

**PROFESSIOGRAM OF CONSTRUCTION SPECIALISTS AND THE
STATE OF HEALTH OF STUDENTS MAJORING IN "CONSTRUCTION
AND CIVIL ENGINEERING"**

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Purpose: to determine the professional profile of construction specialists and the state of health of students majoring in "construction and civil engineering".

Material and methods: theoretical analysis and generalization of scientific and methodical literature, questionnaire. The survey involved 24 teachers of construction specialties and 183 students majoring in "Construction and Civil Engineering" Sumy Construction College, Kharkiv College of Construction, Architecture and Design and Mariupol Construction College.

Results: the study identified the main means of recovery after work for construction professionals, such as: exercise, massage, baths, saunas.

Conclusions: it is established that professional and applied physical training helps in the effective development of professionally important physical qualities, prevention of injuries and occupational diseases.

Keywords: pre-higher education, student, teacher, health status, applied professional physical training, builder.

Introduction

Solving the problem of increasing interest and desire of students to exercise on a systematic basis and the development of their professionally important qualities is an important task today [2, 10, 12, 13, 16]. Vocational and applied physical training helps to solve this problem. The results of the analysis of special literature show that students do not have sufficient knowledge about the importance of health for everyday life and professionally important physical qualities necessary for their future work [3]. We note that during theoretical and practical classes on professional and applied physical training students form a positive attitude to their own health and increase the desire to regularly engage in physical culture and physical activity [1, 6, 14].

For rational selection of forms, methods and means of professional and applied physical training of future specialists of construction specialties of institutions of professional higher education it is necessary to take into account data of professional researches and level of health and psychophysical readiness of students [5, 9, 11].

In this regard, the study of important professional qualities of construction specialists, as well as the state of health of future professionals becomes especially relevant [7, 15].

Connection of the study with scientific programs, plans, topics. The work was performed in accordance with the consolidated plan of research work of the Department of Theory and Methods of Physical Culture of Sumy State Pedagogical University named after A.S. Makarenko for 2016-2020 on the topic "Theoretical and methodological foundations of physical education of different groups" (state registration number 0116U000900)

The purpose of study: to determine the professional profile of construction specialists and health status of students majoring in «Construction and Civil Engineering».

Material and Methods of research

Theoretical analysis and generalization of scientific and methodical literature, questionnaire. The survey involved 24 teachers of construction specialties and 183

students majoring in: «Construction and Civil Engineering», Sumy Construction College, Kharkiv College of Construction, Architecture and Design and Mariupol Construction College.

Research methods: theoretical analysis and generalization of scientific and scientific-methodical literature, questionnaire.

Organization of the research: a questionnaire survey of teachers and students of professional higher education institutions was conducted. Questionnaires by S. M. Kharchenko [8] and A. I. Kubatko [4] were used, adapted to the construction specialties of institutions of professional higher education. The questionnaire for teachers included 12 questions, for students 28 questions.

Results of the research

Teachers were asked to answer the questions of the questionnaire to determine the professional profile of construction professionals. As a result of the questionnaire of teachers, results were obtained on the means to be used to maintain high physical and mental performance and speed up the recovery process, most teachers believe that it is necessary to perform physical exercises (79,1%), 33% teachers are convinced that you need to attend a massage; 29,1% offer to sleep; to visit a bath, a sauna, consider it necessary – 25%; drink strong coffee – 12,5%; teachers do not recommend taking medicines without extreme necessity and without a doctor's permission. The predominant working posture of construction specialists is defined as standing work (83,3%), 41,7% attach importance to work in motion, and standing bent, and 33,3% allocate sitting position while working. According to the questionnaire, the fatigue of construction professionals is manifested by: apathy (50%), drowsiness and decreased concentration (20,8%), decreased coordination of movements and irritability (16,7%), low mood (54,2%), eye pain (12,5%), weakness and decreased attention (25%), headache (54,5%). The first reason for fatigue of construction professionals is nervous and emotional stress, the next reason is work in stress, and in third place was identified a great responsibility, which is followed by difficult working conditions and adverse weather conditions. According to teachers, the greatest load during the performance of production operations by specialists in

construction specialties falls on the muscles of the back. 66.7% of respondents think so, 50% of respondents believe that the muscles of the shoulder girdle take the maximum load together with the muscles of the back, 41.7% of teachers preferred the muscles of the lower extremities, and a large load falls on the muscles of the neck and eyes (33,3%).

Both teachers and students were asked to identify important physical and psychophysiological qualities for the professional activities of construction professionals. The results of a survey of teachers showed that such physical qualities as endurance and strength are important for the professional activities of construction professionals in first and second place, respectively. The following are coordination and flexibility. The least important teachers determine the speed. The results of a survey of students that the importance of physical qualities in the first and second place are respectively endurance and strength, following the importance of physical qualities in descending order of importance are as follows: coordination; speed; flexibility. In the questionnaire, it was proposed to determine the importance of each physical quality, where "1" was defined as the most important, and "5" the least significant physical quality for construction professionals (Table 1).

Table 1

Distribution of physical qualities by levels of importance for specialists in construction specialties (in points)

<i>Physical qualities</i>	<i>Teachers (n = 24)</i>	<i>Students (n = 183)</i>
Endurance	1	1
Strength	2	2
Coordination	3	3
Speed	5	4
Flexibility	4	5

Along with physical qualities, it is necessary to know and understand the important psychophysiological qualities necessary for the professional activity of construction specialists. First of all, according to the results of the questionnaire, operational thinking, attention and concentration are highlighted, the next most important teachers are emotional stability, logical thinking, distribution and switching

of attention, and the final ones are less important: balance and memory. In this questionnaire, respondents were also asked to determine the importance of each psychophysical quality, where "1" was defined as the most important quality, and "8" the least significant psychophysical quality for construction professionals (Table 2).

Table 2

Distribution of psychophysiological qualities by levels of importance for specialists in construction specialties (in points)

<i>Psychophysiological qualities</i>	<i>Teachers (n = 24)</i>	<i>Students (n = 183)</i>
Operational thinking	1	5
Attention	2	1
Concentration	2	3
Emotional stability	3	6
Logic of thinking	4	4
Distribution and switching of attention	5	7
Balance	6	8
Memory	6	2

In order to perform their professional duties at a high level, professionals must have good professional qualities, among which teachers attach the highest importance to organization. (83,3%), a little less, but also very important are: responsibility (79,2%), emotional stability (70,8%), attention (concentration, switching attention, volume and accuracy) – 66,7%, the ability to maintain multiple and diverse connections in the process (58,3%), ability to manage people (50%), verbal abilities (12,5%). Students among the important psychophysiological qualities put attention in the first place. The following qualities in descending order of importance are as follows: memory; concentration; logic of thinking; operational thinking; emotional stability; distribution and switching of attention; balance.

In the last question of the questionnaire, teachers were asked to answer the question of what helps professional-applied physical training (PAPT), and 80% of teachers surveyed believe that PAPT helps in the effective development of professionally important physical qualities, 70.8% believe that PAPT significantly helps in the prevention of injuries and occupational diseases. Respondents attach less

importance to the help of PFPF in the formation and development of abilities (organizational, communicative, etc.) – 33,3%, and in mastering the professional activity (29,2%).

According to the results of a questionnaire survey of students majoring in "Construction and Civil Engineering" established the following. First, in 33,3% of students of institutions of professional higher education in construction specialties, the state of health has recently deteriorated, at the same time it was found that the state of health remains unchanged in 47,1%, and only 19,6% feel improvement. students. Secondly, only 11,8% of the surveyed students consider their own health to be excellent, however, it was recorded that 39,2% consider their health to be good, 48,4% feel satisfactory, and 7,8% students who consider their own health unsatisfactory. Third, the survey showed that 51% of students get sick 1-2 times a year, 33,3% of respondents get sick 3-4 times a year there are even those students who get sick 5-6 times a year (7,8%), or even those who replied that they were not ill at all (5,9%). The surveyed students suffer from various diseases of which 72,5% have colds, 17,6% have diseases of infectious origin and rheumatic (5,9%) and production (7,8%) disease. Chronic diseases also occur in construction students mostly related to the respiratory system dominated by asthma.

Obviously, the health of students depends on their physical activity, including morning gymnastics and exercise during the day. But only 7,7% of students are constantly engaged in morning gymnastics and 21,1% spend physical education. Students who sometimes do morning gymnastics were also found (49%). 7,9% do not consider it necessary to do morning gymnastics and physical training, and 35,3% of respondents do not want to, other 25,5% do not do it due to fatigue. Some students (5,9%) do not have sufficient knowledge and skills for morning gymnastics and physical education. The results of the survey also showed that only 26% of respondents are constantly engaged in exercise, where at the same time 45,1% believe that it would be desirable to do but you can do without it and 11,8% of respondents are convinced that their health enough to do without physical culture at all, although 17.6% lead an active lifestyle (walking, hiking, etc.). The study also

showed that 31,4% of students know about the means of effective recovery, and some do not know at all (39,2%) or do not know enough (29,4%). Regarding the working posture during the day, it was found that 52,9% of students are sedentary, 41,2% of surveyed students identify their working posture standing, 11,8% of respondents are dominant standing, bending and 27,5% defined their working pose during the day - "in motion".

The results of the study show that students cover different distances from one kilometer to fifteen or more during the day, which is determined by their lifestyle. The vast majority of students walk from 5 to 10 km (45,1%), from 10 to 15 km pass 31,4%. At the same time, students who pass the least, from 1 to 5 km make 19,6% and those who pass the most, more than 15 km – 3,9%. It should be noted that students mostly have a medium (56,9%) and large (23,5%) degree of fatigue, and only a small number have a mild (17,6%). Also, a small number of students answered that they do not feel tired (2%). According to the results of the questionnaire, it was found that during the school day students usually feel tired at the end (41,2%), or after 4-6 hours from its beginning (37,3%), or even within one hour after (11,8%). Students of pre-higher education institutions in construction specialties experience the greatest fatigue on Monday (25,5%) and Thursday (23,5%) followed by Wednesday (17,6%) Friday (13,7%) and Tuesday (11,8%). When asked how fatigue manifests itself in students, the answers were different. Most respondents experience drowsiness (68,6%), eye pain (9,7%), as well as weakness (45,1%), headache (41,2%), irritability (39,2%), decreased mood (33,3%), concentration (25,5%), attention (23,5%), coordination of movements (9,8%). The reasons for their fatigue are mostly nervous and emotional stress (60,8%) and difficult working conditions (39,2%), a quarter of respondents feel tired due to work under stress (25,5%).

The results of the study showed that students when performing production operations experience the greatest load on the muscles of the back (58,8%), and slightly less experience the load on other muscles of the body: eye muscles (27,5%), neck 23,5%), lower extremities 19,6%) and shoulder girdle (17,6%). According to them, professional and applied physical training helps in the effective development of

professionally important qualities (43,1%); in the prevention of injuries and occupational diseases (33,3%); in the formation and development of abilities required by the leader (organizational, communicative, etc.) – 25,5%; in mastering professional activity (21,6%). It should be noted that the surveyed students attend physical education classes because it is an important component of their education in the educational institution, 39,2% are convinced of this, as well as to maintain their general physical fitness (35,3%) or because of the desire to strengthen their health (33,2%), physical shape and physique (33,4%). There are also students who come to physical education classes to: relax from other classes (17,6%); to participate in sports competitions (15,7%); relieve nervous tension, mental overload, negative emotions, stress (13,7%).

Conclusions / Discussion

The analysis of the questionnaire survey of teachers allowed to determine the important professional, physical and psychophysiological qualities of specialists in construction specialties. The most important are: organization as a professional quality; endurance and strength as physical qualities; operational thinking, attention and concentration as psychophysiological qualities.

The questionnaire survey of students allowed to determine that students have a mostly sedentary lifestyle. A large number of students have frequent and chronic diseases, mainly with the respiratory system. A large percentage (33,3%) of students surveyed experience a deterioration in their own health due to frequent fatigue, which is manifested mostly by drowsiness and general weakness. It was also found that students are not sufficiently aware of the means of effective recovery after work.

The results of the study show that most graduates of vocational higher education institutions have a low level of psychophysical readiness for work.

Prospects for further research: consist in the development of the author's experimental curriculum, professional and applied physical training, students of construction specialties of institutions of professional higher education.

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