



ASSESSMENT OF THE PHYSICAL ABILITY OF 5TH GRADE STUDENTS

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ABSTRACT

The purpose of the research is to establish and evaluate the current level of physical fitness of the students from the two studied groups (boys and girls), as well as the individual assessments of the studied individuals. The object of research is the main signs of physical ability in students of both sexes. The following research methods are applied - research of literary sources, sports-pedagogical testing and analysis. The results of the research were subjected to mathematical-statistical processing through variational analysis and the sigma evaluation method. We found that the average score for the physical performance of boys was lower than that of girls, but both studied populations had a higher current level of development of physical capacity in comparison to the average for Bulgaria.

Key words: students, motor skills, physical ability, assessment

INTRODUCTION

Increasing the level of work ability is one of the main tasks of training in physical education and sports. The issue of improving the learning process and improving physical performance is of constant importance, which is why it is the subject of research by a number of authors (1-4). A number of control methods are used to manage the learning process. Objective control of physical capacity is an important factor guaranteeing the effectiveness of the learning process.

Assessing the physical capacity of fourth grade students S. Chaney, G. Yotsov (5) emphasize the fact that the only component involved in the formation of the final assessment of physical education and sports, carried out with precise and uniform criteria for all students, is the physical ability, which is formed according to the System for evaluating the physical ability of students from all classes (6), and facilitates and objectifies the work of teachers. The obtained individual evaluations allow teachers to identify

measures to improve the future learning process by determining the emphasis for the effect in the specific class, as well as for the individual impacts on those students who need personal attention.

PURPOSE

The purpose is to establishing the current average assessment of physical capacity in the two studied populations - boys and girls, as well as the individual assessments of all the examined individuals.

METHODS

The object of research are the main signs of physical fitness in students of both sexes, a total of 58 students - 29 boys and 29 girls from the 5th grade of a high school in Bulgaria. The used test battery 5 includes indicators (**Table 1**) and is according to the current regulatory requirements and assessment system for students from 1 to 12 grades (6).

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Table 1. Test battery of studied signs

№	Indicators	Measuring units	Accuracy of measurement	Direction of increase
1.	Running 30 m	sec	0,01	-
2.	Long jump with both feet from a place	cm	1,0	+
3.	Throwing a solid ball (3 kg)	cm	1,0	+
4.	Running 200 m	sec	0,01	-
5.	Agility test (<i>T-test</i>)	sec	0,01	-

RESULTS

The analysis of the results is related to the assessment of the achievements of each child, as well as separately for the two populations participating in the present study. As noted in the Research Methodology, the grades were calculated on the basis of the average level for

Bulgaria for each of the observed signs of physical capacity, valid for the 5th grade, and for this purpose the current System for Control and Assessment of Physical Capacity was applied.

Table 2. Average assessments of the level of physical performance of the studied students

№	Boys	Individual average grade	Individual average grade	Girls	№
1.	A.B.	11,4	11,4	A.P.	1.
2.	B.C.	10,0	13,6	G.I.	2.
3.	D.N.	12,0	14,8	D.N.	3.
4.	E.N.	10,6	14,8	D.G.	4.
5.	E.I.	10,2	9,2	E.N.	5.
6.	I.L.	12,0	13,6	E.D.	6.
7.	K.N.	13,4	17,4	L.I.	7.
8.	N.D.	13,4	11,8	M.P.	8.
9.	N.I.	11,8	13,0	H.P.	9.
10.	N.N.	10,0	11,0	P.C.	10.
11.	C.P.	6,0	13,2	C.R.	11.
12.	C.C.	7,8	6,2	C.I.	12.
13.	C.H.	9,4	7,8	C.C.	13.
14.	H.N.	14,6	14,6	C.C.	14.
15.	A.A.	10,8	9,8	G.R.	15.
16.	A.P.	14,6	10,2	A.H.	16.
17.	B.H.	9,4	11,4	B.B.	17.
18.	B.B.	10,6	10,6	G.D.	18.
19.	B.N.	13,0	12,2	D.C.	19.
20.	E.P.	14,0	12,4	E.P.	20.
21.	I.N.	14,0	14,0	E.A.	21.
22.	K.P.	11,4	15,2	G.H.	22.
23.	M.P.	8,4	8,2	M.C.	23.
24.	O.C.	13,2	13,8	P.F.	24.
25.	R.P.	13,6	12,0	C.G.	25.
26.	C.H.	11,8	11,4	C.D.	26.
27.	C.I.	14,6	12,4	C.F.	27.
28.	C.H.	8,6	11,2	H.L.	28.
29.	I.A.	13,2	13,2	Z.D.	29.
Average score of the boys' group		11,51 pts.	12,08 pts.	Average score of the girls' group	

With the help of the normative tables for 5th grade, presented in this System, the levels of development of each of the five signs of the physical capacity of each of the children participating in the sports-pedagogical testing conducted by us were evaluated. The results are presented in **Table 2**, the average scores for physical performance of each of the examined children of both sexes were calculated, as well as the aggregated average scores separately for boys and girls.

The analysis of the table shows that the average score for physical performance in boys is 11.51 points and is lower than that of girls - 12.08 points.

The highest level of physical activity among boys was estimated with 14.6 points and was reached by three of them (No. 14, 16 and 27). For girls with the same result, it is No. 14, but four of them have higher average scores for their levels of physical activity:

- No. 7 has the highest grade of all the examined students - 17.4 points;
- No. 22 – with an average score higher than the best for boys – 15.2 points;
- No. 3 and 4 – with average marks of 14.8 points each, which are also higher than the marks of the best boys.

It should be noted here that the current Control and Evaluation System is developed in a 20-point system, which allows for a more accurate evaluation of the test results. On this basis, it can be concluded that both studied populations, both boys and girls, have a higher than the average for Bulgaria (10 points) current level of

development of their physical abilities. This is a good sign for the work of the physical education teachers from high school "Panayot Volov".

A more detailed insight into the structure of physical capacity allows to establish those components of it that are developed at a higher level and, at the same time, to reveal those in which there are reserves for more active future work in order to increase the general physical capacity.

The analysis of **Figure 1** shows that the mean scores for the boys ranged between 7.97 pts and 16.17 pts. It can be seen that they reached the highest level in terms of agility, as evidenced by the extremely high group score according to indicator 5 (T-test, T5 = 16.17 points).

At the same time, however, the average score for indicator 3 (throwing a solid ball) is only 7.97 points. This shows that the boys studied by us have a lower than the Bulgarian average level of development of the explosive power of the upper limbs. This gives reason to consider that the development of the corresponding motor quality should be one of the highlights in future physical education and sports lessons for boys. Although, for the remaining three components of physical performance, the average scores of the group of boys are slightly above the average level for Bulgaria, it should be noted that the preferential development, apart from the already mentioned explosive power of the upper limbs, of the speed and explosive power of the lower limbs, will lead to an increase in the general level of physical activity of the boys of the studied age group.

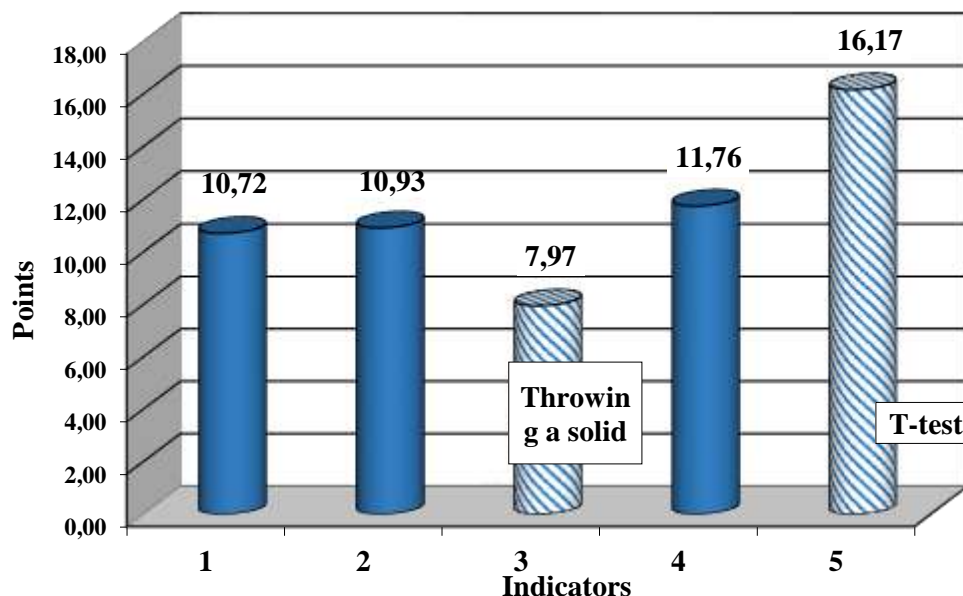


Figure 1. Assessment of the level of development of the studied signs of physical ability in boys

Comparatively, the scores of the girls' group on all observed signs were higher than those of the boys (Figure 2).

However, as can be seen from the figure, the differences are very small – between 1.21 points for indicator 1 and 0.24 points for indicator 5. And among girls, agility has the highest level of development (T5 = 16.41 points), and the

explosive power of the upper limbs has the lowest (T3 = 8.55 points). Therefore, it can be considered that the structure of the physical performance of the students observed by us is not determined by their gender. This is a positive fact regarding the joint education of boys and girls within mixed classes at the age of 11–12 years (5th grade).

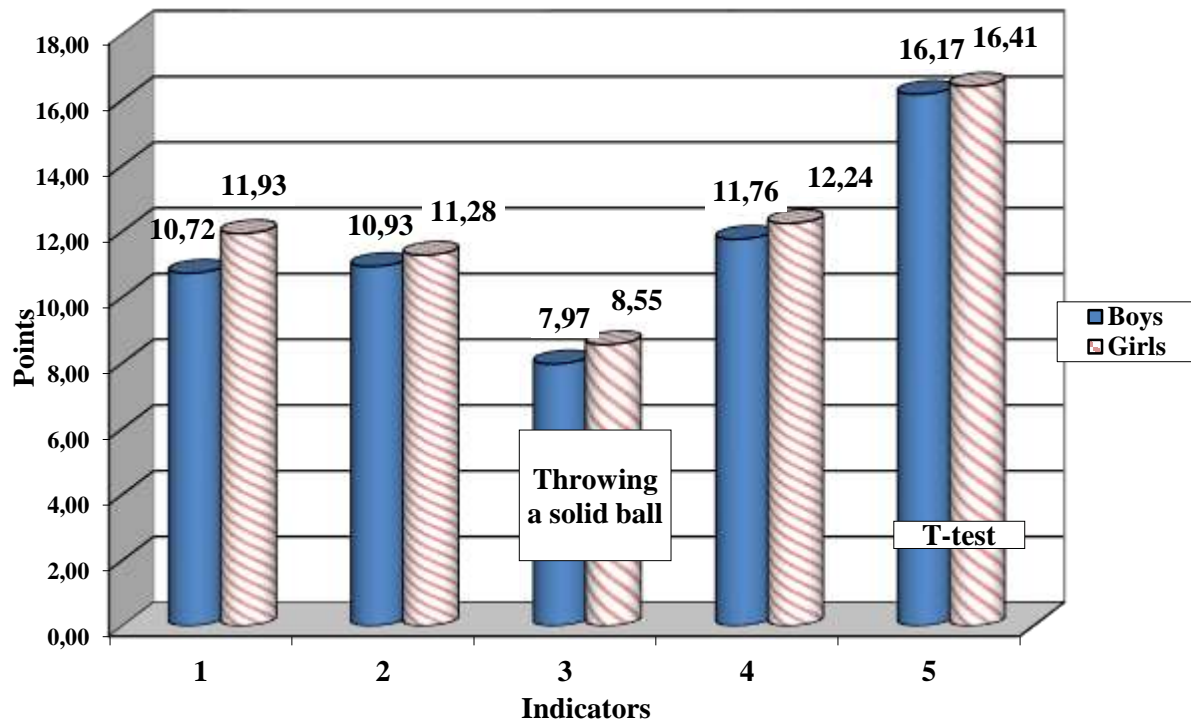


Figure 2. Comparative analysis of the average scores of the studied signs of physical performance among students from the two populations

DISCUSSION

The presented results and analyzes show that the average overall assessment of the physical ability of boys is lower than that of girls, but both studied populations have a higher than average level of physical ability development for Bulgaria.

The evaluations of the two studied groups - girls and boys, according to the individual signs, are very close, with the highest level of development being agility, and the lowest - the explosive power of the upper limbs, which gives us reason to assume that the structure of the physical performance of the students of the studied age group are not determined by their gender. The above presented facts correspond with the results established by P. Mavrudiev and M. Georgieva (7).

Other authors also found similar results regarding explosive power. Analyzing the development of the motor quality explosive

power, B. Zlatev (8) found that the development of dynamic (explosive) power among students is poorly represented. The same author also refers to the results of a national study conducted in 2018, related to preparation of "Analysis and evaluation of the physical capacity of students from secondary schools in the Republic of Bulgaria" -T. Marinov, K. Georgieva, L. Alipieva (9), who found that of the indicators of physical performance of students of all classes, the explosive power of the upper and lower limbs is the least developed, which is also confirmed by our research.

CONCLUSIONS

When planning the means and methods of training in physical education and sports lessons, teachers should take into account the initial level and grades of students of both sexes, as well as the individual grades of each student and accordingly make specific recommendations for further improvement. In

general, in the future learning process, we recommend to include exercises to improve the explosive power of the lower and upper limbs.

We also believe that the inclusion of students in systematic extracurricular sports activities will have a positive effect on the physical capacity and respectively health status of students.

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