

Фізична культура, фізичне виховання різних груп населення

UDC 796.015.6-057.87

THE INFLUENCE OF PHYSICAL CONDITION LEVEL ON THE ADAPTIVE CAPACITY OF THE ORGANISM AND STRESS RESISTANCE OF STUDENTS OF THE FACULTY OF PHYSICAL EDUCATION

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<https://doi.org/10.29038/2220-7481-2020-03-32-40>

Abstracts

Topicality. Adaptation to the higher education system is the most problematic type of adaptation. Regular physical activities cause psychological relaxation and help to withstand emotional overload. Physical condition has a significant impact on a number of student life indicators. Determining the level of physical condition of students-athletes is the first step in substantiating the process of its improvement, and the orientation of changes in their level determines the effectiveness of the educational process at the Faculty of Physical Education. **The Purpose of the Research** is to identify and analyze the influence of physical condition level on the adaptive capacity of the cardiovascular system, the psycho-emotional state and the stress resistance level of physical culturist students. **The Methodology of the Research.** The research was conducted at the Lesya Ukrainka Eastern European National University among students of 1–4 year study on Speciality «Secondary Education. Physical Education» (135 persons, including 90 boys and 45 girls) during the intersession period. The experimental phase of the experiment took place during March–April 2018–2019. and included a study of the psycho-functional and emotional status of the research data sample. **The Results the Study.** It was found that adolescents are characterized by average and above average level of physical condition; the girls have high level of physical condition. A significant group of students with vegetative balance was noted; every third student has a marked vagotonia as a result of economizing the work of the human body at rest. A satisfactory level of adaptive potential was found as typical for 60 % of boys and 88,9 % for girls. It should be considered as a manifestation of long-term adaptive reaction to physical exertion. The average and high levels of the parameters «well-being» and «mood» were established; by the scale of «activity» – it was unsatisfactory for the vast majority of girls and boys. It was found 62,2 % among boys with reduced levels of stress resistance and with an average level – 36,7 % of students; among girls, 57,8 % and 40,0 %, respectively. This situation indicates the presence of stressful situations in the lives of these students and their low resistance to them. The strongest feedback was noted between the level of physical condition and heart rate and adaptive capacity.

Key words: PE students, level of physical condition, adaptation potential, Vegetation Index, psycho-emotional state, stress resistance.

Наталія Белікова, Світлана Індіка, Анатолій Цьось, Людмила Сущенко, Віктор Галан-Влащук, Олександр Которович. Вплив рівня фізичного стану на адаптаційні можливості організму та стресостійкість студентів факультету фізичної культури. **Актуальність.** Адаптація до системи вищої школи є найбільш проблемним видом адаптації. Регулярні фізичні навантаження викликають психологічне розслаблення й допомагають витримувати емоційні перевантаження. Фізичний стан суттєво впливає на низку показників життєдіяльності студентів. Визначення рівня фізичного стану студентів-фізкультурників є першим кроком в обґрунтуванні процесу його вдосконалення, а направленість змін його рівня визначає ефективність навчального процесу на факультеті фізичної культури. **Мета** – виявити та проаналізувати вплив рівня фізичного стану на

адаптаційні можливості серцево-судинної системи, психоемоційний стан і рівень стресостійкості студентів-фізкультурників. **Методологія дослідження.** Дослідження проведено на базі СНУ імені Лесі Українки серед студентів 1–4 курсів спеціальності «Середня освіта. Фізична культура» (135 осіб, серед них – 90 юнаків та 45 дівчат) у міжсесійний період. Констатувальний етап експерименту проходив упродовж березня-квітня 2018/2019 н.р. і включав вивчення психофункціонального та емоційного статусу досліджуваної вибірки.

Результати. Установлено, що в юнаків домінують вищий від середнього та середній рівні фізичного стану; у дівчат – високий. Відзначено групу студентів із вегетативною рівновагою; у кожного третього студента зафіксовано виражену ваготонію як результат економізації роботи організму людини в спокої. Задовільний рівень адаптаційного потенціалу виявлено в 60 % юнаків та 88,9 % дівчат, що потрібно розцінювати як прояв довготривалої адаптаційної реакції на фізичні навантаження. Установлено середній і високий рівні параметрів «самопочуття» та «настрій»; за шкалою «активність» – незадовільний у більшості дівчат і юнаків. Серед юнаків зі зниженим рівнем стресостійкості виявлено 62,2 % осіб, із середнім – 36,7 % студентів; серед дівчат – відповідно, 57,8 та 40,0 %. Такий стан свідчить про наявність стресових ситуацій у житті цих студентів і їх низьку опірність до них. Найбільш сильний зворотний вплив відзначено між рівнем фізичного стану та частотою серцевих скорочень й адаптаційним потенціалом.

Ключові слова: студенти-фізкультурники, рівень фізичного стану, адаптаційний потенціал, вегетативний індекс, психоемоційний стан, стресостійкість.

Наталья Беликова, Светлана Индюка, Анатолий Цёсь, Людмила Сущенко, Виктор Галан-Влащук, Александр Которович. Влияние уровня физического состояния на адаптационные возможности организма и стрессоустойчивость студентов факультета физической культуры. Актуальность. Адаптация к системе высшей школы является наиболее проблемным видом адаптации. Регулярные физические нагрузки вызывают психологическое расслабление и помогают выдерживать эмоциональные перегрузки. Физическое состояние существенно влияет на целый ряд показателей жизнедеятельности студентов. Определение уровня физического состояния студентов-физкультурников является первым шагом в обосновании процесса его совершенствования, а направленность изменений его уровня определяет эффективность учебного процесса на факультете физической культуры. **Цель** – выявить и проанализировать влияние уровня физического состояния на адаптационные возможности сердечно-сосудистой системы, психоэмоциональное состояние и уровень стрессоустойчивости студентов-физкультурников. **Методология исследования.** Исследование проводилось на базе ВНУ имени Лесы Украинки среди студентов 1–4 курсов специальности «Среднее образование. Физическая культура» (135 человек, среди них – 90 юношей и 45 девушек) в межсессионный период. Констатирующий этап эксперимента проходил в течение марта-апреля 2018/2019 уч. г. и включал изучение психофункционального и эмоционального статуса исследуемой выборки. **Результаты.** Установлено, что у юношей доминирует выше среднего и средний уровни физического состояния; у девушек – высокий. Отмечается значительная группа студентов с вегетативным равновесием; у каждого третьего студента фиксируется выраженная ваготония как результат экономизации работы организма человека в покое. Удовлетворительный уровень адаптационного потенциала выявляется у 60 % юношей и 88,9 % девушек, что следует расценивать как проявление долговременной адаптационной реакции на физические нагрузки. Установлено средний и высокий уровни параметров «самочувствия» и «настроение»; по шкале «активность» – неудовлетворительное у подавляющего большинства девушек и юношей. Среди юношей с пониженным уровнем стрессоустойчивости было 62,2 % лиц, со средним уровнем – 36,7 % студентов; среди девушек – соответственно, 57,8 и 40,0 %. Такое положение свидетельствует о наличии стрессовых ситуаций в жизни этих студентов и их низкую сопротивляемость к ним. Наиболее сильное обратное влияние отмечается между уровнем физического состояния и частотой сердечных сокращений и адаптационным потенциалом.

Ключевые слова: студенты-физкультурники, уровень физического состояния, адаптационный потенциал, вегетативный индекс, психоэмоциональное состояние, стрессоустойчивость.

Introduction. Adaptation to the higher education system is the most problematic form of adaptation. Thus, the student youth are faced with a lot of information and a large number of tasks, which are solved by the functional reserves of the body [3]. Emotional stress is one of the main causes of students' mental stress. It directly affects the mental and physical work capacity, attention, adaptation capacity and overall health that students consider as the dominant vital value [7]. Food and sleep disorders exacerbate these processes.

The positive impact of exercises on human health is well known [13, 16]. Systematic educational and extracurricular physical exercises is an important condition for the normal physical and spiritual development of the student's personality, a compulsory prerequisite for the education of priority orientations for health promotion and a motivational incentive for regular individual physical exercises and sports. So, regular physical loading causes psychological relaxation and helps withstand emotional overload. They are a pledge of psychophysical health and an important factor in ensuring the successful acquisition of knowledge and the formation of an adequate level of students' stress resistance.

The level of students' physical condition depends on many factors, the main of which are related to lifestyle and motor activity level [4]. From the standpoint of Physiology, the «physical state» of a person is the conformity of the organism vital activity indicators to the standards, taking into account age and assigned sex. This is an opportunity for tissues, organs, systems of the organism to maximize its function in comparison with the state of rest. Physical condition is also the level of resistance of the body to the effects of adverse environmental factors (P. Plakhtii, 1997).

Determining the level of physical condition is the first step in substantiating the process of its improvement, and the direction of changes its level determines the effectiveness of the educational process at the Faculty of Physical Education and is the basis for its correction. It should also be noted that the assessment of a student's level of physical condition can be used as a criterion for the well-being of physical exercises, as well as a criterion for readiness for loads of different nature, and in general can be a criterion for the efficiency of the physical education process in a higher education institution (HEI).

The analysis of scientific sources and own researches give grounds to consider that the physical condition significantly influences a number of indicators of students' life. It is known that the cardiovascular system is an indicator of the adaptive capacity of the body. Adequate restructuring of the cardiovascular system provides for the adaptation of the organism to various environmental conditions, physical and psycho-emotional loads [12]. Therefore, studying its reactions, depending on the level of physical condition of students is an urgent task and can be used as a prediction.

Thus, scientific sources confirm the importance of studying the influence of the level of students' physical condition on the adaptive capacity of the body. Knowledge of mechanisms of functional and psycho-emotional dependencies will allow to carry out objective monitoring of students-athletes' psycho-functional condition as an illustration of transfer of physical loads and adaptation to them.

Purpose of the Study is to identify and analyze the influence of the level of physical condition on the adaptive capacity of the cardiovascular system, psycho-emotional state and the level of stress resistance of PE students.

Papers and Methods of the Research. The research was conducted at the Lesya Ukrainka Eastern European National University among students of 1–4 year study on Speciality «Secondary Education. Physical Education» (135 persons, including 90 boys and 45 girls) during the intersession period. The average age of students was $19,6 \pm 0,12$ years. All participants have given a consent to participate in the experiment.

The final stage of the experiment took place during the March-April 2018/2019 acafemic year and included the study of the psycho-functional and emotional status of the studied sample. To estimate the *level of physical condition* (LPhC) the calculation method of O. Pyrogoва has been used [9] (1):

$$LPhC = \frac{700 - 3 \times HR - 2,5 \times BP_{aver.} - 2,7 \times age + 0,28 \times weight}{350 - 2,6 \times age + 0,21 \times height} \quad (1),$$

LPhC – level of physical condition (nom.unit); *age* – in accordance to the passport's data of a person; *weight* – body weight of a person (kg); *height* – body length (cm); *HR* – the number of contractions (beats) of the heart per minute (bpm); *Blood pressure (BP_{aver.})* – average blood pressure (mm Hg).

The evaluation of the LPhC is carried out accordingly a scale (see table 1).

Table 1

Assessment Scale of Physical Condition (nom.unit)

Level of Physical Condition	Sequence Number	LPhC Values (Men)	LPhC Values (Women)
Low	5	$\leq 0,375$	$\leq 0,260$
Below average	4	0,376-0,525	0,261-0,365
Average	3	0,526-0,675	0,366-0,475
Above average	2	0,676-0,825	0,476-0,575
High	1	$\geq 0,826$	$\geq 0,576$

The functional state of the cardiovascular system (CS) was evaluated using the calculated indices: *Kerdo's Vegetative Index* (KVI) and the adaptive potential (AP) (according to R. Baievskiy) [2] (2):

$$AP = 0,011 \times HR + 0,014 BP_s + 0,008 \times BP_d + 0,014 \times \text{age} + 0,009 \times \text{weight} - 0,009 \times \text{height} - 0,273 \quad (2),$$

AP is the adaptive potential of the circulatory system (nom.unit); Heart rate – the number of contractions (beats) of the heart per minute (bpm); BP_s – systolic blood pressure (mm Hg); BP_d – diastolic blood pressure (mm Hg); age – in accordance to the passport's data of a person; weight – body weight of a person (kg); height – body length (cm). Sample interpretation (see table 2).

Table 2

Overall Assessment of Adaptive Capacity and Health Level (nom.unit)

Points	Adaptation Status
$\leq 2,1$	Satisfactory adaptation
2,11-3,2	Tension of adaptation mechanisms
3,21-4,3	Unsatisfactory adaptation
$\geq 4,31$	Disruption of adaptation mechanisms

The following formula (3) was used to calculate the Kerdo's Vegetative Index (KVI):

$$KVI = (1 - BP_d / HR) \times 100 \quad (3),$$

KVI – Vegetative Index (units); BP_d – diastolic blood pressure (mm Hg); *Heart rate* – the number of contractions (beats) of the heart per minute (bpm). Healthy person at the eitonía state (balanced vegetative regulation) has the calculated Kerdo's Vegetative Index is ± 15 , that is, the sympathetic and parasympathetic parts of the autonomic nervous system are in a state of dynamic balance. With the predominance of sympathetic tone, the index increases, and with the predominance of the parasympathetic it decreases, becomes negative.

Psycho-emotional status of the investigated persons was determined using a test questionnaire WAM («well-being», «activity», «mood»). The assessment of the *stress resistance* level was carried out using the Boston Stress Test.

Statistical analysis of the results was performed using licensed Excel spreadsheet packages. The sample arithmetic mean, the standard error of the mean ($\bar{x} \pm S_x$), standard deviation (δ) were calculated. The degree of correlation between the studied indicators was determined (r).

The Research Results. At the initial stage of the study, using the O. Pyrogova's method, we discovered the level of physical condition of the studied sample of students. The results allowed us to divide the sample into five groups with high, above average, average, below average and low levels of physical condition.

The first group with *high level of physical condition* included 36,3 % of the surveyed students (9 boys and 40 girls) with an average value of the LPhC $0,87 \pm 0,01$ and $0,73 \pm 0,01$ n. u. in accordance. The second group with the *above average level of physical condition* included 27,4 % of students (34 boys and 3 girls) with an average value of the LPhC $0,87 \pm 0,01$ and $0,73 \pm 0,01$ n. u. in accordance. The 3rd group with an *average level of physical condition* included 26,7 % of students (34 boys and 2 girls) with an average value of the LPhC $0,87 \pm 0,01$ and $0,73 \pm 0,01$ n. u. in accordance. 8,1 % of students (only 11 boys) were assigned to the 4th group with *lower average level of physical condition* with an average value of LPhC $0,87 \pm 0,01$ n. u. The 5th group with the *lowest level of physical condition* included only 1,5 % of students (2 boys) with an average value of the LPhC $0,87 \pm 0,01$ nom.unit.

Assessment of the functional state of the cardiovascular system of the studied group of students, which was carried out during practical classes without physical exertion and with low stress, allowed to establish that the most students have the functional correlates of HR and BP are within the normative values for this age group (see table 3). In particular, the average value of HR in the sample is $72,53 \pm 0,96$ bpm, $BP_{syst.} - 115,29 \pm 1,11$ mmHg, $BP_{diast.} - 74,5 \pm 0,81$ mmHg. However, the HR values of the studied girls of the 3rd group and boys of the 4th and 5th groups were slightly increased. According to the BP indicators (systolic and diastolic), an increase above the norm was observed in boys of the 5th group and girls of the 3rd group.

Evaluating the neurovegetative status in all studied groups, it was revealed a state of eitonía (balanced vegetative regulation) in the majority of students. The negative mean of the KVI value is evidenced about that. However, a small group of students is dominated by the sympathetic tone of the autonomic nervous system (11,9 %, $n = 16$): in boys – 2 persons in the 2nd, 3rd and 4th groups and 1 person in the 5th group; among women, there are 9 persons in the 1st group only. A significant group of students with pronounced vagotonia (31,1 %, $n = 42$) was also identified. Their distribution in the studied groups is such: boys –

6 people in the 1st group, 12 – in the 2nd, and 9 in the 3rd group; girls – 13 students in the 1st group and per 1 person in the 2nd and 3rd groups.

Table 3

The Study Results of Cardiovascular System of PE Students with Different Level of Physical Condition ($\bar{x} \pm S_x$, n = 135)

Key fig.	Assigned Sex	Level of Physical Condition				
		High	Above Average	Average	Below Average	Low
	m.	n=9	n=34	n=34	n=11	n=2
w.	n=40	n=3	n=2	n=0	n=0	
HR (bpm)	m.	59,11±1,98	66,12±1,98	75,41±1,19	90,82±2,05	102,0±10,1
	w.	70,83±1,58	80,0±2,31	85,5±7,5	-	-
BPsyst. mmHg	m.	101,33±4,9	118,29±1,4	122,32±1,85	121,82±2,63	127,5±7,5
	w.	106,9±1,92	116,67±8,82	125,0±5,0	-	-
BPdiast. – mmHg	m.	67,11±1,46	72,06±1,3	79,21±1,41	81,82±2,26	85,0±5,0
	w.	70,18±1,39	84,33±3,84	90,0±10,0	-	-
AP, nom.un.	m.	1,65±0,07	2,0±0,03	2,22±0,03	2,42±0,04	2,54±0,05
	w.	1,86±0,04	2,24±0,08	2,44±0,08	-	-
KVI, un.	m.	-15,08±5,86	-10,01±2,97	-6,57±3,25	9,05±4,23	15,37±13,2
	w.	-1,8±3,63	-5,68±0,01	-7,11±21,09	-	-

The level of adaptation potential has demonstrated overall a satisfactory state of adaptation mechanisms. However, students with tension of adaptation mechanisms were found: in the 2nd group of young men – 4 persons; in the 3rd group – the highest of students with such indicators (n = 21, 61,8 % of this group size) and all the studied of the 4th (11 persons) and 5th (2 persons) groups. Among the female students, only 5 girls (the members of the 2nd and 3rd groups), were stressed with the mechanisms of adaptation.

Studying the psycho-emotional state by the methodics of operative assessment of WAM (see table 4), the certain differences on some scales of «well-being», «activity» and «mood» in almost all groups of students have been found. All boys of the 1st, 2nd, 4th and 5th groups and girls of the 1st, 2nd and 3rd groups defined their well-being and mood as very good, while their activity was considered as unsatisfactory. In the 3rd group, 3 young men rated their condition as unsatisfactory on the scales of «well-being» and «mood», and all studied persons in this group identified their activity as unsatisfactory.

Table 4

The Study Results of Psycho-Emotional State and Stress Resistance of PE Students with Different Level of Physical Condition ($\bar{x} \pm S_x$, n = 135)

Key fig.	Assigned Sex	Level of Physical Condition				
		High	Above Average	Average	Below Average	Low
	m	n=9	n=34	n=34	n=11	n=2
w	n=40	n=3	n=2	n=0	n=0	
Well-being	m	5,69±0,17	5,62±0,09	5,48±0,16	5,95±0,15	5,45±0,85
	w	5,5±0,12	5,43±0,2	5,3±0,1	-	-
Activity	m	3,02±0,2	2,91±0,14	2,98±0,12	2,9±0,32	2,4±0,6
	w	3,07±0,13	3,43±1,0	4,0±0,8	-	-
Mood	m	5,86±0,29	5,82±0,12	7,49±1,79	6,57±0,08	6,1±0,8
	w	6,02±0,11	6,07±0,32	5,2±0,2	-	-
Stress resistance	m	35,78±2,09	29,85±1,41	27,57±1,57	30,0±2,47	29,0±8,0
	w	30,13±1,13	35,67±2,4	28,0±1,0	-	-

In the process of studying the students` stress resistance of the studied sample, somewhat unexpected results as for boys and as for girls have been found. Specifically, only one student with moderate stress resistance was identified in the 1st group of boys, while all others (n = 8) had a reduced level of stress resistance. In the 1st group of girls, only 1 student had a high level of stress resistance, 16 students – with

average level, and all others – 23 persons had also low level of stress resistance. In the 2nd group of boys (n = 34), only 12 students were with a moderate level of stress resistance, all others – with reduced level of stress resistance. The girls of the 2nd group (n = 3) also had low levels of stress resistance. Among the boys of the 3rd group (n = 34) there was only one high stress resistance student, 16 persons were with average level, and 17 students had low stress resistance level. The 3rd group of girls (n = 2) characterized by average level of stress resistance. In the 4th group of boys (n = 11) only 3 students were with average level of stress resistance, while the other 8 students were with low level. One boy of the 5th group had average and one – low level of resistance to stress.

In the study, we used correlation analysis to identify the degree of causality of students' level of physical condition from the cardiovascular and psycho-emotional characteristics, which were analyzed above and to determine the hierarchy of existing dependencies (see fig. 1).

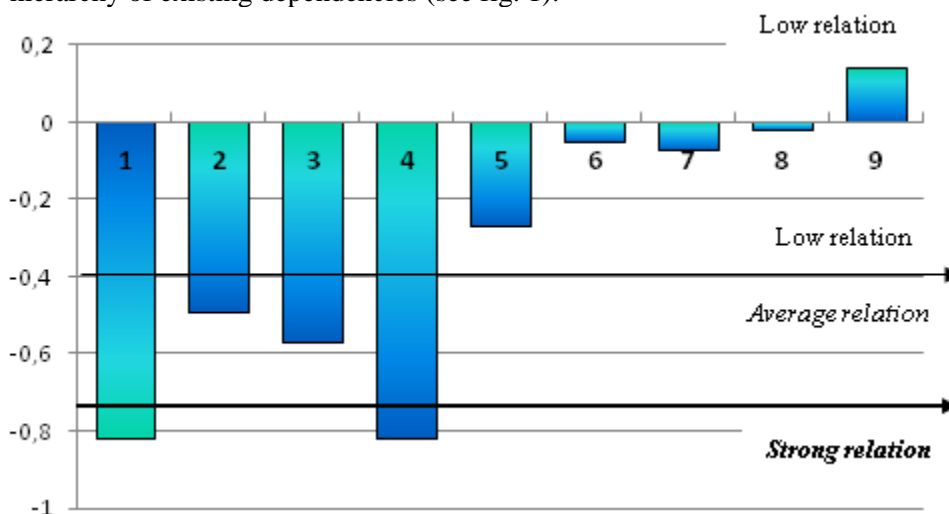


Fig. 1. Correlation between the LPhC and Cardiovascular, Psycho-Emotional Indicators

Notes: 1 – HR; 2 – BP_{syst.}; 3 – BP_{diast.}; 4 – AP; 5 – KVI; 6 – well-being; 7 – activity; 8 – mood; 9 – stress resistance.

The strongest feedback was observed between the LPhC and indicators such as HR and AP ($r = -0,82$). The average correlation dependence recorded between the LPhC and the BP_{syst.} and BP_{diast.} ($r = -0,49$ and $r = 0,57$ respectively). A low correlation ($r \leq 0,3$) was found between the other indicators of study and the LPhC.

Discussion. In scientific research, a methodological scheme is common, particularly the division of participants into groups depending on the level of physical condition. The analysis of scientific sources and own researches give basis to suggest that there are quite a number of factors affecting the physical condition of students, and also, the physical condition significantly influences a number of indicators of students' vital activity. According to H. Hryban, the physical condition of students by the HR and level of BP at rest can be characterized as lower than average and low [4]. S. Chernihivska makes more explicit calculations: 5,56 % of girls are characterized by above the average level of physical condition, 38,88 % of girls have the average level and 55,56 % – the below average level. The boys are characterized by the average LPhC (4,35 %), below the average – 73,92 % and the low – 21,73 % [11]. So, lower than the average of LPhC is dominated both boys and girls – students of higher education institutions. It is forecasting much higher indicators for students of the Faculty of Physical Education. According to the results of our study, the above average and average LPhC is dominated for boys. Unexpected results were obtained in the group of girls, namely 88,9 % of female students had high LPhC and don't have below average and low of LPhC.

Scientific studies clearly indicates that physical activity has a positive and protective effect on the cardiovascular system. V. Drogomeretsky's researches [14] confirm the importance of the cardiovascular system as an indicator of students' load transfer. Changing the functional state of the organism in the process of physical culture and sports allows to achieve energy-efficient activity, which is a prerequisite for the optimal state in the new conditions of adaptation. The role of the autonomic nervous system is crucial in the regulation and adaptation of the body to regular physical loads. Thus, when assessing the index of vegetative regulation (IVR), we noted a large group of students with a vegetative balance, which is explained by the adaptation of the body to physical loads. However, every third student was recorded by a high-grade

vagotonia. Such a pattern is fully consistent with the conventional notions of economizing the work of the human body at rest under the influence of regular physical loads.

Scientists [15] note that the determination of the adaptive potential of students-athletes and its dynamics should be taken into account in order to optimize physical activity and increase the efficiency of their education. The tension of the adaptive potential of the circulatory system was detected during the study in 58-74% of students (R. Potashniuk, I. Potashniuk, H. Ivanova and others, 2002). The correlation between levels of satisfactory adaptation and tension of adaptation mechanisms among boys and girls was determined by Z. Leontieva. Among girls there was a greater number of persons with satisfactory adaptation than among boys, which, in the author's opinion, is related to hormonal differences, also fewer people with bad habits and greater resistance to stress and adverse environmental factors. L. Arabadzhy notes that the number of students with the tensing of adaptation mechanisms increases significantly with age (from 17 to 23 years), linking this fact with the negative impact of urbanization, with significant educational overload and lack of physical activity of student youth. In totality, scientists are in solidarity in the statement about increasing the adaptive potential of boys and girls' body under the influence of prolonged physical loads [1]. The above data are consistent with the obtained results: 60 % of boys and 88,9 % of girls have a satisfactory level of adaptive potential among students. The majority of students with the tensing of adaptation mechanisms are found in groups with average, below average, and low LPhC among boys, and in groups with higher average and average LPhC for the girls.

Some researchers note that there is a relationship between students' motor activity and their emotional state. They indicate the average and high levels of WAM parameters under a high level of motor activity, based on the existing correlation between these parameters [8, 10]. The obtained results confirm this course only with respect to the scales of «well-being» and «mood». At the same time, the results on the scale of «activity» are overwhelmingly unsatisfactory as for girls as for boys of different groups of the LPhC. We assume that under the concept of «activity» students have understood directly physical activity, and since the study was conducted during practical classes of the classroom type, students also transferred their temporary physical passivity into the unsatisfactory «activity».

Studying the level of students' stress resistance of the Faculty of Physical Education, S. Kots and co-authors have found that 48 % of students have a poor prognosis, that is, poor mental stability, 45 % have less poor prognosis (satisfactory mental resistance) and 7 % have high neuropsychiatric resistance [6]. The results obtained by us in the study of students' stress resistance of the Faculty of Physical Education also had the same tendency. In particular, among boys, 62,2 % of persons with a low level of stress resistance, 36,7 % of students with an average level of stress resistance, and only one student (1,1 %) with a high stress resistance were found. Among girls, 57,8 % of persons with low level of stress resistance, 40,0 % with an average level and only one student (2,2 %) with high stress resistance were identified. Sustainable behavior of a person under stress is one of the important psychological factors in ensuring its successful overcoming. Currently, despite the sufficient number of research papers on this problem, there is no clarity in understanding the essence of stress, the role of the psyche in its provision and features of manifestation in different situations. Note that physical and mental loads are largely determined by the degree of mental tension that a student is experiencing. In this respect, the education at the Faculty of Physical Education is specific, because fully adaptation to the loads is impossible without a well defined mental tension, stress, high level of training and readiness for effective competitive activity. The identified pattern requires finding effective coping strategies of the stress overcoming by such students.

The results of the correlation analysis, which revealed a low link between the LPhC and the students' stress resistance. Objective and subjective circumstances, in particular, the characteristics of the extreme situation and the individual psychological characteristics are significant determinants. At the same time, we should also remember the physiological cost of success: active, ambitious, impatient, restless, success-oriented people are more stressed than people with low level of aspirations which do not claim high status in society. The strongest feedback was observed between the LPhC and the indicators such as HR and AP ($r = -0.82$). The average correlation recorded between the LPhC and the BP_{sys} , BP_{diast} ($r = -0.49$ and $r = -0.57$ respectively). That is explained by the fact that the LPhC is calculated by these indicators. A negligible correlation ($r \leq 0.3$) was found between the other studied indicators and the LPhC.

The Conclusions. During the study, it was found:

1. The boys are characterized by the above average and average LPhC. The high LPhC (88,9 %) and the absence of lower average and low LPhC were recorded in the group of girls.

2. A significant group of students with vegetative balance was noted. Every third student has a marked vagotonia, which is completely consistent with the conventional ideas about economizing the work of the human body at rest under the influence of regular physical loads.

3. 60 % of boys and 88,9 % of girls have been found with a satisfactory level of adaptive potential. The majority of students with the tension of adaptation mechanisms was found in groups with average, below average, and low LPhC among boys, and in groups with higher average and average among girls. Such results should be regarded as a manifestation of a long-term adaptive response to physical loads.

4. Average and high levels of WAM parameters were established under the high level of motor activity. As an exception, the results on the «activity» scale are overwhelmingly unsatisfactory for girls as well as boys, of different LPhC groups. Normal assessments of the psycho-emotional state of students-athletes support an adequate level of adaptation processes formation.

5. 62,2 % of students with reduced level of stress resistance and 36.7 % with an average level of stress resistance were identified among boys. 57,8 % of persons with reduced level of stress resistance and 40,0 % of female students with an average level were found among girls. This situation indicates the presence of stressful situations in the lives of these students and their low resistance to them.

6. We consider that acquaintance and learning methods of increasing stress resistance will have a positive effect on reducing the number of students with low level of stress resistance among students of the Faculty of Physical Education. Also it will give the opportunity to reduce emotional tension, that leads to a decrease in functionality, diseases, distress.

7. The strongest adverse impact was observed between the LPhC and indicators such as HR and AP; the average correlation recorded between the LPhC and the BP_{syst} and BP_{diast} .

Obtained results give an evidence of students' physical condition, that consists of physical development, physical readiness and functional capabilities of the body. The scientifically substantiated educational process and the modernization of the methodological system of education at the Faculty of Physical Education will allow to manage the students' physical condition. Knowledge of the objective laws of the process of physical education will lead to the optimal direction of improvement of organism functions and to increase work capacity and physical readiness of students in accordance with certain physical loads.

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Стаття надійшла до редакції 29.09.2020 р.