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PSYCHOLOGICAL FACTORS OF STUDENTS' VITALITY DURING THE WAR IN UKRAINE

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ABSTRACT

The aim: A theoretical analysis of the problem of the hardiness of a person who suddenly found himself in extreme conditions and an empirical study of his individual and psychological factors that contribute to the strengthening of this personal characteristic and mobilize the internal reserve of student youth.

Materials and methods: The following psychodiagnostic methods were used in the empirical study: "Methodology for the diagnosis of hardiness" by S. Muddy, "Test for the diagnosis of properties of the nervous system" by Y. Strel'yau, "Methodology for the diagnosis of character accentuations" by K. Leonhard, "Mini-Mult Test", "Psychological Stress Scale", "Coping Behavior Questionnaire" by R. Lazarus, S. Folkman, "Test of Meaningful Life Orientations" by D. Leontiev, Life orientation test C. Scheyer, M. Carver. The study was conducted from September 2022 to January 2023.

Results: It was established a direct connection of hardiness with a strong and mobile nervous system, hyperthymic and demonstrative accentuations of character. Inversely related to hardiness are pedantic, unbalanced, dysthymic, and exalted accentuations of character, all personality disorders. People with a high level of hardiness are characterized by expressed optimism, the meaningfulness of life, and the use of adaptive coping strategies.

Conclusions: The study showed the high importance of hardiness for the full functioning of student youth during martial law and its conditioning by the properties of the nervous system and individual psychological characteristics. This emphasizes the need for making efforts to increase their level of vitality.

KEY WORDS: hardiness, student youth, psychological properties of personality

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INTRODUCTION

The problem of hardiness is becoming relevant for modern Ukrainian youth, who found themselves in wartime conditions of danger and uncertainty about their future. The life experience of young people has expanded to the ability to recognize by the sound of an object in the sky the level of its danger and which military object carries this danger (missile, drone, plane, etc.), as well as by the sounds of explosions: is the object on the ground hit whether the air defense forces of Ukraine worked. This is a small list faced by modern youth, who before the war were distracted by gadgets and dreams of ending the COVID quarantine and returning to their usual lifestyle. However, with the beginning of the war, with the chaotic rocket attacks

on the civilian population, it was necessary to instantly change life priorities, assess the conditions of stay and plan life for the near term (at least from the sound of the air-raid alarm siren to its cancellation, and there could be many such sirens during the day, or they could last several hours).

Such tension and dangerous conditions affected the self-organization of time and space, which affected the changes in people's daily life, including young people. That is why the statements of the WHO representative that "a quarter of Ukraine's population is at risk of developing a severe mental health condition as the country grapples with the year-long Russian invasion" [1] are not groundless. It should be noted that the conditions in which Ukrainian citizens are in their country

carry a hidden threat to every individual. Citizens see, experience, and realize the results of Russian missiles hitting residential and cultural buildings, universities, schools, and public stops. In addition to the threat from the air, there is a threat to life on the ground - these are streamers, masked mines, and unexploded grenades, which most often maim children and farmers. Ukrainian mass media widely cover the facts of destruction, mass tragic deaths of citizens in various regions of Ukraine, stories about being in occupation, captivity, etc.

All these tragic phenomena and facts, constant stay in life-threatening conditions affect the emotional state of the individual. And at the same time, it is impossible to act constructively, to adapt, and to survive such tests without internal strength, which is embodied in the concept of "hardiness", introduced by S. Kobeis and S. Muddy [2]. The ideas of these scientists about the importance of hardiness and vitality for the life of an individual are confirmed by various studies, where hardiness is defined: as a concept of an individual who steadfastly meets problems, has a goal, controls in achieving goals, and is always ready to accept a challenge [3], as a dedication to the formation of active behavior concerning the environment and neutralization of stressful situations [4], as an important component of the life activities of elderly people, in whom the levels of vitality are related to the degree of formation of the cognitive construct "personal exclusivity of existential experience" [5]. This testifies to the versatility of this phenomenon and the uniqueness of its manifestation in individuals of different ages and different conditions, who strive for a meaningful and fulfilling life, showing existential courage, despite adverse circumstances [6].

Currently, there is no unambiguous definition of the concept of hardiness, so we started from the understanding of the authors of this construct - S. Kobeis and S. Muddy [2, 6-8]. Hardiness includes three relatively autonomous components: involvement, control, and risk acceptance, which allow a person to withstand the weight of a stressful situation, maintain internal balance, and not reduce the success of activities. In our opinion, each of the components of hardiness adds a certain feature of the ability to overcome the difficulties of life, emphasizing the individuality of everyone in adapting to the uncertainty of his future existence in conditions of war. In one of his works, S. Muddy [7] proposed to consider the model of hardiness, distinguishing negative factors (acute and critical stressors; mental and physical stress; disruption of well-being: ineffectiveness, diseases, psychological problems) and components of hardiness: sustainable beliefs (involvement, control, risk-taking); sustainable mastery; social support and sustainable health practices (exercise,

relaxation, diet, treatment). This model of hardiness prompted us to conduct an empirical study on the participation of youth in wartime conditions.

THE AIM

The purpose of the study was to analyze the current state and approaches to the problem of personal hardiness in extreme conditions, which are currently extrapolated in domestic and foreign psychology, to establish individual and psychological factors of hardiness that contribute to the strengthening of this personal characteristic and mobilize the internal reserve of student youth during martial law in Ukraine.

To realize the goal and our assumption about the direct connection of the features of the nervous system and individual psychological characteristics with the levels of hardiness, the following research tasks were identified: to diagnose the level of hardiness and its components among students during the war; to establish correlations of hardiness with psychological properties of the individual; using regression analysis to establish psychological factors of hardiness.

MATERIALS AND METHODS

The peculiarity of our sample is that psychology students who have been in Ukraine since the beginning of the war took part in the study. The study was conducted over four months (from September 2022 to January 2023), when student youth experienced intense periods of rocket attacks, long blackouts, and Internet unavailability. Such ambiguous dynamics of shelling of the civilian population create conditions of uncertainty, in which the individual mentally hardens his internal resources and balances thanks to hardiness in the artificially created danger.

The sample consisted of 112 students of the National Aviation University, psychology major, 3-4 years, average age: 19.5 years; young women - 80%, young men - 20%.

During the research, the following psychodiagnostic methods were used: "Methodology of diagnosis of hardiness" by S. Maddi in the adaptation by D. Leontiev, "Test of diagnosis of properties of the nervous system" by Yan Strelyau, "Methodology of diagnosis of character accentuations" by K. Leonhard in the adaptation by H. Shmyshek, "Mini-Mult Test" (an abbreviated version of the MMPI), PSM-25 "Psychological Stress Scale", "Coping Behavior Questionnaire" by R. Lazarus, S. Folkman, "Test of Meaningful Life Orientations" by D. Leontiev, "Optimism Test" LOT (Life orientation test) C. Scheyer, M. Carver.

Table I. Significant correlations of hardiness with properties of the nervous system, accentuations of character, and personal traits of students

	Hardiness	Involvement	Control	Acceptance of risk
Properties of the nervous system (Y. Strelyau test)				
Power of excitation processes	0,585**	0,501**	0,558**	0,468**
Power of braking processes	0,360*	0,323**	0,323**	0,259**
Mobility	0,473**	0,465**	0,360**	0,477**
Character accentuations (K. Leongard test)				
Hyperthymic	0,373**	0,329**	0,420**	0,218*
Pedantic	-0,262**	-	-	-0,377**
Demonstrative	0,332**	0,256*	0,306**	0,335**
Unbalanced	-0,244*	-0,287**	-0,224*	-
Dysthymic	-0,327**	-0,277**	-0,373**	-0,210*
Exalted	-0,239*	-	-0,265**	-0,262**
Personality Traits and Disorders (MMPI test)				
Hypochondria (Hs)	-0,216*	-0,214*	-0,312**	-
Depression (D)	-0,508**	-0,506**	-0,468**	-0,363**
Hysteria (Hy)	-0,386**	-0,433**	-0,354**	-
Psychopathy (Pd)	-0,300**	-0,334**	-0,289**	-
Paranoia (Pa)	-0,455**	-0,513**	-0,327**	-0,373**
Psychasthenia (Pt)	-0,229*	-0,233*	-0,304**	-
Schizoid (Se)	-0,228*	-0,229*	-0,248*	-

Notes: * Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Table II. Significant correlations of hardiness with the level of psychological stress and coping strategies of students

	Hardiness	Involvement	Control	Acceptance of risk
Coping strategies (R. Lazarus test)				
Acceptance of responsibility	-0,344**	-0,283**	-0,319**	-0,322**
Escape	-0,532**	-0,489**	-0,488**	-0,426**
Planning a solution to the problem	0,448**	0,408**	0,451**	0,304**
Positive reassessment	0,377**	0,393**	0,345**	0,258**
Finding social support	-	0,205*	-	-
Psychological stress (PSM-25 test)				
Psychological stress	-0,391**	-0,374**	-0,411**	-0,236*

Notes: * Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

Correlation analysis was used to establish correlations between hardiness and the individual psychological properties of respondents. The Pearson correlation coefficient was used for correlation analysis. Linear regression analysis was used to determine the psychological determinants of hardiness. Vitality was the dependent variable, those individual psychological characteristics that had significant correlations with vitality were selected as independent variables. Based on the data of the regression analysis, a regression equation is derived, which allows to estimate the influence of each independent variable on the predicted values.

Statistical processing was carried out using the IBM SPSS Statistics 26 program.

RESULTS

Based on the results of hardiness diagnostics, it was established that only 11% of students have a high level of hardiness, 63% have an average level of hardiness, and 27% have a low level of hardiness. Among individual components of hardiness, a high level of involvement was diagnosed in 8% of students, an average level in 57%, and a low level in 35%. Control at a high level is

Table III. Significant correlations of hardiness with the level of optimism and meaningful life orientations of students

	Hardiness	Involvement	Control	Acceptance of risk
Meaningful life orientations (D. Leontiev test)				
Meaningfulness of life	0,414**	0,490**	0,230*	0,347**
Goals in life	0,312**	0,463**	-	-
The process of life	0,608**	0,648**	0,430**	0,510**
The result of life	0,319**	0,429**	-	-
Locus of control of yourself	0,435**	0,517**	0,280*	0,410**
Locus of life control	0,253*	0,250*	-	0,262*
Optimism (Ch. Scheyer, M. Carver LOT test)				
Optimism	0,378**	0,434**	0,209*	0,395**

Notes: * Correlation is significant at the 0.05 level

** Correlation is significant at the 0.01 level

found in 8% of students, at an average level in 61%, and at a low level is diagnosed in 31%. The most pronounced component of hardiness is "aspiration to risk": its high level was diagnosed in 45%, average - 49%, and low - in 6% of students.

One of the assumptions of the study was the conditioning of high hardiness by the properties of the nervous system (strength and mobility of nervous processes) and its connection with the characterological and personal characteristics of young people. Correlation analysis of properties of the nervous system, accentuations of character, and personality traits with hardiness showed that the closest connection was established between the strength of nervous system excitation processes and hardiness (table I). There is a direct connection between a strong and mobile nervous system and hardiness, which indicates that the individual's ability to withstand stressful situations and maintain internal balance is determined by the properties of the nervous system.

Among character accentuations, hyperthymic and demonstrative have a direct connection with hardiness. It should be noted that both accentuations are manifested by high energy, an active life position, and sociability. Pedantic, unbalanced, dysthymic, and exalted accentuations of character are inversely related to hardiness. Low mood, imbalance, and tendency to get stuck reduce the adaptive potential and hardiness of students.

Regarding personality disorders diagnosed by the Mini-multi method, we can see that all connections with hardiness and its components are exclusively reversed. The closer the subjects are to the pole of psychopathology, the less pronounced hardiness and its components are. Similar results were obtained in the study of the dependence of social and psychological adaptation on personal characteristics and personality disorders [9]. Pronounced personality disorders reduce the possibility of effective adaptation and coping with stress.

Significant correlations were established between hardiness, stress level, and coping strategies used by students to master difficult life situations during the war (Table II). We can see the inverse relationship of hardiness and its components with psychological stress, which proves its significant contribution to overcoming stressful situations.

Coping strategies that increase the level of hardiness include problem-solving planning and positive reassessment of the situation. A direct connection was also established between the hardiness component "engagement" and the search for social support. These coping strategies are adaptive and contribute to effective coping with stressful situations. Inverse correlations were established between hardiness and coping strategies of escape and acceptance of responsibility.

It was established that optimism and the level of meaningfulness of life are directly related to hardiness and its components (Table III). Moreover, the greatest contribution to an optimistic attitude is involvement, that is, delight in the actual life process, a sense of one's contribution to important life events. Likewise, involvement has the closest correlations with indicators of overall meaningfulness of life, goals in life, and life processes. It can be concluded that a person's enthusiasm for his work, the feeling of his need for others, and being in the center of events fill life with meaning and brings satisfaction to the present period of life, and contributes to setting goals for the future.

A linear regression analysis was conducted to establish the most important psychological factors of hardiness. The value of R-square is 0.805, that is, the specified predictors explain 80% of the dependent variable, which characterizes the regression model as quite effective. Fisher's test significance is $F=0.000$, indicating that the regression model is statistically significant.

Hardiness = 61.057 + 0.643 (power of excitation processes) - 1.719 (escape) - 0.518 (paranoia) + 0.769 (life process) + 0.806 (optimism)

The greatest contribution to the prediction of the dependent variable "hardiness" is the strength of nervous system's excitation processes, the escape coping strategy, the sixth scale of the Mini-Mult methodology, "paranoia" or rigidity, satisfaction with the life process, and optimism. So, we can conclude that both typological and purely psychological properties turned out to be important predictors of hardiness. The leading factor of high hardiness is the strength of the nervous system's excitation processes and its mobility (the inverse relationship with paranoia/rigidity confirms the importance of this characteristic of the nervous system). Optimism and the meaningfulness of the current period of life also have a significant impact on the formation of life hardiness. The application of the "escape" coping strategy, which excludes involvement in activities and life in general, significantly reduces the hardiness.

DISCUSSION

Each of the components of the hardiness model [7], based on which our research was conducted, in a complex demonstrates the variability of manifestations due to the expansion of experience in ways of responding and interacting with others and the environment, which can have both positive and negative effects. Since a person is naturally vulnerable, the mechanisms of hardiness can act as a buffer, reducing the effect of negative factors on the individual [7].

Among such survival mechanisms, the most valuable is the search for social support, especially in the context of terrorist attacks [10], although social support did not reduce the relationship between a stressful event and coping [11], it is defined as information that makes the subject believe that he is cared for, loved, respected and is a member of a network of mutual obligations [11]. Actually, in our study, the scale "seeking social support" has a direct correlation with the component "involvement". Evidence that supportive interpersonal

interactions protect against the health effects of life stress are reviewed [12].

These facts testify in favor of the correct actions of the Ukrainian government regarding the organization of social information on the behavior of adults and children in case of danger (for example, about the location of bomb shelters, safe places in the house, places of humanitarian and medical aid, centers of "invincibility", places with free water, first aid courses, etc.) through mass media, chatbots, SMS messages, even when the Internet is not working, which in the complex can be called elements of the "culture of survival". The importance of such a culture, in conditions of limited time for cognitive processing of information for making the right decisions, prevents the effect of "freezing" [13].

We consider hardiness as a personal characteristic, the foundation of whose strength relates to the peculiarities of the nervous system, and the ability to respond constructively to difficult life circumstances, using appropriate coping strategies, which confirm the results of the correlation analysis. The constancy of hardiness as a personality trait that exists regardless of time and types of adversity has been proven in studies involving student youth [14].

CONCLUSIONS

Summarizing the results of the conducted research, we would like to note the importance of hardiness for the full functioning of student youth during the war. The established individual and psychological factors of hardiness show their dependence on the properties of the nervous system and psychological characteristics that can be developed and formed during training in institutions of higher education. The level of hardiness is most increased by the strength of the nervous system excitation processes, satisfaction with the life process and optimism, and the use of the "escape" coping strategy and personality rigidity are significantly reduced.

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The Authors declare no conflict of interest.

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