ЗДОРОВ'Я ЛЮДИНИ, ФІТНЕС І РЕКРЕАЦІЯ, ФІЗИЧНЕ ВИХОВАННЯ РІЗНИХ ГРУП НАСЕЛЕННЯ

ASSESSMENT OF THE CORRESPONDENCE OF SUBJECTIVE SELF-ASSESSMENT OF PHYSICAL DEVELOPMENT WITH THE RESULTS OF CONTROL TESTS OF SCHOOLCHILDREN IN GRADES 10–11

ОЦІНКА ВІДПОВІДНОСТІ СУБ'ЄКТИВНОЇ САМООЦІНКИ ФІЗИЧНОГО РОЗВИТКУ РЕЗУЛЬТАТАМ КОНТРОЛЬНИХ ТЕСТІВ ШКОЛЯРІВ 10–11-Х КЛАСІВ

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Abstracts

Background and Study Aim: The formation of a holistic, harmoniously developed personality, taking into account the individual characteristics of schoolchildren, is possible due to the comprehensive solution of pedagogical and social issues. Modern psychology considers the physical «I» as a concept of a person, as a unique system of his ideas about himself and includes the following components: awareness of his own physical, intellectual and other qualities; self-esteem, subjective perception of external factors that have an impact on the personality. One of the factors influencing the self-esteem of schoolchildren, in our opinion, is physical education and sports. **The purpose of the study** is to investigate the correspondence between subjective self-assessment of physical development and the results of control tests of schoolchildren in grades 10–11. **Material and methods.** The research was carried out in the institution of general secondary education No. 17 in Lutsk with the participation of high school students in the number of 120 students (10^{th} grade – 60 students (30 boys, 30 girls), 11th grade – 60 students (boys – 30, girls – 30). Their age is – 16 and 17 years. The following research methods were used to solve the set goal: analysis and generalization of data from scientific and methodical literature, regulatory and legal documents, physical education curriculum (standard level) for 10–11th grades; test-questionnaire of E. Bochenkova "Self-description of physical development"; physical fitness testing, anthropometric research methods, indicators of the Rufier, Robinson Index and indicators of the Martyne-Kushelevsky functional test; correlation analysis; methods of mathematical statistics. **Results.** In general, the self-assessment of the physical development of 11th-grade boys is adequately based on the results of strength tests (right and left hand strength, $r = 0.47$, $p < 0.05$; $r = 0.49$, $p < 0.05$), raising the trunk in a sitting position ($r = 0.35$, $p < 0.05$), "Flamingo" tests ($r = –0.59$, $p < 0.05$), 100 m run ($r = –0.54$, $p < 0.05$). The highest average correlation coefficients between indicators of self-esteem and actual indicators of physical development are noted when assessing appearance ($r = 0.28$, $p < 0.05$), strength ($r = 0.26$, $p < 0.05$), coordination of movements and general self-esteem ($r = 0.25$, $p < 0.05$).

In 11th grade girls, there are quite a lot of significant correlation coefficients with control tests and self-assessment of motor abilities, which contradict each other. Thus, the relationship of coordination of movements with the Flamingo test should be negative, and it should be positive, and the relationship with the tests of raising the trunk in a sitting position ($r = –0.52$, $p < 0.05$), bending and extending arms at a stop

lying down ($r = –0.47$, $p < 0.05$), bending the body forward from a sitting position ($r = –0.43$, $p < 0.05$) and long jump from a standing position ($r = –0.31$, $p < 0.05$) must be positive. **Conclusions.** A correlational analysis was conducted between the results of the control tests and the self-assessment of these indicators. High school students objectively evaluate their physical qualities. This is due to the acquisition of practical experience during classes in physical education classes for 10–11 years.

Key words: students, self-control, standards, indices, tests, physical qualities.

Передумови та мета дослідження. Формування цілісної, гармонійно розвиненої особистості з урахуванням індивідуальних особливостей школярів можливе завдяки комплексному розв'язанню педагогічних і соціальних питань. Сучасна психологія розглядає фізичне «Я» як концепцію людини, як неповторну систему її уявлень про саму себе та передбачає такі складові: свідомість власних фізичних, інтелектуальних та інших якостей; самооцінку, суб'єктивне сприймання зовнішніх факторів, які мають вплив на особистість [3]. Одним із факторів впливу на самооцінку школярів, на нашу думку, є заняття фізичною культурою і спортом. **Мета дослідження** – дослідити відповідність суб'єктивної самооцінки фізичного розвитку результатам тестових вправ школярів 10–11-х класів. **Матеріал і методи.** Дослідження проводилось у закладі загальної середньої освіти № 17 м. Луцька за участю учнів старших класів у кількості 120 учнів (10-й клас – 60 учнів (30 юнаків, 30 дівчат), 11-й клас – 60 учнів (юнаків – 30, дівчат – 30 чоловік). Їх вік – 16 і 17 років. Для вирішення поставленої мети використовувалися такі методи дослідження: узагальнення даних науково-методичної літератури, нормативно-правових документів, навчальної програми з фізичного виховання (рівень стандарту) для 10–11-х класів; показники індексу Руф'є, індексу Робінсона та показники функціонального тесту Мартіне – Кушелевського, функціональна проба; кореляційний аналіз; методи математичної статистики. **Результати.** Загалом самооцінка фізичного розвитку юнаків 11-го класу адекватно базується на результатах силових тестів (сила правої та лівої руки, $r = 0,47$, $p < 0,05$; $r = 0,49$, $p < 0,05$), піднімання тулуба в положенні сидячи ($r = 0,35$, $p < 0,05$), проби «Фламінго» ($r = –0,59$, $p < 0,05$), біг на 100 м ($r = –0,54$, $p < 0,05$). Найвищі середні коефіцієнти кореляції між показниками самооцінки та фактичними показниками фізичного розвитку відзначаються при оцінці зовнішнього вигляду ($r = 0,28$, $p < 0,05$), сили ($r = 0,26$, $p < 0,05$), координації рухів і загальна самооцінка ($r = 0,25$, $p < 0,05$).

У дівчат 11-го класу досить багато значущих коефіцієнтів кореляції з контрольними тестами та самооцінкою рухових здібностей, які суперечать один одному. Таким чином, зв'язок координації рухів із тестом «Фламінго» є негативним, а має бути позитивним, а зв'язок із тестами підняття тулуба в положенні сидячи ($r = –0,52$, $p < 0,05$), згинання та розгинання рук в упорі лежачи ($r = –0,47$, $p < 0,05$), нахили тулуба вперед з положення сидячи ($r = –0,43$, $p < 0,05$) і стрибок у довжину з місця ($r = –0,31$, $p < 0,05$) є позитивним. **Висновки.** Проведено кореляційний аналіз між результатами контрольних тестів і самооцінкою цих показників. Старшокласники об'єктивно оцінюють свої фізичні якості. Це пов'язано з набуттям практичного досвіду під час занять на уроках фізичної культури протягом 10–11 років.

Ключові слова: школярі, самоконтроль, нормативи, показники, тести, фізичні якості.

Introduction. The formation of a holistic, harmoniously developed personality, taking into account the individual characteristics of schoolchildren, is possible due to the comprehensive solution of pedagogical and social issues. Modern psychology considers the physical «I» as a concept of a person, as a unique system of his ideas about himself and includes the following components: awareness of his own physical, intellectual and other qualities; self-esteem, subjective perception of external factors that have an impact on the personality [3; 4; 18; 19; 24]. One of the factors influencing the self-esteem of schoolchildren, in our opinion, is physical education and sports.

The physical development of schoolchildren reflects their biological maturity, is one of the criteria for assessing biological age, is often considered by doctors as a dynamic process of growth, changes in body size, muscle mass of the child and is used in diagnostics [1; 2; 12; 17].

Therefore, the study of subjective self-assessment of physical development with the results of control tests of high school students plays an important role in the development of the personality [26; 27]. It forms a holistic understanding of adolescents about the purpose, content, forms and means of physical education, which allows them to critically approach themselves and their activities in the past, present and future, and is

one of the components of the need-motivational structure of the individual. The deep meaning of such knowledge lies primarily in conducting more substantiated empirical research, which determined the purpose and objectives of our scientific work.

The purpose of the study is to investigate the correspondence between subjective self-assessment of physical development and the results of control tests of schoolchildren in grades 10–11.

Materials and Methods. *Participants.* The research was carried out in the institution of general secondary education № 17 in Lutsk with the participation of high school students in the number of 120 students (10th grade – 60 students (30 boys, 30 girls), 11th grade – 60 students (boys – 30 , girls – 30). Their ages are – 16 and 17. All schoolchildren belonged to the main medical group. Informed consent to participate in this experiment was obtained from all schoolchildren.

The study was conducted at the end of the 2023–2024 academic year.

Procedure. To solve the set goal, the following research methods were used: analysis and generalization of data from scientific and methodical literature, regulatory and legal documents, physical education curriculum (standard level) for 10–11th grades [20; 28]; test-questionnaire of E. Bochenkova "Self-description of physical development" [8; 21]; physical fitness testing, anthropometric research methods, indicators of the Rufier, Robinson Index and indicators of the Martyne-Kushelevsky functional test; correlation analysis; methods of mathematical statistics.

To study the individual profile of the physical "I" of the individual, we used the test-questionnaire of E.V. Bochenkova "Self-description of physical development". The proposed questionnaire consists of 70 statements related to the field of human physical development. When answering the questions, schoolchildren express their own attitude to the statements regarding the assessment of health, coordination of movements, physical activity, body slimness, sports abilities, global physical "I", appearance, strength, flexibility, endurance and general self-esteem using one of six answer options.

Students express their attitudes towards different aspects of physical development using one of six answer options for each statement. As they choose one answer option out of six, we can consider this data as a point.

Point data (or sometimes called interval data) indicates a numerical series where the intervals between the values are equal, and they can have an arithmetic meaning. Therefore, the data obtained from this questionnaire test can be considered as points.

The following somatometric parameters were used for the correlation analysis: body length (BL), body weight (BW), lung vital capacity (LVC), wrist dynamometry, body mass index (BMI), vital index (VI), strength index (SI). Anthropometric examinations of children were carried out using standard equipment according to a generally accepted and unified method.

Physiometric indicators included measurements of heart rate at rest (HRcalm), blood pressure (BPsystol and BPdiast), Robinson index (RI), Rufier's test, functional test of Martine-Kushelevsky (Test of M-K) and physical fitness: run 100 meters, steady run of 2000 m (b) and 1500 m (g), pulling up (b) and flexion and extension of the arms in the lying positio (g), raising the trunk in a sitting position for 1 minute, standing long jump, trunk tilt from a sitting position, "Flamingo test".

Parametric tests were used in the study, and the parametric correlation method will be used to assess the relationship.

Statistical analysis. Mathematical processing of the actual material was carried out in order to interpret the results of the pedagogical experiment. The following mathematical procedures were carried out:

– evaluation and characteristics of variation series of parameters of representatives of different age and sex groups, namely – sum (Σ), arithmetic mean of variation series (r);

– comparison and determination of the reliability of differences between individual groups using the Student's t-test at a significance level of at least 0,05;

– comparison and determination of the reliability of differences between individual groups using the Student's t-test at a significance level of at least 0,05.

All data obtained during the study were processed using the computer program for statistical data processing SPSS Statistics (version 23).

The procedure of scientific research was carried out in accordance with the ethical standards of the responsible human rights committee with the approval of the Department of Education and Science of the executive body of Lutsk City Council and the written consent of the directors of general secondary education institution № 17 of Lutsk and the parents of students, which is confirmed by relevant documents.

Results. We did not find any correlations in the correlations of self-assessment of the following physical qualities: coordination of movements, physical activity, sports and strength abilities, body slimness, global physical «I» and appearance of 10th grade boys with test scores and development of physical qualities.

Correlation was calculated using parametric criteria.

Pearson's correlation coefficient (r): used to measure the linear relationship between two variables. Assumes normal data distribution and linear relationship.

Spearman's correlation coefficient: used to estimate the monotonic (not necessarily linear) relationship between two variables. Does not require normal data distribution.

The average indicator of the correlation coefficient between the indicators of self-esteem and the actual indicators of physical development does not exceed ($r = 0.13$, $p < 0.05$) (Table 1).

On the other hand, in 10th grade girls, it is worth highlighting the correlation of self-esteem of sports abilities with the strength of the left hand ($r = 0.32$, $p < 0.05$) and long jump from a standing position ($r = 0.34$, $p < 0.05$) (Table 2).

Table 1

Correlation analysis of self–assessment of physical development with the results of control tests of 10th grade boys (n = 30)

Self–esteem. Tests	Health	Coor. mov	Phys. Act.	body slimness	sports abilities	G.P.I	Appea-rance	Power	Flexi-bility	Endu-rance	Self–esteem
BL	–0,09	0,14	–0,06	0,07	–0,27	–0,12	–0,16	–0,14	–0,22	–0,29	0,29
BW	0,07	–0,14	0,08	–0,07	0,25	0,13	0,18	0,19	0,23	0,28	–0,23
$HR_{calm.beat/m.}$	–0,01	0,01	–0,12	0,11	–0,16	–0,05	0,03	–0,20	–0,09	–0,17	0,25
BPsystol.	0,22	–0,14	0,08	–0,09	0,06	0,09	0,08	0,08	0,03	0,15	–0,08
BPdiast.	0,22	–0,12	–0,01	0,12	0,05	0,13	0,18	0,00	–0,08	0,08	0,11
LVC	–0,16	–0,05	–0,08	0,05	0,04	0,04	–0,19	–0,01	0,00	–0,16	0,04
Rufier's test	–0,11	0,12	0,07	0,00	0,03	–0,06	–0,08	0,18	0,06	0,00	–0,01
Test of M–K	0,26	–0,24	0,09	–0,04	0,21	0,14	0,13	0,13	0,03	0,25	–0,06
BMI	0,05	–0,20	–0,08	–0,06	0,02	0,17	0,13	0,07	0,30	0,20	–0,06
LI	0,13	0,13	0,12	–0,06	–0,06	–0,10	–0,24	–0,07	–0,29	–0,04	–0,22
SI	–0,18	0,15	–0,01	0,13	–0,21	–0,04	–0,07	–0,08	–0,27	–0,15	0,13
RI	0,00	0,00	–0,09	0,04	–0,08	–0,05	0,04	–0,06	0,03	–0,09	0,25
Run 100 m	0,00	0,01	0,00	–0,09	0,11	0,07	–0,17	–0,16	–0,09	–0,02	–0,23
Steady running	–0,11	0,02	–0,01	–0,10	0,12	0,18	–0,11	–0,14	0,00	0,00	–0,29
Pulling up	0,09	–0,11	0,07	0,03	0,04	0,01	0,24	0,23	0,18	0,17	0,13
Power (right hand)	–0,18	0,04	–0,01	0,07	–0,13	0,13	0,12	0,08	0,09	–0,08	0,08
Power (left hand)	–0,18	0,01	0,01	0,01	–0,04	0,19	0,13	0,07	0,14	–0,01	–0,03
Raising the body	0,22	–0,11	0,07	–0,03	0,11	–0,17	0,14	0,16	0,15	0,23	0,11
Standing long jump	–0,12	0,06	0,00	0,04	–0,09	–0,05	0,11	0,07	0,18	0,03	0,11
"Shuttle" run	0,15	–0,08	0,01	–0,05	0,16	0,03	–0,10	–0,07	–0,15	0,04	–0,13
Body tilt	–0,10	0,05	0,02	–0,03	–0,05	–0,06	0,10	0,06	0,24	0,08	0,04
"Flamingo" test	0,26	–0,24	0,09	–0,04	0,27	0,14	0,13	0,15	0,00	0,22	–0,09
Sum Σ	2,91	2,17	1,18	1,33	2,56	2,15	2,86	2,3	2,85	2,74	2,97
r Arithmetic mean	0,13	0,09	0,05	0,06	0,11	0,09	0,13	0,1	0,12	0,12	0,13

Note: r (p = 0,05) = 0,2731; r (p = 0,01) = 0,354.

Table 2

Correlation analysis of self–assessment of physical development with the results of control tests of 10th grade girls (n = 30)

Self–esteem. Tests	Health	Coor. mov	Phys. Act.	body slimness	sports abilities	G.P.I	Appea-rance	Power	Flexi-bility	Endu-rance	Self–esteem
BL	0,03	0,05	0,01	–0,02	0,05	0,01	–0,09	–0,02	0,05	–0,16	0,03
BW	–0,02	–0,20	–0,20	–0,01	0,12	0,11	0,22	–0,13	–0,07	–0,35	–0,08
$HR_{calm.beat/m.}$	–0,09	–0,05	–0,04	0,00	–0,14	–0,05	–0,10	–0,11	–0,13	0,29	–0,18
BPsystol.	0,00	0,12	0,05	–0,02	0,17	0,13	0,17	0,21	0,18	–0,20	0,22
BPdiast.	0,11	0,09	0,00	0,03	0,25	0,19	0,24	0,20	0,19	–0,23	0,24
LVC	–0,16	–0,18	–0,21	–0,09	–0,13	–0,13	–0,09	–0,19	–0,34	0,22	–0,33
Rufier's test	0,26	0,09	0,13	0,06	0,29	0,16	0,27	0,16	0,32	–0,36	0,37
Test of M–K	–0,41	0,05	0,06	–0,11	–0,19	–0,05	–0,08	0,04	–0,09	0,27	–0,14
BMI	0,03	–0,28	–0,28	0,04	0,06	0,10	0,16	–0,27	–0,18	–0,14	–0,23
LI	–0,16	0,12	0,18	–0,05	–0,23	–0,18	–0,26	0,03	–0,05	0,33	–0,06
SI	0,05	0,04	0,05	0,04	–0,11	–0,08	–0,15	–0,03	–0,04	0,30	–0,06
RI	–0,17	–0,17	–0,13	0,06	–0,15	0,01	–0,04	–0,24	–0,22	0,07	–0,16
Run 100 m	0,17	0,14	0,17	0,08	0,23	0,21	0,30	0,21	0,37	–0,18	0,38
Steady running	0,36	0,27	0,21	0,16	0,18	0,14	0,18	0,18	0,39	–0,19	0,44
Flexion and extension of the arms	0,34	0,13	0,04	0,08	0,05	–0,10	–0,13	–0,05	0,06	–0,29	0,14
Power (right hand)	0,09	0,24	0,21	0,12	–0,04	0,08	–0,02	0,15	0,26	0,06	0,23
Power (left hand)	0,19	–0,09	–0,05	–0,02	0,32	0,11	0,33	0,04	0,11	–0,34	0,19
Raising the body	–0,19	–0,11	–0,15	–0,08	–0,27	–0,22	–0,36	–0,21	–0,37	0,19	–0,39
Standing long jump	0,32	0,02	–0,01	0,10	0,34	0,22	0,44	0,10	0,20	–0,08	0,28
“Shuttle” run	–0,16	0,03	–0,11	0,07	–0,10	0,16	0,13	0,08	0,04	0,09	0,05
Body tilt	–0,01	0,26	0,39	–0,10	–0,10	–0,26	–0,38	0,00	0,06	–0,07	–0,01
“Flamingo” test	0,02	–0,04	–0,21	0,14	0,12	0,33	0,45	0,12	0,12	0,06	0,18
Sum Σ	3,34	2,77	2,89	1,48	3,64	3,02	4,59	2,77	3,84	4,47	4,39
r Arithmetic mean	0,15	0,12	0,13	0,06	0,16	0,13	0,2	0,12	0,17	0,2	0,19

Note: r (p = 0,05) = 0,2731; r (p = 0,01) = 0,354.

Self-esteem of the global physical «I» correlates only with the “Flamingo” test ($r = 0.33$, $p < 0.05$), and appearance with a 100 m run ($r = 0.30$, $p < 0.05$), with the power of the left hand ($r = 0.33$, $p < 0.05$), raising the body in the seat ($r = –0.36$, $p < 0.05$), long jump from a standing position ($r = 0.44$, $p < 0.05$), bending the body forward ($r = –0.38$, $p < 0.05$) and by the “Flamingo” test ($r = 0.45$, $p < 0.05$). This is an excellent example of the fact that if a child has a good appearance, he or she must be physically developed. Flexibility scores well with the Rufier test ($r = 0.32$, $p < 0.05$), by running exercises (100 m run) ($r = 0.37$, $p < 0.05$); by steady running ($r = 0.39$, $p < 0.05$). There is a negative correlation with LVC ($r = –0.34$, $p < 0.05$) and raising the body in the seat ($r = –0.37$, $p < 0.05$). Self-assessment of endurance shows a correlation with vital and strength indices ($r = 0.33$, $p < 0.05$; $r = 0.30$, $p < 0.05$). There is a negative correlation with body weight ($r = –0.35$, $p < 0.05$), with Rufier's test ($r = –0.36$, $p < 0.05$) and with the power of the left hand ($r = –0.34$, $p < 0.05$). Self-assessment of physical development revealed a correlation with LVC ($r = –0.33$, $p < 0.05$), Rufier’s test ($r = 0.37$, $p < 0.05$), running for 100 m ($r = 0.38$, $p < 0.05$), steady running ($r = 0.44$, $p < 0.05$) and raising the body in the seat ($r = –0.39$, $p < 0.05$).

Average correlation coefficients between self-esteem indicators and actual indicators of physical development do not exceed $r = 0.2$, $p < 0.05$ (appearance and endurance).

Analyzing the «coordination of movements» according to the self-assessment of the 11th grade boys and the results of the motor tests “shuttle” run 4 x 9 m and the “Flamingo” test, it can be stated that there is a negative correlation with the “Flamingo” test ($r = –0.50$, $p < 0.05$), that is, the assessment is close to the objective result due to the fact that the fewer attempts at maintaining the Flamingo pose, the better the result.

The strength qualities of young men in self-assessment have the most objective confirmation, as significant correlations were found with the results of the following tests: the strength of the right and left hand ($r = 0.56$, $p < 0.05$; $r = 0.54$, $p < 0,05$), uniform running (2000 m) ($r = 0.51$, $p < 0.05$), raising the body in a sitting position ($r = 0.46$, $p < 0.05$). A negative correlation is observed among the results of control tests, such as: 100 m run ($r = –0.64$, $p < 0.05$), the Flamingo test ($r = –0.55$, $p < 0.05$). Self-assessment of flexibility in young men correlates with Rufier's functional test ($r = 0.69$), steady running ($r = 0.50$, $p < 0.05$) and sitting up ($r = 0.34$, $p < 0.05$), the Flamingo test ($r = –0.48$, $p < 0.05$), the 100 m run ($r = –0.39$, $p < 0.05$) and the standing long jump ($r = –0.37$, $p < 0,05$), and not with the flexibility test itself. And endurance has a correlation with the results of control tests, such as: Ruffier test ($r = 0.60$, $p < 0.05$), steady running ($r = 0.41$, $p < 0.05$) and lifting trunk in the seed ($r = 0.31$, $p < 0.05$). This contradicts the estimate of the Rufier index. The higher the index, the worse physical performance. A negative correlation is observed in the 100 m run ($r = –0.41$, $p < 0.05$) and in the standing long jump ($r = –0.36$, $p < 0.05$).

So, we can say that, in general, the self-assessment of the physical development of 11th-graders is adequately based on the results of strength tests (right and left hand strength, $r = 0.47$, $p < 0.05$; $r = 0.49$, $p < 0.05$), sit-ups ($r = 0.35$, $p < 0.05$), Flamingo tests ($r = –0.59$, $p < 0.05$), 100 m running ($r = –0.54$, $p < 0.05$). The highest average correlation coefficients between indicators of self-esteem and actual indicators of physical development are noted when assessing appearance ($r = 0.28$, $p < 0.05$), strength ($r = 0.26$, $p < 0.05$), coordination of movements and general self-esteem ($r = 0.25$, $p < 0.05$) (Table 3).

Table 3

Correlation analysis of self–assessment of physical development with the results of control tests of 11th–grade boys (n = 30)

Self–esteem. Tests	Health	Coor. mov	Phys. Act.	body slimness	sports abilities	G.P.I	Appea-rance	Power	Flexi-bility	Endu-rance	Self–esteem
BL	0,24	0,06	0,17	0,03	0,03	0,16	0,20	0,17	0,11	0,06	0,22
BW	0,05	0,00	0,25	–0,09	0,06	–0,18	–0,10	–0,02	–0,02	0,03	0,07
$HR_{calm.beat/m.}$	–0,15	0,07	0,37	–0,09	0,16	–0,15	–0,10	–0,01	–0,07	0,03	0,02
BPsystol.	–0,19	–0,06	–0,41	0,33	–0,22	0,34	0,34	0,15	–0,02	–0,10	0,11
BPdiast.	–0,03	0,17	–0,47	0,45	–0,13	0,46	0,50	0,37	0,18	0,05	0,34
LVC	–0,21	–0,28	0,12	–0,31	–0,04	–0,12	–0,27	–0,32	–0,26	–0,25	–0,33
Rufier's test	0,17	0,77	–0,12	0,40	0,28	0,27	0,50	0,72	0,69	0,60	0,77
Test of M–K	0,01	–0,11	–0,01	0,06	0,02	–0,17	–0,28	–0,15	–0,05	–0,03	–0,09
BMI	–0,15	0,16	–0,06	0,00	0,12	–0,10	–0,13	–0,03	–0,05	–0,06	0,04
LI	0,25	–0,15	0,11	–0,02	–0,07	0,11	0,06	–0,01	0,01	0,02	–0,06
SI	0,03	–0,10	0,06	0,00	–0,09	0,01	0,09	0,07	0,15	0,17	0,02
RI	0,04	0,14	0,10	–0,06	0,18	–0,14	–0,25	–0,06	0,08	0,04	0,10
Run 100 m	–0,03	–0,54	0,11	–0,51	–0,14	–0,41	–0,54	–0,64	–0,39	–0,41	–0,54
Steady running	0,23	0,59	0,13	0,04	0,47	0,06	0,18	0,51	0,50	0,41	0,48
Pulling up	0,23	0,04	–0,21	0,26	–0,01	–0,10	–0,08	–0,01	0,17	0,06	0,04
Power (right hand)	–0,03	0,40	–0,15	0,29	0,11	0,53	0,68	0,56	0,23	0,22	0,47
Power (left hand)	–0,01	0,41	–0,13	0,28	0,14	0,51	0,65	0,54	0,23	0,20	0,49
Raising the body	0,22	0,30	–0,29	0,48	–0,02	0,34	0,44	0,46	0,34	0,31	0,35
Standing long jump	–0,08	–0,42	–0,20	–0,06	–0,32	0,02	0,10	–0,34	–0,37	–0,36	–0,26
"Shuttle" run	–0,06	0,09	0,28	–0,09	0,08	–0,15	–0,30	0,04	0,07	0,20	–0,06
Body tilt	0,01	0,07	–0,08	0,17	–0,09	0,21	0,05	0,18	0,10	0,07	0,13
"Flamingo" test	–0,13	–0,50	0,29	–0,42	–0,21	–0,37	–0,48	–0,55	–0,48	–0,26	–0,59
Sum Σ	2,55	5,54	4,12	4,44	2,99	4,91	6,32	5,91	4,57	3,94	5,58
r Arithmetic mean	0,11	0,25	0,18	0,2	0,13	0,22	0,28	0,26	0,2	0,17	0,25

Note: r (p = 0,05) = 0,2731; r (p = 0,01) = 0,354.

In 11th grade girls, there are quite a lot of significant correlation coefficients with control tests and self-assessment of motor abilities, which contradict each other. Thus, the relationship of coordination of movements with the Flamingo test should be negative, and it should be positive, and the relationship with the tests of raising the trunk in a sitting position ($r = –0.52$, $p < 0.05$), bending and extending arms at a stop lying down ($r = –0.47$, $p < 0.05$), bending the body forward from a sitting position ($r = –0.43$, $p < 0.05$) and long jump from a standing position ($r = –0.31$, $p < 0.05$) must be positive.

In girls of the 11th grade, no significant correlations between control tests and self-assessment of motor qualities were found, but they were associated with the development of strength, speed-strength qualities, flexibility, coordination of movements with body slimness and general self-esteem. This shows that insufficient attention is paid to the justification of pedagogical control over the physical fitness of schoolchildren in physical education lessons. Performance of control tests in physical education lessons is used by the teacher in general to give an assessment, and not for the purpose of determining the progress of the students' achievements in the development of physical qualities in the course of specially organized motor activity classes. Therefore, students do not see the relationship between the results in specific exercises and the development of their physical abilities, that is, pedagogical control does not become an incentive for their self-development and self-improvement. This explains the fact that scientists [5; 6] note in their research that young people lack a motive to increase physical fitness during physical education classes.

A similar tendency has developed with physical activity. A positive correlation is inherent with the Flamingo test ($r = 0.59$, $p < 0.05$), and a negative correlation with ATsyst. ($r = –0.54$, $p < 0.05$), raising the trunk in a sitting position ($r = –0.53$, $p < 0.05$), tilting the trunk forward ($r = –0.45$, $p < 0.05$), flexion and extension of the arms in the supine position ($r = –0.43$, $p < 0.05$), JEL ($r = –0.35$, $p < 0.05$), steady running ($r = –0.33$, $p < 0.05$) and standing long jump ($r = –0.31$, $p < 0.05$). Sports abilities of girls have a positive correlation only with the Flamingo test ($r = 0.50$, $p < 0.05$). And we see a negative correlation with ATsyst. ($r = –0.57$, $p < 0.05$), raising the trunk in a sitting position ($r = –0.39$, $p < 0.05$), tilting the trunk forward ($r = –0.38$, $p < 0.05$), running 100 m ($r = –0.34$, $p < 0.05$), bending and extending the arms in the supine position ($r = –0.32$, $p < 0.05$) and uniform running ($r = –0.28$, $p < 0.05$). Self-assessed strength abilities are correlated with the results of the Flamingo test ($r = 0.47$, $p < 0.05$), vital ($r = 0.43$, $p < 0.05$) and strength indices ($r = 0.34$, $p < 0.05$). A negative correlation can be traced among such indicators of control tests as: "shuttle" run 4 x 9 m ($r = –0.49$, $p < 0.05$), 100 m run ($r = –0.36$, $p < 0.05$), uniform running ($r = –0.34$, $p < 0.05$), which is justified because it is related to the time of running, and long jump from a place ($r = –0.31$, $p < 0.05$) and raising the trunk in a sitting position ($r = –0.30$, $p < 0.05$) does not correspond to the assessment of strength abilities.

In general, the self-assessment of the physical development of girls in the 11th grade is objectively based on the results of raising the trunk in a sitting position ($r = 0.61$, $p < 0.05$), tilting the trunk forward from a sitting position ($r = 0.46$, $p < 0.05$), flexion and extension of the arms in the supine position ($r = 0.38$, $p < 0.05$), long jump from a standing position ($r = 0.34$, $p < 0.05$). The average correlation coefficients between self-esteem indicators and actual indicators of physical development are the largest in body slimness ($r = 0.24$, $p < 0.05$), coordination of movements ($r = 0.23$, $p < 0.05$), physical activity, strength, endurance and self-esteem ($r = 0.22$, $p < 0.05$) (Table 4).

Discussion. The results of our study of the attitude of high school students to their physical "I" coincide with the results of a scientific study by E.V. Bochenkova. The author also studied the self-esteem of young men and women. Boys rate their physical abilities higher than girls. But the general self-esteem of girls is inflated. When studying the age characteristics of the self-description of physical development [14; 22; 30], we can note that the value of the self-description

Table 4

Correlational analysis of self–assessment of physical development with the results of control tests of 11th grade girls (n = 30)

Self–esteem. Tests	Health	Coor. mov	Phys. Act.	body slimness	sports abilities	G.P.I	Appea-rance	Power	Flexi-bility	Endu-rance	Self–esteem
BL	0,19	0,09	–0,04	0,13	0,05	0,11	0,02	–0,11	0,00	0,06	0,06
BW	0,19	0,09	–0,04	0,13	0,05	0,11	0,02	–0,11	0,00	0,06	0,06
$HR_{calm.beat/m.}$	–0,19	–0,10	0,03	–0,14	0,06	–0,18	–0,05	0,12	0,00	–0,03	–0,09
BPsystol.	–0,27	–0,56	–0,54	0,50	–0,57	0,28	0,57	–0,08	–0,57	–0,58	0,25
BPdiast.	0,10	0,04	0,09	–0,11	–0,12	0,11	0,04	–0,03	–0,13	–0,01	–0,30
LVC	–0,13	–0,21	–0,35	0,43	–0,16	0,22	0,26	–0,07	–0,27	–0,25	0,26
Rufier's test	0,06	0,14	0,10	–0,04	0,10	0,21	–0,10	0,18	–0,01	0,05	–0,14
Test of M–K	–0,17	–0,10	0,02	–0,14	–0,07	–0,28	–0,10	0,13	0,01	0,02	–0,14
BMI	0,01	0,04	0,03	–0,03	0,01	0,19	0,05	–0,28	–0,16	–0,07	0,00
LI	–0,14	–0,14	–0,12	0,07	–0,14	0,06	0,10	0,43	–0,04	–0,10	0,06
SI	–0,05	–0,07	–0,06	0,04	–0,04	–0,13	–0,01	0,34	0,11	0,03	0,02
RI	0,05	0,01	0,01	0,01	0,05	–0,27	–0,11	0,18	0,21	0,13	–0,03
Run 100 m	–0,22	–0,37	–0,41	0,49	–0,34	0,28	0,38	–0,36	–0,39	–0,41	0,43
Steady running	–0,31	–0,34	–0,33	0,38	–0,28	0,16	0,24	–0,34	–0,35	–0,34	0,30
Flexion and extension of the arms	–0,21	–0,47	–0,43	0,43	–0,32	0,23	0,40	–0,10	–0,28	–0,51	0,38
Power (right hand)	0,09	0,11	0,09	–0,06	0,08	–0,01	–0,08	0,02	0,08	0,10	–0,08
Power (left hand)	0,21	0,24	0,21	–0,19	0,18	–0,06	–0,18	0,09	0,19	0,23	–0,17
Raising the body	–0,20	–0,52	–0,53	0,59	–0,39	0,37	0,56	–0,30	–0,38	–0,59	0,61
Standing long jump	–0,16	–0,31	–0,31	0,30	–0,27	0,13	0,31	–0,31	–0,27	–0,30	0,34
“Shuttle” run	–0,06	–0,15	–0,15	0,17	–0,12	0,03	0,10	–0,49	–0,17	–0,15	0,09
Body tilt	–0,14	–0,43	–0,45	0,42	–0,38	0,04	0,46	–0,39	–0,33	–0,37	0,46
“Flamingo” test	0,23	0,57	0,59	–0,57	0,50	–0,15	–0,60	0,47	0,47	0,52	–0,63
Sum Σ	3,38	5,10	4,93	5,37	4,28	3,61	4,74	4,93	4,42	4,91	4,9
r Arithmetic mean	0,15	0,23	0,22	0,24	0,19	0,16	0,21	0,22	0,2	0,22	0,22

Note: r (p = 0.05) = 0.2731; r (p = 0.01) = 0.354.

is lower among high school boys compared to boys of secondary school age. Boys in 5th–7th grades have higher self-report indicators in 9 out of 11 indicators compared to boys in senior grades (10–11th grades). At the same time, the general self-esteem of young men is higher than that of girls. This result of the study coincides with the data of Ye.O. Fedorenko. The author notes that boys in the 5th and 9th grades are generally more satisfied with their appearance and rate it more highly than girls. VP Sytnikov also claims that boys rated their physical characteristics significantly higher than girls. They attach great importance to their physical self [9; 29]. But such scientists as M. Majevsky [10] and N. Moskalenko [13], based on the results of self-report studies of schoolchildren, claim that self-esteem and the level of harassment do not have a gender difference in middle school age. They also claim that children's physical development does not significantly affect self-esteem. This contradicts the results of our previous studies.

According to the results of a study by V. Biletska, V. Semenenko, and V. Zavalniuk [7], young men with a high level of physical fitness have higher scores on the scale of global physical self, physical activity, sports abilities, appearance, and endurance. Girls with high levels of physical fitness have higher scores on endurance, global physical self, physical appearance, strength, and health. Boys and girls with a low and average level of physical fitness have lower scores on the scale of physical activity and sports abilities. Also, young men with a low and average level of physical fitness have low self-esteem. The general level of self-report is also significantly

lower in boys and girls with an average and low level of physical fitness compared to boys with a high level of fitness. It should be noted that young people with a low level of physical fitness, according to the results of self-assessment, rate their appearance and the development of such qualities as flexibility, strength, endurance and coordination of movements quite highly.

In general, young people who have a high level of physical fitness received higher scores on all indicators of the scale and have a higher overall level of self-description. All schoolchildren who have a low and average level of physical fitness have low scores on the scales of physical activity and sports abilities, and these students also have low self-esteem. Research by a number of authors also shows that schoolchildren with a low level of physical fitness, according to the results of self-assessment, rate the development of motor skills quite highly in themselves [11; 25].

Assessment of the relevance of subjective self-assessment of physical development is related to the acquisition of practical experience in physical education lessons. The inadequacy indicates that insufficient attention is paid to substantiating the importance of pedagogical control of the physical fitness of schoolchildren in physical education lessons. Passing control tests in physical education lessons are used by the teacher in general to give an assessment, and not for the purpose of determining the progress of the students' achievements in the development of physical qualities in the course of specially organized motor activity classes. Therefore, students do not see the relationship between the results in specific exercises and the development of their physical abilities, that is, pedagogical control does not become an incentive for their self-development and self-improvement. This explains the fact that scientists [15; 16; 23] determine in their research that children do not have a motive for increasing physical fitness during physical education.

Conclusions. Therefore, we did not find any interdependence in the correlations of self-esteem of the following physical qualities: "coordination of movements", "physical activity", "sports and strength abilities", "body slimness", "global physical 'I'" and "appearance" of 10th grade boys with indicators of testing physical fitness and development of physical qualities. The average correlation coefficient between self-esteem indicators and actual indicators of physical development does not exceed ($r = 0.13$, $p < 0.05$).

In contrast, in 10th grade girls, it is worth highlighting the correlation of self-esteem "sports abilities" with "left hand strength" ($r = 0.32$, $p < 0.05$) and "standing long jump" ($r = 0.34$, $p < 0.05$).

"Self-assessment" of the physical development of 11th grade boys is adequately based on the results of strength tests ("right and left hand strength", $r = 0.47$, $p < 0.05$; $r = 0.49$, $p < 0.05$), "sitting torso lift" ($r = 0.35$, $p < 0.05$), "Flamingo" test ($r = –0.59$, $p < 0.05$), "100 m run" ($r = –0.54$, $p < 0.05$). The highest average correlation coefficients between self-esteem indicators and actual indicators of physical development are observed in the assessment of "appearance" ($r = 0.28$, $p < 0.05$), "strength" ($r = 0.26$, $p < 0.05$), "coordination of movements" and general self-esteem ($r = 0.25$, $p < 0.05$). In general, the "self-esteem" of physical development of 11th grade girls is objectively based on the results of "raising the torso to a sitting position" ($r = 0.61$, $p < 0.05$), "tilting the torso forward from a sitting position" ($r = 0.46$, $p < 0.05$), "flexing and extending the arms in a lying position" ($r = 0.38$, $p < 0.05$), "long jump from a standing position" ($r = 0.34$, $p < 0.05$). The average correlation coefficients between self-esteem indicators and actual indicators of physical development are the highest in "body slimness" ($r = 0.24$, $p < 0.05$), "movement coordination" ($r = 0.23$, $p < 0.05$), "physical activity", "strength", "endurance" and self-esteem ($r = 0.22$, $p < 0.05$).

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