

**ENHANCING PHYSICAL DEVELOPMENT OF 11-12-YEAR-OLD  
FREESTYLE WRESTLERS THROUGH A SPECIALIZED TRAINING  
PROGRAM: A COMPREHENSIVE STUDY**

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**Abstract.** This comprehensive study investigates the impact of a well-structured, age-appropriate training program on the physical development of 11-12-year-old freestyle wrestlers. The goal of the research is to assess how systematic, targeted training affects key physical attributes such as strength, endurance, agility, and speed. The results demonstrate significant improvements in these areas, highlighting the importance of specialized training during critical stages of physical development. The study provides valuable insights for coaches and sports scientists, offering a scientifically grounded basis for designing effective training regimens that support the long-term growth and success of young athletes.

**Keywords:** Freestyle wrestling, physical development, structured training, strength, endurance, agility, speed, youth athletes.

**Introduction.**

Freestyle wrestling is a physically demanding sport that requires a high level of strength, endurance, speed, and agility. While technical skills and tactical acumen are crucial, the foundation of success in wrestling lies in an athlete's physical conditioning. For young athletes, particularly those aged 11-12, the period of early adolescence is a pivotal phase in their physical development. During this time, their bodies are undergoing significant growth, and they are highly receptive to targeted physical training. It is during these formative years that athletes can develop the foundational strength and physical attributes that will shape their future success.

This study aims to explore the role of specialized training in optimizing the physical conditioning of 11-12-year-old freestyle wrestlers. By focusing on the development of key physical characteristics, the study seeks to offer practical

guidance for coaches, trainers, and sports educators on how to maximize the physical potential of young athletes. Moreover, the research examines how a structured training program, aligned with developmental needs, can create a lasting impact on an athlete's performance, health, and ability to compete at higher levels.

Existing literature on youth sports development emphasizes the importance of age-appropriate training. However, in the context of freestyle wrestling, there is a lack of comprehensive data regarding the systematic physical development of young athletes. This study addresses this gap by providing an in-depth analysis of how tailored training regimens can enhance physical performance, offering a blueprint for coaches to develop future wrestling champions.

### **The Role of Physical Development in Freestyle Wrestling.**

Freestyle wrestling is a sport where every second of performance matters. Athletes are required to execute complex maneuvers with precision and speed while maintaining control over their opponents. This demands an exceptional level of physical conditioning, particularly in key areas such as explosive strength, cardiovascular endurance, flexibility, and coordination. For young wrestlers, the ability to develop these physical attributes during early adolescence provides them with the tools to succeed both in national and international competitions.

The importance of physical development in youth sports cannot be overstated. Strength, for example, is essential for both offensive and defensive techniques in wrestling. A wrestler must have the power to take down their opponent while also being able to resist counterattacks. Endurance, on the other hand, is critical for maintaining high-intensity effort throughout a match, which can often last several minutes of continuous exertion. Agility is key for swift movement and quick recovery from takedowns, while speed allows wrestlers to seize opportunities and gain an upper hand during crucial moments in a match.

The challenge, however, is that each of these physical attributes develops at different rates during adolescence. Therefore, a structured training program must account for the individual growth patterns and maturation rates of young athletes. The

program must be dynamic enough to address the unique physical needs of each athlete while maintaining a balance that prevents overtraining or injury.

### **Materials and Methods.**

This study was conducted over an eight-week period, involving a group of 112 freestyle wrestlers aged 11-12 from various sports schools in the Fergana region. The athletes were divided into two age-based cohorts: the 11-year-old group and the 12-year-old group. Throughout the program, the athletes underwent systematic, structured training aimed at improving strength, endurance, speed, and agility.

The training program was designed to gradually increase in intensity, ensuring that athletes adapted to the physical demands while minimizing the risk of overexertion or injury. Each session was conducted three times a week, lasting between 60 to 90 minutes. The program incorporated a variety of exercises tailored to enhance specific physical attributes, with progress closely monitored through performance tests conducted at the beginning and end of the study.

#### **Tests Used to Measure Physical Development:**

60-Meter Sprint: To assess explosive speed and acceleration.

1500-Meter Run: To evaluate aerobic endurance and cardiovascular health.

Push-Ups: To measure upper body strength and muscular endurance.

Standing Long Jump: To gauge leg power and overall strength.

Tennis Ball Throw: To test coordination, upper body strength, and control.

Agility Drills: Including ladder exercises to assess agility, footwork, and quick directional changes.

Flexibility Tests: To measure flexibility and range of motion, which are essential for executing wrestling techniques with precision.

Each of these tests was chosen based on their relevance to the physical demands of wrestling and their alignment with the developmental stages of the athletes. By measuring progress across these diverse physical attributes, the study was able to provide a comprehensive understanding of the athletes' physical improvements over time.

## **Results.**

The results of the study were overwhelmingly positive, with significant improvements observed across all physical attributes tested. The structured training program proved highly effective in enhancing the physical conditioning of the young wrestlers, as evidenced by the following key findings:

**Strength Gains:** The athletes demonstrated substantial improvements in both upper and lower body strength. Push-up performance improved by an average of 15%, while standing long jump distances increased by 6%. These gains in strength were crucial for improving the wrestlers' ability to execute powerful offensive and defensive techniques during matches.

**Endurance Enhancement:** The results of the 1500-meter run revealed significant improvements in cardiovascular endurance. On average, the athletes completed the run 10% faster at the end of the eight-week program. The athletes were able to maintain optimal heart rates (between 135-145 beats per minute) during high-intensity exercises, indicating improved aerobic capacity and the ability to sustain effort over prolonged periods.

**Agility and Speed Improvements:** Agility drills, such as ladder exercises and short sprints, showed marked improvements in speed and reaction times. Athletes improved their 60-meter sprint times by an average of 12%, demonstrating faster acceleration and better overall speed. Agility tests revealed greater control over movements and quicker directional changes, which are essential for effective wrestling performance.

**Coordination and Balance:** The tennis ball throw test and other coordination exercises revealed that athletes had better overall control and balance by the end of the program. Improved coordination allowed the wrestlers to perform technical maneuvers more efficiently, reducing the likelihood of errors during high-pressure situations in matches.

**Flexibility Gains:** Flexibility tests showed noticeable improvements, with athletes demonstrating an increased range of motion in key muscle groups. This

improvement in flexibility was critical for enabling the athletes to perform more complex wrestling techniques with greater ease and precision, while also reducing the risk of injury.

### **Discussion.**

The findings of this study highlight the critical role that structured, age-appropriate training plays in the physical development of young freestyle wrestlers. Each of the key physical attributes—strength, endurance, speed, agility, and flexibility—improved significantly over the eight-week period, providing strong evidence that a specialized training program can have a profound impact on athletic performance.

The results also suggest that young athletes respond particularly well to progressive training regimens. The gradual increase in training intensity allowed the athletes to continuously adapt to new physical challenges without experiencing burnout or overtraining. This approach aligns with broader research in youth sports development, which emphasizes the importance of progressive overload and gradual increases in training volume to ensure long-term health and performance gains.

The greater improvements observed in the 12-year-old cohort compared to the 11-year-olds may indicate that physical maturation plays a significant role in how effectively young athletes can respond to training stimuli. As athletes grow and their bodies develop, they become better equipped to build muscle mass, improve cardiovascular function, and execute more complex physical movements. This finding highlights the importance of tailoring training programs to the specific developmental stage of each athlete, ensuring that they are receiving the appropriate level of physical stimulus for their age.

### **Conclusion.**

This study conclusively demonstrates that a well-structured, targeted training program can significantly enhance the physical conditioning of 11-12-year-old freestyle wrestlers. By focusing on the development of key physical attributes, coaches can ensure that young athletes are not only prepared for immediate

competitive success but are also laying the groundwork for long-term athletic development.

The research underscores the importance of age-specific training, with gradual increases in intensity to match the athletes' developmental needs. By adopting such an approach, coaches and trainers can foster an environment where young athletes thrive physically, reducing the risk of injury and ensuring sustained progress in their athletic careers.

Ultimately, this study provides a valuable framework for the design and implementation of training programs for youth athletes in wrestling and other physically demanding sports. It highlights the need for scientifically grounded methods that prioritize the health, well-being, and performance of young athletes, preparing them for a successful future in sports.

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