

THE IMPACT OF DEVELOPING EXPLOSIVE ABILITIES ON THE COMPETITIVE
RESULTS OF YOUNG WRESTLERS

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Annotation : The given problem is directly connected with development of explosive force, is an actual problem in high speed-power kinds of sports. Levels of explosive abilities during competitions often are a determinative of achievement of a victory. It is proved, that exercises with device "SPORK" use in vertical jumps are accelerated by development of explosive actions of sportsmen and it positively influences competitive result of young wrestlers.

Key words: activity, explosive ability, formation, "SPORK".

Аннотация : Данная проблема непосредственно связана с развитием взрывной силы, фактическая проблема в видах власти высокой скорости спортивных состязаний. Уровни взрывных способностей во время соревнований часто - детерминатив достижения победы. Это доказано, это тренируется с устройством, использование "СПОРК" в вертикальных прыжках ускорено развитием взрывных действий спортсменов, и это положительно влияет на конкурент о способный результат молодых борцов.

Ключевые слова: деятельность, взрывной способности, формированию, "СПОРК".

Relevance. In various articles on the theory and methodology of physical culture and sports (handball, football, volleyball) [2, 3], explosive strength is considered a physical quality primarily based on physiological mechanisms, depending mainly on muscle structure, biochemical processes, and the ratio of red and white muscle fibers. While acknowledging this, it should be noted that the concept of explosive strength includes two components: the explosive component, which ensures the speed of muscle contraction, and the strength component itself. The latter, being associated with the efferent nervous system, manifests under the influence of other physiological and biochemical processes. Considering the interdependence of these two components, it becomes evident that the first component takes precedence over the second, as it serves as the triggering mechanism in the manifestation of explosive strength. Reducing the time of muscle explosion increases the power of explosive strength manifestation. It is also worth noting the inverse relationship—the power of explosive strength can be increased by enhancing the magnitude of the muscle's absolute strength.

The literature presents methods for developing explosive strength, including various jumping exercises without weights and jumping exercises primarily with optimal weights (30% of one's body weight). In this context, authors believe that explosive strength develops better with weights [1]. I.M. Sechenov first linked motor functions with the functions of the higher divisions of the central nervous system and noted that all the infinite variety of external manifestations of brain activity ultimately boils down to a single phenomenon—muscle movement [6]. S.L. Rubinstein writes that movement, the so-called voluntary movement of a person, is ultimately carried out not by the organ itself, but by the person, and its result is not only a functional change in the state of the organ but also a certain objective result produced as a result of movement and a change in the life situation. Therefore, the study of the motor sphere must inevitably be the subject of psychophysiological, not just physiological research [4]. It has been proven that the

development of abilities is based on the formation of functional systems in the cerebral cortex, which are formed in the process of a particular activity. Once formed, they implement mental functions, facilitating the acquisition of necessary skills and abilities [5].

The above fully applies to the problem of developing the ability for explosive actions. S.L. Rubinstein and V.D. Shadrikov note that a person is not born with ready-made abilities; abilities develop in the course of activity [4, 7]. The manifestation of the ability for explosive actions is a necessary condition of the training process; it often serves as a decisive factor in the outcome of competitions. Therefore, finding new ways to develop athletes' ability for explosive actions (the basis for the manifestation of explosive strength) is a relevant and pressing problem. The creation of a scientifically based methodology that meets modern requirements will influence the acceleration of explosive strength development in speed-strength sports. When studying existing methods for measuring and developing an athlete's explosive strength, we concluded that they do not differ in simplicity, accessibility, ease of use in the training process, and from a psychological point of view, they do not fully reveal the mechanisms of conscious self-regulation, which accelerates the development of explosive abilities in athletes. Taking the above into account, we have created a new methodology for developing the ability for explosive actions, called "SPORK," designed to measure the height of vertical jumps from both legs [8, 9, 10].

Research Objective: An experimental study of the impact of explosive development in young wrestlers on competition results.

Research Methods: The study employed the following methods: analysis of scientific and methodological literature, pedagogical observations, instrumental methods, and mathematical-statistical analysis of the research results. Результаты исследований и их обсуждение.

This device fully implements the mechanisms of conscious self-regulation, which include the following components: "The goal accepted by the subject" (goal), "Subjective model of significant conditions of activity" (model of conditions), "Program of actual executive actions" (program), "System of criteria for success of activity" (criterion of success), "Information about the actually achieved results" (information about the result), "Decision on system corrections." The specifics of implementing this apparatus can significantly affect the subject's performance outcomes: speed, accuracy, standardization, etc. This mechanism ensures the effective development of psychomotor skills in vertical jumps, during which the athlete's explosive ability is successfully enhanced. To determine the impact of developing explosive action ability on the competitive performance of wrestlers, an experiment was conducted involving four groups: one experimental and three control groups. The experimental group trained two to three times a week, performing five jumps each session. Jump heights were measured using the "SPORK" device. Based on the obtained results, average values were determined. Before each jump, the athlete set a target, which served as the initial link in the mechanism of conscious self-regulation.

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Conclusions. The acceleration of skill development was significantly influenced by feedback and the decision-making process regarding system corrections. The improvement in competitive results is associated with the formation of personal attitudes, i.e., the athlete's readiness to perform explosive actions in necessary competitive situations, which are developed during training exercises.

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