

PRE- AND POST-COMPETITION ANALYSIS OF LEVEL OF SELF-ESTEEM, ACTIVITY AND MOOD IN 10-14-YEAR-OLD ORIENTEERING COMPETITORS

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Abstract: *This study investigates the state of confidence, activity, and mood in young orienteering competitors aged 10-14 years, using Self-esteem, activity, mood test (Leonova, 1984) applied before and after a competition. Orienteering, a demanding sport requiring both physical and cognitive skills, provides a unique context to explore how competition influences young athletes' emotional and mental states. Results revealed significant changes in participants' psychological states post-competition, with notable shifts in confidence and mood levels. These findings highlight the impact of competitive pressure on young athletes and provide insights into the emotional dynamics of youth sports. The study underscores the importance of psychological monitoring and support for young competitors to enhance their performance and well-being in demanding sports like orienteering.*

Key words: *young competitors, orienteering, psychological testing.*

INTRODUCTION

The psychological well-being of young athletes is a critical factor in their overall development, performance, and enjoyment of sports. As children and adolescents engage in competitive sports, they are exposed to unique pressures that can influence their emotional and mental states. Understanding these psychological dynamics is particularly important in demanding sports like orienteering, which require a combination of physical endurance, cognitive skills, and emotional resilience. Orienteering, a sport that involves navigating through unfamiliar terrain using a map and compass, places significant demands on young competitors. While traditionally a forest-based sport, its modern development includes accessible urban formats in parks, which are specifically designed to introduce the sport to beginners in a fun and engaging way, fostering initial positive experiences. This study examines how young athletes who have embarked on this pathway then cope with the psychological demands of formal competition (Sirakov, Ivanova & Belomazheva-Dimitrova, 2023).

Orienteering places unique psychological demands on young competitors due to its requirement for continuous decision-making, spatial orientation, and error correction under time pressure. Unlike many traditional sports, performance in orienteering is highly dependent on cognitive processes such as map reading, attention control, and rapid problem solving. Decision-making under physical fatigue has been shown to increase mental strain and emotional vulnerability, which may amplify negative affective responses during and after competition (Johnson, 2025; McCormick et al., 2015).

Competitive sport has been widely recognized as a significant psychological stressor for children and adolescents. In orienteering, this pressure exists within a clear performance pathway; research on elite university competitors in Bulgaria indicates that high-level achievement is often predicated on long-term development within supportive institutional frameworks that foster a culture of excellence. For young athletes aspiring to this level, the pressure of competition is thus intertwined with early developmental experiences that can shape their long-term relationship with the sport (Sirakov, 2025). Other research has shown that competitive environments can elicit stress, anxiety, and fluctuations in self-perception, particularly among younger athletes whose psychological coping mechanisms are still developing (Gould et al., 1993). These stress responses are often intensified in sports that combine physical exertion with complex cognitive demands, increasing the overall psychological load experienced during competition.

Self-esteem, activity, and mood are key psychological constructs that can be profoundly affected by competitive experiences. Self-esteem reflects an individual's perception of their own worth and capabilities, while activity levels indicate their energy and readiness to engage in tasks. Mood, on the other hand, represents the emotional state that can fluctuate in response to external and internal stimuli.

These factors are not only crucial for athletic performance but also for the overall well-being of young athletes. Previous research has shown that competitive sports can lead to both positive and negative psychological outcomes, depending on factors such as the level of support, the nature of the competition, and the individual's coping mechanisms.

Self-esteem in childhood and early adolescence is considered a relatively unstable and context-dependent construct, strongly influenced by situational feedback and perceived success or failure (Makelele, 2024; Harter, 1986). Self-esteem in youth is particularly sensitive to performance feedback. Theoretical models posit that physical activity influences self-esteem through perceptions of competence and social belonging, making competitive outcomes a potent source of fluctuation (Mazereel et al., 2021). In sport settings, young athletes often base their self-worth on performance outcomes, making them particularly vulnerable to decreases in self-esteem following unsatisfactory results. Performance-related self-evaluations may therefore fluctuate considerably before and after competition, reflecting the dynamic nature of self-esteem in youth sport contexts.

Mood represents a transient psychological state that is particularly sensitive to situational factors such as physical exertion, perceived performance, and competitive stress. In youth sport, post-competition mood has been identified as an important indicator of athletes' immediate emotional adjustment to competitive experiences. Negative mood states following competition may reflect disappointment, mental fatigue, or stress-related responses and can influence motivation and subsequent engagement in sport (Lane & Terry, 2000).

This study focuses on young orienteering competitors aged 10-14 years, a developmental period characterized by significant physical, emotional, and cognitive changes. Using the Self-esteem, Activity, and Mood Test (Leonova, 1984), we aimed to investigate how participation in an orienteering competition influences these psychological states. By administering the test before and after the competition, we sought to capture the immediate impact of competitive pressure on the participants' self-esteem, activity levels, and mood.

The findings of this study are expected to contribute to a deeper understanding of the emotional and psychological dynamics of youth sports. By highlighting the changes in self-esteem, activity, and mood that occur as a result of competition, this research underscores the importance of psychological monitoring and support for young athletes. Such insights can inform the development of strategies to enhance the performance and well-being of young competitors, ensuring that they not only succeed in their sport but also enjoy a positive and fulfilling athletic experience.

METHODS

Participants

The study involved 21 orienteering competitors aged 10-14 years, who participated in a regional orienteering competition held in March 2025 in Bulgaria. Participants were recruited through local orienteering clubs and had little to no competitive experience. Written informed consent was obtained from both the participants and their parents or guardians prior to their involvement in the study. Ethical approval for the research was obtained from the relevant institutional review board.

Psychological Assessment

To assess the psychological states of the participants, the Self-esteem, Activity, and Mood test was administered. The original questionnaire, developed by Leonova (1984), is presented in its English translation in Figure 1. The validated instrument consists of 30 items. For the purposes of the present study, a minor modification was introduced by replacing the original bipolar 7-point scale (3-2-1-0-1-2-3) with a unipolar 7-point scale ranging from 1 (worst) to 7 (best), where 1 represents the lowest and 7 the highest possible score for each item and, respectively, for each of the three assessed constructs. The questionnaire comprises three subscales – self-esteem, activity, and mood – each containing 10 items. Subscale scores were calculated by summing the responses to the corresponding items, yielding separate total scores for self-esteem, activity, and mood. Higher scores indicate higher levels of self-esteem, activity, and more positive mood.

Name..... Age..... Team.....

⇒ Before / After

Test Self-esteem, Activity, Mood

Please circle the number that most accurately reflects your current state. Each pair of words on a row represents opposite concepts. Zero indicates a neutral state, while the numbers to the left and to the right of zero represent the degree of the respective state.

1	Good self-esteem	3 2 1 0 1 2 3	Poor self-esteem
2	I feel strong	3 2 1 0 1 2 3	Weak
3	Passive	3 2 1 0 1 2 3	Active
4	Low mobility / Not very active	3 2 1 0 1 2 3	Mobile / Physically active
5	Cheerful	3 2 1 0 1 2 3	Sad
6	Good mood	3 2 1 0 1 2 3	Bad mood
7	Able to work / Efficient	3 2 1 0 1 2 3	Exhausted
8	Full of energy	3 2 1 0 1 2 3	Weakened
9	Slow	3 2 1 0 1 2 3	Fast
10	Inactive	3 2 1 0 1 2 3	Active (engaged)
11	Happy	3 2 1 0 1 2 3	Unhappy
12	Joyful	3 2 1 0 1 2 3	Gloomy
13	Tense	3 2 1 0 1 2 3	Relaxed
14	Healthy	3 2 1 0 1 2 3	Ill
15	Uninvolved	3 2 1 0 1 2 3	Engrossed / Absorbed
16	Indifferent	3 2 1 0 1 2 3	Excited
17	Enthusiastic	3 2 1 0 1 2 3	Dejected
18	Glad / Joyful	3 2 1 0 1 2 3	Sorrowful
19	Rested	3 2 1 0 1 2 3	Tired
20	Fresh	3 2 1 0 1 2 3	Exhausted
21	Sleepy	3 2 1 0 1 2 3	Aroused
22	I need rest	3 2 1 0 1 2 3	I want to work
23	Calm	3 2 1 0 1 2 3	Concerned
24	Optimistic	3 2 1 0 1 2 3	Pessimistic
25	Enduring / Resilient	3 2 1 0 1 2 3	Not enduring / Low endurance
26	Alert	3 2 1 0 1 2 3	Sluggish
27	I find it hard to concentrate	3 2 1 0 1 2 3	I think easily / I comprehend easily
28	Distracted	3 2 1 0 1 2 3	Attentive
29	Full of hope	3 2 1 0 1 2 3	Disappointed
30	Satisfied	3 2 1 0 1 2 3	Dissatisfied

Fig. 1 Questionnaire: Self-esteem, Activity, and Mood Test – originally in Russian (Leonova, 1984)

Procedure

The psychological test was administered twice: once immediately before the orienteering competition and once immediately after the competition. The pre-competition assessment was conducted 30 minutes prior to the start of the event, while the post-competition assessment was completed within 15 minutes of the participants finishing the event. This timing was chosen to capture the immediate psychological impact of the competitive experience. Participants completed the questionnaire in a quiet and controlled environment to minimize distractions and ensure accurate responses.

DISCUSSION AND RESULTS

The findings of this study highlight the significant psychological impact of competitive orienteering on young athletes aged 10-14 years. The results illustrated in Figure 2 indicate a decline in self-esteem, activity, and mood following the competition, suggesting that the demands and pressures of the event may have negatively influenced the participants' emotional and mental states.

The pronounced decline in self-esteem observed after the competition may be explained through the concept of performance-contingent self-worth. Young athletes often evaluate their personal value based on competitive outcomes, making unsuccessful performances particularly detrimental to their self-perception. According to Crocker and Wolfe (2001), when self-worth is closely tied to achievement, failure experiences can result in immediate reductions in self-esteem, especially in developmental stages

characterized by heightened sensitivity to external evaluation.

The observed declines in activity and mood align with recent research on mental fatigue in orienteering. Studies have shown that the sport's high cognitive load – from constant navigation and decision-making – induces acute mental fatigue that impairs mood and perceived energy, with effects lasting up to 48 hours post-event (Lam et al., 2024).

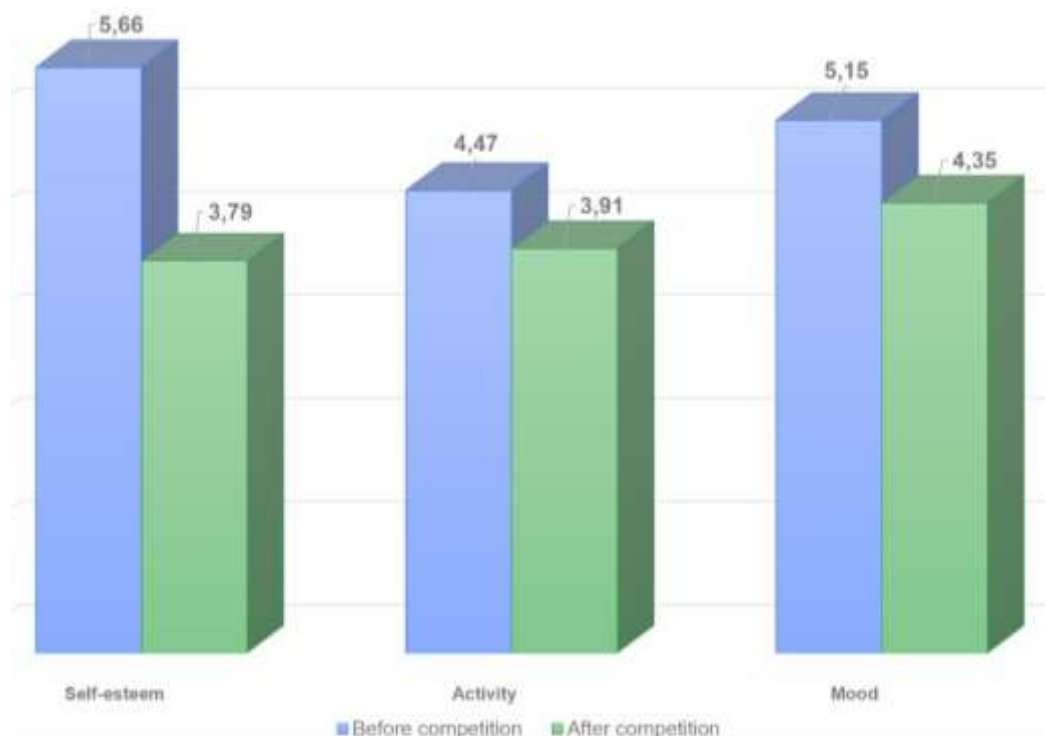


Fig. 2 Psychological test: Self-esteem, activity and mood - before and after a competition with 10-14 aged orienteers

Self-esteem showed the most pronounced decrease, dropping from 5.66 to 3.79. This decline may reflect the heightened self-criticism that arises when young athletes feel they have failed to execute complex cognitive tasks under pressure. This is supported by elite athletes who link self-confidence directly to the mastery of specific cognitive skills, such as map memorization and strategic simplification. For novices, a poor competitive performance may thus feel like a failure in these fundamental skills, leading to a sharp drop in self-evaluated worth (Belomazheva-Dimitrova & Sirakov, 2019).

Activity levels also decreased, albeit to a lesser extent, from 4.47 to 3.91. This reduction in perceived energy and readiness to engage in tasks may be attributed to the physical and mental fatigue associated with the competition. This connection is underscored by research with elite orienteers, which establishes a clear consensus that physical fitness is directly linked to technical performance during a competition, suggesting that physical fatigue can directly impair the cognitive resources needed for navigation (Sirakov & Belomazheva-Dimitrova, 2018).

The decrease in activity levels following the competition may reflect not only physical fatigue but also cognitive and emotional exhaustion. This cognitive load specifically targets executive functions; studies show that technical orienteering training primarily enhances concentration and sustained attention, meaning that competition likely drains these very resources, leading to a measurable drop in perceived energy (Sirakov & Belomazheva-Dimitrova, 2021). Mental exhaustion has been shown to reduce perceived energy levels and motivation, particularly in endurance-based sports involving high cognitive engagement (Kellmann, 2002).

Mood scores declined from 5.15 to 4.35, indicating a shift toward a less positive emotional state. This change may be linked to the stress and disappointment that can accompany competitive events,

particularly if participants faced challenges such as difficult terrain, navigation errors, or unfavorable competition outcomes. The emotional toll of competition, combined with physical exhaustion, likely contributed to the observed decline in mood.

The observed decline in mood is consistent with previous findings indicating that competitive stress and perceived underperformance can negatively affect affective states in young athletes. Mood disturbances following competition may be exacerbated in sports such as orienteering, where navigation errors are highly salient and often perceived as personal mistakes. Such experiences may intensify emotional reactions and contribute to short-term reductions in positive affect (Lane & Terry, 2000).

These findings align with foundational research demonstrating that competitive sports can be a significant source of stress, anxiety, and self-doubt for young athletes, particularly when they perceive their performance as inadequate (Gould et al., 1993). However, it is crucial to distinguish the specific pressures of formal competition from the broader experience of the sport. Research in educational settings shows that orienteering introduced as a physical education activity yields very high levels of student satisfaction, with participants reporting enjoyment and perceived benefits for their intellectual development (Sirakov, 2024). This suggests that the negative psychological shifts observed in the present study are likely tied to the acute evaluative pressure of competition, rather than to the inherent nature of orienteering activities. The results of this study also underscore the importance of providing psychological support to young orienteering competitors to help them manage the emotional and mental challenges of competition.

Compared to many team and individual youth sports, orienteering presents a distinctive psychological profile due to its emphasis on individual responsibility and continuous problem solving. Previous research has indicated that sports involving high levels of personal accountability may increase emotional pressure and stress responses in young athletes (Fraser-Thomas et al., 2008). This characteristic may partially explain the substantial post-competition declines observed in the present study.

Practical Implications

The observed declines in self-esteem, activity, and mood highlight the need for interventions aimed at supporting young athletes' psychological well-being. Coaches and parents can play a crucial role in fostering a positive competitive environment by emphasizing effort and improvement over outcomes, providing constructive feedback, and helping athletes develop coping strategies for dealing with stress and disappointment. Additionally, incorporating post-competition recovery activities, such as relaxation techniques or team debriefings, may help mitigate the negative psychological effects of competition.

Furthermore, psychological support and preparation should be considered alongside the quality of event organization. Since factors like clear map presentation, well-designed courses, and effective pre-event communication are known to enhance participant satisfaction and reduce pre-competition uncertainty (Sirakov & Minoiu, 2025), organizers and coaches can mitigate some environmental stressors. Optimizing these organizational aspects can create a more supportive competitive framework, potentially buffering the sharp psychological declines documented here.

Limitations and Future Research

This study has several limitations. First, the sample size was relatively small ($n = 21$), which may limit the generalizability of the findings. Second, the study focused on a single competition, and the psychological effects of repeated competitive events over time remain unexplored. Future research could investigate longitudinal changes in self-esteem, activity, and mood across multiple competitions, as well as the role of individual differences (e.g., age, gender, experience level) in shaping athletes' psychological responses.

CONCLUSION

This study explored the psychological impact of competitive orienteering on young athletes aged 10-14 years with little to no experience in racing, focusing on changes in self-esteem, activity, and mood before and after a competition. The results revealed significant declines in all three psychological

constructs following the event, with self-esteem showing the most pronounced decrease, followed by mood and activity. These findings highlight the emotional and mental challenges that young orienteering competitors face in a demanding and high-pressure environment.

The observed declines in self-esteem, activity, and mood underscore the importance of providing psychological support to young athletes to help them navigate the stresses of competition. Coaches, parents, and sports organizations play a critical role in fostering a positive and supportive environment that prioritizes effort, growth, and well-being over outcomes. By implementing strategies such as constructive feedback, stress management techniques, and post-competition recovery activities, stakeholders can help young athletes build resilience and maintain a healthy psychological state.

By addressing these challenges through proactive support and monitoring, we can ensure that young athletes not only perform at their best but also enjoy a positive and fulfilling sporting experience. This is particularly important given that orienteering, at its core, is an activity that new participants find highly engaging and intellectually rewarding. The role of coaches and parents, therefore, is to build a bridge that allows young competitors to carry this initial enjoyment and sense of competence forward into the competitive realm (Sirakov, 2024).

While this study provides valuable insights into the immediate psychological effects of competition, further research is needed to explore the long-term impact of repeated competitive events and the role of individual differences in shaping athletes' responses. Understanding these dynamics can inform the development of targeted interventions to support young athletes' mental and emotional well-being.

In conclusion, competitive orienteering, while offering numerous benefits, also poses significant psychological challenges for young inexperienced competitors. By addressing these challenges through proactive support and monitoring, we can ensure that young athletes not only perform at their best but also enjoy a positive and fulfilling sporting experience. A follow-up study with the same participants is planned once they have gained competitive experience, to determine whether the outcomes differ.

REFERENCES

1. Belomazheva-Dimitrova, S., Sirakov, I. (2019). Memory Training as a Preparation Method in Orienteering – For or Against: Study of the Opinion of World Elite Orienteering Competitors. *Proceedings "Tourism and Sport"*, Sofia: NSA Press, 2019, 5-11. (in Bulgarian)
2. Crocker, J., & Wolfe, C. T. (2001). Contingencies of self-worth. *Psychological Review*, 108(3), 593–623. <https://doi.org/10.1037/0033-295X.108.3.593>
3. Fraser-Thomas, J., Côté, J., & Deakin, J. (2008). Understanding dropout and prolonged engagement in adolescent competitive sport. *Psychology of Sport and Exercise*, 9(5), 645-662. <https://doi.org/10.1016/j.psychsport.2007.08.003>
4. Gould, D., Wilson, C. G., Tuffey, S., & Lochbaum, M. (1993). Stress and the Young Athlete: The Child's Perspective. *Pediatric Exercise Science*, 5(3), 286-297. <https://doi.org/10.1123/pes.5.3.286>
5. Harter, S. (1986). Processes underlying the construction, maintenance and enhancement of the self-concept in children. *Psychological perspectives on the self*, 3, 136-182.
6. Johnson, J. G. (2025). Decision making in sports, *Psychology of Sport and Exercise*, Volume 80, 2025, 102919, ISSN 1469-0292, <https://doi.org/10.1016/j.psychsport.2025.102919>.
7. Kellmann, M. (2002). *Enhancing Recovery: Preventing Underperformance in Athletes*. Human Kinetics.
8. Lam, H.K.N., Sproule, J., Turner, A.P., Phillips, S.M., J. (2024). Changes in perceived mental fatigue, physical fatigue and mood state during a 4-day national junior orienteering competition preparation camp. *Eur J Sport Sci*. 2024 Feb 5;24(2):226–38. doi: 10.1002/ejsc.12071. PMID: PMC11235969.
9. Lane, A. M., & Terry, P. C. (2000). The Nature of Mood: Development of a Conceptual Model with a Focus on Depression. *Journal of Applied Sport Psychology*, 12(1), 16–33. <https://doi.org/10.1080/10413200008404211>
10. Leonova, A. B. (1984). *Psychodiagnostics of human functional states*. Moscow: Moscow University Press. (in Russian)
11. Makelele, B. M. (2024). Self-Esteem in School Management Students with Special Reference to Gender and Age. *American Journal of Applied Psychology*, 12(1), 1-13.
12. Mazereel, V., Vansteelandt, K., Menne-Lothmann, C., Decoster, J., Derom, C., Thiery, E., Rutten, B. P.F., Jacobs, N., van Os, J., Wichers, M., De Hert, M. Vancampfort, D., van Winkel, R. (2021). The complex and dynamic interplay between self-esteem, belongingness and physical activity in daily life: An experience sampling study

- in adolescence and young adulthood. *Mental Health and Physical Activity*, Volume 21, 2021, 100413, <https://doi.org/10.1016/j.mhpa.2021.100413>
13. McCormick, A., Meijen, C., Marcora, S. (2015). Psychological Determinants of Whole-Body Endurance Performance. *Sports Med.* 2015 Jul;45(7):997-1015. doi: 10.1007/s40279-015-0319-6. PMID: 25771784; PMCID: PMC4473096.
 14. Sirakov, I. (2025). A Performance Analysis of Bulgarian University Orienteering: The Sustained Male Dominance of St. Cyril and St. Methodius University of Veliko Tarnovo. *Proceedings Problems and prospects of physical education and sports in the conditions of globalization*, Veliko Tarnovo: St. Cyril and St. Methodius University Press, volume 6, 31-39.
 15. Sirakov, I. (2024). St. Cyril and St. Methodius University students' satisfaction of their attendance in physical education and sports classes – orienteering. *Proceedings Problems and prospects of physical education and sports in the conditions of globalization*, Veliko Tarnovo: St. Cyril and St. Methodius University Press, volume 4, 43-50. (in Bulgarian)
 16. Sirakov, I., Belomazheva-Dimitrova, S. (2021). Effect of the training program on mental qualities in elite orienteers. *Journal of Physical Education and Sport*, Vol. 21, Issue 3, Art 190, 1498–1504, <https://doi.org/10.7752/jpes.2021.03190>
 17. Sirakov, I., Belomazheva-Dimitrova, S. (2018). Value of technical trainings, their analysis and effects on the preparation process of world elite orienteering competitors. *Journal of Physical Education and Sport*, Vol. 18, Issue 5, 2127–2133, <https://doi.org/10.7752/jpes.2018.s5321>
 18. Sirakov, I., Ivanova, K., Belomazheva-Dimitrova, S. (2023). Orienteering as an Urban Sport. *Proceedings Problems and prospects of physical education and sports in the conditions of globalization*, Veliko Tarnovo: St. Cyril and St. Methodius University Press, volume 2, 63-70. (in Bulgarian)
 19. Sirakov, I., Minoiu, V. (2025). Evaluating the Organization of the 2024 Bulgarian Orienteering Championships: A Focus on Forest Distances. *Sport, Science, Education*, vol. 1, issue 2, 150-157. <https://doi.org/10.54664/YLDP8162>

ANALIZA NIVOVA SAMOPOUZDANJA, AKTIVNOSTI I RASPOLOŽENJA KOD ORIJENTIRISTA UZRASTA 10-14 GODINA PRE I POSLE TAKMIČENJA

Sirakova Kristina

Sažetak: Ova studija istražuje psihološka stanja samopouzdanja, aktivnosti i raspoloženja kod mladih orijentirista uzrasta 10-14 godina, koristeći test samopouzdanja, aktivnosti i raspoloženja (Leonova, 1984) primenjen pre i posle takmičenja. Orijeintiring, zahtevan sport koji zahteva i fizičke i kognitivne veštine, pruža jedinstven kontekst za istraživanje uticaja takmičenja na emocionalna i mentalna stanja mladih sportista. Rezultati su pokazali značajne promene u psihološkim stanjima učesnika nakon takmičenja, sa приметnim promenama u nivou samopouzdanja i raspoloženja. Ovi nalazi naglašavaju uticaj takmičarskog pritiska na mlade sportiste i pružaju uvid u emocionalnu dinamiku sporta mladih. Studija ističe važnost psihološkog praćenja i podrške mladim takmičarima kako bi se poboljšali njihov performans i dobrobit u zahtevnim sportovima poput orijentiringa.

Ključne reči: mladi takmičari, orijentiring, psihološko testiranje.