ORIGINAL ARTICLE

METHODS OF DETERMINING THE INDIVIDUAL MOTOR PERFORMANCE OF YOUNG MALES IN THE PROCESS OF EXERCISE

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ABSTRACT

The aim: Is to develop, theoretically substantiate and experimentally test the effectiveness of the methods of determining the individual motor performance of 17-18 years old young males in the process of exercise.

Materials and methods: The research was conducted at the Faculty of Physical Education, Sports and Health of the National Pedagogical Dragomanov University in 2019-2020. The research involved 17-18 years old male students during the 1st and the 2nd years of their education (n = 168). Two groups of students were formed: the experimental group (EG, n = 84), which consisted of the students who were engaged according to our developed methods of determining the individual motor performance of 17-18 years old young males in the process of exercise, and the control group (CG, n = 84), which consisted of the students who were engaged in classes on physical education according to the generally accepted methods without taking into account the standards of motor performance.

Results: The relationship of motor performance with indicators of physical health, morphofunctional and mental features of young males is revealed, the computer program called "Activity for health" which reflects process of definition of individual standard of motor performance, creation of the individual program of training, the analysis and adjustment of the results of practical activities with the help of modern information and communication technologies is developed and introduced in the educational process. Determination of the level of motor performance shows that the young males of the EG showed significantly ($p \leq 0.05$) better indicators than the young males of the CG.

Conclusions: The obtained results allow asserting the effectiveness of the developed methods of determining the individual motor performance of 17-18 years old young males in the process of exercise with the use of information and communication technologies which have a positive effect on improving the psychophysical indicators of the students, which in turn increases their motor performance and motivation for physical education.

KEY WORDS: individual standards, motor performance, young males, health, physical exercises, information and communication technologies

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INTRODUCTION

Harmonious development of a personality is ensured by adequate motor performance, which is one of the main factors that determine the level of health of the population [1-3]. A sufficient level of motor performance of young people is the basis for proper development of the body. Insufficient physical activity reduces the health level, decrees physical fitness, is a factor of the emergence and development of diseases [4-6].

Modern scientific and methodical works widely consider the questions of measurement and assessment of a motor performance regime, daily and weekly volumes of motor performance of persons of different age and physical well-being; patterns and relationships of motor performance and physical well-being [7-10]. According to the World Health Organization, a person should take an average of 10 000 steps a day [11]. However, the above standards of motor performance are statistically average and do not take into account the individual characteristics of those involved [12-14].

Given that the standard of motor performance of modern youth is considered to be a value that fully meets the biological needs of movements, corresponds to the functional capabilities of the body, promotes its development, physical fitness and preservation of health, one of the most important scientific tasks of this problem investigation is to develop methods for determining individual daily motor performance of students in the process of their physical education, taking into account physical performance, physical fitness, functional state of the main body systems of those involved.

The analysis of the literature sources [15-19] showed that a low level of motor performance contradicts the biological laws of human development and results in negative changes in the body, which are manifested in reduced functional activity of organs and systems; in violation of the processes

of nervous and humoral regulation; in manifestation of trophic and degenerative changes of the musculoskeletal system, its neuromuscular and skeletal components; in violation of metabolic processes; in increasing the volume of adipose tissue.

The rapid process of informatization of society and education in general requires the introduction of the latest infocommunication technologies in the field of physical culture and sports. The conducted analysis of the psychological and pedagogical as well as scientific literature on the researched problem allowed revealing the insufficient number of computer programs used in the process of physical exercises of young people. In particular, the progressive development of computer technology used in the practice of physical culture in assessing the level of physical training was once carried out by the Cooper Institute and the USA National Association of Sport and Physical Education (NASPE). The developed computer program (Fitness gram / Activity gram) is designed to assess the aerobic capacity of the body, determine body composition, body mass index, fitness indicators [20, 21].

V. Vandzhura developed a computer program called "Your health is in your hands", which helps to monitor the state of physical development, physical fitness, the process of hardening students in the fresh air, to select individual modes of health training, to implement a differentiated approach to each student during physical education classes [22]. The "Diagnost-1" computer program developed by M. V. Makarenko, V. S. Lyzohub, allows estimating neurodynamic functions [23]. V. I. Shandryhos developed a diagnostic program called "CP Sport-prognosis" aimed at determining the predisposition of children to different sports and assessing their physical development and functional status [24]. The program developed by O. Skalii, and called "Aquatrainer" allows you to quickly determine the typology of a group of students according to simple physiological indicators and apply a differential approach to individual physical activities in the process of physical education [25]. It is worth noting that nowadays most young people have fitness bands that can be used in any sport. Most models look quite simple and identical to each other, but many different fitness programs have been developed for each gadget. Fitness band applications are specialized utilities that allow you to synchronize various information from fitness bands with smartphones via Bluetooth wireless connection. For instance, the most popular fitness programs are Run Keeper, Nike + Run Club, Mi FIT, Misfit, Microsoft Health, and others [26. 27]. These applications are multifunctional and most of them relate to determining the state of health, level of physical development and physical fitness of young people and those involved in sports, technical and tactical training of young athletes and more. At the same time, there are not enough programs that would be aimed at determining the individual level of motor performance taking into account anthropometric indicators, physical fitness and morphofunctional indices.

THE AIM

The aim of this study is to develop, theoretically substantiate and experimentally test the effectiveness of the methods of determining the individual motor performance of 17-18 years old young males in the process of exercise.

The tasks of the research:

1. To study the relationship between the physical and psycho-emotional state of students with physical activity.
2. To determine the criteria for assessing the standard of individual motor performance of student youth.
3. To develop and substantiate the methods of determining the individual motor performance of 17-18 years old young males in the process of physical education using infocommunication technologies and experimentally test its effectiveness.

MATERIALS AND METHODS

The research was conducted at the Faculty of Physical Education, Sports and Health of the National Pedagogical Dragomanov University in 2019-2020. The research involved 17-18 years old male students during the 1st and the 2nd years of their education (n = 168). Two groups of students were formed: the experimental group (EG, n = 84), which consisted of the students who were engaged according to our developed methods of determining the individual motor performance of 17-18 years old young males in the process of exercise, and the control group (CG, n = 84), which consisted of the students who were engaged in classes on physical education according to the generally accepted methods without taking into account the standards of motor performance.

Morphophysiological measurements and functional tests were used to assess the indicators of physical development and functional state of the students. The following parameters were determined such as height, body mass, vital capacity, heart rate at rest and after standard exercise, hand strength, the Rufier test. The following tests were used to assess the level of development of the students' physical qualities: body balance was determined using the Romberg test; the level of speed was determined by the time of overcoming the distance of 30 m, the level of speed and strength abilities was studied by the results of long jump from a place, the level of legerity was determined by the results of shuttle running of 4x9 m; the level of strength was determined by the results in chin-ups on the horizontal bar; strength endurance was tested according to the results of lifting the torso to the sitting position for 1 minute; flexibility was tested according to the results of tilting the torso forward from a sitting position; the level of endurance was determined by the results of swimming (overcoming the distance in the space of 12 minutes). The students' motor performance was defined according to the Framingham technique, which allows determining the structure of daily motor performance by levels (basic, sedentary, law, medium, high) assessed in minutes. That is, you can actually estimate the duration of a person's engagement in a particular activity in minutes.

The methods of the research:

- *theoretical:* analysis and generalization of methodological, psychological-pedagogical and educational-methodical

literature, methods of modelling, conceptual-comparative and structural-systematic analysis, which gave the opportunity to study modern approaches to determining motor performance of student youth, systematize and generalize information on the research topic;
- *empirical:* questionnaires of the students to find out their motivational priorities; morphophysiological measurements, functional tests to determine the psychophysical state of the students; the Framingham technique for assessing the level of motor performance.
- *pedagogical experiment:* ascertaining experiment to study the motivational and psychophysical state of the students, to determine the level of their motor performance; formative experiment to test the effectiveness of the methods of determining the students' individual motor performance in the process of their physical education;
- *methods of statistical data processing* were used for qualitative and quantitative analysis of the research results, proving the reliability of the pedagogical experiment results.

RESULTS

It was found that the indicators of psycho-emotional state and motivation of the students to physical education classes are at a low level. The analysis of the questionnaire details showed that the vast majority of young people are only partially satisfied with the content of physical education, which causes a lack of interest in physical exercise. The dynamics of morphofunctional and psychophysiological indicators of the development of the body of male students was studied. Their physical health and fitness levels were found to range from low to medium, due to low physical activities and a passive lifestyle.

The correlation analysis was performed in order to identify the relationship between physical activities and the level of development of physical qualities of the students, which established the existence of the dependence of the health factor of young people on the level of their physical activities. Thus, motor performance in young males is characterised by the correlation relationships with endurance ($r = 0.63$ at $p \leq 0.05$), strength endurance ($r = 0.59$ at $p < 0.05$), speed and strength qualities ($r = 0.52$ at $p \leq 0.05$), the inverse correlation coefficients were established between motor performance and speed ($r = -0.66$ at $p \leq 0.05$), the Rufier test ($r = -0.80$ at $p \leq 0.05$), agility ($r = -0.50$ at $p \leq 0.05$) and mass-hight index ($r = -0.50$ at $p \leq 0.05$).

The Fremenham teqchique was used to determine the level of daily motor performance of young people. To implement the research tasks, we are interested in the high level of motor performance, directly related to the performance of physical activity. However, in our opinion, the Fremenham technique does not fully provide information on the intensity of physical activity, because it estimates only the time spent on exercise. That is, no attention is paid to the intensity of physical activity when determining the volume. However, it is clear that motor performance will have a fundamentally different effect (expenditure of calories, energy, etc.) with the same volume and different intensity of physical activity.

Based on the findings of many scientists and taking into account the results of our own research, we have substantiated the methods of determining the individual motor performance of 17-18 years old young males in the process of exercise. The development of the author's methods is based on the process of creating mathematical models in the form of regression equations, where the indices of physical development, motor fitness, functional capabilities of the body, etc. are used as variables. Mathematical models of the appropriate level of physical well-being of the students, respectively, can be presented in the form of regression equations of the dependence of this indicator on the most informative parameters of physical development, motor fitness and motor performance. The parameters included in the independent variables of the mathematical model allow to influence the level of physical well-being of young people. And account of the real level of physical well-being of young people makes it possible to determine and regulate the level of their individual motor performance.

The independent variables according to our methods include the most informative parameters that have the most significant relationship with the level of motor performance. Thus, the regression equation justifiably includes variable indicators of physical development and physical fitness, which can be purposefully influenced by the performance of systematic physical activity in the process of motor performance, as well as the indicator of daily level of individual motor performance directly related to the exercise performance. The integral variable, which depends on the indicators of physical development, physical fitness, functionality and the daily level of motor performance was chosen as the dependent variable Y, namely the Rufier test indicator, as this indicator is the most informative indicator of physical well-being and has the strongest correlation of all the studied parameters with motor performance, it is conventionally called the level of health.

Multiple regression equations make it possible to obtain information about the appropriate level of physical well-being in accordance with their indicators of physical development, motor fitness and daily motor performance. Thus, the mathematical model of the proper level of boys' health has the following form:

$$Y = -19.8545 - 1.1795X1 + 0.00743X2 - 0.0056X3 + 0.0465X4 - 0.9583X5 + 5.5792X6 - 0.1112X7,$$

where Y is the indicator of the Rufier index, X1 is the indicator of mass-height index, X2 is the endurance indicator, X3 is the strength endurance indicator, X4 is the indicator of speed and strength qualities, X5 is the speed indicator, X6 is the indicator of legerity, X7 is the indicator of motor performance.

It is possible to determine the appropriate level of health of an individual young male by substituting informatively significant individual indicators of physical development, physical fitness, as well as real indicators of motor performance in a formula that corresponds to a specific age.

Given that, the Rufier test is the most informative boys'

indicator, which has five gradations and characterizes the level of functional reserve of the heart and the body's adaptation to exercise, i. e. directly determines the state of human health, so we chose it as a basis for determining the levels of health. The normative scale for assessment according to the Rufier test is slightly modified for ease of its use in the mathematical model i. e. the integrated health indicator is represented by 3 levels: high, medium, satisfactory (Table I).

The level of health depends on the indicators of physical well-being and motor performance, so it is needed to determine the required level of motor performance in order to maintain good health. The mathematical model of individual daily motor performance (MP) of average intensity of young males, taking into account the level of health can be represented as the equation:

X7 (MP) = (Y + 19.8545 + 1.1795X1 – 0.00743X2 + 0.0056X3 – 0.0465X4 + 0.9583X5 – 5.5792X6) / -0.1112

$$X_7(PA) = \frac{Y+19{,}8545+1{,}1795x_1-0{,}00743x_2+0{,}0056x_3-0{,}0465x_4+0{,}9583x_5-5{,}692x_6}{-0{,}1112}$$

Therefore, substituting the relevant indicators in the formula, the appropriate standards of individual daily motor performance are calculated according to each of the three levels of health i. e. the time required for moderate-intensity exercise to maintain a proper level of health is determined (Table II).

It is important to note that the level of motor performance is determined not so much by the time of exercise as by the intensity of physical activity: the higher the intensity of exercise, the less time it takes to achieve the same energy expenditure, and vice versa. Therefore, taking into account the intensity of exercise when planning physical activity will allow optimizing the individual level of motor performance on the way to achieving the proper level of health necessary for the normal functioning of the students' body.

The aerobic efficiency of exercise is defined as an indicator of the intensity of physical activity, as aerobic exercise, which corresponds to the functional capabilities of the students, is able to provide the greatest health effect and is considered the best way to burn calories. So, for example, aerobic motor activities of low intensity include stretching, static yoga, bowling, judo, etc., physical exercises of medium intensity include badminton, volleyball, football, basketball, skating, table tennis, slow dances and the types of high-intensity motor performance include walking from 3.8 km / h to 7.2 km / h, swimming, cycling, running from 8.8 km / h to 16 km / h.

The standards of motor performance of different aerobic efficiency were calculated according to the method of determining the standards in physical education and sports [20] (Table III).

Young people are able to determine the individual standard of motor performance by determining the appropriate level of health and choosing the desired type of exercise that relates to a certain level of aerobic intensity. This calculation makes it possible to set the pace of a particular type of motor performance to achieve the desired level of health.

Table I. Levels of health of young males, c. u.

Levels	The value of the Rufier index
High	≤ 6
Medium	7-9
Satisfactory	10-14

Table II. Appropriate standards of moderate-intensity motor performance in accordance with the level of health of young males, min

Levels of health	Appropriate standards of motor performance
Satisfactory	below 70
Medium	71-105
High	above 106

Table III. Appropriate standards of students' motor performance of different aerobic efficiency

Limits of the motor performance standard	Level of aerobic efficiency.
MP < X – 0.5δ	low level of aerobic efficiency
X – 0.5δ ≤ MP ≤ X + 0.5δ	medium level of aerobic efficiency
MP > X + 0.5δ	high level of aerobic efficiency

Note: X – arithmetic mean of the appropriate standard of motor performance of the students according to a specific level of health

Thus, the peculiarity of our methods is to determine the individual standards of motor performance of different aerobic efficiency, taking into account the morphofunctional and motor indicators of male students, which is based on the use of modern information and communication technologies. Therefore, we have developed and implemented a computer program called "Activity for health", which reflects the process of determining individual motor performance, creating an individual training program, analysis and adjustment of practical results. The essence of the program is as follows. The young male enters personal data of informative morphofunctional and motor indicators and chooses what level of health he wants to focus on in determining the individual standard of motor performance. Then it is proposed to choose the desired type of exercise from the list in order to obtain data on the individual standard of daily motor performance. The amount of time for the selected type of exercise is calculated automatically, taking into account the aerobic efficiency of the specified type of physical activity (exercises of high, medium and low aerobic efficiency, respectively).

For example, a young male K and a young male D upon entering their data into the program such as age, mass, height, indicators of motor tests such as swimming for 12 minutes or running for 12 minutes, lifting the torso to the sitting position for 1 minute (number of times), long jump (cm), 30 m running (s), shuttle running of 4x9 (s) and the results of the Rufier test, the program automatically determines the level of health of the young male K and the

Table IV. Dynamics of health indicators of young males of the EG and the CG in the conditions of pedagogical experiment (Mean ± SD)

Functional indices	Groups	Before experiment	After experiment	Rate of growth, %	p
Mass-height index, kg/m²	CG	22.8 ± 2.5	22.9 ± 2.1	0.4	p ≥ 0.05
	EG	21.2 ± 1.4	25.3 ± 3.1	17.6	p ≤ 0.05
Vital index, ml/kg	CG	47.2 ± 14.4	48.8 ± 3.3	3.3	p ≥ 0.05
	EG	46.5 ± 3.5	61.3 ± 5.1	27.9	p ≤ 0.05
Strength index, %	CG	60.8 ± 13.1	62.1 ± 8.3	2.1	p ≥ 0.05
	EG	42.4 ± 9.2	55.5 ± 8.1	26.8	p ≤ 0.05
Rufier index, c. u.	CG	9.5 ± 4.0	9.6 ± 3.4	1.0	p ≥ 0.05
	EG	10.7 ± 1.8	8.6 ± 3.1	21.9	p ≤ 0.05

Note. Mean – arithmetical average; SD – standard deviation; p – significance of difference between the indicators of the EG and the CG

young male D according to the formula (see Table I) and calculates the appropriate standard of motor performance individually for each of them, taking into account their morphofunctional and motor indicators, i. e. the young male K having an average level of health (9 conditional units) should exercise every day for 75 minutes with medium level of aerobic efficiency; the young male D has better standards of morphofunctional and motor indicators and the level of his health is also average making 7 conditional units, but the individual standard of motor performance for the young male D is 70 minutes of exercise with medium aerobic efficiency, which is within the standard in accordance with Table III. Thus young males have an opportunity to choose the level of their anaerobic efficiency independently, for example if the young male K and the young male D have an average level of health, and owing to the circumstances, wish to carry out exercises of low efficiency then according to the standards of aerobic efficiency, the young male K has to be engaged in exercises for 90 minutes, and the young male D – for 85 minutes, and the program will offer the appropriate types of exercise, and, conversely, if the young male K and the young male D want to perform exercises of high aerobic efficiency, then it is necessary to be engaged in exercise for 60 minutes and 55 minutes, respectively.

Using the program allows students to operate with indicators of their physical well-being, determine the individual level of motor performance based on their own data, create their own program of motor performance according to the desired level of health, manage their training process, and choose the most optimal parameters of physical activity. In addition, the young male can independently choose the level of aerobic efficiency and the appropriate type of physical activity, monitor the dynamics of positive changes in physical well-being and make appropriate adjustments to exercise having determined his level of health and the required standard of motor performance.

The developed methods of determining the individual motor performance of 17-18 years old young males in the process of exercise was introduced into the physical education of students of the Faculty of Physical Education, Sports and Health of the National Pedagogical Dragomanov University. The young males' physical fitness testing during the year shows that the level of physical fitness is statistically significantly higher in young males of the EG compared to the CG, which indicates the effectiveness of our methods of determining the individual motor performance of students in the process of their physical education. One of the tasks of the author's methods is to improve the physical well-being of students. The positive dynamics of morphofunctional indices, which characterize the students' state of health, confirmed the effectiveness of the proposed methods in the process of the pedagogical experiment (Table IV).

Thus, the indicators of physical health of young males in the process of pedagogical experiment showed statically significant changes in young males of the experimental group, while the dynamics of physical health indicators in young males of the CG is positive, but unreliable. Accordingly, the indicators in young males of the CG as a result of physical education classes according to the generally accepted program such as the boys' indicators of mass-height index improved by 0.4% at $p \geq 0.05$, the indicator of vital index grew by 3.3% at $p \geq 0.05$, the boys' strength index makes 2.1% at $p \geq 0.05$, the results of the Rufier test improved by 1.0% at $p \geq 0.05$. The boys' indicators who were engaged in the author's methods such as mass-height index improved by 17.6% at $p \leq 0.05$, vital index increased by 27.9% at $p \leq 0.05$, strength index grew by 26.8% at $p \leq 0.05$, the Rufier test improved by 21.9%.

With regard to the levels of motor performance, positive dynamics in improving the levels of motor performance is observed in the young males of the EG during the pedagogical experiment. Consequently, a high level of motor performance in the young males of the EG was 23.4%, and the indicators in the young males of the CG group were much lower i. e. the level of their motor performance makes only 5.6%.

This makes it possible to argue about the effectiveness of the proposed methods of determining the individual motor performance using information and communication technologies, which significantly increases the level of motor performance, motivation for physical education and has a positive effect on the psychological state of those involved.

DISCUSSION

The analysis of scientific and methodological literature [28, 29] revealed that young people's formation of caring attitude to their own health, sustainable needs and habits of motor performance not only during physical education classes, but also in everyday life is the priority focal area of improving the system of physical education.

The rapid development of scientific and technological progress contributes to the intensification of mental activity and reduced motor performance in pupils and students, which results in hypodynamia. According to the World Health Organization, lack of motor performance is one of the main factors that negatively affects the level of physical well-being and triggers mortality [11]. Hypodynamia is a risk factor for chronic diseases development and according to the experts' estimations it leads to 1.9 million deaths worldwide in particular among young people. According to this organization, a person should take an average of 10 000 steps every day.

The issue of development of methods and automated computer program for determining individual standards of motor performance of young people, which on the one hand is objective and takes into account the individual physical well-being of pupils and students, and on the other hand is quite simple in practical application, is extremely necessary given that the standard of motor performance of modern youth is considered to be a value that fully satisfies the biological need for movement, meets the functional capabilities of the body, promotes its development, physical fitness and preservation of health.

Despite the existence of a sufficient number of multifunctional computer programs for determining motor performance (Run Keeper, Nike + Run Club, Mi FIT, Misfit, Microsoft Health and others), almost all of them are tailored to calorie expenditure or kilometres travelled. The peculiarity of our methods is the determination of individual standards of motor performance of different aerobic efficiency, taking into account the morphofunctional and motor indicators of those engaged, which is based on the use of the computer program called "Activity for health". The "Activity for health" program allows not only to determine individual motor performance, but also to create an individual program of training, its analysis and adjustment, to monitor the level of health and its dynamics over a period of time. An important factor is the availability of self-determination and entering data into the "Activity for health" program such as parameters characterizing motor fitness and indicators of physical well-being of young males, as well as Rufier test i. e. an integral indicator that objectively characterizes the level of health in the power of its informativeness.

Using the program allows young people to operate with indicators of their physical well-being, determine the individual level of motor performance based on their own data, create their own program of motor performance according to the desired level of health, manage the training process and choose the most optimal exercise parameters. In addition, the student can choose the level of aerobic efficiency and the appropriate type of exercise by determining the level of his health and the required standard of motor performance.

The presented program is focused at physical education teachers of general secondary schools and physical education instructors of higher educational institutions. The methods of assessing the individual standard of motor performance of young people, as well as the use of the computer program ("Activity for Health") are ascertained by the results of the experiment. The obtained results allow us to state that the methods of determining the individual level of motor performance with the use of information and communication technologies has a positive effect on improving the psychophysical indicators of the students, which in turn increases their motor performance and motivation for physical education.

The obtained results complement the conclusions of the works of many scientists [30-34].

CONCLUSIONS

1. The correlation analysis was conducted in order to identify the relationship between physical and psycho-emotional state of youth with motor performance; it established the existence of the dependence of the level of health of young people on the level of their motor performance. The developed multiple regression equations make it possible to obtain information about the appropriate level of physical well-being, in accordance with their indicators of physical development, motor fitness and motor performance. At the same time, the proper level of physical well-being is expressed as an integral indicator in young males in the form of the Rufier test as having the strongest correlation with motor performance.
2. The methods of determining the individual motor performance of 17-18 years old young males in the process of their physical education have been developed and theoretically substantiated, based on individual typological peculiarities, psychophysical development and physical culture and sports interests, on the basis of the use of modern information and communication technologies, measurement diagnostics and regression equations. One of the main peculiarities of the methods is determining the individual standards of motor performance of different aerobic efficiency, taking into account the morphofunctional and motor indicators of the students.
3. We have developed the computer program called "Activity for health" for the convenience of determining the individual standard of motor performance; the young male will get a real indicator of his health and individual standard of motor performance entering into the program such data as age, mass-height index, physical well-being index and indicators of physical fitness. In this case, the young male can choose and perform loads not only of medium aerobic efficiency, but also low and high. That is, the program allows you to operate with indicators of physical well-being, determine the appropriate level of motor performance based on one's own data, create one's own program of motor performance

according to the desired level of physical well-being, manage the training process and choose the most optimal physical parameters of different aerobic efficiency.

4. The effectiveness of the methods of determining individual motor performance is confirmed by a number of positive changes both in the indicators of motivational and value attitude of the students to physical education classes and psychophysical well-being. Thus, the positive dynamics of the physical well-being indicators of the young males of both groups was confirmed, but the morphofunctional indices in the young males of the EG were significantly better than in the students of the CG ($p \leq 0.05$). Statistically significant positive changes in the indicators of physical fitness of the young males of the EG ($p \leq 0.05$) were found at the end of the academic year. Determination of the level of motor performance showed statistically significant dynamics in the young males of the EG ($p \leq 0.05$): it was recorded that 23.4% of the EG students had a high level and only 5.6% was recorded in the CG students.

The prospects for future research are aimed at studying the students' physical fitness during studying at university.

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