

# Indicators that determine the physical readiness of young judokas aged 13-14 years for fights

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PhD **M.A. Rakhlin**<sup>1</sup>

Dr. Hab., Professor **A.E. Bolotin**<sup>1</sup>

**I. M. Vasiliev**<sup>1</sup>

Postgraduate student **D.I. Martynov**<sup>1</sup>

<sup>1</sup>Peter the Great St. Petersburg Polytechnic University, St. Petersburg

Corresponding author: a\_bolotin@inbox.ru

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## Abstract

**Objective of the study** was to identify indicators of physical readiness that influence the effectiveness of technical actions and attacking combinations of young judokas aged 13-14 years.

**Methods and structure of the study.** The experiment was carried out in 2023 on the basis of a sports school, in which young judokas from the training group took part. The intensification of training tasks in the process of special motor training made it possible during the formative experiment to identify significant indicators of the development of speed, speed-strength, coordination abilities and speed endurance.

**Results and conclusions.** To perform a series of throws with a two-handed grip, throws over the shoulder from a lapel grip and other complex technical combinations, agility, coordination of movements, speed and strength are required, since in a short period of time a judoka must assess the situation, instantly make the only correct decision and execute accurately technical action. Indicators of the degree of physical readiness of young judokas aged 13-14 years for competitive activities have been identified, contributing to the growth of technical and tactical skills.

**Keywords:** judo, throws; physical training; competitive activity; fights, athletes.

**Introduction.** Modern judo fights are a complex of dynamic actions, where the physical, technical and tactical capabilities of athletes are most clearly demonstrated [1]. The most spectacular judo fights are associated with technically correct attacking combinations, supported by high physical readiness of athletes. By implementing attacking combinations, judokas achieve victories. [1, 2].

Young judokas aged 13-14 are at the stage of learning complex technical combinations. At the same time, in order to effectively carry out attacking combinations, they must be physically prepared. To perform a throw with a sweep from the inside, to perform a number of throws with a two-handed hold, throws over the shoulder from a lapel hold and other complex technical combinations, dexterity, coordination of movements, speed and strength are required. In a short period of time, a judoka must assess the situation, instantly make the only correct decision and perform an accurate technical action. [1, 2]. Physical fitness is of great importance for performing complex technical combinations, but to

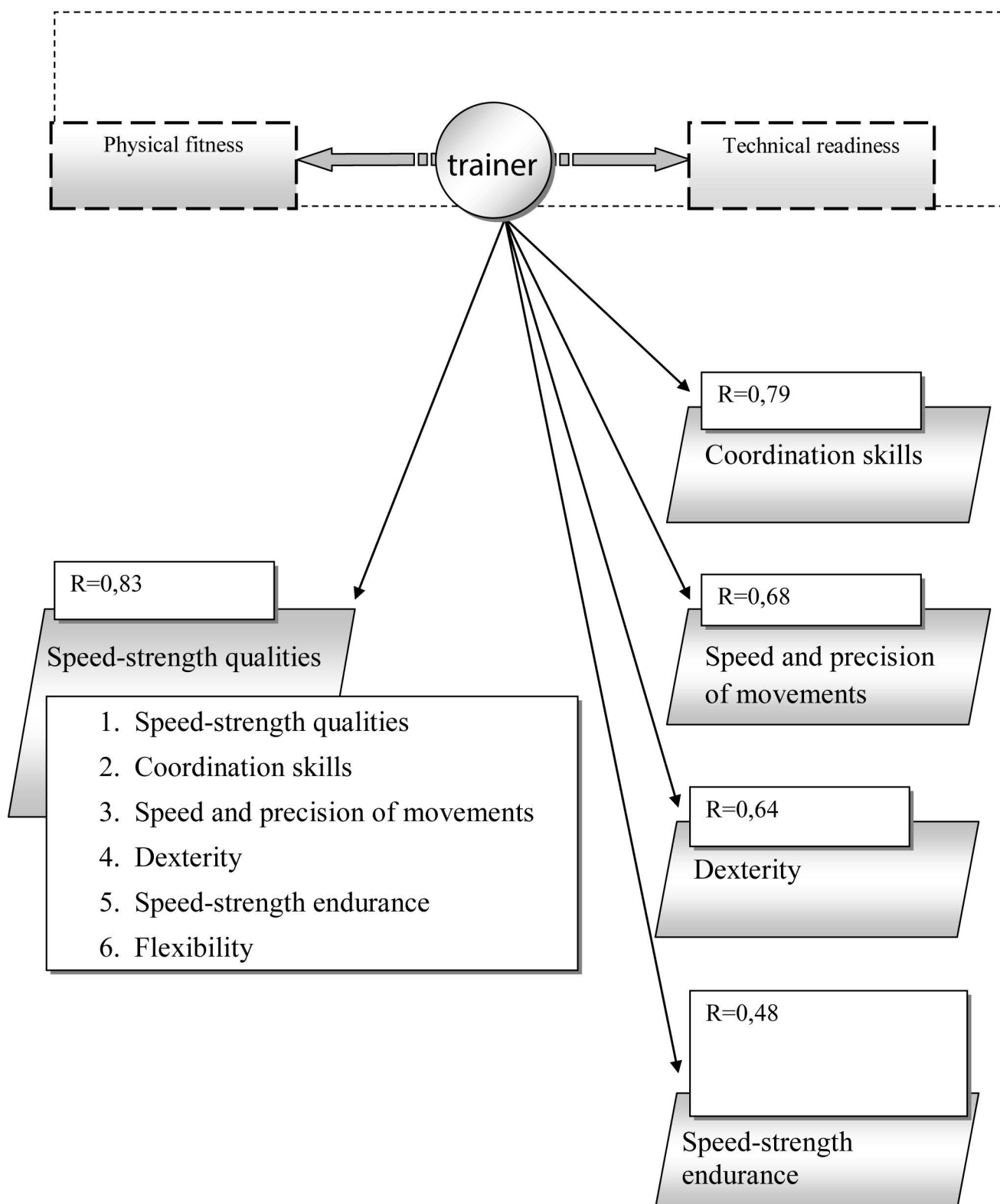
date, the indicators that determine the physical fitness of young judokas aged 13-14 years for fights have not been scientifically substantiated.

**Objective of the study** was to identify indicators of physical fitness that influence the effectiveness of technical actions and attacking combinations of young judokas aged 13-14 years.

**Methods and structure of the study.** A formative pedagogical experiment was conducted at a sports school in 2023, involving 13-14 year old judokas training in a training group. The study identified the main technical actions of judokas and their relationship with indicators that determine the physical and technical readiness of athletes for fights.

**Results of the study and discussion.** It has been established that in order to perform various technical actions, exercises must be performed on individual muscle groups of the arms, legs and torso (see figure).

The figure shows the high degree of influence of the level of physical fitness on the effectiveness of



*The degree of influence of physical fitness on the effectiveness of attacking combinations of young judokas aged 13-14 years (according to the correlation coefficient)*



the main technical actions. Let us consider these technical actions and their dependence on the manifestation of certain physical qualities during judokas' training.

It is shown that none of the grips is performed without the manifestation of strength, dexterity and speed. Therefore, during grip training, special attention is paid to the use of exercises that require the manifestation of these physical qualities. [1-3].

All grips are divided into attacking and blocking. Blocking grips aim to limit the mobility of the opponent's actions, and attacking grips are aimed not only at limiting the effectiveness of his actions, but also at tiring the opponent in various ways during the fight in order to prepare for the implementation of a particular technical action or technique. [1-3]. Such actions require judokas to demonstrate speed-strength qualities.

Several phases can be distinguished during the struggle for a grip in judo. During the non-contact phase of the struggle for a grip, active footwork is required in order to choose the most active position in relation to the opponent. This requires coordinated footwork from athletes. During the first contact phase, deceptive actions can be performed to disorient the opponent. In the third phase, the capture itself is performed, from which it is convenient to perform an active scoring technical and tactical action. And in the final phase, the fight itself is carried out in a convenient capture. This is especially well seen when performing throws with a sweep.

Throws with a sweep can be performed with minimal resistance from the opponent and throws with significant resistance from the opponent. This depends on the preparatory actions of the judoka. In the practice of performing throws with a sweep from the inside, there are deceptive preparatory actions, which lead to different types of execution of such throws. Performing throws with a sweep from the inside with significant resistance from the opponent requires a different technique. In this case, it is necessary to impart rotation when performing the throw. This requires the manifestation of dexterity and precision of movements. The degree of influence of these qualities is very high, or high. Judokas in the course of competitive activity mainly perform throws with a sweep from the inside, performing complex deceptive preparatory actions. Throws with a sweep should be performed after preliminary deceptive actions that mask the true in-

tentions of the judoka. In the practice of performing throws with a sweep from the inside, there are deceptive preparatory actions, which lead to different energy costs when performing such throws. Performing throws with a sweep from the inside with significant resistance from the opponent requires great effort and a different throwing technique. This indicates insufficient preparation for the throw, during the execution of preliminary deceptive actions in the fight for capture. In this case, it is necessary to impart a powerful rotation when performing a throw, which requires additional effort. In this case, the manifestation of strength, dexterity and precision of movements in a judoka comes to the fore. Judokas, during competitive activities performing throws with a sweep from the inside, must carry out complex deceptive preparatory actions. Performing a number of throws with a capture of two hands requires not only the development of speed-strength qualities, but also the development of endurance. Performing a number of throws with a capture of two hands is carried out simultaneously with blocking the opponent's arms. Often, in order to increase the force of impact on the opponent, judokas bend in the lumbar part of the back before the throw. This requires additional effort from the back muscles. Before training such throws, it is necessary to first use exercises that develop individual muscle groups of the back, as well as flexibility training. For young judokas aged 13-14, this is often a difficult task to accomplish. Since the main task of a judoka is to complicate the opponent's defensive actions when performing a series of throws with a two-handed hold.

Since a series of throws with a two-handed hold are performed simultaneously with blocking the opponent's hands, it is necessary to mask your actions well. This requires young judokas to demonstrate speed-strength endurance.

According to many experts, performing shoulder throws from a lapel hold is one of the simplest technical actions that does not require lengthy training to practice the technique of movements. Therefore, before you begin training to perform shoulder throws from a lapel hold, you should significantly improve your level of physical fitness, and also pay close attention to the development of agility and speed. Despite the fact that performing shoulder throws from a lapel hold is a relatively simple technical action, its implementation requires significant



physical effort. Meanwhile, learning this technical action requires special physical readiness from young judokas aged 13-14, associated with the manifestation of agility, strength and speed. When training this technical action, speed-strength readiness comes first in its importance.

**Conclusions.** Thus, to improve technical actions, complex combinations and perform signature throws, it is necessary to demonstrate and develop a high level of a number of physical qualities. Among them, in terms of their importance and influence on the technical capabilities of young judokas, the following can be distinguished: speed-strength qualities, coordination of movements, speed and accuracy of actions, agility, speed-strength endurance and flexibility. The identified indicators of physical readiness of young judokas aged 13-14 for competitive activities will more effectively contribute to the growth of their technical and tactical skills.

### References

1. Levitskiy A.G. Vzaimosvyaz mezhdru tekhniko-takticheskimi pokazatelyami sorevnovatelnoy deyatelnosti yunyxh dzyudoistov. Sovremennyye problemy podgotovki vysokokvalifitsirovannykh sportsmenov. Proceedings Republican scientific-practical conference. Sankt-Peterburgskiy gosudarstvennyy universitet ekonomiki i finansov, 1994. pp. 20-25.
2. Bolotin A., Bakaev V., Vasilyeva V., Bobrishev A. Factor structure of technical preparedness of judokas of various somatic types. Journal of Human Sport and Exercise. 2019. Vol. 14. No. S4. pp. 698-704.
3. Bolotin A., Bakaev V. Pedagogical practice for development of coordination potential of MMA fighters and estimation of its efficiency. Journal of Human Sport and Exercise. 2018. Vol. 13. No. 1. pp. 72-88.