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Nebozhuk Oleh
PhD in physical education and sport, teacher of the Department of Physical Education, Special Physical Training and Sports Hetman Petro Sahaidachnyi National Army Academy, Lviv, Ukraine
Tychyna Iryna
doctor of Philosophy, senior teacher of the Special Language Training Department Military Institute of Taras Shevchenko National University of Kyiv, Ukraine
Bolshakov Oleksandr
senior lecturer at the Department of Physical Education, Special Physical Training and Sports Military Institute of Tank Troops of the National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine
Oleh Olkhovyi
doctor of Science Physical Culture and Sports, professor, Vice-Rector for Scientific and Pedagogical Work Kharkiv State Academy of Physical Culture, Kharkiv, Ukraine
Yurii Babaiev
teacher at the Department of Physical Education, Special Physical Training and Sports Military Institute of Tank Troops of the National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine
Artur Khachatryan
teacher at the Department of Physical Education, Special Physical Training and Sports Military Institute of Tank Troops of the National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine
Ihor Fishchuk
graduate student of Ivan Lviv State University of Physical Culture Боберського, Lviv, Ukraine
Maksim Babych
teacher of the cycle committee of physical education, special physical training and sports of the training department of the Military College of the Sergeant Hetman Petro Sahaidachnyi National Army, Lviv, Ukraine

THE METHOD OF FORMING THE NEED FOR PHYSICAL SELF-IMPROVEMENT OF STUDENTS OF HIGHER EDUCATION INSTITUTIONS OF UKRAINE

The article, based on the analysis of sources, defines and analyzes the need for physical self-improvement of student youth, namely: the structure and main components of this need have not yet been fully disclosed; the method of step-by-step application of means and methods in forming the need for physical exercises has not been developed; methods of interest formation and motives of independent physical exercises are not sufficiently researched. It is noted that the professional training of student youth cannot be complete if it is limited only to mastering knowledge in the specialty, an indispensable requirement for the successful training of students of higher education in Ukraine is the mandatory availability of physical capabilities for each student to use their knowledge as efficiently as possible in future professional activities.

The analysis of literary sources and dissertation studies shows that the problem of forming the need for physical self-improvement is just beginning to be developed. Until now, the concept of "need for physical self-improvement" has not been clearly defined, the structure and main components of this need have not been revealed, the methodology for the step-by-step application of means and methods in the formation of the need for physical exercises has not been developed, the means and methods of forming interest and motives for independent exercises have not been sufficiently researched physical exercises.

The **purpose** of the article is to theoretically substantiate and experimentally verify the effectiveness of the method of forming the need for physical self-improvement among students of higher education institutions of Ukraine. **Principal results.** It is proved that the three-component program of formation of the need for physical self-improvement of future specialists proposed by the author covers all aspects of physical education and allows it to act as a fundamental process of forming a students' physical culture, when the valuable components of this sphere of culture become for them an internal asset and an objective vital need.

Keywords: physical self-improvement, physical education, students, specialists, the need for physical self-improvement.

Небожук О.Р., Тичина І.В., Большаков О.О., Ольховий О.М., Бабасє Ю.Г., Хачатрян А.Х., Фіщук І.М., Бабич М.О. Методика формування потреби в фізичному самовдосконаленні студентів закладів вищої освіти України. У статті на основі аналізу літературних джерел визначено та проаналізовано потребу в фізичному самовдосконаленні студентської молоді, а саме: до цього часу не повністю розкрита структура та основні компоненти цієї потреби; не розроблена методика поетапного застосування засобів та методів у формуванні потреби у заняттях фізичними вправами; недостатньо досліджені методи формування зацікавленості та мотиви самостійних занять фізичними вправами.

Зазначено, що професійна підготовка студентської молоді не може бути повноцінною, якщо вона буде обмежена лише оволодіння знаннями зі спеціальності, неодмінною вимогою успішного підготовки студентів ЗВО в Україні є обов'язкова наявність у кожного студента фізичних можливостей для максимально ефективного використання своїх знань в майбутній професійній діяльності.

Визначаючи рівні розвитку потреби у фізичному самовдосконаленні охарактеризовано три важливих аспекти в яких відображається її суть: когнітивного, емоційно-цілісного та діяльнісного.

У відповідності до даних аспектів формування потреби фізичного самовдосконалення повинно передбачати систему педагогічних впливів, спрямованих на розвиток емоційно-сміислової, пізнавальної та діяльнісної сфер особистості майбутнього фахівця.

Проведений аналіз літературних джерел та дисертаційних досліджень свідчить, що проблема формування потреби у фізичному самовдосконаленні тільки починає розроблятися. До цього часу не визначено чітко поняття "потреба у фізичному самовдосконаленні", не розкрита структура та основні компоненти цієї потреби, не розроблена методика поетапного застосування засобів та методів у формуванні потреби у заняттях фізичними вправами, недостатньо досліджені засоби та методи формування зацікавленості та мотиви самостійних занять фізичними вправами.

Мета дослідження – теоретично обґрунтувати та експериментально перевірити ефективність методики формування потреби фізичного самовдосконалення у студентів ЗВО України. **Основні результати.** Доведено, що запропонована автором трикомпонентна програма формування потреби у фізичному самовдосконаленні майбутніх фахівців, охоплює всі сторони фізкультурного виховання та дозволяє йому виступати в якості основоположного процесу формування фізичної культури студента, коли ціннісні компоненти цієї сфери культури стають для нього внутрішнім надбанням та об'єктивною життєвою потребою.

Introduction, statement of the problem and its relationship with important scientific and practical research.

With the development of new technologies, growing competition on the world market raises the question of the need for fundamental changes in the training of physically healthy young people in all areas of professional activity. In the conditions of modern society, more and more physical work is replaced by automation, new technologies are rapidly developing. On the one hand, scientific and technical progress is rapidly developing, and on the other hand, people feel a lack of physical activity. The weak motor activity of student youth is associated with their stay in classrooms for 4-6 hours in a row, their use of various gadgets during breaks, and causes particular concern for their physical condition [1].

In the Concept of the development of daily sports in educational institutions, it is noted that insufficient physical activity, unhealthy diet, smoking, excessive use of alcohol, narcotic substances are the main causes of chronic diseases, such as heart disease, cancer, stroke and diabetes, which are the main causes of mortality in Ukraine among adults. Numerous observations show that in recent years, most children and young people have a lack of motor activity during the day. In this connection, the problem arises of improving the movement regime of children and youth, and identifying the conditions that ensure its activation [2].

Currently, the professional training of student youth cannot be complete if it is limited only to the mastery of knowledge in the specialty, an indispensable requirement for the successful training of students of higher education institutions in Ukraine is the mandatory availability of physical capabilities for every student for maximum effective use in future professional activities. And this requires from students not only excellent mastery of their profession, but also a high level of physical fitness. Solving these tasks cannot be sufficiently successful at the moment without further improvement of the system of physical education in institutions of higher education, without the involvement of students in systematic independent physical education classes [3, 4].

The problem of improving the process of physical education of students has been the subject of attention of specialists for many years. At the same time, it should be noted that until recently, the improvement of physical indicators was considered, as a rule, in a limited, narrowly utilitarian aspect - as an increase in the individual's capacity for future professional activity and an immediate improvement in the level of physical fitness [5]. At the same time, the question should be asked much more broadly, the socially and professionally determined need for purposeful improvement of health and physical condition of a person in general should be transformed into a cultural need, in the pursuit of physical improvement. It is in the examination of the problems of physical education in the context of the formation of personal needs that we see the overcoming of the mentioned one-sidedness and the full use of the potential of physical culture within the framework of the model educational program of vocational training for specialists [6, 7]. With such an approach, the study of the dynamics of the development of physical qualities in the real conditions of the course of educational activity opens up wide opportunities for learning the patterns of education of the needs of future specialists, and for elucidating the mechanisms of the influence of personal values on the meaningful characteristics of professional activity [8].

Therefore, the purpose of our study was the theoretical substantiation and experimental verification of the effectiveness of the method of forming the need for physical self-improvement in students of higher institutions of Ukraine

Materials and Methods. The study uses theoretical analysis, systematization and generalization of scientific literature, documentary sources, and guidelines in the field of physical education, a compilation of literature sources to identify the essence of the problem and identify ways to solve it. A complex of complementary research methods was used to solve the tasks, the basis of which was: ascertaining and formative experiments, theoretical analysis of psychological and pedagogical literature, pedagogical observation, testing, the method of mathematical statistics.

In his research, he took into account the fact that the formation of new needs, in particular the need for physical self-improvement, is carried out by changing or providing additional personal content to actions, which, thanks to this, begin to be realized not only for the sake of the internal, but also for the personal values of a person. The possibility of such participation of the personal meaning in the motivational process can be assumed, based on the works of A.G. Asmolov, L.I.Bozhovich, B.S.Bratus, V.K.Vilyunas, L.S.Vygotsky, A.V.Zaporozhets, V.V.Zeigarnyk, O.M.Leontieva, S.L.Rubinsteina, D.N.Uznadze. Thus, the main pedagogical condition for the development of the need for physical self-improvement was seen in the formation of the personal meaning of physical self-improvement classes in students, as well as in the development of relevant practical skills.

In order to determine the effectiveness of the developed methodology for the formation of the need for physical self-

improvement, two experimental groups were selected for each of the four courses, in which a special program of physical education activities, which differed from the traditional system of physical education, was implemented throughout the school year.

The peculiarity of classes in experimental groups was that in the process of teaching knowledge about physical culture and bringing to the consciousness of students not only special knowledge, but also to reveal their personal significance. In lectures and discussions, using concrete examples from practice and data from modern scientific research, students were convinced of the need for regular physical exercises and, thereby, the formation of a system of personal views on the importance of physical education in strengthening physical health, increasing work capacity and preparing for future professional activity. An important role at the first stage of the formation of the need for physical self-improvement is played by external temporal motives, the formation of which is connected with the search for ways to achieve the formal goal of official physical education activities (achieving a passing grade by maintaining good relations with the teacher).

In the future, the basic needs of the individual take the first place in the system of meaning-making factors, among which the author notes:

- 1) the need for physical self-improvement or physical health;
- 2) the need for psycho-self-regulation or mental health; 3) the need for self-affirmation.

This is due to the fact that with the increase in the level of methodical knowledge and skills of independent physical education among future specialists, there were more opportunities to increase their motor activity, as they began to be more conscious of increasing the level of their physical fitness, the development of basic physical qualities and hardening of the body. To improve the quality of education, students received methodical information and recommendations of a general health nature, as well as exemplary programs for improving physical fitness, mastering the method of complex development of basic motor skills.

Results. In order to determine the level of physical fitness of students and the effectiveness of the methodology proposed by the author for forming the need for physical self-improvement of students, ascertaining and formative experiments were conducted in which 392 students of 1-4 years of Khmelnytskyi National University (Khmelnytskyi) took part.

A loading step test was used to determine the level of physical fitness of students [2].

There are 5 levels of physical fitness: very poor, poor, satisfactory, good, excellent. To determine the level of physical fitness of students aged 17-19 years based on the relative indicator of maximum oxygen consumption (MSC), the criteria of Y.P.Pyarnat were used, and for students older than 19 years - the criteria of I.Astrand (Table 1).

Table 1

Criteria for determining the level of physical fitness of students

Level of physical fitness	According to Y.P.Parnat 17-19 years old	According to I. Astrand 20 years and older
1. Very bad	<34	<38
2. Poor	34-41	39-43
3. Satisfactory	42-50	44-51
4. Good	51-58	52-56
5. Distinctive	>58	>57

Indicators of physical fitness of students of 1-4 courses of study and the data of the ascertaining experiment are shown in Tables 2 and 3.

Table 2

Average values (M) of PWC 170 indicators and MSK for students of 1-4 years

Indicators/course of study	1 course (n=99)	2nd year (n=88)	3rd year (n=97)	4th year (n=108)
	M±m	M±m	M±m	M±m
PWC170 kgm/min	1457.9±43.58	1339.8±33.23	1336.1±37.2	1394.1±42.8
PWC170 kgm/min*kg-1	21.03±0.56	18.83±0.42	18.76±0.45	19.61±0.56
MSK ml/min	3705.4±75.76	3514.3±56.66	3508.8±63.34	3547.5±74.6
MSK ml/min*kg-1	53.7±0.97	49.58±0.73	49.43±0.77	50.03±1.0

Note: M is the arithmetic mean; m - standard error of the arithmetic mean; n - number of students.

Table 3

Evaluation of statistical differences between averages PWC 170 та MSK for students of 1-4 years

Indicators/course of study	1-2 course		1-3 course		1-4 course		2-3 course		2-4 course		3-4 course	
	t	±	t	±	t	±	t	±	t	±	t	±
PWC170 kgm/min	2.2	0.04	2.1	0.04	1.4	0.3	2.7	0.06	1.8	0.07	1.3	0.08
PWC170 kgm/min*kg-1	3.1	0.02	3.2	0.02	1.8	0.07	2.1	0.05	1.4	0.08	1.2	0.09
MCK ml/min	2	0.05	2	0.05	1.5	0.14	2.6	0.06	2.3	0.04	1.4	0.08
MCK ml/min*kg-1	3.3	0.01	3.4	0.01	2.6	0.01	2.4	0.06	2.5	0.06	1.5	0,07

Note: Student's t-test; ± -level of significance

The study of students' physical fitness made it possible to distinguish five levels: 17.3% of students in terms of their physical condition correspond to an excellent level, 15.8% - good, 53.3% - satisfactory, 11% - bad and 2.4% - very bad.

Determining the levels of development of the need for physical self-improvement, we proceeded from the three most important aspects that reflect its essence: cognitive, emotional-holistic, and activity. The cognitive aspect reflects the objective constituent need in the consciousness of the subject, the idea of physical self-improvement as a social value. In this case, we are talking about a system of emotionally neutral normative values. The emotional and value aspect reflects the personal meaning of the activity regarding physical self-improvement, which is manifested in a directly effective assessment of its vital significance for the subject. In this case, the activity of physical self-improvement is "portrayed" in the personal meaning it has for an individual due to its objective place in his life, in relation to the realization of needs and values significant for him. The active aspect of the need for physical self-improvement is manifested in practical actions, methods and methods of increasing the level of physical fitness.

As a result of the implementation of the experimental program for the formation of students' need for physical self-improvement, certain changes occurred in all its content elements: cognitive, emotional, value, and activity. This is evidenced by post-experimental diagnostic data of relevant indicators.

The change in the hierarchy of value orientations was reflected in the students' general awareness of the need for physical self-improvement classes. If at the beginning of the experiment 7.9% of first-year students, 14% of second-year students, 11.1% of third-year students, and 12.2% of 4th-year students did not see the need for physical self-improvement classes, then at the final stage of the formative experiment, only 2.1% of first-year students, 1.3% of second-year students, 1.5% of third-year students and 1.2% of graduates.

Increasing the level of education of students in the field of methodical means, methods of physical self-improvement and emotional and valuable attitude towards it, in turn, positively reflected on the behavioral component of the need for physical self-improvement. To the question "Are you engaged in physical self-improvement?" in the experimental groups, after the formative experiment, the following results were obtained: 65% of first-year students, 52.3% of second-year students, 51.2% of third-year students, and 50.7% of graduates answered positively.

Comparison of these data with the results of the ascertaining experiment, as well as with the corresponding indicators in the control groups, gives reason to assert the effectiveness of the methodology developed by us for forming students' need for physical self-improvement in comparison with the traditional teaching methodology (Table 4).

Table 4

Dynamics of changes in the relative number of students actively engaged in physical education self-improvement in EG and CG (in %) before and after the formative experiment

Course	1 course		2 course		3 course		4 course	
	to	after	to	after	to	after	to	after
Experimental groups	56.6	65.4	43.0	52.3	39.2	51.2	40.7	52.7
Control groups	54.7	57.8	46.1	46.8	44.5	49.1	41.3	46.4

The changes that took place in the cognitive, emotional, value, and activity aspects of the need for physical self-improvement led to an improvement in the objective indicators of physical fitness of students (tables 5 and 6).

As you can see, statistically significant positive changes in the indicators of physical fitness of students of the experimental groups occurred in almost all courses. The indicators of physical fitness of the control groups, which were engaged in the traditional program, also increased slightly over the corresponding period of time, but these changes are not as significant as in the experimental groups and in most cases do not reach the level of statistical significance (Table 6). This allows us to draw a conclusion about the advantages of the methodology developed by the author for forming the need for physical self-improvement of students over the traditional, generally accepted one.

Table 5

The average value (M) of indicators PWC 170 and MSK significance levels of differences in EG students before and after the formative experiment

Indicators	1 course (n=99) M±m			2 course (n=88) M±m			3 course (n=97) M±m			4 course (n=108) M±m		
	to	after	a	to	after	a	to	after	a	to	after	a
PWC170 kgm/min	1457	1564	0.04	1339	1440	0.04	1336	1451	0.04	1394	1415	0.05
PWC 170 kgm/min*kg	21.0	22.4	0.04	18.8	20.8	0.05	18.7	20.7	0.03	19.6	19.8	0.04
IPC ml/min	3705	3910	0.05	3514	3718	0.04	3508	3721	0.04	3547	3640	0.03
IPC ml/min*kg-1	53.7	57.1	0.03	49.5	52.8	0.03	49.4	51.9	0.05	50.0	51.1	0.04

Note: n is the number of students, a is the level of significance

Table 6

Average values (M) of PWC 170 indicators and MSC and significance level of differences (a) in CG students during the 1st and 2nd ascertainment experiment

Indicators	1 course (n=93) M±m			2 course (n=98) M±m			3 course (n=102) M±m			4 course (n=112) M±m		
	1 const.	2 const.	a	1 const.	2 const.	a	1 const.	2 const.	a	1 const.	2 const.	a
PWC170 kgm/min	1443	11498	0.19	1428	1538	0.05	1385	1463	0.21	1386	1485	0.09
PWC170 kgm/min*kg	19,4	20,3	0.24	20.1	21.5	0.07	18.7	19.6	0.23	19.2	21.2	0.07
MSC ml/min	3683	3834	0.16	3545	3711	0.08	3549	3752	0.14	3529	3670	0.15
MSC ml/min*kg-1	51.6	52.4	0.15	50.5	52.4	0.05	49.2	50.2	0.11	49.8	51.5	0.08

Summarizing the quantitative results of the study, it can be concluded that physical education classes specially organized in the system of training students of educational institutions, aimed at the development of future specialists' need for physical self-improvement, contribute to the formation of a stable personal meaning in them and instructions for improving personal physical fitness. In general, the obtained data indicate a more effective influence of the methodology developed by the author on the formation of students' need for physical self-improvement in comparison with the traditional system of physical education in higher education institutions of Ukraine.

Discussion. Our research confirms the results of research by M.I. Zhavoronkova, Y.S. Zhidko, M.A. Kazlenko, I.I. Petrenko, M.S. Solopchuk, M.M. Khomenko regarding the basis of the formation of the need for physical improvement in those, who is studying.

M.I. Zhavoronkova shows that the formation of students' need for physical improvement can be achieved under the condition of an organic relationship between educational and extracurricular work on physical culture, as well as the unity of school and family requirements. At the same time, the author claims that arming students with the necessary theoretical knowledge, as well as the skills and abilities available to them, activating their cognitive activity, involving them in a variety of socially useful work on physical culture and sports provide the necessary understanding of the essence of physical improvement, practical ways of achieving it and stimulating it, student activity in educational, extracurricular and independent activities [9].

The question of the formation of students' motives, needs and attitudes towards physical exercises is revealed in the works of V.A. Bauer, M.Ya. Vilenskyi, O.P. Vnukov, G.K. Zaitsev, M.K. Kutepov, and N.I. Ponomarev, V.M. Reizin.

OP Vnukov discovered a direct relationship between the formation of the need for physical self-improvement and the professional orientation of the student's personality. At the same time, the formation of the need for physical self-improvement occurs at a faster pace in persons with a pronounced professional orientation. Interested students acquire professional knowledge, abilities and skills faster and more actively [1, 10].

The main regularities of the development of activities related to physical self-improvement are reflected in separate special studies, which were carried out in the following directions [11]:

the relationship of physical activity according to the personality's relationship to it (V.K. Balsevych, V.I. Glukhov, P.O. Rudyk, D.O. Popov, S.C. Puni, M.O. Tretyakov).

the impact of the need on physical activity of the individual (V.A. Bauer, I.P. Boyam, M.I. Zhavoronkova, Y.S. Zhilko, M.A. Kozlenko, B.D. Kulanin, P.O. Rudyk, B. P. Stakionene, A. V. Tsarik).

Yu.S. Zhilko, studying the question of the formation of the need for continuous physical improvement, established that it is formed more effectively if the students themselves set goals, independently choose the means of achieving them, and the evaluation of their results in physical improvement is adequate to self-evaluation. In this, the author showed that the independence of students is manifested in complex extracurricular forms of physical education. Such forms, according to the author, are spartakiades, days of health and sports, physical education evenings [12].

A.V. Tsaryk, according to our research, believes that effective ways of forming the need for physical improvement are: expansion and deepening of special knowledge on hygiene and physical culture; consideration of group and individual interests; increasing the level of emotionality and the intensity of physical education and sports activities [13].

In our opinion, the analysis of literary sources and dissertation studies shows that the problem of forming the need for physical self-improvement is just beginning to be developed. Until now, the concept of "need for physical self-improvement" has not been clearly defined, the structure and main components of this need have not been revealed, the methodology for the

step-by-step application of means and methods in the formation of the need for physical exercises has not been developed, the means and methods of forming interest and motives for independent exercises have not been sufficiently researched physical exercises, which in turn led to the need to choose a research topic.

Conclusion. The conducted literary analysis shows the need for physical self-improvement and represents an organic unity of three components: emotional-value, cognitive, and activity. In accordance with this, its formation should include a system of pedagogical influences aimed at the development of the emotional, cognitive, and activity spheres of the future specialist's personality. The general mechanism of forming the personal meaning of physical self-improvement can be imagined as follows: first, valuable ideas perceived by the individual, passing through a kind of filter of self-awareness, are differentiated upon assimilation in the form of "meaning" and "personal meaning"; secondly, being refracted due to the conditions of real life, professional training and accumulated experience, they are divided into confirmation and non-confirmation, into those that really control the actions and deeds of the individual and those that are simply stored in the mind, allowing to navigate in the system of normative requirements put forward by the social environment ; thirdly, the formation of personal meaning occurs only when a system of valuable ideas emerges, which testify to their truth, verified by the criterion of evaluating various life and professional situations, circumstances that participate in the formation of life plans of an individual, organizing and directing his activity.

The three-component program developed and proposed by us for the formation of the need for physical self-improvement of future specialists, as the conducted research showed, covers all aspects of physical education and allows it to act as a fundamental process of forming a student's physical culture, when the valuable components of this sphere of culture become for him an internal asset and objective vital need.

This study does not pretend to cover all aspects of the problem of forming the need for physical self-improvement of students of higher education institutions, including the proposed method of its formation. Prospects for further research consist in the study of the internal structure and functional interrelationships between the components of the need for physical self-improvement, in the identification of psychological and pedagogical mechanisms of its formation at various stages of the professional formation of specialists.

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