MORPHOFUNCTIONAL APPROACH TO THE TECHNICAL AND TACTICAL TRAINING OF YOUNG GRECO-ROMAN WRESTLERS: INTERNATIONAL EXPERIENCE

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Abstract:
This article highlights the significance and effectiveness of a morphofunctional approach in optimizing the technical and tactical training of young Greco-Roman wrestlers. The necessity of developing individualized training programs based on an in-depth study of athletes' morphological and functional characteristics is substantiated. In particular, international experience from countries such as Germany, Russia, the USA, Japan, and Turkey is analyzed in terms of how morphofunctional indicators are applied in the technical and tactical preparation of young wrestlers. The study emphasizes that muscle strength, speed, endurance, reaction time, and anthropometric parameters are decisive factors in the development of technical and tactical skills. Moreover, it is underlined that innovative technologies, monitoring systems, and scientific-methodological approaches employed in foreign countries have practical significance for improving the preparation of Uzbek athletes. The article reveals the role and prospects of international experience in organizing training tailored to the individual capacities of young athletes.

Keywords: Greco-Roman wrestling, young athletes, technical and tactical training, morphofunctional approach, international experience, individualized training, anthropometric indicators, sports physiology, innovative technologies, monitoring system.

Introduction

Modern sports are distinguished by rapid development, innovative approaches, and advanced scientific research. In particular, within combat sports such as Greco-Roman wrestling, an approach based on morphofunctional indicators has gained increasing importance in the training of young athletes. International experience demonstrates that in countries with well-established sports schools, morphofunctional approaches are widely applied in athlete selection, the determination of their appropriate sporting trajectory, and the development of individualized training programs. For example, in Russia, Turkey, Iran, the United States, Japan, and other nations, individualized training loads and the selection of technical-tactical exercises are determined based on morphofunctional characteristics. This contributes to

unlocking athletes' full potential, reducing the risk of injuries, and ensuring steady improvements in sporting performance. Research conducted abroad indicates a direct correlation between the morphofunctional development of young athletes and the level of their technical and tactical preparation. In particular, parameters such as body weight, muscle strength, and endurance serve as crucial factors in determining the effectiveness of applied techniques and the strategies employed in countering opponents. From this perspective, a thorough study of international experience and its adaptation to national sports practices is of great significance for elevating the technical and tactical preparation of young Greco-Roman wrestlers to a new level.

Main Part

In Greco-Roman wrestling, morphofunctional indicators hold particular scientific and practical significance in the formation of young athletes' technical and tactical preparedness, being directly related to parameters such as physical development level, muscular strength, endurance, stature, and body mass. Global practice demonstrates that considering individual morphofunctional characteristics in the preparation of young wrestlers is regarded as a critical factor in enhancing the effectiveness of technical and tactical training. Specifically, research conducted in Russia, Turkey, Iran, and European countries indicates that in selecting a wrestler's technical-tactical repertoire, not only the athlete's skill level but also anthropometric measurements and physiological capacities are treated as essential criteria. One of the methodological approaches widely applied in international practice is the differential design of training programs that account for body structure, cardiovascular function, and muscular energy potential. Furthermore, it is emphasized that technical and tactical techniques used in competition must be proportionate to the athlete's morphofunctional capabilities. For instance, tall wrestlers with long arms are often more effective in techniques involving upper-body holds, whereas shorter, more robust athletes may achieve better results with low-level offensive maneuvers. From this perspective, international experience advocates systematic monitoring of morphofunctional indicators, the development of individualized training plans, and the use of these criteria as primary benchmarks in selecting technical-tactical actions. Such an approach not only fosters technical mastery but also enhances competitive performance, reduces the risk of injuries, and contributes to the long-term sustainability of athletic careers. It can therefore be asserted that optimizing technical and tactical preparation based on morphofunctional criteria represents one of the modern, scientifically grounded directions in the formation of sporting excellence among young wrestlers. The issue of optimizing the technical-tactical preparation of young Greco-Roman wrestlers through morphofunctional approaches has become particularly relevant in contemporary sports theory and practice, since achieving competitive results today requires not only the development of physical qualities but

also a comprehensive study of morphological and functional characteristics of the organism and the creation of tailored methodologies. International experience further confirms that young athletes' technical and tactical preparedness is directly dependent on their morphological indicators (such as height, body mass, muscular strength, and body proportions) as well as functional capacities (respiration, cardiovascular endurance, speed, stamina, and reaction time). For this reason, scientific research increasingly acknowledges the effectiveness of individualized approaches based on morphofunctional indicators. In particular, in countries with strong wrestling traditions such as Russia, Bulgaria, Turkey, and Azerbaijan, research has shown that involving athletes in differentiated training programs according to their age stages, determining their level of biological maturity, and developing technical-tactical preparedness accordingly is widely practiced. For example, in studies conducted by Bulgarian scholars, the type of muscle fibers in adolescent wrestlers (fast-twitch or slow-twitch) was identified, and strength and endurance exercises were prescribed individually during the training process. In Turkey's experience, the body composition and musculoskeletal system development of adolescent athletes were regularly monitored to determine what biomechanical advantages they possessed when performing technical movements. This approach helped to reduce the risk of overtraining and contributed to improving the effectiveness of training(see Table 1).

Table 1. Criteria for Analyzing International Experience and Scientific Conclusions

№	State / territorial model	Applied approach and mechanisms	Advantages	Disadvantages	Scientific and practical significance
1	USA (American model	Management, public and private sector cooperation based on innovative technologies	Speed, efficiency, the possibility of attracting private capital	Social inequality, imbalance by Regions	Allows you to increase competitiveness and ensure transparency in management
2	Germany (European model	Thoroughness of legal framework, integration with research institutes	Sustainable development, priority on quality, science-based approach	Slow decision-making process	Provides long-term strategic stability
3	Japan (Asian model	Synthesis of national traditions and modern innovations, attention to technological development	Discipline, high efficiency, harmony of national values	Limitation of flexibility	Allows you to harmonize innovative processes with national values
4	Scandinavian countries	Social equality, state guarantees, open management system	Equality, social justice, High Social Security	High budget costs, weight of tax burden	Provides an important experience in ensuring social stability and inclusion
5	Uzbekistan (national model	Adaptation of international experience to national conditions, integration of legal reforms and innovations	Flexibility, compatibility with national characteristics	Resource delimitation	Allows you to harmonize the national model with international standards

In European countries, particularly in Germany and Poland, research emphasizes the importance of considering psychophysiological conditions in the individual optimization of technical-tactical training for young athletes. An athlete's ability to concentrate, speed of decision-making, and psychological stability can be decisive factors for success in wrestling. Therefore, the German scientific school recommends that coaches incorporate not only

technical and strength exercises but also game-based methods aimed at accelerating cognitive reactions into training sessions. This ensures a comprehensive approach by harmonizing morphofunctional indicators with psychological factors.

In China and Japan, the genetic potential and hereditary factors of athletes are studied in depth, and training methods appropriate to these characteristics are applied at an early age. For example, in China, young wrestlers' heart rate, lung capacity, and muscle elasticity are continuously monitored, and based on these indicators, individual training loads are determined. This approach helps to prevent premature overfatigue and the risk of injuries.

Moreover, in Japan, biotechnological methods—such as video analysis, digital tracking systems, and artificial intelligence tools—are widely employed to refine technical-tactical movements. These methods are considered effective in identifying athletes' technical errors, comparing them with their morphological capacities, and developing individualized improvement strategies.

An analysis of international experiences demonstrates that the following principles are crucial for effectively organizing technical-tactical preparation among young Greco-Roman wrestlers: first, individualizing training loads by taking into account the athlete's biological age; second, conducting continuous monitoring of morphofunctional indicators and aligning technical movements accordingly; third, considering psychophysiological factors to develop quick decision-making and tactical thinking; and fourth, managing the training process on a scientific basis through modern technologies.

Conclusion

A deep study of the morphofunctional approach to the technical and tactical training of young Greco-Roman wrestlers is one of the important directions of modern sports theory and practice. The experience of foreign countries shows that training processes designed with consideration of athletes' physical and functional capabilities not only effectively develop technical and tactical skills, but also enhance the athletes' overall sporting potential. Through the morphofunctional approach, the individual developmental characteristics of young athletes are accurately assessed, and personalized training programs are developed. This, in turn, helps to prevent excessive loads and injuries during training, while ensuring a balanced development of endurance, speed, and strength qualities.

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