

ANALYSIS OF THE PSYCHO-EMOTIONAL STATE OF YOUNG VOLLEYBALL PLAYERS DURING COMPETITION AND THE EFFECTIVENESS OF ITS CORRECTION

Sherzod S. Ummataliyev

Deputy Director for Mass Sport

Development and Selection,

Sports School No. 2 of Mirzo-Ulugbek District

<https://doi.org/10.5281/zenodo.20465749>

Abstract. This article analyzes the patterns of the psycho-emotional state (trait and state anxiety, mental stability, emotional stress) of 14–16-year-old volleyball players before and during competition. The study provides a comparative analysis of indicators between a control group, which underwent traditional training, and an experimental group, which followed a specialized psycho-emotional correction program involving psychoregulation, breathing exercises, and autogenic training. The findings demonstrated that state anxiety in the experimental group significantly decreased, leading to enhanced mental readiness and improved efficiency in technical-tactical actions during matches.

Keywords. young volleyball players, competitive process, psycho-emotional state, state anxiety, trait anxiety, psychoregulation, mental stability.

Мақолангизнинг аннотация (Abstract) ва калит сўзлар (Keywords) қисмини халқаро илмий журналлар (OAK, Scopus) талабларига мос келадиган, академик ва тиббий-психологик терминлар тўғри қўлланилган юқори сифатли рус тилидаги таржимасини тақдим этаман:

Аннотация. В данной статье анализируются закономерности психоэмоционального состояния (личностная и ситуативная тревожность, психическая устойчивость, эмоциональное напряжение) волейболистов 14–16 лет до и во время соревнований. Представлен сравнительный анализ показателей контрольной группы, занимавшейся по традиционной программе, и экспериментальной группы, в тренировочный процесс которой была внедрена специализированная программа психоэмоциональной коррекции, включающая методы психорегуляции, дыхательные упражнения и аутогенную тренировку. Результаты исследования показали, что у спортсменов экспериментальной группы уровень ситуативной тревожности достоверно снизился, что привело к повышению их психологической готовности и эффективности технико-тактических действий во время матчей.

Ключевые слова. юные волейболисты, соревновательный процесс, психоэмоциональное состояние, ситуативная тревожность, личностная тревожность, психорегуляция, психическая устойчивость.

Introduction. The modern game of volleyball is characterized by high dynamics, sudden situational shifts, acute time deficits, and intense psychological pressure during competitive activities. Stress factors arising during a match—such as spectator pressure, officiating decisions, a heightened sense of responsibility, and fluctuations in the score—demand not only physical and technical proficiency from athletes but also exceptional psycho-emotional stability.

The adolescent period of 14–16 years represents one of the most volatile and critical phases in the physical and psycho-physiological development of young volleyball players. Due to the relative imbalance between excitation and inhibition processes in the central nervous system at this age, young athletes are highly susceptible to acute pre-start tension ("competitive fever") or, conversely, mental lethargy ("competitive apathy"). Such conditions directly hinder their ability to fully manifest the technical-tactical skills acquired during training within the competitive environment.

Consequently, providing a scientifically grounded evaluation of the psycho-emotional state of young volleyball players during competition and developing swift methods for its correction constitutes a highly relevant and pressing problem in contemporary sports psychology and training theory.

Materials and methods. The study was conducted during the competitive phase of the macrocycle and involved 24 adolescent male volleyball players aged 14–16 years. The athletes were divided into two equal groups: Control Group (n=12): Trained under the traditional training framework; psychological preparation was limited to standard pedagogical discussions. Experimental Group (n=12): A specialized psycho-emotional correction program was integrated into both their training and competitive microcycles.

The correction program incorporated the following practical modalities. Diaphragmatic Breathing Exercises: Administered 20 minutes prior to matches to stabilize the autonomic nervous system and reduce sympathetic over-activation.

Short-term Autogenic Training & Ideomotor Imagery. Deployed immediately before matches and during intervals between sets to optimize attentional focus and alleviate acute emotional stress.

Cognitive Support Strategies: Utilizing structured "eye contact" and collective peer encouragement protocols following technical errors to prevent acute psychological drop or performance anxiety.

Athletes' psycho-emotional profiles were evaluated using the Charles D. Spielberger & Yuri L. Hanin "State-Trait Anxiety Inventory" (STAI) and the SAN (State, Activity, Mood) self-assessment test. In-game performance was quantified using the Technical-Tactical Actions (TTA) efficiency coefficient (expressed as a percentage). Statistical significance was verified using Student's t-test.

Results and discussion. Following the competitive series, substantial and statistically significant differences emerged in the psycho-emotional and functional-mental parameters between the control and experimental groups of young volleyball players.

Table: Comparative Analysis of Psycho-Emotional Indicators of Volleyball Players Under Competitive Conditions

Psycho-emotional and functional parameters	Groups	Pre-competition (baseline)	During competition (final)	Significance level (p)
State (Reactive) Anxiety (points)	Control G. (n=12)	44.2 ±2.1	46.8 ±2.3	p > 0.05
	Experimental G. (n=12)	44.5 ±1.9	34.2 ±1.5	p < 0.01
Trait Anxiety (points)	Control G. (n=12)	41.5 ±1.8	41.2 ±1.7	p > 0.05

	Experimental G. (n=12)	41.8 ±1.6	38.5 ±1.4	p < 0.05
SAN: Mood (points)	Control G. (n=12)	4.8 ±0.3	4.2 ±0.3	p > 0.05
	Experimental G. (n=12)	4.7 ±0.4	5.9 ±0.2	p < 0.01
Mental Stability Coefficient (%)	Control G. (n=12)	62.4 ±3.1	58.2 ±3.4	p > 0.05
	Experimental G. (n=12)	61.8 ±2.8	76.5 ±2.2	p < 0.01
Technical-Tactical Actions (TTA) Efficiency (%)	Control G. (n=12)	65.2 ±2.4	61.4 ±2.8	p > 0.05
	Experimental G. (n=12)	64.8 ±2.2	74.3 ±1.9	p < 0.01

At the peak of competitive stress, state anxiety in the control group shifted upward from a baseline of 44.2 to 46.8 points, entering a high-stress zone. This indicates that without specific intervention, young volleyball players struggle to independently manage game-related pressure and the fear of making errors. Conversely, the experimental group exhibited a significant drop in state anxiety down to 34.2 points ($p < 0.01$), mapping precisely within the zone of optimal readiness and functional psychological stability.

Mental stability and san parameters.the stabilization of emotional states directly and favorably influenced the general psychological tone of the experimental group, as evidenced by a substantial increase in their mood scores to 5.9 points on the SAN scale. In the control group, competitive stress provoked an opposite shift, lowering mood and vital energy to 4.2 points. The implementation of target psychoregulation protocols enabled the experimental group to drive their overall mental stability up to 76.5%.

Technical-Tactical Performance Links.The most crucial practical outcome of the study was the direct translation of emotional stability into objective motor performance. Volleyball-specific actions (serving, spiking, and blocking) remained highly precise in the experimental group, yielding a TTA efficiency of 74.3%. In contrast, the control group suffered a performance decrement down to 61.4%, caused by an accumulation of uncorrected errors under psychological duress.

Practical recommendations.Based on the objective findings of this research, the following practical protocols are recommended for volleyball coaches operating within youth sports schools.

Integration of Ideomotor Training: Coaches should allocate time during the pre-game warm-up phase for athletes to mentally simulate specific technical actions (e.g., serve reception or defensive positioning). This serves to establish a solid baseline of inner mental composure.

Inter-set Micro-regulation: During the standard 3-minute intervals between sets, tactical guidance should be balanced with physiological reset techniques. Coaches must actively guide players through structured, deep exhalation cycles to normalize cardiac rhythms and reset autonomic arousal.

Journal: <https://ifsmrc.org/index.php/aijrm>

Cognitive Reframing of Errors: To eliminate error-related phobias and strengthen collective cohesion during a deficit, structured sports psychology workshops should be scheduled across at least two training macrocycles annually.

Conclusion. The success of young volleyball players within a competitive environment is strictly conditioned by the stability of their psycho-emotional state. Under the demanding pressure of actual match play, a structured intervention utilizing psychoregulation and breathing exercises significantly and reliably mitigates state anxiety while enhancing mental stability. A direct comparison between the groups demonstrates that the systematic management of psychological states serves as a powerful and highly effective factor in maximizing technical-tactical execution and athletic performance under pressure.

References

1. Zheleznyak, Yu. D. Volleyball: Theory, Training, Result / Yu. D. Zheleznyak, A. V. Ivoylov. – Moscow : Kniga po Trebovaniyu, 2014. – 204 p.
2. Ilyin, E. P. Psychology of Sport / E. P. Ilyin. – St. Petersburg : Piter, 2012. – 352 p.
3. Kerimov, F. A. Scientific Research in Sports / F. A. Kerimov. – Tashkent : Zamin Nashr, 2021. – 318 p.
4. Malkin, V. R. Management of the psycho-emotional state of athletes during the competitive period / V. R. Malkin, L. N. Rogaleva // Teoriya i Praktika Fizicheskoy Kultury. – 2019. – No. 4. – P. 23–25.
5. Rodionov, A. V. Psychology of Physical Education and Sports: Textbook for Universities / A. V. Rodionov. – Moscow : Academic Project, 2004. – 576 p.
6. Sopov, V. F. Mental Regulation in Athletic Activity: Methodological Guide / V. F. Sopov. – Moscow : RSUFG, 2005. – 74 p.
7. Hanin, Yu. L. Brief Guide to the Application of the Charles D. Spielberger State-Trait Anxiety Inventory / Yu. L. Hanin. – Leningrad : LNIIFK, 1976. – 18 p.
8. Weinberg, R. S. Foundations of Sport and Exercise Psychology / R. S. Weinberg, D. Gould. – 7th ed. – Champaign : Human Kinetics, 2019. – 680 p.