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FORMATION OF ENVIRONMENTAL AWARENESS OF STUDENTS OF HIGHER EDUCATION IN THE CONTEXT OF PRESERVING THEIR PSYCHOSOMATIC HEALTH

Abstract. The purpose of the article is to determine the relationship between psychological health and environmental awareness of students in higher education institutions. The object of the study is the relationship between psychological health and environmental awareness of students. Research methods. In the course of the research, the following psychodiagnostic tools were tested: the method of determining the semantic differential, the method of determining well-being, mood and activity, the Minnesota multi-profile personality questionnaire, according to which the statistical data of the study were processed, and the qualitative and quantitative indicators of the obtained results were analyzed.

The results. The polarization of students' character accentuations affects the tendency to develop psychopathological traits (psychopathies, acute affective reactions, deviant behavior disorders, neuroses, etc.). Among EG respondents with an average and high level of environmental awareness, the respective indicators are significantly higher and are within the high level, except for activity with an average level of mood, which has an indicator of 1.8. The identified features allow us to follow the trend: with an increase in the level of environmental motivation, the indicators of well-being, activity and mood of the individual will increase. Methods of statistical verification of research results were used to identify the relationship between psychological health and environmental awareness of education seekers and to determine its features, in particular the Pearson test and the SPSS Statistic package version 17. It was established that the features of psychogeny have a psychopathological basis for the development of stress disorders. The personal

profile according to the MMRI in EG (with psychosomatic dysfunctions) differs in content from the CG profile of the respondents, primarily due to social introversion, manifestations of psychasthenia, conflicting internal needs and a tendency to psychosomatize stressful experiences.

Key words: psychosomatic health, environmental awareness, education seekers, institutions of higher education, psychopathological traits.

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ФОРМУВАННЯ ЕКОЛОГІЧНОЇ СВІДОМОСТІ ЗДОБУВАЧІВ ЗАКЛАДІВ ВИЩОЇ ОСВІТИ В КОНТЕКСТІ ЗБЕРЕЖЕННЯ ЇХ ПСИХОСОМАТИЧНОГО ЗДОРОВ'Я

Анотація. *Метою статті* є визначення взаємозв'язку психологічного здоров'я й екологічної свідомості здобувачів освіти в закладах вищої освіти. *Об'єктом дослідження* є взаємозв'язок психологічного здоров'я й екологічної свідомості студентів. У процесі дослідження апробовано такий психодіагностичний інструментарій: методика визначення семантичного диференціалу, методика визначення самопочуття, настрою і активності, Міннесо́тський багатопро́фільний особи́стісний опи́тувальник, згідно яких опрацьовано статистичні дані дослідження, проаналізовано якісні та кількісні показники одержаних результатів.

Поляризація акцентуацій характеру студентів впливає на схильність в розвитку психопатологічних рис (психопатії, гострі афективні реакції, девіаційні розлади поведінки, неврози тощо). У респондентів ЕГ із середнім та високим рівнем екологічної свідомості відповідні показники значно вищі та знаходиться в межах високого рівня, за винятком активності із середнім рівнем настрою, яка має показник 1,8. Виявлені особливості дозволяють прослідкувати тенденцію: при збільшенні рівня екологічної вмотивованості зростатимуть показники самопочуття, активності та настрою особистості. Для виявлення взаємозв'язку психологічного здоров'я й екологічної свідомості здобувачів освіти та визначення його особливостей використано методи статистичної перевірки результатів дослідження, зокрема критерій Пірсона і пакет SPSS Statistic версії 17. Установлено, що особливості психогенії мають психопатологічне підґрунтя для розвитку стресових розладів. Особистісний профіль за ММРІ в ЕГ (із психосоматичними дисфункціями) відрізняється змістовним наповненням від профілю КГ респондентів, в першу чергу, за рахунок соціальної інтровертованості, проявів психастенії, зіткнення протилежних внутрішніх потреб та схильності до психосоматизації стресових переживань.

Ключові слова: екологічна свідомість, психосоматичне здоров'я, здобувачі освіти, психопатологічні риси, заклади вищої освіти.

Formulation of the problem. Society's need for new high-quality educational achievements is a powerful factor influencing the acquirer's personality, which prompts him to change the fundamentals of understanding the relationship between education and personal development. In the classical paradigm of modern education, the decisive role is played by the principle of determinism, which is embodied in the absolutization of the role of the teacher's influence on the student. In the new models of education, the process of development or co-evolution of the teacher and the learner occupies a central place. Realizing the mechanistic nature of scientific development, the classical educational paradigm resorts to optimization, intensification, unification of the educational process with its standardization of programs and plans [1-4].

The new model of education provides for indeterminism, non-linear nature of connections, multivariate solutions, co-evolution, innovative methodologies and methods of thinking development, synergism, alternative, creativity of the teacher and student in their interaction and cooperation, which will form the appropriate level of environmental consciousness of the students of education (I. Boyko, V. Boreyko, I. Viznyuk, S. Dolynnyi, N. Marfenin, V. Oskolskyi, N. Ordatii, O. Palamarchuk, O. Dzekan, O. Fomin, N. Fomina, O. Yanitsky).

The problem of the correlative influence of the state of optimal functioning of the human body on the formation of environmental consciousness of students of higher education institutions remains unresolved.

The purpose of the article is to determine the relationship between psychological health and environmental awareness of students in higher education institutions.

The experimental base of the research during 2021-2022 was Mykhailo Kotsiubynskyi Vinnytsia State Pedagogical University and Vinnytsia National Medical University named after E. Pirogov The total number of the student sample consisted of 210 students of higher education majors 222 "Medicine" and 053 "Psychology" age category from 17 to 22 years old, who consented to participate in the experiment.

The object of the study is the relationship between psychological health and environmental awareness of students. In the course of the research, the following psychodiagnostic tools were tested: the method of determining the semantic differential, the method of determining well-being, mood and activity, the Minnesota multi-profile personality questionnaire, according to which the statistical data of the study were processed, and the qualitative and quantitative indicators of the obtained results were analyzed.

Ecological consciousness is an integral feature of the character of a person who is able to actively adjust his own lifestyle within the limits of the eco-environment, and is also an important component of social consciousness and, at the same time, a determinant of mass worldview, which, above all, contributes to the re-awareness of the traditional scale of values in favor of value attitudes and coexistence of man with nature in the conditions of social and ecological intervention [2, 3].

The method of determining the semantic differential (CD) for identifying the emotional reaction of respondents to words and the content-semantic and semantic components of speech activity. Average ratings were calculated for each scale of the questionnaire, and they were transformed into points based on three factors: rating factor (Eo) – 1, 4, 8, 10 points; power factor (Es) – 2, 6, 9, 12 points; activity factor (Ea) – 3, 5, 7, 11 points. At the end of the work, we get 12 marks for each word in the corresponding tables. Average indicators indicate the average value for each of the three factors (Table 1).

Table 1

Emotional reaction of respondents to words and content-semantic and semantic components of speech activity according to SD

Rating factor (Eo)		**Power factor (Ec)**		**Activity factor (Ea)**	
Words	Points	Words	Points	Words	Points
Sincere	9,4	Pragmatic	5,3	Sincere	5,7
True	8,5	Indifferent	4,7	Daring	4,9
Sympathetic	7,1	Daring	4,2	True	3,1
Prudent	6,8	Saving	3,2	Saving	2,5
Submissive	6,4	True	2,6	Sympathetic	1,8
Modest	5,1	Submissive	1,2	Pragmatic	1,4
Indifferent	4,3	Modest	0,5	Prudent	0,7
Pragmatic	3,1	Sincere	-1,2	Submissive	0,1
Saving	2,2	Sympathetic	-1,4	Modest	-1,3
Daring	1,2	Prudent	-1,7	Indifferent	-1,4

Calculations were made according to the interval between the average group and individual measurements of each word according to the following formula:

E = (Eo)ind. – (Eo)gr. + (E)ind. – (Es)gr. + (Ea)ind. – (Ea)gr., where the values of Eind. and Egr. – average statistical measurements of individual and group indicators based on the results of the methodology.

The obtained research results are summarized in the table (Table 1; Fig. 1) by all factors (Eo, Es, Ea) and their average values in order of decreasing average weight of each of the words.

It should be noted that the positive and negative attitude of a person to the word was determined by the Eo factor, the Es factor determined precisely its potential, and the Ea factor indicated the ability to realize one's own potential in terms of the ecological environment of the ZVO.

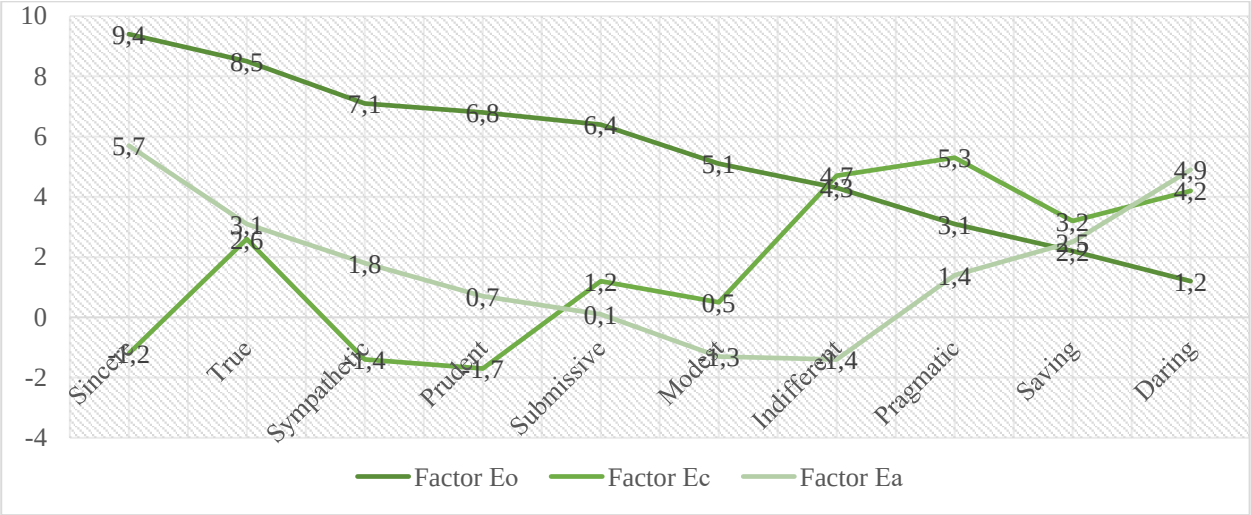

Fig. 1. *Semantic differential of the qualitative and quantitative index of word meaning among respondents*

In fig. 1 shows that the evaluation factor (Eo) is the largest for such words as "sincere" and "faithful", the smallest - for the words "thrifty" and "cheeky". The strength factor (Es) is reflected in the maximum values of such words as "pragmatic" and "indifferent" in the smallest values - in the words "compassionate" and "judicious". The activity factor (Ea) is represented in the highest meaning of the words "sincere" and "impertinent", and in the lowest - "modest" and "indifferent". Therefore, universal human values are significantly relevant for students in the eco-environment of higher education institutions according to the maximum digital indicators (9.4 and 8.5). However, despite the fact that the power factor or potential of the words "pragmatic" and "indifferent" is dominant (5.3 and 4.7), and the activity factor as a factor in realizing the meaning of the word in the future determines their equality, pragmatic and universal values, which are presented in equal proportions in Table 1, confirm their representativeness in both groups.

Comparing these indicators, we note that the assessment factor received the maximum number of points (9.4), and the activity and strength factors have average numerical values (5.3 and 5.7), which indicates the presence and subordination of universal human values among the respondents for quite high indicators, however, the potential for the realization of these qualities (Es and Ea) in the behavior of students of higher education is insignificant and problematic in

modern conditions of higher education. A high level of students' interest in the preservation of natural objects and their care was recorded in CG, which indicates their rational approach to the organization of a healthy lifestyle and the use of their own life potential.

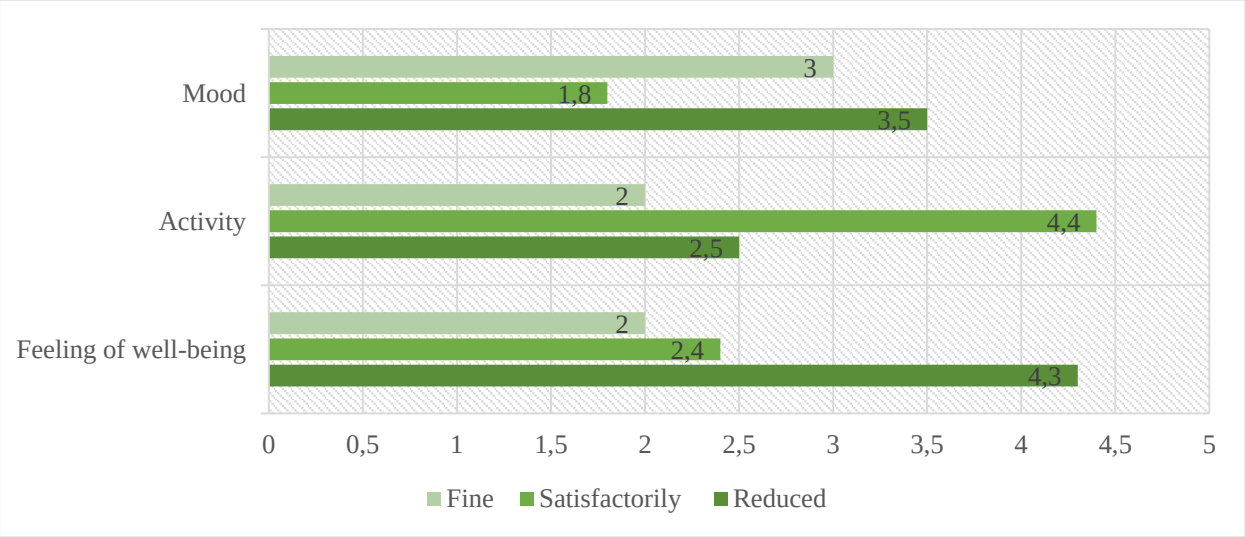

Fig. 2. *Results of the assessment of the mental state of EG (well-being, activity, mood) of students of higher education*

According to the method of determining well-being, activity, mood (CAH) (V. Doskina, N. Lavrentyeva, V. Sharayu, M. Miroshnikova) for assessing well-being, activity and mood, it was established that the experiences of well-being, activity and mood (Fig. 2) are on the border between medium and low levels (2.4≥4.4 and 2.5≥4.3) in the daily activities of education seekers. Among EG respondents with an average and high level of environmental awareness, the respective indicators are significantly higher and are within the high level, except for activity with an average level of mood, which has an indicator of 1.8. The identified features allow us to follow the trend: with an increase in the level of environmental motivation (implemented in cognitive activity, empathy, managing one's own emotions, recognizing the emotions of other people, etc.), indicators of well-being, activity and mood of the individual will increase.

Note that no significant differences between medical students and psychology students have been established using this method. In CG, high indicators of mood, activity and well-being were recorded, which is reflected in the nature-centric direction in the formation of one's own life strategies.

In accordance with the aim and objectives of our study, the following scales of the Minnesota Multi-Profile Personality Questionnaire (MMRI-2): Neurotic Control Scale (Hypochondria), Pessimism Scale (Depression) and Emotional Lability Scale (Hysteria) were used. The results of the survey are summarized in fig. 3.

The diagram (Fig. 3) shows the indicators of three scales of the current level of environmental awareness among students. Thus, with a low level of

environmental consciousness of the respondents, there is a pronounced neurotic control (hypochondria - 4.3), a tendency to pessimism (depression - 2.4) and emotional lability (hysteria - 3.2). Respondents with an average level of environmental awareness are characterized by a tendency to neurotic control (hypochondria – 2.5), pessimism (depression – 1.4) and emotional lability (hysteria – 2.9). The high level of environmental awareness of the respondents determines the absence of deviations according to the selected scales.

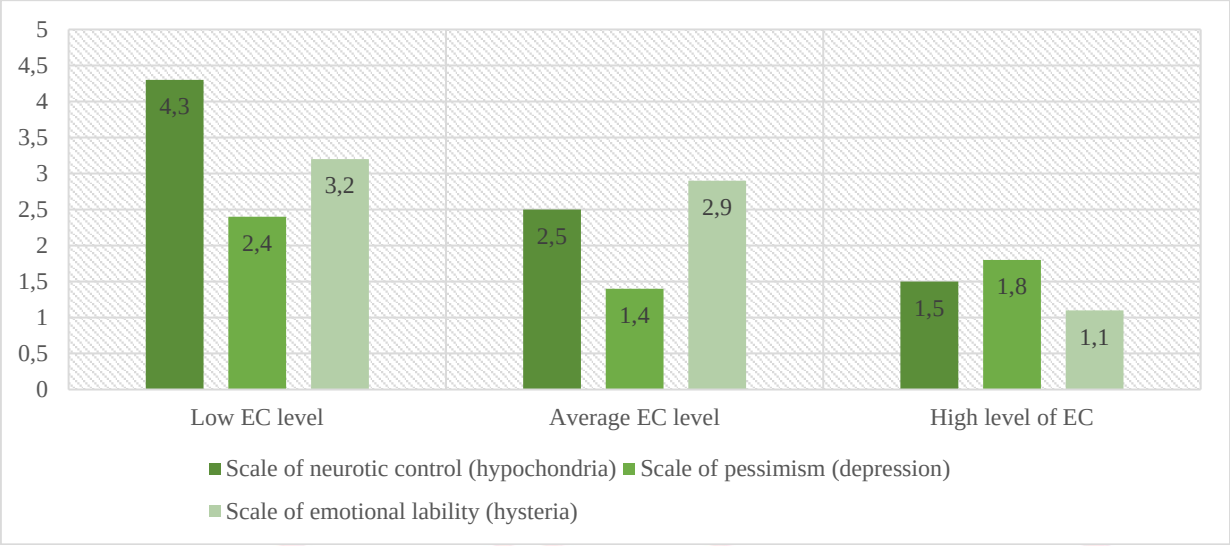

Fig. 3. *Results of the study of EG students using the MMPI-2 methodology*

The scale of hypochondria measures the tendency of the participant of the experiment to the astheno-neurotic personality type. For this type, care for health acquires a super-valuable character, dominates the system of personal values, lowers the level of activity, impoverishes interests, and disconnects from social life. Healthy students with high scores on this scale are slow, passive, uninitiative, with inflexible conservative thinking, tend to take everything on faith, with a submissive attitude to power and authority. They lack casualness in communication, they adapt slowly and do not tolerate a change in the situation well, they easily lose their balance in social conflicts. But at the same time they are undemanding, satisfied with little, well overcoming the usual difficulties.

The depression scale measures the degree of "closeness" to a hypothymic personality type. High scores on this scale are characteristic of sensitive, sensitive persons, prone to anxiety, timid, shy, dissatisfied with themselves and their own capabilities. In business, they are diligent, conscientious, highly moral and obliging, but they are not able to make decisions independently, without hesitation and uncertainty. Any work or activity is unpleasant for them and tires them very quickly. They are not capable of long-term willpower and despair at the slightest difficulty. To others, such a person seems pessimistic, closed, silent, shy and excessively serious, but in reality the person may feel the need for deep and strong contacts with

the surrounding people. She easily identifies herself with individual people, phenomena, if the identification is violated, then the individual perceives it as a catastrophe that spoils her mood. In fact, these people try to draw attention to themselves and keep in the field of vision the environment, which is not indifferent to them.

The scale of hysteria was formed to identify persons prone to neurotic defensive reactions of the conversion type. They use the symptoms of a physical illness as a means of solving difficult situations or as a way of avoiding full responsibility. All problems are solved by immersion in the disease. People with high scores on this scale have the ability to suppress anxiety-causing factors; demonstrative emphasis on somatic discomfort with a tendency to deny difficulties in social adaptation. In conflicts, such students for self-defense most often use references to the presence of somatic complaints, which are of a superficial nature, which confirms our assumptions.

It has been established that the features of this type of psychogenesis constitute the psychopathological basis for the development of stress disorders. The personal profile according to the MMRI in EG (with psychosomatic dysfunctions) differs in content from the profile of CG respondents, primarily due to social introversion, manifestations of psychasthenia, conflicting internal needs and a tendency to psychosomatize stressful experiences (Fig. 4). Note that in the personal profile of the MMRI EG, higher indicators were found according to the results of the Pt scale (45.37±39.85 in comparison with 9.60±9.15 points, p≤0.01), which is due to environmental influences on the psyche of individuals in sociometric dimension (increased conflict in the environment of higher educational institutions, inconsistency of interests in the team, online learning, etc.), and more pronounced features of anxiety were diagnosed (Pt scale, 47.31±44.31 compared to 17.97±11.29 points, p≤ 0.01) and social introversion (Si scale, 46.16±39.34 compared to 9.79±7.23 points, p≤0.001).

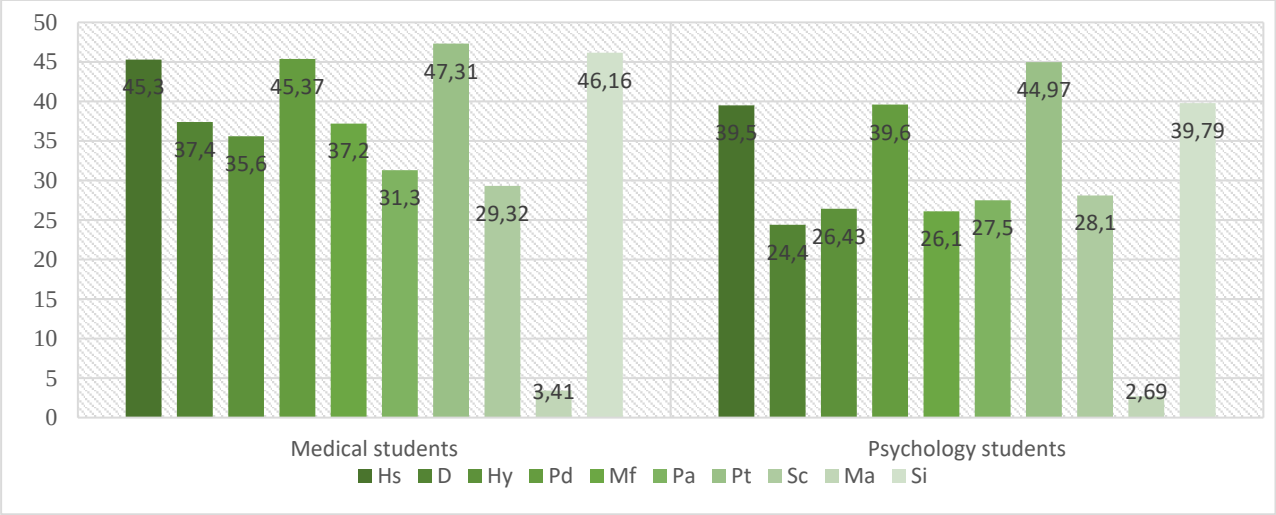

Fig. 4. *Personal profile of medical students and psychology students according to MMRI in EG (with psychosomatic dysfunctions)*

Medical students and psychology students of CG according to MMRI have a more harmonious personal profile in comparison with EG respondents, they are characterized by high environmental awareness and motivation in the conditions of the environment of higher educational institutions (Fig. 5).

It was also established that medical students have a greater tendency to manifest psychosomatogenies (of a hypochondriacal nature according to the grade Hs), greater introversion compared to the CG of psychology students (grade Sc), who have higher optimism and openness (grade Ma) as adaptive internal resources of psychological resistance to the influence of stressful situations of the environmental protection environment.

Similar to the MMPI in the content context, the method of determining the type of accentuation of character traits and temperament by K. Leonhard and H. Shmishek is intended for the diagnosis of accentuated personality types and their development, adaptation and mental health, as well as for measuring the expressiveness of the main traits that leave an imprint on the personality in general and under unfavorable social conditions destroy its structure. In CG, there were no significantly expressed manifestations of character accentuations; in EG, 73% of respondents showed signs of some character accentuation.

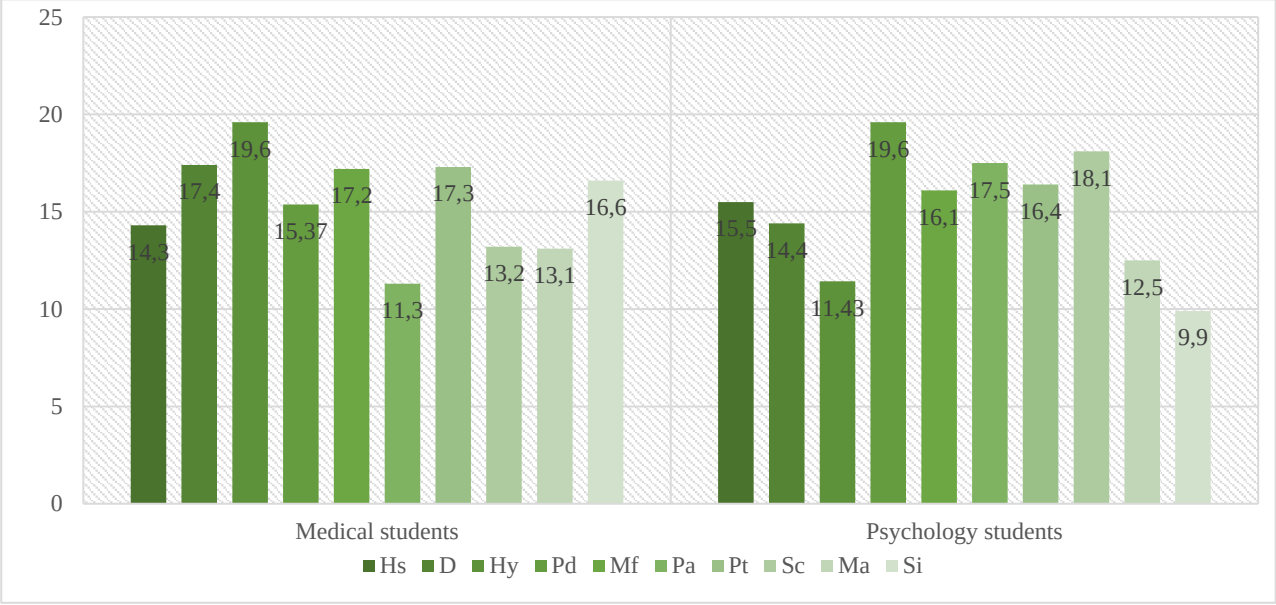

Fig. 5. *Personal profile of medical students and psychology students for MMRI in KG*

With the use of this technique, the following main types of accentuated personalities (Fig. 6) were distinguished, which under favorable conditions correspond to the systematics of psychopathies in the respondents of our study: hyperthymism (13.2%), stuckness (6.4%), emotionality (5.4%), pedantry (5.3%),

anxiety (8.7%), cycloidism (12.3%), demonstrativeness (10.7%), excitability (3.3%), dysthymia (2.6%), exaltation (4.1%).

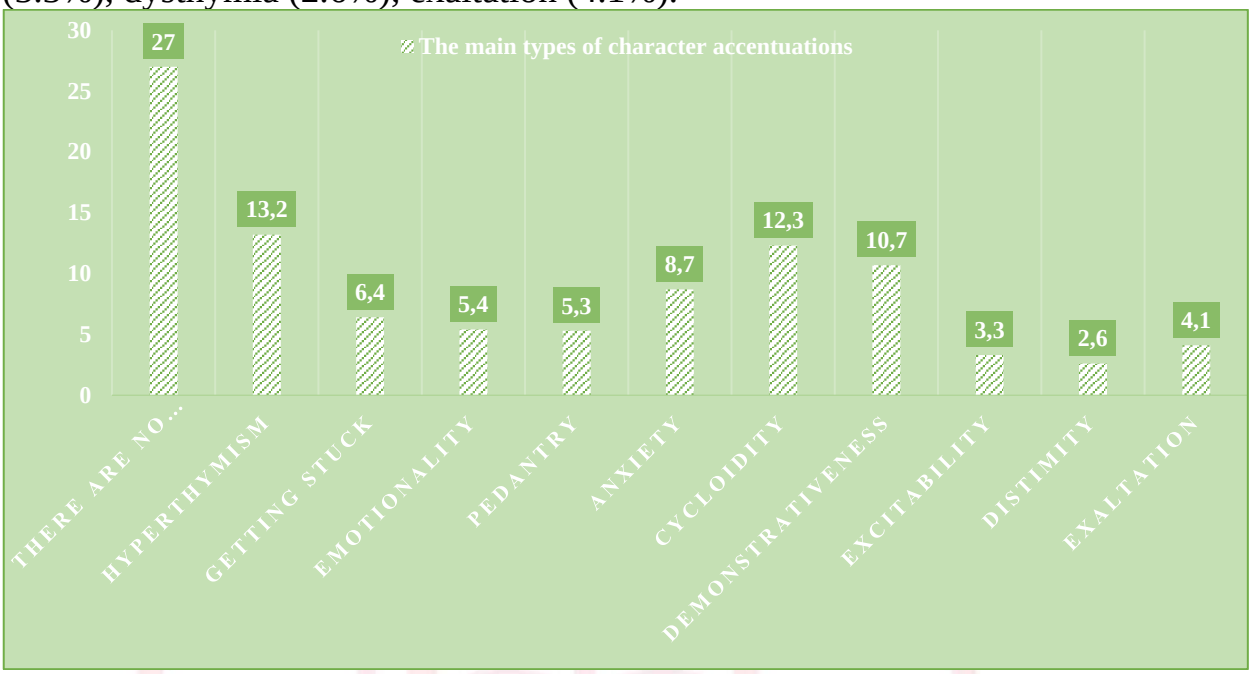

***Fig. 6**. Types of accentuation of character traits and temperament (according to the methodology of K. Leongard and H. Shmishek)*

The demonstrative type is characterized by a person's need for self-expression, which is caused by a constant desire to impress the environment, to attract attention to himself by means of self-praise and demonstration of himself in the center of events, which reflects pronounced hysterics (according to the Hy MMIR scale), a tendency to dramatize events, instability of the background of mood and sensitivity , egocentrism, infantilism, exaltation, etc.

The pedantic type has pronounced external manifestations - a desire for order, increased accuracy, indecisiveness and caution. According to the indicators of Sh. Hs in them are dominated by the following personal traits: a tendency to hypersocialize attitudes, control one's own emotions, traditional behavioral orientations, generally accepted norms that indicate a person's focus on self-feeling and a tendency to hypochondriacal suggestions.

The stuck type is characterized by the duration of emotional experiences and low resistance to affect. For sh. D MMPI they are characterized by a pessimistic low mood, a desire to move away from complex decision-making; they are often upset about their own situation due to life events. There is clinically pronounced depression with feelings of hopelessness, sadness and suicidal intentions.

The excitable type has extremely pronounced impulsivity of behavior, which confirms according to sch. Pd MMPI presence of the following traits: increased

tendency to conflict, impulsivity, insufficient objective circumstances in the conscious orientation according to desire and not at all according to the reality of events (ignoring objective circumstances in the conscious orientation of desires). Such individuals show signs of social maladjustment, aggressiveness, conflict, pronounced impulsiveness and lack of control over their own behavior.

The hyperthymic type is characterized by a tendency to be constantly in a bright, elated mood, despite the absence of any external reasons for this, according to which according to sch. X MMRI emphasizes accentuation, which is due to a steady rise in mood, increased energy and activity, a sense of well-being, physical and mental productivity.

The dysthymic type of respondents is distinguished by their concentration on gloomy moods, negative results and sad aspects of life, which is manifested in behavior, in communication with the environment, in the peculiarities of decision-making, etc. Usually these people are too serious and inactive. For sh. Sc MMRI determined their personal qualities: isolation from the environment, uniqueness of the hierarchy of values, individuality, difficulties in communication, which indicates pronounced disorganization of behavior, tendency to autistic type of thinking and reduced realism.

The main features of the anxious *personality type* are concern about possible future failures and increased anxiety, which is manifested in worry about the complexity of one's own life and the fate of loved ones. Moreover, there are no objective reasons for such experiences or they are completely insignificant. They are characterized by timidity, increased anxiety, sometimes with a manifestation of humility in relation to established circumstances. The demonstrative severity of these psychasthenic character traits (according to Pt MMRI) indicates behavioral disorganization due to unjustified anxiety, a tendency to obsessive ideas and contributes to the development of anxiety-type psychopathies.

The cyclothymic type is characterized by constant changes in hyperthymic and dysthymic states, the reason for which is the non-specificity of external conditions in the environment of the health care system as factors of constant and non-random changes. According to the Ra MMRI scale, this type of affective rigidity on the border with paranoia is diagnosed, which is due to such properties as being stuck on negative experiences, a tendency to directness in communication, inappropriate offensiveness, dogmatism, which contributes to the formation of meaningless ideas with a sense of own oppression and hostility from the environment.

The main feature of *exalted type* personalities is their intense reaction to a certain external stimulus. The psyche is extremely unstable and is mostly in an excited state. According to the X scale of the MMRI, this type corresponds to the psychological characteristic of intro/extroversion to identify these features of respondents both within psychopathies and in clinical pathology, the leading

behavioral features of which are self-absorption and lack of attention to them, which contributes to the emergence of psychological tension with its subsequent somatization.

The emotional type characterizes the depth of experiences and worldview. It was found only in the group of students majoring in psychology. A feature of the emotional sphere of such respondents is a high sensitivity to the spiritual life of a person. They are characterized by gentleness and kindness, emotional sensitivity and highly developed empathy. Positive traits include: empathy, kindness, joy for other people's successes, discipline, a heightened sense of duty and responsibility. Negative features are excessive tearfulness and sensitivity.

Thus, psychopathological disorders (psychopathies, acute affective reactions, deviant behavior disorders, neuroses, etc.) can arise precisely against the background of polarization of accentuations.

To reveal the relationship between psychological health and environmental awareness of students and to determine its features, methods of statistical verification of the research results were used, in particular, the Pearson test and the SPSS Statistic package version 17. The results are summarized in the table. 2.

Table 2

Psychological correlations of environmental awareness of control and experimental groups

	Positive statistically significant relationships		**Level of statistical significance**
Environmental consciousness	"well being"	r_{xy} = 0,508	p≤0,01
	"activity"	r_{xy} = 0,456	
	"mood"	r_{xy} = 0,461	
	Negative statistically significant relationships		
	"personal anxiety"	r_{xy} = - 0,541	
	"neuroticism"	r_{xy} = - 0,609	
	"scale of neurotic control (hypochondria)"	r_{xy} = - 0,748	
	"pessimism (depression) scale"	r_{xy} = - 0,657	
	"scale of emotional lability (hysteria)"	r_{xy} = - 0,721	

Conclusion. The identified correlations indicate the interdependence between environmental consciousness and the state of psychological health of a person, in particular, well-being, activity and mood. At the same time, certain personal characteristics have been established, the experience of which is directly opposite to

the state of psychological health (personal anxiety, neuroticism, hypochondria, depression, and hysteria).

Prospects for further research are the formation of students' readiness for professional self-realization regarding the safety of activities in the conditions of the eco-environment of higher educational institutions.

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