DOI: https://doi.org/10.37547/mesmj-V7-I5-35 Pages: 305-311

MENTAL ENLIGHTENMENT SCIENTIFIC – METHODOLOGICAL JOURNAL

MENTAL ENLIGHTENMENT SCIENTIFIC – METHODOLOGICAL JOURNAL

http://mentaljournal-jspu.uz/index.php/mesmj/index

CHARACTERISTICS OF PHYSICAL FITNESS IN PRIMARY SCHOOL-AGE CHILDREN

A.R. Musaeva
PhD student
Uzbek State University of Physical education and Sports
Chirchik, Uzbekistan

ABOUT ARTICLE

Key words: primary school age, physical training, control exercises, motor actions, starting jump, physical education system.

Abstract: The article examines the general physical fitness of younger school-age girls (7-10 years old) as a criterion for improving the quality of their physical education and the positive implementation of their harmonious development.

Received: 01.06.26
Accepted: 02.06.26
Published: 03.06.26

Introduction. Physical culture as an integral part of human general culture implies the development and improvement of an individual's physical abilities, which largely ensure a person's successful functioning in life. In the physical education system, special attention is given to childhood, since at this stage of development the foundation for further improvement is laid, and the potential of physical capabilities that can be realized in various spheres of human activity is formed. It is also known that gender characteristics of different age categories of people influence different aspects of their activity. All this leads to the emergence of objective prerequisites for the harmonious development of the individual. The full development of school-age children is practically unattainable without active physical education classes. It has been revealed that a lack of motor activity seriously worsens the health of the growing human body, weakens its defensive capabilities, and does not ensure adequate physical development. In primary school-age boys, a "physiological leapfrog progress" is often observed. One child at

8 years old may look and move like a 10-year-old, while another remains "small." This is normal and usually evens out by adolescence. Physical development throughout the annual cycle, which includes active and passive periods, is generally weak, and the relative improvement in indicators of individual types of physical abilities is heterochronous in nature [7]. Regarding the physical development of girls, it can be said that girls have their own nuances (earlier onset of biological maturation compared to boys, features of flexibility and strength development). Studying the dynamics of indicators specifically in girls allows for individualizing the load and making training more effective. In this regard, the issue of the manifestation of physical abilities and physical development of primary school-age girls (7-10 years old) is practically important and relevant.

The well-thought-out system of physical education that has developed in our country has many years of experience in its formation and development. It is aimed at solving the most important socially significant tasks: improving the health of the population, ensuring comprehensive physical and motor development, as well as fostering high moral and volitional qualities. The Decree of the President of the Republic of Uzbekistan No. UP-5847 of October 8, 2019 "On approval of the Concept for the development of the higher education system of the Republic of Uzbekistan until 2030," Decree No. UP-5924 of January 24, 2020 "On measures for the further improvement and popularization of physical culture and sports in the Republic of Uzbekistan," Decree No. UP-6099 of October 30, 2020 "On measures for the widespread introduction of a healthy lifestyle and further development of mass sports," and Presidential Resolution No. PP-201 of April 11, 2022 "On measures to raise to a new stage the involvement of youth in mass sports in mahallas" serve as the regulatory and legal basis for the start of the pedagogical experiment. Despite the thoughtfulness and effectiveness of the current system of school physical education, its weak link, in our opinion, is precisely the "basic" component, as the most significant, forming the foundation of physical fitness and adequate motor experience.

Methods. As a working hypothesis, it was assumed that the development and formation of general physical fitness during the annual cycle of training for primary school-age girls (7-10 years old) would improve the quality of their physical education and positively affect the implementation of the principle of harmonious human development.

To study the physical fitness of primary school-age girls, the method of control exercises was used. Motor tasks were selected empirically, taking into account the accessibility, informativeness, and specificity of basic motor actions corresponding to the concepts of versatile physical fitness of girls. Let us examine one of the selected control tests in the process of the pedagogical experiment to determine strength abilities: "explosive strength" – the

standing long jump. The task was: from a "narrow stance with legs apart," push off with both feet and perform a forward jump to the maximum possible distance. The jump length was determined from the "start line" to the heel of the foot nearest to the start line after landing. The measurement accuracy was 1.0 cm. Two attempts were performed, and the better one was counted. To organize the pedagogical experiment and simplify data statistics, girls aged 7-10 years were conditionally divided into two subgroups of adjacent ages: 7-8 years and 9-10 years, with 40 people in each. All of them were primary school students of a general secondary school.

Based on the data presented in Table 1, an analysis of the initial results of the study on the "standing long jump" exercise can be conducted. The analysis shows that the average indicators in all age groups of the experimental and control groups are practically the same (at age 7: 1st EG – 90.28; 2nd EG – 91.34; and CG – 92.62; at age 8: 1st EG – 100.18; 2nd EG – 101.69; and CG – 102.79; at age 9: 1st EG – 110.35; 2nd EG – 112.41; and CG – 113.96; at age 10: 1st EG – 126.37; 2nd EG – 128.53; and CG – 130.15), which indicates a similar level of initial strength fitness and movement coordination among participants in these groups. The control group, in turn, is characterized by a significantly lower average result, which indicates a somewhat lower level of initial physical fitness compared to the experimental groups.

Results and discussion. The standard deviation values allow us to assess the degree of individual differences within groups. In the first experimental group, this indicator is at an average level; in the second experimental group, it is somewhat higher, indicating greater variability of results within the group. For the control group, the standard deviation values practically coincide with those of the second experimental group, which indicates the presence of noticeable individual differences among participants.

In terms of the coefficient of variation (V%), relatively low values are observed in all groups, indicating high stability of results and insignificant expression of individual differences. This allows us to assert that the "standing long jump" exercise, even at the initial stage of the study, manifests as a fairly homogeneous indicator of physical fitness within the groups.

Table 1

Standing long jump (at the beginning of the experiment)

7 years old				8 years old			
Indicator	1st EG	2nd EG	CG	Indicator	1st EG	2nd EG	CG
X	90.28	91.34	92.62	X	100.18	101.69	102.79
σ	14.42	13.69	12.61	σ	15.02	16.25	15.03

V %	15.97	14.99	13.61	V %	14.99	15.98	14.62
AP	2.34	1.28	1.06	AP	2.61	1.10	1.51
OP	2.59	1.40	1.17	OP	2.61	1.08	1.51
t	0.77	0.43	0.34	t	0.78	0.31	0.43
P	>0.4	>0.6	>0.7	P	>0.4	>0.7	>0.6
9 years old				10 years old			
Indicator	1st EG	2nd EG	CG	Indicator	1st EG	2nd EG	CG
X	110.35	112.41	113.96	X	126.37	128.53	130.15
σ	17.64	16.84	17.79	σ	18.92	20.55	19.01
V%	15.99	14.98	15.61	V %	14.97	15.99	14.61
AP	3.61	1.55	2.06	AP	3.78	1.62	2.16
OP	3.27	1.38	1.87	OP	2.99	1.26	1.71
t	0.91	0.40	0.53	t	0.89	0.37	0.49
P	>0.3	>0.6	>0.5	P	>0.3	>0.7	>0.6

In conclusion, it should be noted that the initial results of the study on the "standing long jump" exercise show the advantage of the first and second experimental groups in terms of the level of initial physical fitness compared to the control group, while all groups show high stability of results and minimal individual differences. This exercise can be considered an informative physical indicator that allows, at the initial stage of the study, to fairly objectively identify differences in the level of physical fitness between groups.

The following is characteristic of the physical fitness level of primary school-age girls:

After a 3-month break in systematic physical exercise, the overall level of physical fitness of girls remains lower relative to group-wide indicators. Among the 6 reliable differences, the following stand out: static strength (17.9%), endurance (12.6%). The remaining 4 indicators show smaller differences – from 4.6% to 9.7% ($P<0.05$). Consequently, the differences in girls'

physical fitness from group-wide indicators, characteristic of the end of the school year, persist after the summer holidays.

The research results showed that experiments with the "standing long jump" exercise significantly improved the explosive strength, leg muscle elasticity, and general physical fitness indicators of 7-10-year-old girls in all participants of the experimental group. At the initial stage, the average results of 7-year-old girls were relatively close (90.28; 91.34; and 92.62, respectively), but the training methodology applied during the experiment played an important role in the growth of indicators (see Table 2).

Table 2

Dynamics of changes in standing long jump indicators of 7-year-old girls (N=40), cm

	1st EG		2nd EG		CG	
	Beginning	End	Beginning	End	Beginning	End
X	90.28	100.75	91.34	100.44	92.62	97.48
Σ	14.42	15.24	13.69	14.21	12.61	13.13
V%	15.97	15.13	14.99	14.15	13.61	13.47
AP, cm		10.47		9.10		4.86
OP, %		11.60		9.96		5.25
t	3.16		2.92		1.69	
P	<0.01		<0.01		>0.05	

Note: AP – absolute increase; OP – relative increase.

In the first experimental group, the average result at the beginning of the study was 90.28 cm, and by the end of the experiment it increased to 100.75 cm. Positive changes were also observed in the second experimental group. The average result increased from 91.34 cm to 100.44 cm. Statistical analysis of the first group showed t=3.16 and P<0.01, which confirms the statistical reliability of the changes. The coefficient of variation (V%) changed from 15.97% to 15.13%, demonstrating the stability of participants' results against the background of an overall upward trend. Statistical analysis of the second group showed t=2.92 and P<0.01, which confirms the reliability of the changes. The coefficient of variation changed from 14.99% to 14.15%, indicating the stability of results within the group. Thus, the training program used in

the first experimental group had an effective impact on the development of explosive strength of the leg muscles.

Conclusion. In the control group, the increase in indicators was relatively low. The average result increased from 92.62 cm to 97.48 cm; however, statistical analysis showed t=1.69 and P>0.05, which indicates the statistical unreliability of the changes. The coefficient of variation changed from 13.65% to 13.47%, reflecting some dispersion of results within the group. Thus, the regular training of the control group did not have a significant effect on improving the standing long jump. Also, in all tested girls across all age groups, the standing long jump test revealed significant differences between the first and second experimental subgroups, as well as compared to the control group.

Thus, based on the research results, it can be concluded that the regular inclusion of gymnastic exercise complexes featuring the "standing long jump" into a specialized training program is an effective means of developing lower body strength, improving jump technique, and increasing the overall physical fitness of athletes.

Consequently, the decline in the level of physical fitness and the losses experienced by girls after a 3-month break in systematic physical exercise depend on the magnitude of the final result of physical development at the end of the school year. Moreover, the greater the degree of development of physical abilities, the greater the magnitude of loss.

References:

1.Указ Президента Республики Узбекистан, от 24 января 2020 года за №УП-5924 «О мерах по дальнейшему совершенствованию и популяризации физической культуры и спорта в Республике Узбекистан».

2.Указ Президента Республики Узбекистан от 8.10.2019 года за №УП–5847 «Об утверждении Концепции развития системы высшего образования Республики Узбекистан до 2030 года».

3.Указ Президента Республики Узбекистан от 30.10.2020 года за №УП-6099 «О мерах по широкому внедрению здорового образа жизни и дальнейшему развитию массового спорта».

4.Постановление Президента Республики Узбекистан от 11.04.2022 года за №ПП-201 «О мерах по поднятию на новый этап привлечения молодежи к массовому спорту в махаллях».

5.Иштаев Д.Р., 11-13 ёшли гимнастикачиларнинг мусобақа олди тайёргарлик босқичида машғулот юкламасини бошқариш услубияти. пед.фан бўйича фалсафа доктори (PhD) дисс. Т.: 2019. - 176 с.

6.Мусаев Б.Б. Концепция оздоровления населения средствами гимнастики.: Автореф. Дис. … д-ра.пед.наук.- Ч., 2025. 88 с.;

7.Новикова Л.А. Воспитание физических способностей детей 7-10 лет средствами гимнастики. Атореф. на соис.уч.стен к.п.н. // Москва, 2004 г.

8.Холмуродов Л.З., Научно-теоретические основы развития координационных способностей школьников с учетом возрастных особенностей. Автореф. Дис. … д-ра.пед.наук.- Ч., 2024. 84 с.