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TÍTULO: Dinámica del estado psicoemocional y características psicológicas individuales de los estudiantes en el proceso de clases de educación física.

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RESUMEN: El artículo presenta los resultados de la investigación de la dinámica del estado psicoemocional y las características psicológicas individuales de los estudiantes durante la educación física. 60 estudiantes participan en la investigación. El nivel de extraversión, la estabilidad emocional y el tipo de temperamento se determinaron de acuerdo con la metodología de H. Eysenck. La evaluación del bienestar, la actividad y el estado de ánimo se realizó mediante la

prueba WAM. La diferenciación de las clases de educación física, aplicando ejercicios físicos de acuerdo con el temperamento de los estudiantes, está determinada a influir positivamente en su estado emocional y sus características psicológicas individuales. Los estudiantes de los grupos experimentales definen tener mejores indicadores de bienestar, actividad, estado de ánimo, extraversión e introversión, y neuroticismo que los estudiantes de los grupos de control al final del experimento.

PALABRAS CLAVES: estudiantes, educación física, estado emocional, características psicológicas individuales.

TITLE: Dynamics of psycho-emotional state and individual psychological characteristics of students in the process of physical education classes.

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ABSTRACT: The article presents results of the investigation of dynamics of psycho-emotional state and individual psychological characteristics of students during physical education. 60 students were part in the research. The level of extraversion, emotional stability, and type of temperament were determined according to the methodology of H. Eysenck. The assessment of well-being, activity, and mood was carried out using the WAM test. The differentiation of physical education classes, applying physical exercises according to the students' temperaments, is determined to influence their emotional state and individual-psychological characteristics positively. The students of experimental groups are defined to have better indicators of well-being, activity, mood, extraversion and introversion, neuroticism than those of control groups at the end of the experiment.

KEY WORDS: students, physical education, emotional state, individual-psychological characteristics.

INTRODUCTION.

The success of training young people in educational institutions depends on many factors, one of which is the physical education system which is considered in the context of the general system of the formation of highly qualified specialists (Bliznevsky, et al., 2016; Bolotin, & Bakayev, 2015; Griban, et al., 2019; Kharchenko, O., Kharchenko, N., & Shaparenko, 2019; Leuciuc, 2018; Prontenko, et al., 2019; Shkola, et al., 2019). The necessary condition is the differentiation of physical education for the students of different specialties (or groups of specialties) (Prysiazhniuk, et al., 2019; Kuznetsova, 2018; Shuba, L., & Shuba, V., 2017; Tymoshenko, et al., 2019; Zhamardiy, et al., 2019). It is connected with the fact that professions, depending on their specificity, differ in psychophysiological characteristics and working conditions, making proper requirements for the organism of future specialists.

The individual approach to students and differentiation, as a means of its realization, are of particular importance in the training process of physical education. The results of studies (Edwards, Stephen, & Clive, 2004; Herdem, D. Ö., 2019; Kozina, Baryibina, & Grin, 2010; Nemov, 2003; Ueynberg, & Gould, 2001) show that students are characterized by different ratios of individual-psychological characteristics that significantly affect the results of their physical state. The awareness of these individual features helps a teacher to solve the issues of optimization of physical and health care activity, preparation for skilled professional work successfully.

DEVELOPMENT.

Methodology.

The aim of the work is to investigate the dynamics of psycho-emotional state and individual psychological characteristics of the students of a higher educational institution (HEI) in the process of physical education classes.

The tasks were:

1. To analyze the level of psycho-emotional state and individual psychological characteristics of students during the day, depending on gender, year of study.

2. To substantiate the authors' program of the physical education of students, taking into account their psycho-emotional state and individual psychological characteristics, and check its efficiency.

The investigation was held at the National University of Water and Environmental Engineering (Rivne, Ukraine) in 2017–2018.

In order to solve the first task, an ascertaining experiment was organized in 2017 which involved 388 male (n=175) and female (n=213) students of the 1st – 4th years of studying (the 1st grade – n=88; the 2nd grade – n=141; the 3rd grade – n=93; the 4th grade – n=66). To accomplish the second task of the study, a formative pedagogical experiment was conducted in 2017–2018.

Two experimental (n=139) and two control (n=133) groups, including the students of the 1st – 2nd grades (male and female), were formed. The EGm experimental group comprised 60 male students, and EGf comprised 79 female students; the control group CGm – 52 male students, CGf – 61 female students.

The students of the experimental groups were engaged in the sectional form of physical education classes, applying the authors' program, according to which the means of physical education and physical activity were differentiated depending on the temperament of the students. The students of the control groups attended traditional physical education classes at HEI. The number of hours of physical education per week was the same for the experimental and control groups and it accounted for 4 hours a week. The indicators examination of the students of the experimental and control groups at the beginning of the experiment showed that the groups were homogeneous.

The level of extraversion, emotional stability, and type of temperament were determined according to the methodology of H. Eysenck (Eysenck, H., & Eysenck, S., 1964). The questionnaire test of H. Eysenck includes 57 questions that can be answered "yes" or "no". The indicators are measured in points by the number of answers which correspond to the questions of the scales. The levels of extraversion – introversion, neuroticism – were determined by tabular values.

The results obtained were the basis for determining the types of temperament. Extraversion and emotional stability respond to sanguine temperament. Choleric temperament is characterized by extraversion and neuroticism, that is, emotional changeability, phlegmatic temperament – introversion and emotional stability, melancholic temperament – introversion and neuroticism. The assessment of well-being, activity, and mood was carried out using the WAM test (Kudryashov, 1992; Marischuk, Bludov, Plahtienko, & Serova, 1984; Raygorodskiy, 2001). The essence of the assessment was that the students had to correlate their condition with a number of characteristics concerning a multistage scale. The scale consisted of indexes and it was located between thirty pairs

of words of opposite meaning, reflecting mobility, speed, and pace of functions (activity), strength, health, exhaustion (state of health), as well as characteristics of emotional state (mood). The students should have selected the figure that reflects his condition during the survey the most accurately.

The methods of investigation: theoretical analysis and generalization of scientific and methodological literature, pedagogical observations, testing, pedagogical experiment, methods of mathematical statistics.

In the work, the authors were guided by the international ethical rules of scientific publications, including the rules of decency, confidentiality, selflessness, universalism, tolerance, openness to the scientific community and others. The work contains novelty and validity of the actual material; allows reproducing experimental data using the methods mentioned. It is compulsory to refer to someone else's ideas when accurately citing the source. The conclusions of the completed study are objectively stated. The manuscript is designed in accordance with the requirements of the journal. The obligatory references to other people's ideas, when the sources cited, are made. The conclusions of the completed study are objectively stated. The work is designed in accordance with the requirements of the journal.

Results and discussion.

Any physiological function that affects motor activity is to some extent regulated and controlled by the nervous system (Wilmore, & Costiill, 2004; Kyrylenko, 2001; Ganyushkin, 2002).

The characteristics of the type of nervous system are the physiological basis on which the psychological qualities of a person develop. The development of psychological characteristics is conditioned by physiological features and living conditions. Individually-psychological features are called the peculiar properties of the mental activity of an individual which are reflected in temperament, in nature, in the motivational sphere and abilities (Batarshev, 2007). No

psychological characteristic of a student can be considered as a simple reflection of the physiological displays of the nervous system, although the nervous system imposes affects the development of all psychological qualities: some of them – to a greater extent, the other – to a lesser extent. Hence the problem of studying the dependence of student performance on their psychological properties arises.

Emotional processes affect various regulatory functions of mentality and they are associated with the management of the psycho-emotional state. The psycho-emotional state is an integral characteristic of mental activity during a separate period of time, showing the course of mental processes depending on the reflection of objects and reality phenomena, previous states of mental characteristics of a personality (Korolchuk, & Kraynyuk, 2006; Maklakov, 2008).

The psycho-emotional states are the changing states of a person. The study considered that some of the students' chronic illnesses, such as gastritis, cholecystitis, heart disease, etc., can significantly affect their emotional state, vitality, activity, and desire to exercise. The studies of the emotional state showed that the indicators of the male students' self-esteem were low (5.10±0.99 points), the female students' indicators corresponded to the middle level (4.81±1.06 points) during the research (Table 1).

Table 1. The self-assessment of the emotional state of the students of the 1st – 4th years of studying (n=388, X±m, points).

Indicators	Gender	Year of studying			
		1st	2nd	3rd	4th
Well-being	male	4.95±0.98	5.23±0.82	5.33±0.68	4.90±0.88
	female	5.29±1.12	5.00±0.94	4.61±1.24	4.35±0.94
Activity	male	3.62±0.89	3.57±0.88	3.50±1.04	4.06±0.76
	female	3.37±1.01	3.73±1.06	3.69±1.07	3.95±0.99
Mood	male	5.40±1.08	5.33±1.02	5.61±0.86	5.21±0.78
	female	5.88±1.18	5.62±1.02	5.18±1.32	4.91±0.99

The 4th-year students – both male (4.90±0.88 points) and female (4.35±0.94 points) – had the lowest rates in comparison to the results of the 1st, 2nd and 3rd-year students that was confirmed by the scientists' studies (Beliak, 2014; Dobrodub, 2011; Griban, 2009) that stated that the students of the 3rd – 4th years had high morbidity rates. It is connected with increased intellectual activity and decreased physical activity (Kuznetsova, 2017; Hawley, & Franks, 2000; Cucui, 2018). The self-assessment of activity of all students corresponded to a low level (3.68±0.97 points), the mood assessment - to a high level (5.39±0.97 points).

As a result of the assessment of the students' indicator of activity, the degree of adequacy of emotional response was determined, depending on the events of their life. The factors that significantly influenced the emotional state, in addition to diseases, were emotional and psychological situation in the family and in relationships with teachers and classmates in the study group, relationships with friends and close people. The course of emotional processes during the day and year indicated their change from grade to grade (Table 2).

During physical exercise, the students initially experienced active physical activity, often accompanied by the lack of attention, fast-coming exhaustion, especially during long physical activity. Performing general developmental exercises, short-term physical games, the students initially experienced an active beginning of the motor activity, which often was changed to apathy and drowsiness, exhaustion, frustration, and sometimes even powerlessness. Such phenomena are reflected in the terms "decrease in activity", "apathy", "changes in the motivational and volitional sphere" (Batarshev, 2007; Maklakov, 2008; Ueynberg, & Gould, 2001).

The analysis of the dynamics of emotional state of students of different educational departments (sports, preparatory department for the sport, basic and special medical departments) during the academic year (during the 1st year of studying) showed that the indicators of emotional mental states of the students who had diseases and belonged to special medical department, according to

the opinion of doctors, were the lowest (5.07±1.01 points; 3.68±0.18 points; 5.39±1.09 points respectively), in comparison to the indicators of students of other departments, and they had downtrend during the educational process during the year ($p<0.01$) (Table 3).

Table 2. The self-assessment of the emotional state of the students of the 1st – 4th years of studying during the academic day (n=388, X±m, points).

Indicators	Testing time	Year of studying			
		1st	2nd	3rd	4th
Male students					
Well-being	8.00	5.04±0.82	5.13±0.60	5.18±0.50	5.11±0.57
	9.40	4.99±0.83	5.10±0.58	5.06±0.48	4.91±0.56
	11.15	4.96±0.82	5.07±0.54	4.88±0.47	4.73±0.56
	13.00	4.90±0.84	5.03±0.52	4.70±0.44	4.56±0.57
	14.35	4.81±0.85	4.92±0.52	4.60±0.44	4.39±0.52
Activity	8.00	3.65±0.79	3.56±0.61	3.57±0.60	3.87±0.52
	9.40	3.66±0.78	3.58±0.61	3.72±0.53	4.06±0.50
	11.15	3.63±0.72	3.70±0.56	3.90±0.47	4.22±0.48
	13.00	3.65±0.80	3.79±0.50	4.03±0.41	4.38±0.45
	14.35	3.63±0.80	3.84±0.52	4.03±0.41	4.38±0.45
Mood	8.00	5.44±0.73	5.27±0.84	5.42±0.62	5.35±0.60
	9.40	5.43±0.72	5.27±0.74	5.29±0.57	5.15±0.58
	11.15	5.40±0.70	5.26±0.77	5.13±0.73	4.96±0.58
	13.00	5.39±0.71	5.19±0.77	4.92±0.49	4.76±0.56
	14.35	5.36±0.70	5.17±0.75	4.85±0.51	4.66±0.56
Female students					
Well-being	8.00	5.35±0.84	4.90±0.66	4.60±0.92	4.49±0.75
	9.40	5.33±0.82	4.92±0.58	4.52±0.79	4.29±0.74
	11.15	5.29±0.81	4.79±0.53	4.36±0.76	4.06±0.69
	13.00	5.24±0.79	4.59±0.52	4.17±0.72	3.91±0.63
	14.35	5.21±0.79	4.49±0.52	4.10±0.69	3.84±0.61
Activity	8.00	3.36±0.77	3.67±0.72	3.64±0.78	3.90±0.75
	9.40	3.38±0.78	3.85±0.58	3.81±0.69	4.07±0.71
	11.15	3.38±0.77	4.02±0.51	4.00±0.61	4.28±0.70
	13.00	3.35±0.77	4.16±0.50	4.18±0.58	4.45±0.66
	14.35	3.37±0.76	4.16±0.50	4.18±0.58	4.45±0.66
Mood	8.00	5.91±0.93	5.41±0.72	5.14±0.96	4.94±0.74
	9.40	5.87±0.89	5.26±0.60	5.01±0.89	4.73±0.73
	11.15	5.88±0.90	5.05±0.54	4.81±0.86	4.53±0.73
	13.00	5.90±0.92	4.84±0.53	4.61±0.84	4.35±0.69
	14.35	5.88±0.90	4.73±0.53	4.52±0.83	4.26±0.68

The students of the sports department (6.43±0.07 points; 2.71±0.04 points; 6.27±0.08 points respectively) and the preparatory department for the sport (5.74±0.06 points; 2.74±0.09 points; 6.17±0.05 points) showed the improvement of the self-esteem results in the 2nd term.

Table. 3. The self-assessment of the emotional state of the students of the 1st - 4th years during the academic year (n=388, X±m, points).

Indicators	Training departments			
	Sports	Preparatory department for the sport	Basic	Special medical
The 1st term				
Well-being	5.85±0.87	5.73±0.02	5.35±0.10	5.07±1.01
Activity	2.79±0.60	2.73±0.85	3.28±0.78	3.68±0.18
Mood	6.01±0.02	6.11±0.40	5.78±1.19	5.39±1.09
The 2nd term				
Well-being	6.43±0.07	5.74±0.06	5.30±0.11	5.00±1.02
Activity	2.71±0.04	2.74±0.09	3.27±0.89	3.12±0.99
Mood	6.27±0.08	6.17±0.05	5.80±1.21	5.22±1.04

The analysis of the quantitative indicators of the individual-psychological characteristics of students showed that female students had extraversion (orientation of an individual to the external environment) (30.56 %) and introversion (inner experience) (30.56 %) displayed more prominent, especially the 4th-year female students (Table 4). A high level of extroversion of male students was observed in the 4th year of studying (46.66 %), a high level of introversion was observed in the 1st year of studying (16.07 %).

The female students had extraversion (30.56 %) and neuroticism (the level of nervous excitement) (62.50 %) displayed more prominent. A high level of the neuroticism of the female students' of the 1st – 2nd years of studying (62.50–56.04 %) characterized their emotional instability. The male students were characterized by even temper, calmness, decisiveness, and reasonable actions. Most of them had a middle level of extroversion (in the 1st grade – 58.93 %; in the 2nd grade – 40 %; in

the 3rd grade – 56.41 %) and introversion (in the 1st grade – 23.21 %; in the 2nd grade – 42 %; in the 3rd grade – 25.64 %, in the 4th grade – 30.00 %) displayed.

Table 4. The quantitative indicators of the students' characteristics of temperament (n=388, %).

The characteristics of temperament	Gender	Year of studying			
		1st	2nd	3rd	4th
A high level of introversion	male	16.07	16.00	15.38	13.33
0–6 points	female	12.50	18.68	29.63	30.56
A middle level of introversion	male	23.21	42.00	25.64	30.00
7–12 points	female	34.37	24.18	25.92	19.44
A middle level of extraversion	male	58.93	40.00	56.41	10.00
13–18 points	female	53.12	42.86	25.92	19.44
A high level of extraversion	male	1.78	2.00	2.56	46.66
19–24 points	female	–	14.28	18.52	30.56
A low level of neuroticism	male	67.86	66.00	71.79	76.67
0–12 points	female	37.50	43.96	59.26	66.67
A high level of neuroticism	male	32.14	34.00	28.21	23.33
13–24 points	female	62.50	56.04	40.74	33.33

The analysis of the average results of the individual-psychological characteristics of students confirmed gender and age differences (Table 5). The indicators of the neuroticism of female students were higher (14.31±5.39 in the 1st grade; 13.14±4.53 in the 2nd grade; 11.64±3.51 in the 3rd grade; 11.19±4.67 in the 4th grade) than the indicators of male students. The best indicator of the male students of the 4th year of study which was 9.60±3.78 points indicated even temper, calmness, decisiveness, and reasonable actions.

The indicators of neuroticism (emotional stability) of both male and female students had a middle degree of resistance (stability) to various irritant factors, except for the indexes of the female students of the 1st (14.31±5.39 points) and the 2nd (13.14±4.53 points) years of studying who were characterized by a high level of neuroticism, including emotional instability, mood changeability, sensitivity as well as anxiety, jealousy, indecisiveness, and slowness. The level of openness (self-criticism) of female students was within the norm; the male students were not open enough. These

differences determined the different levels of physical capacity, time of formation of motor skills and gave rise to the problem of individualization and differentiation of physical education.

Table 5. The indicators of the students' individual psychological characteristics

(n=388, X±m, points).

The psychological characteristics	Gender	Year of studying			
		1st	2nd	3rd	4th
Extraversion	male	14.91±1.65	15.23±2.09	15.08±1.41	15.70±1.96
	female	15.29±2.05	16.15±3.23	17.91±3.42	18.27±3.35
Introversion	male	7.36±3.01	8.34±2.86	8.62±2.94	7.38±4.25
	female	8.06±2.63	6.07±3.81	5.96±3.89	4.50±4.99
Neuroticism	male	10.78±3.85	10.48±4.79	10.64±4.14	9.60±3.78
	female	14.31±5.39	13.14±4.53	11.64±3.51	11.19±4.67

One of the most important structural units of a human psychodynamic organization is temperament. Temperament refers to the primary forms of higher psychological synthesis. Its physiological characteristic is a type of higher nervous activity, determined by the ratio of strength, even temper, motility of the processes of excitation and inhibition (Table 6). The correlation of the type of higher nervous activity and types of temperament is complicated (Batarshev, 2007). The results of the study showed that the majority of the male students of the 1st (42.86 %) and the 4th (53.33 %) years of studying had the sanguine temperament, the 2nd year of studying – phlegmatic temperament (42 %). The determination of the temperament types of female students indicated the supremacy of melancholic temperament in the 1st year (43.75 %) and sanguine temperament in the 4th year of studying (41.67 %).

Temperament can be formed in the process of physical and health care activities. The means of physical education affect the functional features of the nervous system activity as the basis of specific displays of temperament. Some types of physical activity can develop the strength and speed of mental processes, emotional excitement, others, on the contrary, inhibit, suppress activity and slow down mental displays.

Table 6. The results of the determination of the students' types of temperament (n=388, %).

The types of temperament	Gender	Year of studying			
		1st	2nd	3rd	4th
Choleric temperament	male	14.28	20.00	10.26	6.67
	female	18.75	24.18	14.81	8.33
Sanguine temperament	male	42.86	22.00	38.46	53.33
	female	31.25	25.27	33.33	41.67
Melancholic temperament	male	21.43	16.00	17.95	16.67
	female	43.75	32.97	29.63	25.00
Phlegmatic temperament	male	21.43	42.00	33.33	23.33
	female	6.25	17.58	22.22	25.00

During the formative pedagogical experiment, the organization and planning of the classes were carried out concerning the authors' program, according to which the means of physical education and physical activity were differentiated depending on the students' temperament.

Sanguine people are active, cheerful, initiative, jolly. They were offered to attend group training: classical aerobics, step aerobics, aqua aerobics, dance classes, cycling, and also sports games (volleyball, basketball, football). Choleric people are fast, passionate, emotional, unbalanced. Choleric people tend to have emotional outbursts that they need to extinguish. Therefore, they were offered to attend boxing, kickboxing, hand-to-hand combat, karate, Taekwon-do, tennis. On the other hand, temperamental individuals were individually recommended to pay attention to the hasteless training, during which they could calm down, and be alone – swimming or training on a treadmill at a comfortable pace selected depending on the level of physical training and to their favorite music.

Phlegmatic people are calm, slow; they have a stable psyche and stable mood. The quick, active trainings are inappropriate for them – phlegmatic people should perform hasteless training. In this case, golf, Pilates, yoga, stretching, swimming, jogging are perfect. They were also offered to perform exercises on gym machines according to a clearly written program.

Melancholic people are sad and vulnerable. That is why, they were not recommended to attend group classes and team sports. The exceptions were jogging, tennis, badminton with a good friend, or hasteless Mind & Body training (Pilates, yoga) where no one judges anyone. They were also offered to learn dancing individually.

The author's program also introduced methods and techniques of self-regulation of psycho-emotional states – autogenic and ideomotor training which together with self-esteem, contributed to the acquisition of appropriate experience of physical and health care activities and extrapolation of results into life and professional activity.

As a result of the introduction of the authors' program of the physical education of students, taking into account the peculiarities of their temperament, the students' self-evaluation of well-being, activity, and mood became more objective at the end of the pedagogical experiment in comparison to the initial data (Table 7; Table 8). The testing of well-being, activity, and mood was conducted every week at the beginning and at the end of training classes. At the same time, the comparison of the obtained data of different terms confirmed that the most prominent positive influence on the state of health was made by breathing exercises (the indicator was increased by 0.4–0.5 points on average), the least prominent – by healthy walking and jogging (the indicator was increased by 0.1–0.2 points on average). The average well-being of students was normalized: it was changed from 4.59±0.58 to 5.32±0.33 points for male students and from 4.24±0.42 to 4.99±0.49 points for female students.

The similar dynamics were observed for activity indicators: at the beginning of the experiment, the EG students had self-depreciation – by 0.79 points for male students, and by 1.06 points for female students, after the end of the study, it came close to normal. The activity of the EG students, both male and female, had been steadily increased by the end of the practical exercises conducted applying healthy walking and jogging, wellness aerobics, physical games as key types of physical

activity. At the same time, this indicator was increased most significantly after playing games with elements of sports (by 0.5–0.6 points on average). In general, the analysis of the dynamics of activity showed a decrease in this indicator in late autumn, early and late winter, and early spring in all groups.

Table 7. The dynamics of the indicators of psycho-emotional state and individual-psychological characteristics of students (male) in the process of the pedagogical experiment (n=112, points).

Studied indicators	Groups	Initial data	Final data	Change	Significance value	
		X±m	X±m	ΔX	t	p
Emotional state						
Well-being	EGm	4.59±0.58	5.32±0.33	0.78	2.10	<0.05
	CGm	4.29±1.12	4.37±0.99	0.08	1.09	>0.05
Activity	EGm	3.51±0.81	2.72±0.54	0.79	2.09	<0.05
	CGm	3.60±0.65	3.61±0.58	–0.01	1.12	>0.05
Mood	EGm	4.39±0.92	5.07±0.67	0.68	2.19	<0.05
	CGm	4.37±0.87	4.41±0.88	0.04	1.17	>0.05
Individual psychological characteristics						
Extraversion	EGm	16.72±1.96	15.26±1.67	1.46	2.11	<0.05
	CGm	16.54±1.74	16.35±1.62	0.19	0.98	>0.05
Introversion	EGm	7.38±0.75	8.28±0.93	0.90	1.46	>0.05
	CGm	7.42±0.87	7.65±0.82	0.23	1.04	>0.05
Neuroticism	EGm	10.88±0.78	9.92±0.82	0.96	1.49	>0.05
	CGm	11.03±0.86	10.98±0.81	0.05	0.97	>0.05

After the experiment, there was a positive trend in the mood assessment: the mood of male students was changed from 4.39±0.92 to 5.07±0.67 points, the mood of female students – from 4.88±0.65 to 5.96±0.71 points. The test results were in the range of 5.07–5.96 points that corresponded to middle and high grades. The mood had also been steadily increased by the end of the classes which were carried out applying experimental methods. At the same time, this indicator was increased most significantly after breathing exercises and health aerobics (by 0.5–0.6 points on average), the least significantly – after health walking and running (by 0.2–0.3 points on average).

Table 8. The dynamics of the indicators of psycho-emotional state and individual-psychological characteristics of students (female) in the process of the pedagogical experiment (n=140, points).

Studied indicators	Groups	Initial data	Final data	Change	Significance value	
		X±m	X±m	ΔX	t	p
Emotional state						
Well-being	EGf	4.24±0.42	4.99±0.49	0.75	0.98	>0.05
	CGf	4.08±1.08	4.37±1.13	0.29	1.04	>0.05
Activity	EGf	4.37±0.31	3.31±0.29	1.06	2.09	<0.05
	CGf	3.95±0.43	3.30±0.37	0.65	1.03	>0.05
Mood	EGf	4.88±0.65	5.96±0.71	1.08	1.13	>0.05
	CGf	4.64±0.73	5.72±0.79	1.08	1.09	>0.05
Individual psychological characteristics						
Extraversion	EGf	18.04±1.54	17.01±1.42	1.03	1.83	>0.05
	CGf	16.73±1.12	16.31±1.19	0.42	1.14	>0.05
Introversion	EGf	6.32±0.75	7.31±0.71	0.99	1.61	>0.05
	CGf	6.92±0.69	7.02±0.76	0.10	1.16	>0.05
Neuroticism	EGf	14.64±0,97	11.32±0,87	3.32	2.87	<0.05
	CGf	13.31±0.89	12.83±0.76	0.48	1.65	>0.05

At the end of the experiment, a positive trend was observed in the assessment of the individual and psychological characteristics of the EGm students: the indicators of extraversion ($p<0.05$), introversion ($p<0.05$). The level of neuroticism emphasized emotional resistance to various irritants of the EGm students ($p<0.05$). The EGf female students' indicators also had positive changes of extraversion ($p<0.05$); introversion ($p<0.05$); neuroticism ($p<0.01$).

Summarizing the results of the study, it can be concluded that the implementation of the authors' program of the physical education of the students of HEI had a positive effect on the emotional state and individual-psychological qualities of students.

CONCLUSIONS.

The research showed that the well-being self-estimation of male students was low (5.10±0.99 points), the well-being of female students corresponded to the middle level (4.81±1.06 points).

The 4th-year students, both male (4.90±0.88 points) and female (4.35±0.94 points) were determined to have the lowest indicators, in comparison to the results of the 1st, 2nd, and 3rd-year students. The self-assessment of activity of all students corresponded to the low level (3.68±0.97 points), the mood evaluation – to the high level (5.39±0.97 points).

The course of emotional processes indicated their change during the day and year. The students of groups of sports department (6.43±0.07 points; 2.71±0.04 points; 6.27±0.08 points) and preparatory department for sports (5.74±0.06 points; 2.74±0.09 points; 6.17±0.05 points) were observed to have the improvement of self-esteem results in the 2nd term, in comparison to the beginning of the academic year. The analysis of the average results of individual and psychological characteristics of students confirmed the gender and age differences.

The quantitative indicators of individual and psychological characteristics of students showed that female students have extraversion (orientation of an individual to the external environment) (30.56 %) and introversion (inner experience) (30.56 %) displayed more prominent, especially the 4th year female students. A high level of extroversion of male students was observed in the 4th year of study (46.66 %), a high level of introversion was observed in the 1st year of studying (16.07 %).

The implementation of the authors' program into the physical education of students had a positive effect on the psycho-emotional state and individual-psychological characteristics of students. The average well-being of students was normalized: it was changed from 4.59±0.58 to 5.32±0.33 points for EGm students and from 4.24±0.42 to 4.99±0.49 points for EGf students. The similar dynamics were observed for the activity indicators. The mood self-assessment was changed from 4.39±0.92 to 5.07±0.67 points for the EGm students and from 4.88±0.65 to 5.96±0.71 points for the EGf students. The test results were in the range of 5.07–5.96 points that corresponded to middle and high grades.

At the end of the experiment, the male students were observed to have an authentic ($p<0.05$) increase in the indicators of extraversion, introversion, and neuroticism. The EGf female students' indicators also had authentic ($p<0.05$) positive changes of extraversion, introversion, and neuroticism.

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