"JOURNAL OF SCIENCE-INNOVATIVE RESEARCH IN UZBEKISTAN" JURNALI
VOLUME 2, ISSUE 8, 2024. AUGUST
ResearchBib Impact Factor: 9.654/2024 ISSN 2992-8869

# THE PHYSICAL EFFECT OF PLAYING HANDBALL ON STUDENTS' UNDERSTANDING OF READING

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**Abstract**

In this article, the level of performance speed and dynamics of athletes with different levels of adaptation to specific muscle activity is determined. The results of the study show that as the level of education increases, the coefficient of variation, which reflects the level of preparation of student-athletes in the group, decreases, that is, the levels of preparation of athletes approach each other. another. In particular, the coefficients of change among the handball players of the first stage students ranged from V=12.96% to V=15.98%, while for the students of the second stage, this indicator was V=12, 29%, reaching values in the range of V=. 15.22%, but in stage III, it can be observed that they decreased (i.e. improved) to the values of V = 11.58% and V = 14.37%.

**Key words:** physical activity, functional system, adaptation, functional parameters, adequate change, reaction speed.

**Introduction.**

Currently, there is a clear understanding of sports training as a process of adaptation of the athlete's body to physical activity, expressed in increasing its functional capabilities [1,2]. In this case, long-term adaptation of the functional systems of the athlete's body consists of the physiological essence, optimization of the unity of the functional body capabilities and the reactive properties of its systems [3]. Medical and biological studies of student health show that studying at the university is stressful in nature and is accompanied by a decrease in the body's adaptive capabilities. The adaptation of the body to muscle tension and the conditions for high physical performance of the athlete are of utmost importance. The level of ability to mobilize the physiological functions of the body, expressed in the rapid rise of physiological systems to the required level. The level of functioning at the initial stage of physical activity, as well as increasing the maximum capabilities of the body during specific muscle activity. This lack of participation in

physical activity has contributed to a greater prevalence of pediatric obesity, a decrease in fitness and a greater risk for disease [4]. All factors of high functional capabilities achieved by an athlete as a result of sports training must be realized through adequate changes in the speed with which the physiological systems of the body can change their functional parameters at the beginning of physical activity. Thus, the adaptation of this feature of physiological systems acts as an executive mechanism of homeostatic control. At the beginning of physical activity, the rate of change in functional parameters at the required level is optimized in the process of adaptation, based on increasing the capabilities of the executive organs of physiological systems [3]. The ability to quickly achieve the necessary changes in the functional parameters of the body at the beginning of physical activity, mobilize physiological systems as quickly as possible at the beginning of work and restore them as quickly as possible during sports. Especially during exercises performed at varying levels of physical intensity, it is very important to demonstrate the ability to work hard [5]. This is determined to a greater extent by such variables as the level of training of the athlete and the level of individual typological characteristics of their body [3]. The behaviors and traits of today's children, along with their genetics, are determinants of their growth and development; their physical, mental, and psychosocial health; and their physical, cognitive, and academic performance. Technological advances of modern society have contributed to a sedentary lifestyle that has changed the phenotype of children from that of 20 years ago. Children today weigh more and have a higher body mass index (BMI) than their peers of just a generation earlier [6]. The strategy of pedagogical education in the field of physical culture involves development and self-development of future teacher [7, 8].

The main goal of this study is to study the level and dynamics of functional indicators of students adapting to specific activities.

**Materials and methods: 2.1.** The study involved students (n=30), close to each other in age and functional readiness, involved in the sport of handball.

**2.2. The rate of oxygen consumption.** At the beginning of the study, the level of oxygen consumption in all groups was measured, and parameters of the cardiovascular and respiratory systems were recorded at rest. Then, participants were offered to perform dosed muscle loads with a standard strength, heart contractions at the level of 120-150 beats/min, with an individual frequency. Heart

rate (HR), pulmonary ventilation (VE), respiratory rate (fb), breath volume (VT) and oxygen consumption (VO2) were recorded during physical exercises.

**2.3. Increase heart rate.** At the beginning of physical activity, the rate of change in functional indicators at the required level and heart rate increase. ($HRW_1/HR_{at\ rest}$), increased ventilation of the lungs ($VEW_1/VE_{at\ rest}$), increased respiratory rate ($fb\ W_1/\ fb_{at\ rest}$), increase in breathing volume ($VT\ W_1/VT_{at\ rest}$) and oxygen consumption ($VO_2W_1/VO_2$ at rest) during the first minute of exercise were assessed relative to rest.

**Results.** The development laws of the athlete's body, the mechanisms of rapid change in functional parameters to the required level and the possibilities of mobilization is one of the most important factors contributing to the rationalization of the functional training process of, adequate control and objective assessment of the functional training of athletes. Studying the features and patterns of the change rate in the functional parameters of athletes at the required level and functional mobilization at various stages of long-term sports training is an important task, the solution of which can be used to determine the directions and ways of mobilizing the abilities of athletes, means, methods and modes of training influence. Based on the above, collective spiroergometric experiments were carried out with the participation of handball athletes belonging to three age and qualification groups - first-year students (n=10), second-year students (n=10) and third-year students (n=10) ready. Studying the influence of the age-qualification factor on the parameters of the rate of change of functional indicators to the required level in handball players, locomotion in handball is determined by the fact that locomotion in handball refers to cyclic and acyclic physical exercises in approximately equal proportions according to its biomechanical structure. This allows us to conclude that the results obtained can, to a certain extent, be extended to most other sports.

Athletes who participated in the experiments were asked to undergo a standard functional test. During this process, parameters such as heart rate (HR), pulmonary ventilation (VE), respiratory rate and depth (fb and VT), and oxygen consumption ($VO_2$) were recorded. The speed of achieving the required level of change in functional indicators at the beginning of physical activity - reaction speed, increase in heart rate ($HRW_1/HR_{at\ rest}$), increased ventilation of the lungs ($VEW_1/VE_{at\ rest}$), increased respiratory rate ($fb\ W_1/\ fb_{at\ rest}$), breath volume ($VT\ W_1/VT_{at\ rest}$) and assessed oxygen consumption ($VO_2W_1/VO_2$ at rest) in the first minute of exercise

compared to rest. In addition, the absolute values of heart rate, HR, VE, fb, VT ва $VO_2$, recorded in the first minute of physical activity of standard power, were compared. The main statistical descriptions of the average values of the studied indicators in student-athletes of different ages and training at the initial stage of performing standard muscle loads and an assessment of the statistical reliability of the absolute difference in their arithmetic average values are presented.

**Conclusion.**

A comparative speed work analysis of the physiological systems of the body in response to physical activity of standard power to achieve the required level of change in functional parameters made it possible to observe their uniform change in athletes from one qualification age group to another. The greatest changes were observed in 1st year student-athletes of the III sports category. The rate of change in the functional indicators of the vegetative systems at the required level is characterized by the increase in these indicators from 160.5±22.44 to 379.7±49.24% (with an average range of 236.5%) during work in a state of relative rest. At the same time, the reaction of the autonomic systems of second-year student handball players in response to physical activity of standard strength is expressed in an average increase in the analyzed indicators by 239.7% (ranging from 137.4±18.26). up to 329.4±40.54%). The level of training is very high - the speed of achieving the required level of functional indicators among students of the Sh-course handball players of the 1st category and SAN group is average - 243.0% (from 118.8±15.22 to 288.7±33.43% in the range) characterized by change.

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