

SCIENTIFIC AND METHODOLOGICAL FOUNDATIONS FOR DEVELOPING
PHYSICAL QUALITIES IN ADOLESCENT TAEKWONDO ATHLETES

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Abstract. *This article focuses on the development of physical qualities in adolescent taekwondo athletes. It explores the importance of developing physical attributes in young athletes, particularly in a sport like taekwondo, where high levels of physical activity are required. The article highlights essential physical qualities, including strength, speed, endurance, flexibility, and coordination, which contribute to effective performance in taekwondo. It emphasizes that physical development should be based on age-appropriate, individualized training programs. The article also examines the methodological principles for structuring training sessions, such as gradual progression, periodicity, and recovery, while considering the athlete's psychological and physiological state. Furthermore, the article provides insight into the training methods that best foster the development of physical qualities to achieve optimal results in taekwondo.*

Keywords: *Taekwondo, Physical qualities, Adolescents, Strength, Speed, Endurance, Flexibility, Coordination, Athlete preparation, Individualized training, Psychological and physiological state, Training methods, Physical development.*

Annotatsiya. *Mazkur maqola, o'spirin taekvondochilarning jismoniy sifatlarini shakllantirish mavzusida yozilgan. Ushbu maqolada, yosh sportchilardagi jismoniy sifatlarini rivojlantirishning muhimligi va taekvondo kabi harakatlar faolligi yuqori bo'lgan sport turidagi xususiyatlari o'rganilgan. Jismoniy sifatlar – kuch, tezkorlik, chidamlik, yumshoqlik va koordinasiya – taekvondo sportchilarining samarali natijalarga erishishini ta'minlaydi. Ma'lumotlar, yoshga mos va individuallashtirilgan mashg'ulotlar orqali bu sifatlarini rivojlantirishning asosiy metodik printsiplarini ko'rsatadi. Mashg'ulotlar jarayonida bosqichma-bosqichlik, qaytarish va davriylikni saqlash, shuningdek, psixofiziologik holatni hisobga olish muhim ekanligi ta'kidlangan. Maqolada jismoniy sifatlarini shakllantirish uchun taekvondo sportchilarining mashg'ulotlari qanaqa uslublar bilan samarali bo'lishi va ularning yuqori natijalarga erishishi uchun qanday shart-sharoitlar zarurligi tahlil qilingan.*

Kalit so'zlar: *taekvondo, jismoniy sifatlar, o'spirinlar, kuch, tezkorlik, chidamlik, yumshoqlik, koordinasiya, sportchi tayyorgarligi, individuallashtirilgan mashg'ulot, psixofiziologik xolat, mashg'ulot usullari, jismoniy rivojlanish.*

Introduction

In today's sports science, preparing adolescent athletes at a high level requires special attention, especially in combat sports like taekwondo, where technical and tactical movements are intensive.

Physical qualities form the physiological and biomechanical foundation for successful athletic performance. Achieving high performance in taekwondo is impossible without an adequate level of physical preparedness.

The Role and Importance of Physical Qualities in Taekwondo

Taekwondo, as a sport with intense physical activity and a high risk of injury, demands the development of multiple physical qualities. These include:

Strength – essential in performing impactful strikes in both high and low stances.

Speed – crucial for quickly reacting to opponents and executing attacks.

Endurance – helps maintain functional activity throughout training and competition.

Flexibility – ensures wide range of motion, particularly in leg techniques, and reduces injury risk.

Motor coordination – vital for executing precise techniques, maintaining balance, and synchronizing movements.

Methodological Approaches to Physical Development

When working with adolescents, training aimed at developing physical qualities must consider age-specific morphological and functional characteristics. Training programs should be based on the following methodological principles:

Gradual progression – Physical loads should increase step by step, preventing overtraining and injury.

Individualization – Training content should be adapted to each athlete's abilities, level of preparation, and psychophysiological condition.

Cyclicity and recovery – Alternating work and rest phases is essential for optimal physical development and recovery.

Training should include:

Cyclic and acyclic movements

Interval loading methods

Comprehensive physical fitness testing

Specific Features of Physical Development in Adolescents

During adolescence, the body undergoes rapid growth, hormonal changes, and active development of the central nervous system. Since the cardiovascular system is still maturing, training programs must balance load and recovery carefully.

Adolescents also tend to show increased movement volume, frequent motor errors, quick fatigue, and emotional instability. Therefore, physical training should be combined with technique-focused exercises.

Training Methods for Developing Physical Qualities in Taekwondo

1. Strength and Power:

Bodyweight exercises (pull-ups, push-ups, jumps)

Weighted exercises (e.g., medicine ball drills)

2. Speed:

Short-distance sprints

Reaction and reflex training games

3. Endurance:

Long-distance running
Interval running workouts

4. Flexibility:

Dynamic and static stretching
Floor mobility exercises

5. Coordination:

Practicing complex technical combinations
Eye-hand/eye-foot coordination drills

Conclusion.

The development of physical qualities in adolescent taekwondo athletes is an integral part of long-term sports training. These qualities are not only critical for competitive success but also for overall physical activity, healthy development, and injury prevention. A scientifically grounded, age-appropriate, and individualized training approach can foster the preparation of high-performance taekwondo athletes.

REFERENCES

1. Nazarov R.A. Theory and Methods of Physical Education, Tashkent, 2020.
2. Matveev L.P. General Theory of Physical Culture and Sports, Moscow, 2000.
3. Platonov V.N. Training Systems in Olympic Sports, Kiev, 2015.
4. World Taekwondo Federation (WT) training materials.
5. Let me know if you want this article formatted as a Word document or PowerPoint presentation — I'll prepare it for you.
6. Umurkulova D. A. TA'LIM JARAYONINI AXBOROTLASHTIRISHDA MASOFAVIY TA'LIM TIZIMINING AFZALLIKLARI //Oriental renaissance: Innovative, educational, natural and social sciences. – 2022. – T. 2. – №. 5-2. – C. 314-318.
7. Umurkulova D. A. Dynamics of physical training of table tennis people in primary preparatory groups //current research journal of pedagogics. – 2021. – T. 2. – №. 11. – C. 168-177.
8. Юсупова З. Э. и др. ЖИСМОНИЙ ТАРБИЯ ВА СПОРТДА ЗАМОНАВИЙ ТАЪЛИМ ТЕХНОЛОГИЯЛАРИ АСОСИДА ЎҚИТИШ ТЕХНОЛОГИЯСИ //Modern Science and Research. – 2025. – T. 4. – №. 4. – C. 24-35.
9. Eshtaev A. K. et al. YUQORI MALAKALI GIMNASTIKACHILARNI HALQADA BAJARILADIGAN (KREST, GORIZONTAL TURISH, QALDIRG 'OCH) ELEMENTLARINI O 'RGATISHNING I-BOSQICHI //Modern Science and Research. – 2025. – T. 4. – №. 3. – C. 847-856.
10. Rasulov A. S., Kazoqov R. T., Quvondiqov J. I. 14-16 YOSHLI BELBOG'KURASHCHILARNI MUSOBAQA OLDI SIKLIDA MAXSUS TAYYORGARLIGINI OPTIMALLASHTIRISH //Modern Science and Research. – 2025. – T. 4. – №. 4. – C. 1650-1660.

11. Ayxodjayeva M. S., Kazoqov R. T., Djurabayev A. M. QISQA MASOFAGA YUGURUVCHILARNING TEXNIKASINI RIVOJLANTIRISH //Modern Science and Research. – 2025. – T. 4. – №. 4. – C. 1442-1450.
12. Yarashev K. D. et al. SPORTCHI TALABALARNING TABIIY-ILMIY FANLAR SAVODXONLIGINI BOYITISH //Modern Science and Research. – 2025. – T. 4. – №. 4. – C. 1433-1441.
13. Kazoqov R. T. QISQA MASOFAGA YUGURUVCHI SPORTCHI TALABALARNI HARAKATLANISH TEXNIKASINI BIOMEXANIK KO ‘RSATKICHLARDAGI KAMCHILIKLARNI ZAMONAVIY TEXNOLOGIYALAR YORDAMIDA BARTARAF ETISH HISOBIGA YUGURISH TEXNIKASI TAKOMILLASHTIRISH //Modern Science and Research. – 2024. – T. 3. – №. 11. – C. 271-279.