

## INDICATORS OF PHYSICAL DEVELOPMENT AND PHYSICAL FITNESS OF SCHOOLBOYS OF FIRST CLASS OF SECONDARY SCHOOLS

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**Annotation.** The aim of the study is to determine the status of first class schoolboys' physical preparation of secondary schools of Kharkiv region. Testing the level of development of physical qualities of 1674 schoolboys in grades 1-4 (829 boys and 745 girls) in the standard system of school physical education. Fixed rates in these test exercises as running 30 m, six-minute run, the slope of the torso forward from a sitting position, curl in vise on the bar, 4x9 m shuttle run, standing long jump seats. Revealed a low level of physical development and physical fitness of schoolboys (in particular dexterity). It is shown that the system of assessment of learning outcomes schoolboys need to harmonize and modernize. Determined average performance of the physical qualities of boys and girls. The revealed contradictions between control standards of physical fitness in a variety of government programs.

**Keywords:** schoolboys, elementary school, physical fitness, physical development, standards.

### Introduction

At present, development of pedagogic approaches to formation of pupils' one of key competences – health formation one- is a perspective branch of development of high education system. Urgency of this direction of pedagogic activity is connected with trend to pupils' health worsening and low effectiveness of traditional approaches to organization of educational process in pupils' physical training, that is witnessed by a number of scientific works by I. Babiko (2007), G. Bezverkhnia (2004), T. Bondar (2009, 2010); Yu. Vaskov (2009), T. Krutsevych (2003, 2010); V. Platonov (2008), V. Sutula (2009, 2010); B. Shyan (2007, 2010); Napierała M., Cieślicka M., Muszkieta R., Żukowa W., Ratkowski W. (2011) [8]; Napierała M., Cieślicka M. (2001) [9]; Szark M., Cieślicka M. (200) [10] et al. Especially acute is the problem of pedagogic control's organization of realization's degree, in particular of physical education tasks and appraisal of pupils' progress (Sh. Amonashvili, 1996; O. Guzenko, 2002; V. Dobrynskiy, 2002; V. Yevdokimov, 2008; I. Prokopenko, 2008 et al.).

In the base pedagogical control of pupils' progress on physical culture lessons there are always indicators of pupils' physical conditions. Though analysis of scientific literature showed that, special sources do not sufficiently elucidate the state of physical conditions of primary school pupils [<http://www.narodnaosvita.kiev.ua/vupysku/15/statti/bondar.htm,2,3>]. This is exactly the factor that conditioned selection of present research's direction.

The present work has been fulfilled in the frames of combined plan of scientific & research works in the sphere of physical culture and sports for 2011-2015 by subject 1.3 – “Paradigm of healthy life style in discourses of physical education and sports”. State registration number 0111U001716, as well as in the frames of plan of scientific & research works of municipal establishment “Kharkiv humanitarian-pedagogic academy” of Kharkiv regional council.

### Purpose, tasks of the work, material and methods

*The purpose of the work* is to determine the state of physical condition of comprehensive schools' 1<sup>st</sup> form pupils of Kharkivska region.

#### *Organization of the research*

In order to determine the level of physical condition of primary schools' pupils we carried out testing of 1674 1<sup>st</sup> – 4<sup>th</sup> pupils' physical level (829 boys and 745 girls) of comprehensive educational establishments of Kharkivska region. Testing was carried out as per standard system of school physical education ( $p < 0.05$ ) [1, 4].

### Results of the researches

In the process of the research we registered indicators in such test as: 30 meters run; six minutes run; forward torso bending from sitting position; chin ups (2<sup>nd</sup>-4<sup>th</sup> form boys on high horizontal bar, girls and 1<sup>st</sup> form boys – on low one); shuttle run 4x9 m; long jump from the spot (see tables 1-2).

Table 1

*Physical condition indicators of 1<sup>st</sup>-4<sup>th</sup> form pupils of comprehensive educational establishments of Kharkivska region (boys)*

n=829	Height, cm	Weight, kg	30 m, sec.	6-min. run, meters	Flexibility, cm	Strength, q-ty of times	Shuttle run, sec.	Long jump from the spot, cm
1 form (n=265)	122	24.3	7.08	373	4.5	6.7	14.9	110.6
2 form (n=246)	128	27.4	6.69	496.5	6.8	3.1	14.0	122.4
3 form (n=241)	133.4	30.6	6.4	830.4	5.8	3.1	12.8	131.9
4 form (n=77)	135.0	31.6	6.3	969.5	5.95	6.2	11.4	144.1

Table 2

*Physical condition indicators of 1<sup>st</sup>-4<sup>th</sup> form pupils of comprehensive educational establishments of Kharkivska region (girls)*

n=745	Height, cm	Weight, kg	30 m, sec.	6-min. run, meters	Flexibility, cm	Strength, q-ty of times	Shuttle run, sec.	Long jump from the spot, cm
1 form (n=232)	121.7	23.9	7.4	277.6	5.5	6.9	14.7	101.2
2 form (n=198)	125.5	24.9	7.0	428.4	7.6	6.8	13.2	109.7
3 form (n=222)	133.2	28.5	6.7	670.5	7.9	8.6	12.9	121.9
4 form (n=93)	134.6	31.7	6.8	754.4	7.5	9.8	11.5	130. form 4

For comparison, we used standard, stipulated by academic program, requirements to physical level for comprehensive schools as well as requirements of health related complex “A step to health”.

Analysis of materials of table 1 showed that in first forms of Kharkivska region mean 1<sup>st</sup> form boy’s height is 122 cm and weight – 24.3 kg. These data are substantially less than minimal standards of pupils’ development, approved by Addendum No.6 of Order of Ministry of education and science of Ukraine and Ministry of youth and sports of Ukraine, dated 17.08.2005, No. 479/1656 “On implementation of health-related physical culture and patriotic complex for pupils of Ukraine “Kzatskiy gart”, by accordingly 17 cm and 5.4 kg. The same situation is with girls – non compliance with standards is 17.3 cm and 6.2 kg with average indicators of 121.7 cm and 23.9 kg (see table 2).

Regarding mean level of physical conditions of 1<sup>st</sup> form pupils we can state that boys’ quickness, by 30 meters’ run indicators (7.08 sec.) is within standards (7.1 sec.), the same of girls – in average is 7,4 sec with standard requirements – 7.2 – 7.8 sec.

Indicator of boys endurance, determined by six minutes run test is rather on high level, as per program for 1-4 forms and is 373 meters (standard requirement – 350 meters). But, as per Addendum No.6 of the mentioned above Order of Ministry of education of Ukraine, this indicator is rather little (as per Addendum, requirement is 1000 meters).

The same trend was observed among girls (like with quickness indicators) – mean group indicator is 277.6 meters that comply with mean requirements of program but is insufficient in respect to requirements of Addendum No.6.

Flexibility of both: boys (4.5 cm) and girls (5,5 cm) is within the limits of mean requirement of academic program. The mentioned indicators are higher that envisaged by Addendum No.6.

The same situation is with strength level. Boys, in average, fulfill 6.7 chin ups (stipulated by program maximal indicator – 6 times). Girls fulfill 6.7 chin ups (with stipulated by program maximal indicator – 5 times).

Dexterity indicators (shuttle run 4x9 meters) of boys are rather low. For example mean group indicators is 14.9 sec., while as per standards, envisaged by Addendum No.6 it should be 13.8 sec. The same situation is observed among girls. Mean group indicator of shuttle run 4x9 meters is 14.7 sec. but it must be not less than 14 sec. as per Addendum No.6 and not higher than 14.4 sec. as per academic program.

In long jumps from the spot both boys and girls showed high results, if regard as per program. For example, program envisages high level for boys as exceeding 110 cm and for girls – 95 cm, and mean indicators, accordingly are 110.6 and 101.2 cm. Though, indicators of safe health level (specified in Addendum No.6) are 115 cm for boys and 105 cm for girls.

Results of compliance of actual indicators of 1<sup>st</sup> form pupils' physical conditions with standard requirements are given in table 3.

Table 3

*Compliance of 1<sup>st</sup> form pupils' physical conditions and physical abilities with standard requirements*

Qualities	Boys		Girls	
	Academic program	"A step to health"	Academic program	"A step to health"
1	2	3	4	5
Height	Not determined	Not complies	Not determined	Not complies
Weight	Not determined	Not complies	Not determined	Not complies
Quickness	Complies	Not determined	Complies	Not determined
Endurance	Complies	Not complies	Complies	Not complies
Flexibility	Complies	Complies	Complies	Complies
Strength	Complies	Not determined	Complies	Not determined
Dexterity	Not complies	Not complies	Not complies	Not complies
Speed-power	Complies	Not complies	Complies	Not complies

So, from table 3 it is quite clear that for educational process of 1<sup>st</sup> form pupils it is characteristic:

First – requirements to pupils' health level are not equated with standards of program (or on the contrary);

Second – program does not determine indicators of norms of pupils' physical development;

Third – complex of tests "A step to health" does not stipulate a number of tests from academic program (30 meters run, chin ups on low horizontal bar);

Forth – is indicators of endurance and speed power abilities correspond to requirements of academic program, then they do not comply with requirements of "A step to health";

Fifth – physical development and dexterity of pupils (both boys and girls) are on very low level.

**Summary:**

1. As a result of carried out research of physical condition and physical level state of 1<sup>st</sup> form pupils of comprehensive educational establishments of Kharkivska region we found low level of physical condition and physical abilities both of girls and boys, in particular, dexterity.

2. Systems of evaluation of pupils' progress in education require coordination and upgrading.

*The prospects of further researches:* the state of physical conditions and physical level of 2<sup>nd</sup> form pupils requires further studying.

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