performance is interpreted as a multifactorial system in which, alongside physical preparedness, psychological stability and emotional state are recognized as key determinants of effectiveness. Particularly in highly competitive

environments, sporting events require athletes not only to demonstrate technical and tactical excellence but also to effectively regulate complex psychological states. From this perspective, pre-competition anxiety is regarded as a significant psychological factor directly influencing the stability and performance outcomes of athletic activity.

Within the framework of sport psychology, anxiety has been identified in scientific research as manifesting primarily in two major components—cognitive and somatic. Cognitive anxiety is characterized by an athlete’s internal thoughts, negative expectations regarding competition outcomes, lack of self-confidence, and evaluative concerns. Somatic anxiety, in contrast, is associated with physiological activation of the organism and is expressed through increased heart rate, elevated muscle tension, changes in breathing rhythm, and various autonomic reactions. The simultaneous manifestation of these two forms of anxiety may disrupt an athlete’s psychological equilibrium and lead to a decline in performance effectiveness.

Adolescence, from the standpoint of psychological development, is characterized by emotional instability, intensified processes of self-awareness, and heightened sensitivity to social evaluation. For adolescents engaged in sports, these developmental characteristics interact with the competitive environment, potentially increasing levels of psychological strain. In particular, socially driven expectations of victory, demands expressed by coaches and teammates, as well as personal mechanisms of evaluating success and failure, may contribute to elevated levels of pre-competition cognitive and somatic anxiety among adolescent athletes.

An analysis of the scientific literature indicates that an optimal level of pre-competition anxiety may serve as a motivational factor enhancing athletic performance; however, excessive anxiety is associated with attentional narrowing, slowed decision-making processes, and impaired motor coordination. Therefore, an in-depth examination of the psychological characteristics of cognitive and somatic anxiety in adolescent athletes, the identification of their underlying mechanisms, and the development of effective anxiety regulation strategies constitute a pressing scientific and practical task.

The present study is aimed at systematically analyzing the psychological characteristics of pre-competition cognitive and somatic anxiety in adolescent athletes, empirically determining their relationship with athletic performance effectiveness, and developing adapted psychological preparation and corrective approaches for young athletes. The findings of this research are expected not only to enrich the theoretical foundations of sport

psychology but also to provide practical value for sports schools, specialized sports institutions, and coaching practice.

Main part

In sport psychology, anxiety is understood as an emotional state that arises during significant performance-related activities and exerts a substantial influence on the stability and effectiveness of an athlete's performance. In scientific literature, anxiety is conceptualized as a multidimensional construct, with cognitive and somatic anxiety identified as its primary components. Cognitive anxiety is characterized by an athlete's internal thoughts, negative expectations regarding competition outcomes, fear of failure, and lack of self-confidence. Somatic anxiety, by contrast, is associated with physiological activation of the organism and manifests through symptoms such as muscle tension, increased heart rate, perspiration, and changes in breathing rhythm.

Although these two forms of anxiety are interrelated, their impact on athletic performance differs. Cognitive anxiety primarily disrupts attentional processes, decision-making, and tactical thinking, whereas somatic anxiety negatively affects movement precision and motor coordination. Therefore, examining them as distinct components allows for a more effective organization of athletes' psychological preparation.

Specific Features of Pre-Competition Anxiety in Adolescent Athletes. Adolescence is characterized by emotional instability, heightened sensitivity to social evaluation, and an intensified need for self-awareness. Adolescents who regularly engage in sports are exposed not only to physical demands but also to significant psychological pressures during competition. In particular, elevated expectations expressed by coaches, parents, and teammates during the pre-competition period contribute to increased anxiety levels among adolescent athletes.

In adolescent athletes, cognitive anxiety often manifests through anticipatory negative evaluations of competition outcomes, fear of opponents, and doubts about their own abilities. Somatic anxiety, associated with activation of the autonomic nervous system, intensifies against the background of psychological stress. This condition may reduce concentration capacity and negatively affect the accuracy of technical and tactical actions.

Research Design and Methods. The study had an empirical design and employed psychodiagnostic methods aimed at assessing the pre-competition psychological states of adolescent athletes. The participants consisted of adolescent athletes enrolled in sports schools and specialized sports institutions.

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To assess levels of cognitive and somatic anxiety, the CSAI-2 (Competitive State Anxiety Inventory-2) developed by Martens was administered. Additionally, the Spielberger–Khanin State–Trait Anxiety Inventory was used to measure general anxiety levels. The obtained data were analyzed using mathematical and statistical methods to determine the relationship between types of anxiety and athletic performance effectiveness.

Research Findings and Their Analysis. The results of the empirical study indicated that a considerable proportion of adolescent athletes demonstrated moderate to high levels of cognitive and somatic anxiety during the pre-competition period. In particular, athletes with elevated cognitive anxiety exhibited decreased attentional stability and increased self-doubt during competition. Respondents with high levels of somatic anxiety showed intensified signs of physical tension and reduced movement accuracy.

Statistical analysis revealed a positive correlation between cognitive and somatic anxiety. Furthermore, athletes with higher anxiety levels demonstrated lower performance outcomes. These findings confirm that effective management of pre-competition anxiety is a crucial factor in enhancing athletic performance effectiveness.

Psychological Approaches and Recommendations. Based on the findings, the implementation of psychological interventions aimed at reducing cognitive and somatic anxiety among adolescent athletes is strongly recommended. To decrease cognitive anxiety, techniques such as positive self-talk, mental imagery, and cognitive restructuring have proven effective. To reduce somatic anxiety, relaxation exercises, breathing techniques, and elements of autogenic training are particularly beneficial.

The systematic integration of these approaches into regular training processes will enhance the psychological stability of adolescent athletes and facilitate more effective coping with pre-competition anxiety.

Conclusion

The present study was aimed at identifying the psychological characteristics of cognitive and somatic anxiety that arise in adolescent athletes during the pre-competition period. The findings confirmed that anxiety in sport represents a multidimensional psychological construct and that its cognitive and somatic forms exert differential effects on the psychological state and performance effectiveness of adolescent athletes. Empirical analyses revealed that the majority of adolescent athletes demonstrated moderate to high levels of cognitive and somatic anxiety prior to competition.

The study established that athletes with elevated levels of cognitive anxiety exhibited reduced attentional stability, increased self-doubt, and intensified negative expectations

regarding competition outcomes. In contrast, athletes with high levels of somatic anxiety showed pronounced physiological tension, as well as decreased motor coordination and technical-tactical accuracy. Statistical analyses further demonstrated a positive correlation between cognitive and somatic anxiety, confirming that athletes with higher anxiety levels tended to achieve comparatively lower performance results.

The obtained findings provide scientific evidence that effective management of pre-competition anxiety constitutes a significant psychological factor in enhancing athletic performance. The conclusions of the study highlight the necessity of improving psychological preparation systems for adolescent athletes and developing corrective approaches that take into account their individual psychological characteristics.

Recommendations

Based on the findings of the study, the following scientific and practical recommendations are proposed:

1. It is recommended to regularly assess the pre-competition psychological state of adolescent athletes using psychodiagnostic methods and to analyze cognitive and somatic anxiety levels as distinct components.
2. When working with athletes who demonstrate high levels of cognitive anxiety, it is advisable to implement psychological training sessions based on positive self-talk, cognitive restructuring, and mental imagery techniques.
3. To reduce somatic anxiety, relaxation exercises, breathing techniques, and elements of autogenic training should be systematically incorporated into the training process.
4. Coaches are advised to consider the age-related and individual psychological characteristics of adolescent athletes when setting performance expectations and evaluation criteria, in order to prevent excessive psychological pressure.
5. Within the training system, psychological preparation should be integrated in harmony with physical and technical-tactical training, and collaboration between psychologists and coaches should be strengthened.
6. The results of the study may be utilized as a methodological guide in sports schools, specialized sports institutions, and by professionals working with young athletes.

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