

# ФІЗИЧНЕ ВИХОВАННЯ ТА СПОРТ

**у контексті державної  
програми розвитку фізичної культури в Україні:  
досвід, проблеми, перспективи**

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<b>Пазіна В. О.</b> Розвиток спортивної гімнастики на Житомирщині у післявоєнні роки .....	188
<b>Попович О. І. / Ророчух О. І.</b> Взаємозв'язок психофізіологічного стану студентів-жінок з рівнем їх рухової активності / Relationship of the mental and physical states of female students with the level of their motor activity .....	191
<b>Свістельник І. Р.</b> Формування електронного галузевого інформаційного ресурсу у ВНЗ фізкультурного профілю .....	194
<b>Сіпліва М. О.</b> Формування позитивної мотивації у студентів до занять фізичною культурою засобами степ-аеробіки .....	196
<b>Стасюк Р. М., Смірнова К. Р.</b> Формування у студентів свідомого ставлення до фізичного вдосконалення в процесі фізичного виховання .....	199

**НАПРЯМ IV.**  
**ФІЗИЧНА РЕАБІЛІТАЦІЯ, ФІЗИЧНА РЕКРЕАЦІЯ,  
МЕДИКО-БІОЛОГІЧНІ ОСНОВИ ФІЗИЧНОГО ВИХОВАННЯ ТА СПОРТУ**

<b>Абдуллаев А. К., Ребар И. В., Нестеров А. С.</b> Процессы восстановления водного баланса спортсмена .....	202
<b>Андрійчук О. Я.</b> Рекреаційно-туристичне державне регулювання .....	205
<b>Бойко Г. М.</b> Корекційна спрямованість інклюзивного навчання студентів з особливими освітніми потребами в системі фізичного виховання молоді .....	207
<b>Бринзак В. П., Милов О. А.</b> Фізичне здоров'я школярів 7-8 років, що займаються хортингом .....	210
<b>Гацосва Л. С.</b> Теоретичний аналіз проблем адаптивного фізичного виховання .....	213
<b>Ковінько М. С., Драчук А. І., Шевчик Л. М.</b> Шляхи оптимізації занять фізкультурно-оздоровчої спрямованості .....	216
<b>Кокарева С. М., Щербій С. А.</b> Дослідження стану здоров'я спортсменів різної кваліфікації, що займаються фітнес-багатоборством «Стренфлекс» .....	220
<b>Корнійчук Н. М., Ляшевич А. М., Киричук В. О.</b> Перебіг адаптаційних процесів та формування стресостійкості студентів молодших курсів факультету фізичного виховання і спорту .....	223
<b>Крук А. З., Крук М. З.</b> Особливості морфофункціональних показників плавців-стаєрів .....	227

RELATIONSHIP OF THE MENTAL AND PHYSICAL STATETES OF FEMALE  
STUDENTS WITH THE LEVEL OF THEIRVMOTOR ACTIVITY

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The development of the national system of education has activated the pedagogical searches, specially the searches of optimal organization of educational process, which embodies practical operations such as planning, pedagogical analysis, adjustment, collection of information, analytical evaluation of information, control, stimulation. Poignancy of the problem is understandable. Appreciable mental intensions and physical capacities coincide to the fate of the modern young people, which appears in the way of life and during educational process.

**The production of the problem** we can formulate in such a way. Educational activity of the female students is not characterized only by the earning the new condition of the education. It appears with the normalization of the degree of physiological reserves of the body, forming of the social psychologic relations and the abasement of the outment.

The dynamics of the indicators of the physiological reserves of the body differs by the reliable abasement of their level during the first period of the education. It is associated with the highest degree of the intension of the adaptational mechanisms in this period. It is associated also with their further increase to the level which corresponds with the new condition of the functioning of the body and the demonstration of the super compensation effect.

Evidently, the individualities of the state of the health of the female students imprint the dynamic of the intension of the adaptational mechanisms to the new conditions of the professional education, which abases the recitation of the body and it is affirms by the alternation of the immune status. Detected upheavals of the immune status can be qualified as the fractionally expressed state of immunodeficit, which proclaims about the disfunction of the body systems. The state of the female students` health is characterized by the maximum level of the common ailment at the first educational year with the next reliable abasement at the second educational year; the distinct tendency of the amendment of the state of health from stage to stage; the typical structure of the ailment with the advantage of the nosological forms which are belonged to the first class of infectious diseases (acute respiratory infections, anginas), and the eighth class (acute bronchitis and pneumonias) of the medical nomenclature. The main features of the social and mental characteristics of the female students consist in the high level of the motivation and the educational complacence with the priority of the motives by the choice of the specialization and the economical interest by the ascertainment of the profession and also by the forming of the social psychological relations during the all educational period.

**The aim of the given research** consists in the examination of the effect of the degree of the female students` motor activity to the success of their education, physical preparation, the degree of their functional resources endurance, mental and physiological state and mental function.

**The statement of the main matter** The adaptational process of the female students to the new conditions of the educational and professional activities passes the range of the stages. The first stage is the destabilization. It is characterized by the increasement of the educational effectiveness and it is accompanied by the adaptational mechanism and the destabilization of the physiological functions and the state of health. The second stage is the forming of the adaptation (the duration of it s up to the 1 year and a half). It is characterized by the alteration by the body to the level of functioning which is adequate to the new conditions of the livelihood.

Chart 1

Dependence of the degree of the professional qualification the content of the moving activity

Content of motor activity	$\bar{X} \pm m$	Reliability of the differences
high	6.34±0.36	0.05
low	4.21±0.41	

The third stage is the ending of the adaptation which lasts to the graduating of the higher education. It is characterized by the stable indicators of the health state and the functional state of the body by the finishing of the social and mental relations.

The adaptation of the female students has got a number of features which distinguish them from the male student. They are the higher success, the divergences that concern the motivation sphere and the dynamics of the forming of the social and mental relations in the educational process; the higher degree of ailment and their specific structure; the existence of the neurocircular distonia, gynecological diseases and the ailments of the urinary-genital organs, more constitutive upheavals in the immune status; the contradiction in the dynamics of the physiological reserves of the body that changes in the lesser degree then in the male students during the first educational year and increases more in the next years. These features testify about more consequential "price" of the female students` adaptation to the new condition to the new conditions of the professional activity.

The results of the research of the dependences of the degree of the professional qualification from the range of the women`s motor activity are introduced in the chart. From the chart we can see that the female students who have got the bigger amount of motor activity have got the higher ability to study to study at the Universities .It is testifies about the necessity to enter of the great number of movements to the educational process. To identify the degree of professional preparedness we have calculated the correlation between these indicators as the result the percentage of the correlation was 0,301 (P<0, 05).

Chart 2

**The characteristics of the dependence of the degree of the physical preparation on the content of the motor activity**

indicators	Content of motor activity	$\bar{X} \pm m$	Reliability of the differences
Pulling up the bar	High	4.01±1.12	----
	low	0.16±0.21	
Running on 1000 m	high	262.4±2.13	0.01
	low	299.5±4.9	
Shuttle run 10*10 m/c	High	31.12±1.06	
	low	34.9±1.11	
KSU	high	31.2±0.72	0.05
	low	34.79±09	
Angle in reliance on the bars	high	3.23±0.41	
	low	0.42±0.11	
Jumping over the goat	high	7.28±1.2	
	low	8.72±0.88	
Static endurance of the back muscles	high	53.4±2.1	0.01
	low	37.1±1.17	
Hang on bent hands	high	16.4±0.17	0.05
	low	1.27±0.56	
Lifting legs on the shots	high	7.2±0.2	
	low	2.12±0.24	
Flexion and extension arm lying in the resistance	high	29.4±3.29	0.05
	low	18.91±5.16	
Maintenance dumbbells	high	19.51±0.61	0.05
	low	10.17±49	

The research of interrelation of the groups that have different degrees of the motor activity with the indicators of their preparation according to the different physical exercises, suggests the dependence of the degree of the physical qualities development from the motor activity. The results of the research we can observe in the chart 2.

From the chart we can see that the development of some physical qualities is in accurate dependence from the content of the motor activity. The indicators differ in running to the distance of 1000 m. with the high degree of reliability ( $P \leq 0, 01$ ) and in the static endurance of the back muscles. The differences are also significant of the polar groups from the indicators static endurance of the muscles of the upper shoulder girdle ( $P \leq 0, 05$ ) [3, 4].

The differences in practices that characterized the speed and power of the hand and abdomen muscles are not reliable. The study of the interrelations of indicators of the functional state of the students with the different degree of motor activity has conducted by the same method (chart 3).

Chart 3

**The characteristics of the dependence of the functional state indicators on the content of the motor activity**

Indicators of the functional state	Amount of the motor activity	$\bar{X} \pm m$	Reliability of the differences
HR	high	72.3±0.44	
	low	71.8±0.56	
Sample stange	high	46.4±2.17	0.05
	low	34.6±1.51	
IPC	high	29.7±0.36	
	low	27.8±0.46	
Functional indictor	high	32.96±1.09	0.05
	low	29.19±1.56	
Step test	high	74.8±2.47	0.05
	low	65.4±3.05	
Factor Skybynskyi	high	34.7±1.46	0.05
	low	29.7±1.45	

According to the table we can see that the degree of the functional capacity of the audience`s body depends on the level of the motor activity. There are significant differences in terms of samples in women who have high degree of motor activity that characterized the state of the cardiovascular and respiratory systems.

The differences of the polar groups on the indicators of the IPC and step test tell about the degree of the fitness of the subjects which is higher in the group with the bigger motor activity.

The reliable differences in the polar groups in the functional indicators characterize the differences in the amount in the functional reserves of the body [1, 2, 6].

The results of the correlation analysis of the dependence of the women functional state indicators of the degree of motor activity indicate the great closeness of the relation between the state of the cardiovascular and respiratory systems and the degree of motor activity. The degree of fitness and the level of the development of the functional reserves of the body depend also on the degree of motor activity (chart 4).

Chart 4

**Correlation dependence between the functional indicators and the degree of motor activity**

Functional indicators	r	p
HR	0.021	
Sample stange	0.423	0.05
IPC	0.318	0.05
Functional state	0.285	0.05
Step test	0.344	0.05
Skybyskyi factor	0.492	0.05

The research of the interrelation of the mental and physical state of the female students was conducted by us on the background of fatigue after 6 hours strenuous mental work. The aim of the research was to indentify some indicators of mental functions and self-esteem of the mental and physical condition in terms of long fixity depending on overall level of the students.

Chart 5

**Results obtained during of the search are presented in the chart**

indicators	Level of motor activity	Time of the research		Reliability of the difference (P)
		before	after	
Concentration and firmless of attention	high	0.23±0.41	6.19±0.41	----
	low	6.29±0.39	5.22±0.14	0.05
Switching and distributing of attention	high	6.38±0.31	6.12±0.16	-----
	low	6.41±0.41	5.14±0.25	0.05
Performance thinking	high	5.97±0.39	5.14±0.44	0.05
	low	6.22±0.27	5.21±0.21	0.01
Mental and physical state	high	7.03±0.14	6.56±0.41	0.05
	low	6.87±0.21	3.85±0.12	0.01

From the chart we can see that women who have higher degree of motor activity have the great number of indicators of the mental and physical functions of the body to the hypodynamic schedule of the activity.

In the students of the both groups we can observe the reduction of all indicators. But in the group with the low suggests a lower degree of fatigue mental functions and psychophysiological state indicating that the muscular activity of this group to the negative effects of the physical activity.

Indicating the degree of the correlation development of the mental and physical state indicators of the students after the 6 hours of inactivity with the degree of the motor activity suggests the existence of such connection.

Chart 6

**Correlation between the indicators of the mental functions and self-esteem of the mental and physical state and the degree of the motor activity**

Indicators of the functional state	r	p
Concentration and firmless of attention	0.427	0.01
Switching and distributing of attention	0.316	0.05
Performance thinking	0.431	0.01
Mental and physical state	0.296	0.05

**Conclusions:** conducted researches define the orientation of the entire system of physical education of the female students whose educational activity is characterized by hypodynamic character, partly decide the problem of their form content. In such a way for increasing the level of physical fitness for the successful solution of problems of the educational process, for increasing of the functional reserves of the body, for increasing body resistance of the female students to the action in reduced activity for the support of physical performance and also to improve the function of the cardiovascular and respiratory systems of the body we need to use the detected temporary reserves for the increase of the method activity during the increase of studying process and private time [5, 6].

*Prospects for further researches* Further efforts will be directed to the experimental reasoning of the organization contents and methods of the realization of the different forms of physical education of the female student considering the specificity of the profession activity.

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#### **ANNOTATION**

#### **RELATIONSHIP OF THE MENTAL AND PHYSICAL STATETES OF FEMALE STUDENTS WITH THE LEVEL OF THEIRBMOTOR ACTIVITY**

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In the article we observed the problem of adaptation of the female students to the new condition of educational process and the effect of the degree of motor activity to the success of education.

**Keywords:** physical education, physical preparation, mental and physical state, motor activity, state of health.

#### **ВЗАЄМОЗВ'ЯЗОК ПСИХОФІЗІОЛОГІЧНОГО СТАНУ СТУДЕНТІВ-ЖІНОК З РІВНЕМ ЇХ РУХОВОЇ АКТИВНОСТІ**

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В статті розглядається питання адаптації студенток до нових умов навчально-виховного процесу, вплив рівня рухової активності на успішність у навчанні. Експериментально підтверджено, що жінки, які мають більш високий рівень рухової активності, мають більшу стійкість до гіподинамічного режиму діяльності.

**Ключові слова:** фізичне виховання, фізична підготовленість, психофізіологічний стан, рухова активність, стан здоров'я.

#### **ВЗАИМОСВЯЗЬ ПСИХОФИЗИОЛОГИЧЕСКОГО СОСТОЯНИЯ СТУДЕНТОВ-ЖЕНЩИН С УРОВНЕМ ДВИГАТЕЛЬНОЙ АКТИВНОСТИ**

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В статье рассматривается вопрос адаптации студенток к новым условиям учебно-воспитательного процесса, влияние уровня двигательной активности на успеваемость в учебе. Экспериментально доведено, что женщины, которые имеют более высокий уровень двигательной активности, имеют более высокую устойчивость к гиподинамическому режиму деятельности.

**Ключевые слова:** физическое воспитание, физическая подготовленность, психофизиологическое состояние, двигательная активность, состояние здоров'я.