

## ATHLETICS EXERCISES FOR WELLNESS DEVELOPMENT

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### INTRODUCTION

Systematic sports activities, the development and enrichment of a person's motor culture are not only a mark of the general wellness culture, but also a necessity for maintaining the health and working capacity of each person (Angelova, 2019; 2023; 2021). The importance of physical education and sports is very great since this activity has no alternative to ensure the necessary conditions for the normal psychophysical development of adolescents (Dimitrova, 2024a; 2023; 2023a). Only motor activity, organized or spontaneous, can, most naturally and healthily, compensate to a large extent the adverse effects of the mental and sensory overload of students from stress and immobilization, characteristic of the modern way of life from an early school age (Dimitrova & Nesheva, 2021; Dimitrova, 2024). A healthy lifestyle and habits for optimal physical activity are learned from early childhood. All methods of education and upbringing at school are aimed at the comprehensive and harmonious development of students by their age characteristics (Ignatova, 2023). The physical education teacher has the responsible task of improving the content and methods of the pedagogical process in physical education and sports using a variety of means and approaches (Ignatova, Dimitrova, Iliev, Angelova, 2024). The physical education of the modern child, of the modern student, of the modern person is a problem of particular socio-pedagogical importance (Ignatova, 2021; Ignatova & Iliev, 2022). It helps the student in the process of his full social realization. At the same time, it contributes to his overall formation as a person (Ignatova, 2023a). It is related both to the strengthening of the child's motor structure and health, to the development of his will, and above all, to the development of his determination and resilience (Ignatova, 2023b). Movement is a natural need and a basic preventive tool for strengthening children's health. Insufficient physical activity adversely affects the normal development of the child's body and wellness lifestyle (Ignatova, 2023c) Systematic sports activities and the correct technique of performing motor tasks increase the level of physical performance of students (Ignatova & Iliev, 2023; Ignatova, 2018). The wellness-healthy lifestyle is also of paramount importance. Traditionally, in Bulgarian schools, great attention is paid to the educational requirements related to the formation of a healthy lifestyle, since a wellness lifestyle includes a system of knowledge and skills adapted to a person's daily life (Iliev, Stanchev, 2017;

2018). One of the main tasks of physical education in secondary school is related to the preparation of students to achieve a high degree of physical work ability, building a wellness culture that serves as a basis for effective implementation at work (Iliev, 2016; 2016a). This is a motivation which conduct a study to reveal what the state of physical activity and motor skills is at the beginning of the school year and what it will be at the end of the school year after a training process in physical education and athletics-based sports.

## METHODS

The motor study was conducted over five consecutive days at the beginning of the academic year in September and concluded again with five consecutive days of motor tests in June of 2023/24. The tests were conducted in an extracurricular form of physical education. A total of 85 students from the fifth and sixth grades of a metropolitan school participated in it. The detailed distribution by class and gender is presented in Table 1.

**Table 1.** Distribution by class and gender

|              | 5th<br>Class | 6th<br>Class | Total |
|--------------|--------------|--------------|-------|
| <b>Girls</b> | 24           | 21           | 45    |
| <b>Boys</b>  | 18           | 22           | 40    |
| <b>Total</b> | 42           | 43           | 85    |

The following methods were used to solve the tasks: analysis, summary of information sources, and pedagogical observation. These methods allowed us to uncover the essence of the problem in our available literature. Through these methods, we specified the most frequently used concepts and opinions of various authors about the role of physical education and sports.

To determine the motor skill level, we used the following tests:

- Sprint run of 30 m from a high start - to measure the speed of lower limbs;
- Shuttle run of 200 m. - for endurance;
- T-test - to study motor qualities and agility;
- Throw a solid ball (3 kg) from a standing position - for upper limb strength;
- Standing long jump - for the explosive strength of the lower limbs.

Through the conducted research, we get specific methodical information about the practical skills related to motor qualities: speed, flexibility, agility, and explosive power of the lower limbs. The methods used are practical testing with pre-specialized and standardized described tests, to determine their statistical reliability, which is defined as the degree of coincidence of the measured

test result with the actual state of the investigated trait or as the coincidence of the results when retesting the same persons at same conditions.


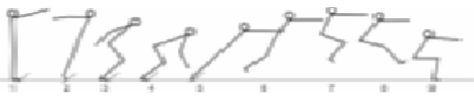

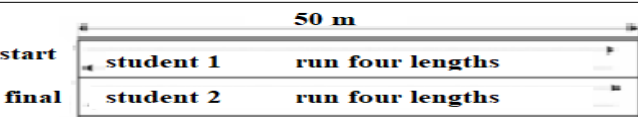
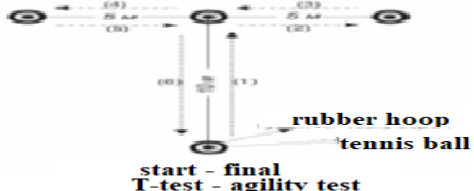
A method of pedagogical observation was also used to track the motor activity of the students. Appropriate conditions were created for conducting the research, and the tests were conducted outdoors, in the schoolyard.

The assessment of motor capacity is carried out by going through the following steps:

- Assessment of individual test results;
- Calculation of final result for motor activity.

Table 2. presents the research methods and tools used in the study. The tests were conducted in the schoolyard.

**Table 2.**  
Research methods and tools

| Research methods               | Research tools  |
|--------------------------------|---|
| Modified method                |  <p>Run 30 m</p>  |
| Modified method - sequentially |  <p>long jump from a standing position with two feet</p>                        |
| Modified method - sequentially |  <p>Throwing a solid ball</p>   |
| Group method in pairs          |  <p>Shuttle run 200 m</p>   |
| Modified method                |  <p>rubber hoop<br/>tennis ball<br/>start - final<br/>T-test - agility test</p> |

The assessment of the research results is calculated on a 20-point scale. To evaluate the results of individual tests on a 20-point scale, the following steps are taken:

- ❖ The number of points obtained for a specific result is determined test depending on the age and gender of the students. We plot the result in the corresponding table for age and gender

and find the points that the student received. Table 3 shows rating scale for evaluating student achievements.

**Table 3.**  
Rating scale

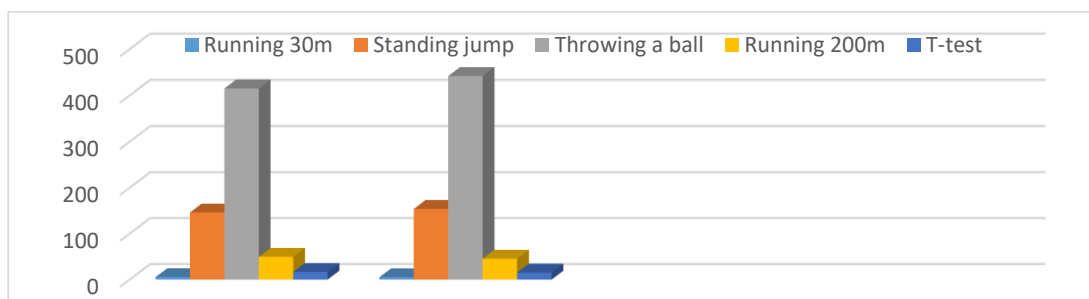
| Points | Rating scale |
|--------|--------------|
| 0-3    | Weak 2       |
| 4-7    | Medium 3     |
| 8-14   | Good 4       |
| 15-17  | Very Good 5  |
| 18-20  | Excellent 6  |

- ❖ The number of points obtained for each test is equated to the six-point grading system. The intervals for equating points to the hexadecimal system are presented in the table above.
- ❖ The final assessment of physical capacity is calculated as an arithmetic mean of the assessments from the individual tests.

The final grade of the student's physical fitness is calculated only if there are grades from the results of all 5 tests. No final grade is calculated if there is a missing grade in the test result. Grading individual test scores on a 20-point scale suggest good comparability between individual tests, as well as how many (in number of points) are missing to get a higher score.

## RESULTS

Every student is subjected to motor load at the beginning of the survey, even if only in physical education lessons. In these classes, students actively participate. They improve their sports performance for health and physical fitness by practicing athletics, gymnastics, basketball, volleyball, handball, football, mobile games, and table tennis. Students maintain a level of physical fitness, and the teacher's goal is to increase it through various sports methods. A motor difference of the studied contingent was found in the following tests: 30-meter run, standing two legs long jump, throwing a solid ball, 200-meter run, and agility test (T-test). Figure 1 shows the values of the results achieved in the Motor Activity tests of 5th-grade students - results at the entry/exit level.



**Figure 1.** Motor activity 5th grade - results in entry/exit level

The obtained results show an improvement in the motor skills level of the students at the end of the school year. Figure 2 shows the values for Motor Activity of 6th-grade students - entry/exit level results.

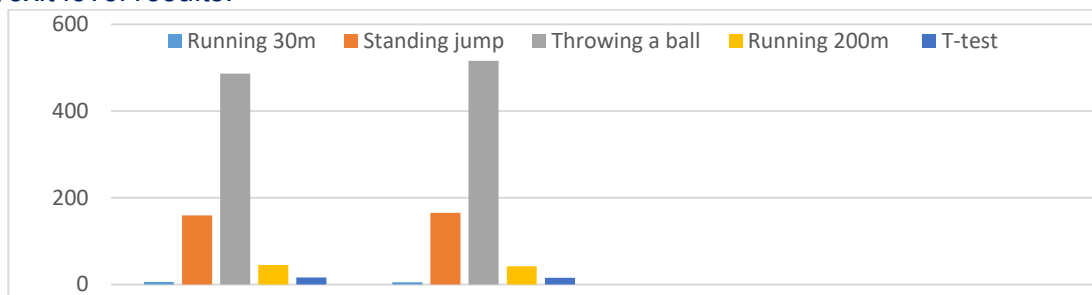


Figure 2. Motor activity 6th grade - results in entry/exit level

This is what we found out from the survey results. The tests were held in September, at the beginning of the school year, and in June, at the end of the 2023/24 school year. Figure 3 shows the final evaluation results from the motor activity of the two target groups - 5th and 6th grade.

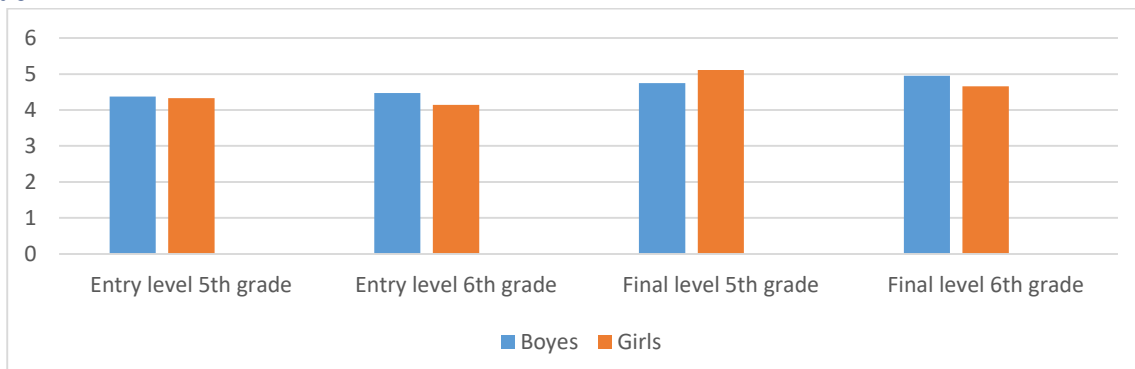


Figure 3. Final score for motor activity

Table 4 presents the empirical values from the diagnostic analysis within the framework of the conducted study, divided by the athletics tests conducted for girls and boys.

Table 4. Diagnostic analysis- girls – boys

| Athletics tests | n  | X <sub>min</sub> | X <sub>max</sub> | R     | $\bar{X}$ | S     | V     | As      | Ex      |
|-----------------|----|------------------|------------------|-------|-----------|-------|-------|---------|---------|
| 30m Run         | 45 | 5,73             | 8,5              | 2,77  | 6,574     | 0,67  | 10,23 | 1,45 *  | 2,76 *  |
| 30m Run         | 40 | 5,04             | 8,2              | 3,16  | 6,039     | 1,15  | 18,98 | 1,358   | 1,181   |
| Long Jump       | 45 | 115              | 179              | 64    | 141,38    | 15,72 | 11,12 | 0,527   | 0,607   |
| Long Jump       | 40 | 118              | 220              | 102   | 177,57    | 40,27 | 22,68 | -0,634  | -1,281  |
| Ball Throw 3kg  | 45 | 300              | 650              | 350   | 416,44    | 81,71 | 19,62 | 1,113 * | 2,946 * |
| Ball Throw 3kg  | 40 | 380              | 640              | 260   | 505,71    | 93,61 | 18,51 | 0,473   | -0,79   |
| 200m Run        | 45 | 42,19            | 54,78            | 12,59 | 46,267    | 3,88  | 8,39  | 0,846   | -0,114  |
| 200m Run        | 40 | 36,5             | 106,76           | 70,26 | 50,02     | 25,42 | 50,82 | 2,484 * | 6,289 * |
| T-test          | 45 | 13               | 16,3             | 3,3   | 14,959    | 0,92  | 6,15  | -0,593  | -0,115  |
| T-test          | 40 | 11,53            | 15,63            | 4,1   | 13,82     | 1,71  | 12,36 | -0,471  | -1,715  |

Note: If the coefficients of As and Ex are marked with an asterisk, the value is higher than the critical one.

## DISCUSSION

The proposed control exercises for evaluating students' motor skills are reliable, easily accessible, and can be successfully applied in the conditions of school physical education. The Athletics Exercises for Wellness Development normative base reflects the real level of motor qualities: speed, strength, speed-endurance, and agility, and the complex level of physical performance of students measured by them. The methodology for developing the normative base is flexible and allows easy changes to be made upon establishing certain changes in the level of students' motor qualities in one direction or another. To seek additional incentives for students with high physical fitness, as well as opportunities for additional activities for students lagging in this regard. The level of Wellness Development and physical ability should be considered as a factor for the professional development of students. To conduct periodic training to improve the qualification of physical education teachers for increasing the athletic abilities for Wellness Development. Creation of conditions for improvement of the physical education and sports system.

## CONCLUSIONS

The main conclusion that can be drawn is that there is a connection and dependence between motor capacity and wellness development in 11-12-year-old students. This was also proven by the present study. The diagnosis and evaluation of the achieved results are fundamental when working at school. The teacher must know the peculiarities of each student in the class, both in his mental and physical development, to be able to apply correct methods in his work to achieve better results with Athletics Exercises for Wellness Development. Early diagnosis and evaluation of the achieved results give a clear idea of the development of physical ability and support the work of the teacher. In all disciplines of the study, an improvement in student performance was noted. This is due to the period in which the students practiced different sports disciplines during the school year. After the long summer vacation, the student's physical ability score is lower at the beginning of the school year, and the teacher plans his methods to improve this situation. Not all students want to participate actively and willingly, but the persistence of the teacher, the many exercises and different sports disciplines, at any time of the lesson, as well as the gradually increasing load, ultimately improve the physical endurance of the students. This is also proven by this study, where better indicators are observed at the end of the school year than in September 2023.

*Recommendations and suggestions for specific measures to improve wellness development*  
Considering that children who are more active, play sports regularly and have better results in school for a long time, it is advisable for all adolescents to practice appropriate sports, tailored to the preferences and physical data of the child. It is good for parents to support their children in this. It is good for children to be encouraged to participate more in sports games, outdoor games, swimming, etc. Exercises and training should be carried out under the supervision of parents, teachers, and coaches to avoid injuries and overload. It is important to have a balance between physical activity and rest and recovery. Despite the good results of the study, in recent years there has been a deterioration in the physical condition of students, which is due

to various factors such as puberty, being overweight, a stagnant lifestyle, lack of interest, and using computers and phones. To improve this situation, measures must be identified and strictly implemented until a lasting result is achieved for wellness development. For this, we must all make maximum efforts and unite teachers, parents, students, and society to have a healthy and sporting nation.

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