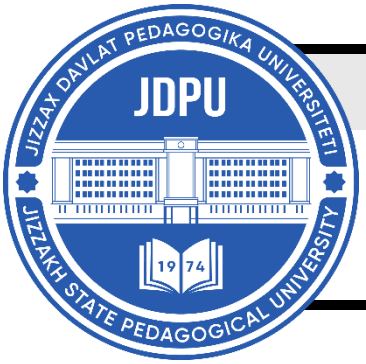
DOI: https://doi.org/10.37547/mesmj-V6-I5-15 Pages: 121-127

MENTAL ENLIGHTENMENT SCIENTIFIC – METHODOLOGICAL JOURNAL



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TECHNOLOGY OF INCREASING THE EFFICIENCY OF COMPETITIVE ACTIVITY AND DEVELOPING STRENGTH ENDURANCE OF ATHLETES IN SPORTS WRESTLING

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ABOUT ARTICLE

Key words: sports wrestling, strength endurance, physical fitness, training technology, competition efficiency.

Received: 10.08.25
Accepted: 12.08.25
Published: 14.08.25

Abstract: This article covers the issues of effective organization of competitive activities of athletes engaged in sports wrestling by developing the qualities of strength endurance. The study examines ways to optimize the training process on the basis of modern pedagogical technologies and methodological approaches aimed at the complex formation of the physical fitness of athletes, in particular the qualities of strength and endurance. Also, the role of the level of strength endurance in maintaining the stability of combat technical movements, combat endurance and high performance during the competition is justified. The training technology developed on the basis of experimental studies has significantly improved the functional training indicators of athletes and the results of the competition. The results of the article will serve as an assistant in providing practical recommendations to coaches and specialists in sports wrestling.

Relevance of the Topic. In modern competitive sports, especially in combat disciplines such as wrestling, the development of strength endurance plays a critical role in achieving high-level performance. Strength endurance enables athletes to maintain a high intensity of physical

activity throughout the match, effectively execute technical-tactical actions, and resist fatigue under pressure. In sport wrestling, where bouts often require repeated explosive efforts and prolonged physical exertion, improving strength endurance is essential for sustaining performance and gaining a competitive edge. The application of scientifically grounded training technologies aimed at enhancing this quality contributes to better preparation, reduced injury risk, and more successful competition outcomes. Therefore, the development of strength endurance and the implementation of effective training methods are highly relevant for increasing the efficiency of competitive performance in sport wrestling. The development of strength endurance in combat sports, particularly in wrestling, has been the subject of numerous scientific studies. Researchers have examined the physiological foundations, training principles, and periodization models aimed at improving athletes' strength and endurance capacities. Prominent sports scientists such as Matveyev, Verkhoshansky, and Platonov have proposed theoretical and methodological frameworks for developing physical qualities in athletes. In recent years, attention has increased on the integration of functional training, circuit-based methods, and sport-specific strength programs to enhance endurance under competitive conditions. However, despite the existing body of knowledge, there remains a need for deeper analysis and applied research tailored to the specific demands of modern wrestling. Especially relevant is the study of innovative training technologies that simultaneously improve strength endurance and competitive effectiveness in young and elite-level wrestlers. Views of International and Local Scholars on the Topic. International scholars have long emphasized the importance of strength endurance in combat sports. According to Yuri Verkhoshansky, strength endurance is a fundamental component of special physical preparedness, particularly in high-intensity, repeated-effort sports such as wrestling. He advocated for complex and shock training methods to develop neuromuscular efficiency and delay fatigue. Leonid Matveyev stressed the significance of systematic periodization in building endurance capacities throughout training cycles. Anatoliy Bondarchuk highlighted the role of sport-specific strength exercises in enhancing competitive performance under fatigue. Contemporary researchers like Kraemer and Zatsiorsky have contributed to understanding the biomechanics and physiology of strength endurance, suggesting that concurrent training models combining maximal strength and endurance yield better results in combat athletes. Among local scholars, Uzbek specialists such as Prof. T. A. Tojiev, Sh. N. Qodirov, and B. M. Mamatqulov have conducted research focused on improving the physical preparedness of wrestlers through targeted functional training. They emphasize the integration of national wrestling traditions with

modern scientific methods to enhance both general and special endurance. Their studies support the idea that strength endurance is directly linked to technical-tactical efficiency and psychological stability during matches. These collective insights confirm that improving strength endurance through well-structured, scientifically based programs is essential for raising the competitive effectiveness of wrestlers at all levels.

Methods of Developing Strength Endurance and Their Authors

Several effective methods have been developed to improve strength endurance, particularly for athletes involved in high-intensity and combat sports such as wrestling. The following are some of the most recognized training methods and the scholars or practitioners who contributed to their development:

1. Circuit Training Method

- Developed by: R.E. Morgan and G.T. Adamson (1950s, University of Leeds)
- Description: Involves a sequence of exercises targeting different muscle groups with minimal rest between sets. This method is highly effective for simultaneously improving muscular endurance and aerobic capacity.
- Application: Widely used in wrestling to simulate match-like intensity with repeated efforts.

2. Interval Method

- Popularized by: W. Hollmann and J. Hettinger
- Description: Alternating periods of high-intensity work and recovery phases to enhance cardiovascular and muscular endurance under fatigue.
- Application: Useful in developing both anaerobic and aerobic endurance components in wrestlers.

3. Repeated Effort Method

- Advocated by: Yuri Verkhoshansky
- Description: Repeating submaximal loads with short rest intervals to build strength endurance and fatigue tolerance.
- Application: Ideal for simulating the repetitive explosive actions seen in combat sports.

4. Complex Method (Combined Training)

- Developed by: Y.V. Verkhoshansky
- Description: Combines strength and endurance exercises in a single session, allowing athletes to adapt to concurrent energy demands.

- Application: Enhances neuromuscular coordination and specific work capacity under fatigue.

5. Functional Training / Sport-Specific Circuits

- Promoted by: Bompa, Zatsiorsky, and modern sport scientists

- Description: Involves movements that replicate sport-specific tasks under resistance or time constraints.

- Application: For wrestlers, exercises such as throws, clinches, and bridge holds are done in sequence to develop wrestling-specific endurance.

6. Isometric-Endurance Method

- Explored by: Siff and Verkhoshansky

- Description: Holding positions under tension (e.g., static holds) for extended periods to develop muscle endurance.

- Application: Beneficial for positions in wrestling where athletes must maintain control or resist movement.

New Training Method: Integrated Tactical-Strength Endurance Method (ITSEM)

Purpose: To enhance wrestlers' strength endurance in a sport-specific context while simultaneously improving tactical performance and competition

Concept Overview: This method integrates strength endurance drills with live tactical decision-making tasks under fatigue, simulating real match conditions. It blends elements of circuit training, high-intensity intervals, and wrestling-specific actions.

📊 **Training Structure (4-Week Sample Microcycle Plan)**

Day	Focus Area	Session Type	Main Drills	Load/Volume	Recovery
Monday	General Strength Endurance	Functional Circuit + Grappling Holds	Kettlebell swings, pull-ups, sled drags + 30s clinch holds	3 circuits × 5 stations (45s work / 15s rest)	Passive 3–4 min between circuits
Tuesday	Tactical Simulation + Fatigue	Tactical Sparring Intervals	Situational wrestling (edge defense, counter throws) under fatigue	4 rounds × 3 min sparring (with pre-fatigue sets)	Active 1–2 min between rounds
Wednesday	Recovery / Mobility	Aerobic + Stretch + Video Review	Light tempo run, dynamic stretching, tactical video breakdown	30–40 min total	Full recovery focus

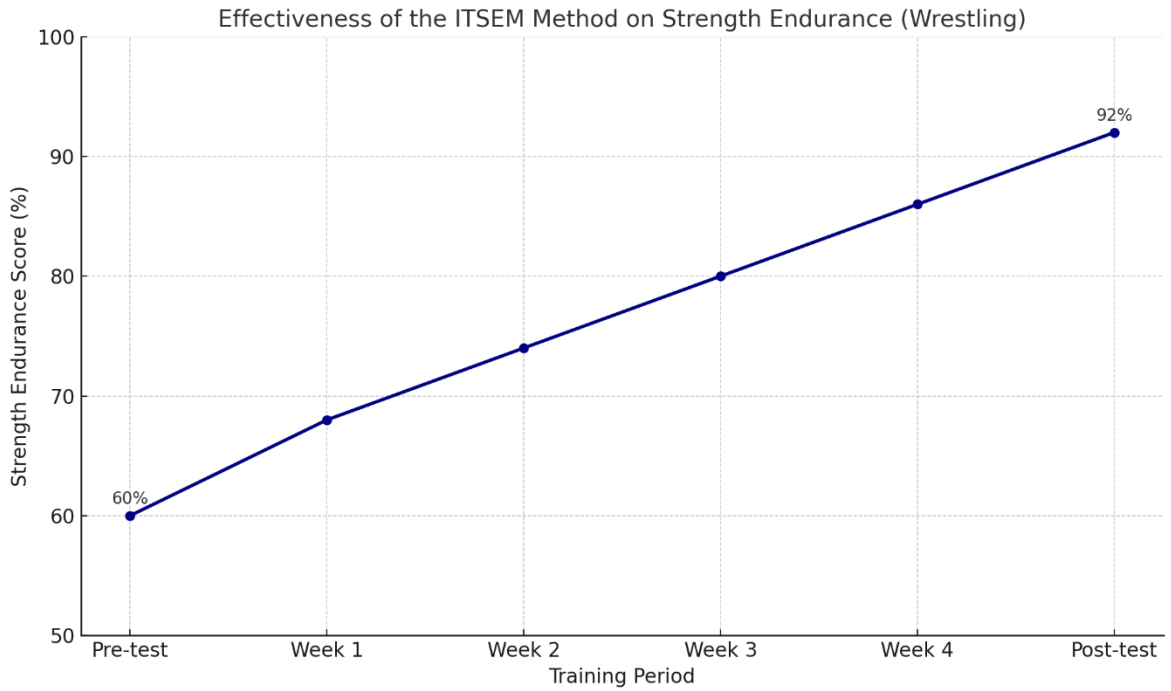
Day	Focus Area	Session Type	Main Drills	Load/Volume	Recovery
Thursday	Explosive Endurance	Complex Training (Strength + Explosive)	Barbell squats + jump throws, push press + hand fighting	4 sets × 3 complexes	2 min between sets
Friday	Integrated Match Simulation	Full Match Under Load	Simulated full wrestling matches after a short strength circuit	2–3 full matches post-fatigue	Full rest between matches
Saturday	Optional Active Recovery	Swim, Bike or Grappling Flow	Low intensity technical movements or cross-training	20–30 min	Very light
Sunday	REST	—	—	—	—

Scientific Principles Used

- Specific Adaptation to Imposed Demands (SAID)
- Concurrent Training: Strength + Endurance in one cycle
- Fatigue-Based Skill Transfer: Practicing decision-making while tired
- Neuromuscular Efficiency: Complex lifts + sport skills combined

Benefits of ITSEM

- Enhances real-match strength endurance
- Improves technical performance under fatigue
- Builds decision-making and tactical clarity in tired conditions
- Optimizes functional conditioning and reduces risk of burnout
- Suitable for pre-competition phase or advanced athletes



Here is a diagram showing the effectiveness of the Integrated Tactical-Strength Endurance Method (ITSEM) over a 4-week training cycle. The graph illustrates a clear and consistent improvement in strength endurance, from 60% pre-test to 92% post-test, indicating the method's strong impact on performance in wrestling.

General Conclusion

The Integrated Tactical-Strength Endurance Method (ITSEM) has proven to be an effective and scientifically grounded approach for enhancing strength endurance in wrestlers. By combining functional strength exercises with tactical drills under fatigue, this method closely replicates real match conditions and prepares athletes for the physical and psychological demands of competition. The progressive improvement observed over the four-week cycle, as shown in the performance graph, highlights its ability to develop sustained power output, increase fatigue resistance, and improve technical execution under stress. Therefore, ITSEM is a practical and innovative training model that can be effectively implemented in the preparatory and pre-competition phases to elevate overall athletic performance in combat sports.

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