

THE STRUCTURE AND LEVEL OF PHYSICAL ACTIVITY OF STUDENTS OF HIGHER EDUCATION INSTITUTIONS

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Abstracts

Relevance. The urgency of the research is determined by the contradiction between the positive effect of desirable physical activity on the effective functioning of organism and the low level of its formation in the students. **The purpose** of the study is to determine the structure and level of physical activity of students in higher education. **Methods.** An international enquire of physical activity methodology (IPAQ) was used. In general, 1,160 students (323 boys and 837 girls) participated in the pedagogical study of 1–4 courses of the in-person form of education of the Lesya Ukrainka Eastern European National University. **Results.** The majority of respondents (57 %) have a low level of physical activity. 30 % of teenagers have an average level of physical activity and only 13 % have a high level. It was found that the high level of physical activity is the lowest among freshmen. The level of physical activity practically does not change and does not significantly affect the number of students' locomotion, in the process of learning. The specialty, which was chosen, does not significantly affect the level of physical activity of young people. The factors, which exhibit a peculiar effect on the usual level of physical activity, belong to the place of birth and residence of students. The largest number of people with a high level of locomotor activity was indicated by a large city (16,4 %). The low level of physical activity is demonstrated by students from villages and small towns (65 % and 59,1 %, consequently). **Conclusions.** The established level of physical activity is inadequate and does not help maintain the proper functional state of the organism. The training effect has a high level of physical activity, which includes independent or specially organized physical exercises. This component of physical activity is only in the compulsory physical exercises. If there are no such activities, then there is no high level of physical activity.

Key words: physical activity, IPAQ, students, institutions of higher education.

Василь Пантік. Структура та рівень рухової активності студентів закладів вищої освіти. Актуальність. Актуальність дослідження визначається суперечностями між позитивним впливом оптимальної рухової активності на ефективне функціонування організму та низьким рівнем її сформованості в студентів. **Мета дослідження** полягає у визначенні структури та рівня рухової активності студентів вищих закладів освіти. **Методи.** Використано міжнародний опитувальник рухової активності методика (IPAQ). Усього в педагогічному дослідженні брало участь 1160 студентів (323 хлопців та 837 дівчат) 1–4 курсів денної форми навчання Східноєвропейського національного університету імені Лесі Українки. **Результати.** У більшості респондентів (57 %) спостерігаємо низький рівень рухової активності. 30 % молоді мають середній рівень рухової активності й лише 13 % – високий. Установлено, що високий рівень рухової активності найнижчий у першокурсників. У процесі навчання рівень рухової активності практично не змінюється та суттєво не позначається на кількості локомоцій студентів. Обраний фах суттєво не впливає на рівень рухової активності молоді. До факторів, які проявляють своєрідний вплив на звичний рівень рухової активності, належать місце народження й проживання студентів. Найбільша кількість осіб із високим рівнем рухової активності місцем свого народження вказали велике місто (16,4 %). Низький рівень рухової активності найбільше виявляють студенти із сіл і невеликих міст (65 % і 59,1 % відповідно). **Висновки.** Установлений рівень рухової активності є недостатнім і не сприяє підтриманню належного функціонального стану організму. Тренувальний ефект має високий рівень рухової активності, до якого належать самостійні або спеціально організовані заняття фізичними вправами. Але цей компонент рухової активності перебуває переважно лише у вигляді обов'язкових навчальних занять фізичними вправами. Якщо таких занять немає, тоді відсутній високий рівень рухової активності.

Ключові слова: рухова активність, IPAQ, студенти, заклади вищої освіти.

Василий Пантик. Структура и уровень двигательной активности студентов высших учебных заведений. Актуальность. Актуальность исследования определяется противоречием между положительным влиянием оптимальной двигательной активности на эффективное функционирование организма и низким

уровнем ее сформированности у студентов. **Цель исследования** – определение структуры и уровня двигательной активности студентов высших учебных заведений. **Методы.** Использован международный опросник двигательной активности методика (IPAQ). Всего в педагогическом исследовании участвовало 1160 студентов (323 юношей и 837 девушек) 1–4 курсов дневной формы обучения Восточноевропейского национального университета имени Леси Украинки. **Результаты.** У большинства респондентов (57 %) наблюдается низкий уровень двигательной активности. 30 % молодежи имеют средний уровень двигательной активности и лишь 13 % – высокий. Установлено, что высокий уровень двигательной активности является самым низким у первокурсников. В процессе обучения уровень двигательной активности практически не меняется и существенно не сказывается на количестве локомоций студентов. Выбранной специальности существенно не влияет на уровень двигательной активности молодежи. К факторам, которые проявляют своеобразное влияние на привычный уровень двигательной активности, принадлежат местом рождения и проживания студентов. Наибольшее количество лиц с высоким уровнем двигательной активности место своего рождения указали большой город (16,4 %). Низкий уровень двигательной активности всего проявляют студенты из сел и небольших городов (65 и 59,1 % соответственно). **Выводы.** Установленный уровень двигательной активности является недостаточным и не способствует поддержанию надлежащего функционального состояния организма. Тренировочный эффект имеет высокий уровень двигательной активности, к которому относятся самостоятельные или специально организованные занятия физическими упражнениями. Но этот компонент двигательной активности находится преимущественно только в виде обязательных учебных занятий физическими упражнениями. Если таких занятий нет, тогда отсутствует высокий уровень двигательной активности.

Ключевые слова: двигательная активность, IPAQ, студенты, высшие учебные заведения.

Introduction. The results of the analysis of modern scientific researches testify that physical activity is an integral part of human behavior, which ensures the normal functioning of body systems and preservation of health [2; 12; 15; 19]. The physical activity of students consists of a system of movements, which is one of the necessary factors of their life [10; 18; 22].

The high dependence of physical health and functional state of the organism on the level of physical activity of students is proved [1; 4; 6; 9; 14; 17]. At the same time, in the minds of most young people, physical activity is not an important attribute of a healthy lifestyle [21; 23; 25]. This is due to a number of reasons like low motivation for exercises, non-compliance with a healthy lifestyle and lack of efficiency in the modern organization of physical education of students, etc. [3; 11; 13; 16; 24].

Lack of physical activity leads to hypokinesia and hypodynamia, a decrease in the lung capacity, respiratory depth, minute volume of breath and maximum pulmonary ventilation [5; 7; 8; 20; 26]. **Consequently,** it is important to find an effective approach for increasing students' physical activity, which would promote the development of positive motivation for exercises, form the knowledge of independent health-improving activity.

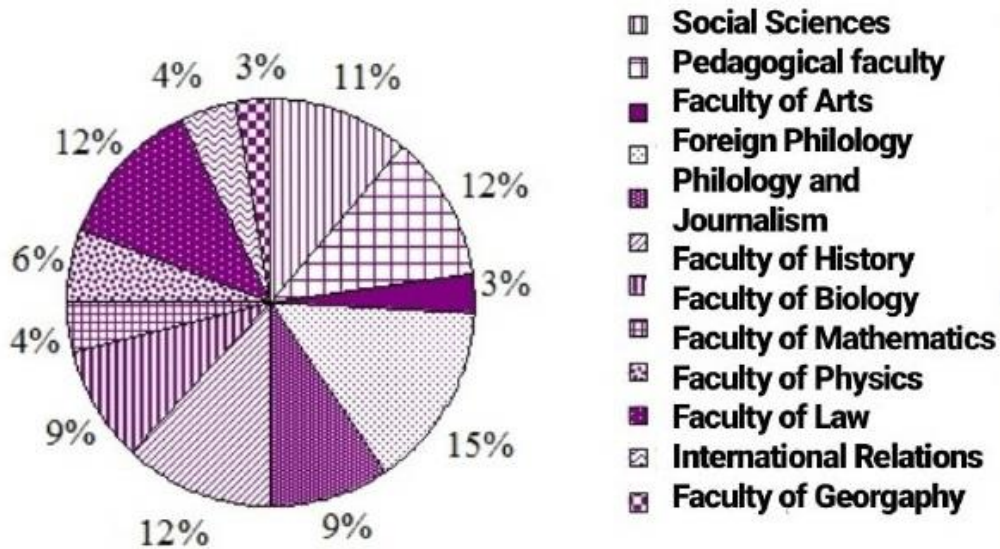
The purpose of the study is to determine the structure and level of physical activity of students of higher educational institutions.

Material and methods of the study. The standardized technique of the International Physical Activity Questionnaire (IPAQ) was used to determine the level of students' physical activity. It consists of 27 questions, which are divided into five parts. Each part covers a certain type of activity: physical activity related to work (farming, physical activity in the workplace, volunteer work, etc); physical activity linked with moving (moving from place to place, including moving to/from work, shops, suburban area, entertainment places, etc); housework, current work, caring for the family (physical activity, that is performed at home and outside the home, gardening, yard work, current household work), recreation, sport, physical activity in free time (specially organized physical activity), the time spent sitting or lying down (these questions relate to the time that respondent spent sitting at work, at home, while studying and in free time).

At the first stage, the energy consumption within each type of activity (in free time, during housework, at work) was calculated, taking into account the type of activity (low, medium, high) according to special formulas. The energy consumption for each type of activity is equal to product of the number of days in which the specified activity was performed, the time during it was lasted and the MET-value, which corresponds to the type of activity. In other words, the level of energy consumption of each type of activity

is equal to the sum of energy consumption of its type. At the second stage, the general level of physical activity was calculated in MET-minutes/ week. The respondents are divided into three categories on a categorical scale: low, medium, high, according to the results of processing the research data.

In general, 1160 students (323 boys and 873 girls) of 1-4 courses of full-time education of the Lesya Ukrainka Eastern European National University participated in the pedagogical study. The research participants were students of twelve faculties.



Pic. 1. The distribution of students who took part in the research, according to the faculties

The difference in the number of people who were involved in the research from various special fields is connected to uneven distribution of the number of students between the faculties. Also, significant number of female students who took part in the questionnaire is connected to the fact that mostly girls study at the university. At the same time, an essential number of involved people give grounds to assert that students of different faculties and both sexes were sufficiently represented.

Students are more evenly distributed according to the year of study in a sample of research participants. 386 students were involved to the research from the first course that is 33,3% , 283 (24,4%)-from the second course, 263 (22,7%)-from the third and 226 students (19,5%)- from the fourth course of study. This percentage distribution suggests that the research covers all age groups of students of both sexes (Pic. 2.).

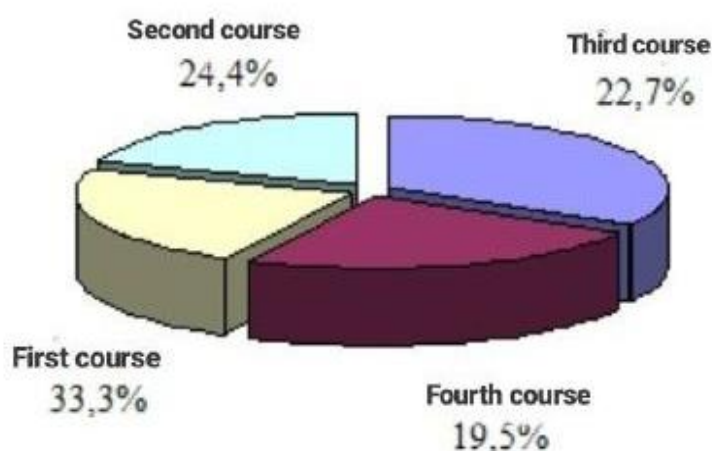
The standard statistical methods in the program Microsoft Excel were used for the analysis of the received data.

The result of the study. The analysis of the results of the research testified that only 13% (152 people) among students have a high level of physical activity. The majority of respondents (665 people or 57%) lead a sedentary lifestyle (pic.3).Consequently, the medium level of physical activity is almost in third of students (350 people or 30%).

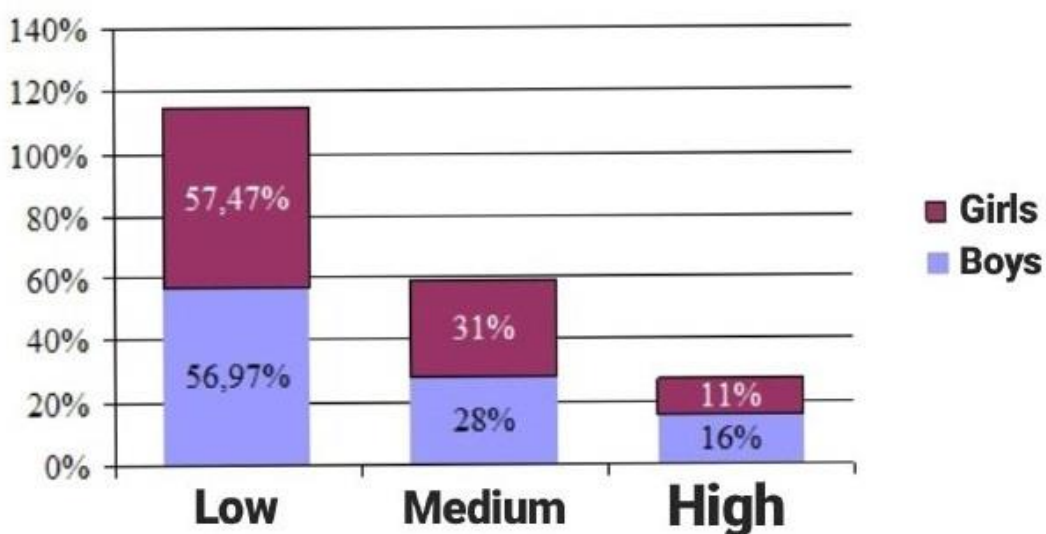
The distribution of students according to the faculties and level of physical activity is presented on the pic. 4.

The largest group of students with a high level of physical activity is in the faculty of biology (17,1%), the second position is occupied by students of the faculty of geography (16,1%), the last place with the significant difference belongs to the faculty of arts(7,9%). The largest group of students with a medium level of physical activity consists of the faculty of social sciences (42,6%), the faculty of foreign philology (40,5%) and faculty of law (32,4%). 20-30% of young people form a group with a medium level

of physical activity in other faculties. The smallest group is on the faculty of geography, the size of which is only 12,9%. The low level of physical activity prevails among the students of faculty of geography (71 %) and sociology (45 %).



Pic. 2. *The distribution of students who took part in the research, according to the course of study*



Pic. 3. *The distribution of students according to the level of physical activity, %*

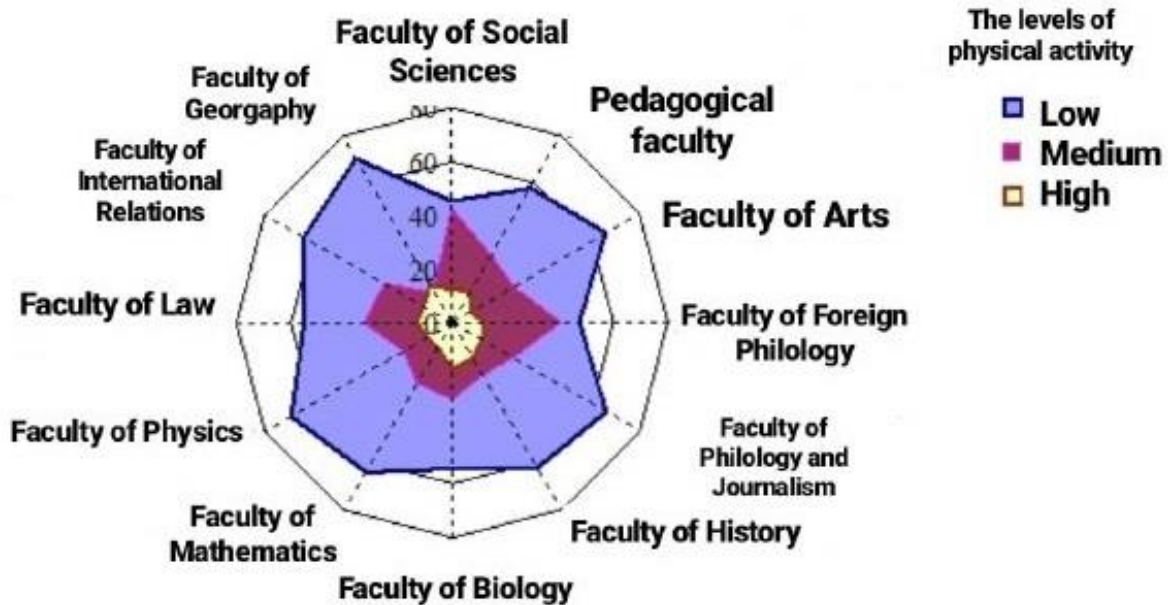
It is possible, according to the data of the course of study of students to research the influence of age factor on the formation of the level of physical activity. The detailed distribution of students by the level of physical activity and the courses of study is given in a table 1.

It was found that the high level of physical activity is the lowest among freshmen (16%). However, the part of students of this group is gradually reduced to 12% on the second course, 11% - on the third course and 9% - on the fourth course of study.

The number of participants who have the medium level of physical activity, varies in a narrow range – 24-29%. At the same time, the number of students with a low level of physical activity increased during the study at the university from 55%-52% on the first and second course to 62% on the third and fourth course of study.

The factors that exhibit a peculiar influence on the usual level of physical activity belong to a place of birth and a residence of students. The largest number of people with a high level of physical activity was indicated by a large city (16.4%).

The dependence on the level of the physical activity of students from the place of residence is presented in pic. 5.



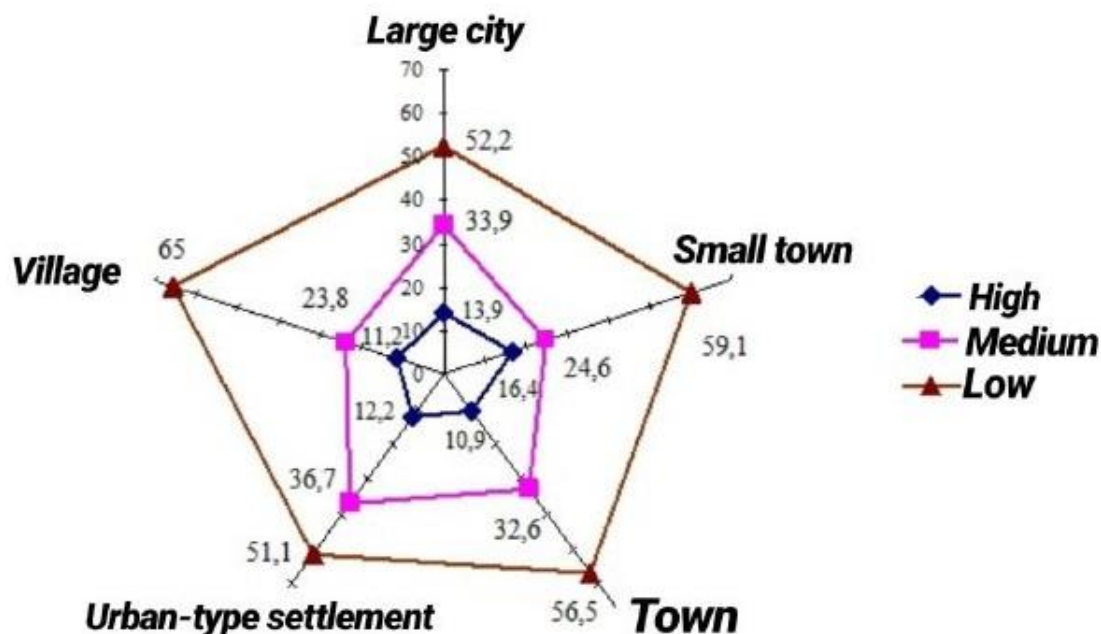
Pic. 4. The distribution of students according to the level of physical activity, depending on faculties, %

Table 1

The state of physical activity of students depending on the course of study, %

The level of physical activity	Sex	The course of study			
		1	2	3	4
Low	male	57	47	59	63
	female	54	53	63	62
	total	55	52	62	62
Medium	male	24	38	25	28
	female	31	36	28	30
	total	29	36	27	29
High	male	19	16	16	9
	female	14	12	9	9
	total	16	12	11	9
Total	male	33	20	26	30
	female	67	80	74	70

The smallest part of participants with a high level of physical activity is presented among students who were born in towns (10,9%). The highest percentage ratio with a medium level of physical activity is occupied by students from large cities (36,36%) and the least - students that are from villages (36,7%). The lowest level of physical activity is demonstrated by students from villages and small towns (65% and 59,1%), at the same time, fewer sedentary students are among those who were born in *urban-type settlements* (51,1%) and large cities (52,2%).



Pic. 5. The distribution of students with different level of physical activity depending on their place of residence, %

Discussion. The important role of the student’s awareness of physical development and a healthy lifestyle plays both classmates and faculty which contributes to the formation of responsible attitude to their own health by their personal examples, agitation, which is carried out by university, media and the relevant authorities etc. Consequently, it is essential to analyze and identify the differences in the levels of physical activity of students who study at different faculties, according to the chosen specialty.

It was found that the highest rate of physical activity is shown by the faculties of foreign philology and social sciences, where more than half of students lead a lifestyle with a high and medium level of physical activity as well as the faculty of biology forming the largest group of students with a high level of physical activity.

Thus, the students have predominantly low level of physical activity (45–71 %) regardless of the chosen field of study. The medium level of physical activity is essentially represented by only two faculties of research (foreign philology and social sciences). The high level is rather insignificant and makes 8–17 % of the total number of students. In general, there was no fundamental difference between fields of study and levels of physical activity according to the research.

The changes in physical activity depending on the course of study show that the percentage of students with the high level of physical activity is the lowest and has a downward trend, while the medium and low levels differ in nonlinear dynamics. This trend testifies that two hours of physical education per week in the first and second course of study are not enough. In addition, the cancellation of classes in senior years exacerbates the problem of reducing the level of physical activity of students and proves a need to develop a comprehensive pedagogical methods to increase students’ motivation for physical education and active lifestyle.

In general, students become conscious young people, listening to the advice of teachers on a healthy lifestyle and importance of physical education and begin to change their usual way of spending free time during a freshmen year, so the method of increasing the level of physical activity of students should be implemented systematically, starting from the first year.

Men are more physically active, as evidenced by the predominance of their share in group with high level of physical activity -16% against 11% of women. The percentage of students with low level of physical activity is almost the same and is, according to our research, about 57% for both sexes.

In comparison with academic achievements, the distribution of students by the level of physical activity is as follows: a high level prevails (19.5%) among excellent students, at the same time, the largest part of people with a low level of physical activity is presented by this group as well. The students who have good and average academic achievements are roughly equally divided into groups by levels of physical activity – about 58% are people with a low, 30 % - with a medium and 12-13% with a high level of physical activity.

The training effect has a high level of physical activity, which includes independent or specially organized physical exercises. This component of physical activity is presented only as the compulsory physical exercises. If there are no such activities, then there is no high level of physical activity.

In the future, it is necessary to develop adapted physical education programs, depending on the motivation of students.

Conclusion. The determination of the level of students' physical activity of higher educational institutions, using the international questionnaire of physical activity (IPAQ), testified that the majority of respondents (57 %) show a low level of physical activity. The medium level of physical activity is represented by 30% of young people and only 13% – high level.

It is established that the high level of physical activity is the lowest in freshmen. In the process of learning the level of physical activity does not change and does not significantly affect the number of students' locomotion. The specialty, which was chosen, does not significantly affect the level of physical activity of young people.

It can be argued that a certain level of physical activity is insufficient and does not contribute to the maintenance of proper functional state of the body taking into account the state of health and physical fitness of students who participated in research.

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