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Psycho-emotional states of future specialists in a socio-economic area under lockdown and martial law: comparative analysis

Психоемоційні стани майбутніх фахівців соціономічного профілю в умовах локдауну і воєнного стану: порівняльне аналізування

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Abstract

The aim of the study is to perform comparative analysis of dominating psycho-emotional states of future specialists in a socio-economic area under lockdown and martial law. A verification strategy is suggested for examining psycho-emotional states. The research used participant observation, valid and reliable psycho-diagnostic instruments, factor analysis, coefficients of empirical data reliability. It was established that in the comparison of the selected complex of psychological content parameters Group 1 (under lockdown) and Group 2 (under martial law) there are no significant differences. Two factor structures of the respondents' psycho-emotional states were created: one of them – during the ongoing COVID-19 pandemic (59.91%) and the other – during the martial law (69.89%). It was found out that the obtained data on psycho-emotional states during the lockdown and the martial law are essentially different that did not allow determining or disproving significant differences by means of statistical

Анотація

Метою статті є порівняльне аналізування домінуючих психоемоційних станів майбутніх фахівців соціономічного профілю в умовах локдауну і воєнного стану. Розроблено констатувальну стратегію дослідження психоемоційних станів. Застосовано включене спостереження, валідний і надійний психодіагностичний інструментарій, факторне аналізування, коефіцієнти достовірності емпіричних даних. Констатовано, що у порівнянні підбраного комплексу психологічних змістових параметрів Групи 1 (під час локдауну) і Групи 2 (під час воєнного стану), немає достовірних відмінностей. Побудовано дві факторні структури психоемоційних станів респондентів: одну – під час прогресування пандемії COVID-19 (59.91%) і другу – під час воєнного стану (69.89%). Констатовано, що отримані психоемоційні стани під час локдауну і воєнного стану є якісно відмінними, що не дозволило за допомогою статистичних

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coefficients. The study substantiated that the established empirical facts are characterized by scientific novelty which should be taken into consideration by organizers of educational and professional training for specialists in a socio-economic area.

Key words: mental state, educational process, psychology of war, internally displaced people, depressiveness.

Introduction

Ukraine's population is experiencing extremely tough times. In the 21st century our reality has been radically changed by two disasters which came to Ukraine simultaneously – pandemic and war. The ongoing COVID-19 pandemic spread across the globe, caused many people's deaths, irreversible mental traumas and material losses. The second disaster is the war lasting in Ukraine since 2014 which reached its full-scale phase on the 24th of February, 2022. The main priorities of the present are to maintain the unity of Ukraine, preserve people's lives, protect the territorial integrity and democratic values. The outlined contours of social life have a considerable irreversible impact on children's and adults' mental states.

Professional training for specialists in a socio-economic area has undergone permanent changes, moved to a virtual space by means of distance and mixed formats of education. Obviously, such transformation affects qualitative and quantitative indexes and has an impact on research participants' mental states.

Hypothesis. 1) a lack of significant differences in the content parameters of psycho-emotional states of future specialists in a socio-economic area examined under lockdown and martial law; 2) availability of significant differences in psycho-emotional states of the research participants.

The aim of the study is to perform comparative analysis of dominating psycho-emotional states of future specialists in a socio-economic area observed under lockdown and martial law.

Literature Review

The psycho-emotional sphere of an individual has always been the focus of scientific interest of researchers representing human science. Research on psycho-emotional states of an individual is a special issue. The quality of educational and professional training and also the

коefficientів встановити чи спростувати достовірні відмінності. Обґрунтовано, що встановлені емпіричні факти мають наукову новизну, яку доцільно взяти до уваги організаторам навчально-професійної підготовки фахівців соціономічного профілю.

Ключові слова: психічний стан, освітній процес, психологія війни, внутрішньо переміщені особи, депресивність.

ability to develop general and special competences depend on dominating mental states. The research on cognitive mental states of students of higher education institutions allowed establishing a unique role of cognitive mental states in regulation of the act of thinking (Prokhorov et al., 2015). The researchers found out that the content features of cognitive mental states of the research participants are determined by maintenance of an individual's steady orientation towards solving a problem for a certain period of time. It was established that "attitude" is a system-creating factor of cognitive mental states which is within the framework of the integrative content orientation of an individual. The present studies on critical thinking (Arbeláez-Campillo et al., 2020; Popovych et al., 2021b) and artificial intelligence of machines (Nosov et al., 2020a; Zinchenko et al., 2019) focus on the importance of thinking processes and the role of an individual in the processes under study. Mental state of subjects of educational and professional training as any complex production activity is accompanied by anticipatory content (Plokhikh et al., 2021; Nosov et al., 2020b; 2020c), changeability of social expectations (Popovych et al., 2021d) and a branched typology of probable scenarios of the course of actions (Popovych et al., 2021c).

The main type of mental activity in young adults is educational and professional activity, i.e. professional development. It was established that the phenomena of all-or-nothing thinking, social attractiveness and conformism are characteristic of the representatives of this age group. Worldview foundations formed in this age are based on value orientations, ideals, desires and aspirations prevailing in a social environment (Kononenko et al., 2020; Popovych et al., 2020e). At the same time, future specialists are expected to work with people, educating, teaching and developing a younger generation, sometimes rescuing their minds and souls, demonstrating tolerance, moderation and social maturity (Halian et al., 2020). Such professions

include specialists in the fields of pedagogy, psychology, law, economics and other professions in a socio-economic area. The research on dynamic features of the formation of successful professional identity of philology students finds out that optimal development of specialists' professional identity involves permanent formation of its structural components. It is important that the formation of professional identity is inextricably intertwined with crisis stages of personal development caused by disappointment due to a career choice, life choices, a lack of correspondence between social expectations and students' demands (Zaverukha et al., 2022). Social expectations of the representatives of students are extremely changeable, they undergo dynamic fast-paced changes related to the processes of formation and development of their "Self-concept" (Popovych et al., 2020a; 2020b). Student age is accompanied by manifestations of "all-or-nothing" and aspirations to be a leader. It was established that mutual projects of successful students and lecturers of higher education institutions contribute to realization of leadership potential. It was also found out that mutual work of student leaders and students with poor academic performance does not facilitate leadership potential (Zorina et al., 2018).

Content features of the process of professional training which is permanently reformed require special attention in the context of our research. This process is characterized by revision of fundamental didactical concepts, reconsideration of new positions of the rich experimental material of the national scientific school and foreign scientists' experience. Interrelated processes occurring in our country simultaneously actualize the problems located on different planes. They include globalization, decentralization, humanization, differentiation, regionalization, informational support for education and others. The martial law imposed on the Ukrainian society since the beginning of a full-scale invasion caused permanent flows of internally displaced people within the country and migration processes beyond its boundaries. It had a considerable psychological impact on professional training of not only students, but also the entire population of the country. Migration flows determined complex processes in the structure of migrants' professional identification (Blynova et al., 2020a; 2020b; 2020c).

Distant and mixed formats of education actively implemented in educational process because of the lockdown have become more widespread and

improved under martial law. Educational process has been moved to a virtual space not only shifting the markers of psychological well-being and comfort (Bryant & Veroff, 1982; Warr, 1978), but also essentially transforming the value-based sphere of an individual (Hulias, 2020; Hulias & Hoian, 2022; Popovych et al., 2021e), increasing anxiety (Popovych et al., 2020c), prioritizing the ability to adapt and search for a way out under difficult conditions (Haffejee et al., 2022).

Psycho-emotional states of future specialists in a socio-economic area are considered to be an integral complex of dominating characteristics of the research participants affecting the process and results of educational and training activity.

Theoretical analysis of the relevant psychological literature allowed outlining topicality and appropriateness of comparative analysis.

Materials and methods

The definition of the scientists O. Prokhorov, M. Yusupov and V. Plokhikh (2015) about mental state as a higher level of organization of an individual's psycho-emotional activity is the foundation of our comparative analysis. We considered methodological principles developed by E. Deci and R. Ryan (2008) about combination of eudemonic and hedonistic concepts of an individual's psychological well-being. A number of studies about adaptation potential of an individual, the ability to deal with stress (Halian et al., 2021) and overcome difficulties were also taken into consideration (Lazarus & Folkman, 1984). In addition, we looked at the regularities of organization of educational process in training future specialists (Popovych et al., 2020d; 2021a; Shevchenko et al., 2020).

Participants. The sample included graduates and postgraduates of the final years taking courses in the following educational programs (EP): the EP "Psychology", the EP "Economic cybernetics", the EP "Legal science" and the EP "Sociology". The research was organized in the following higher education institutions: Kherson State University (Kherson, Ukraine) (n=42); Ivan Franko National University of Lviv (Lviv, Ukraine) (n=53) and Horlivka Institute for Foreign Languages of the State Higher Educational Institution "Donbas State Pedagogical University" (Bakhmut, Ukraine) (n=21). The principle of randomness was taken into consideration while selecting the sample. At

the same time, we represented those higher education institutions which moved because of occupation and the imposition of the martial law to the West of Ukraine (Ivano-Frankivsk) – Kherson State University and the East of Ukraine (Dnipro) – Horlivka Institute for Foreign Languages of the State Higher Educational Institution “Donbas State Pedagogical University”. The higher education institution Ivan Franko National University of Lviv is in the central part of Ukraine and operates at its location. The research participants’ age limits were from 20 to 50, the descriptive frequency characteristics made: $M=23.12$; $SD=2.45$. All the respondents represented a socioeconomic area. In total there were $n=116$ participants (females $n=78$; 67.24% and males $n=38$; 32.76%). The sample was organized in compliance with ethical requirements and the requirements concerning organization of empirical research.

Organization of research. A verification strategy for examining respondents’ psycho-emotional states was created in the form of comparison of the content parameters of psycho-emotional states under lockdown (Group 1) and martial law (Group 2). The empirical data were collected (Group 1) during the academic year 2020-2021, (Group 2) after the imposition of the martial law, i. e. after the 24th of February, 2022, using Google-form. Relevant psycho-diagnostic instruments were selected to reflect the phenomenon under study appropriately and determine significant differences. The test “Way of Coping Questionnaire” (“WCQ”) (Lazarus & Folkman, 1984) with standard forms was used to identify dominating coping-strategies. The test was adapted by the researchers T. Kriukova and Ye. Kuftiak (2007). Eight strategies were taken into consideration: Self-Control (SC); Confrontation (CF); Seeking Social Support (SSS); Distantiating (DT); Planning to Solve a Problem (PSP); Accepting Responsibility (AR); Avoidance (AD); Positive Reestimation (PR). Differentiation of points of the semantic unipolar scale had four-point grading: 0-1-2-3, i. e. from “never” – “0 points” to “often” – “3 points”. The coefficient of homogeneity α -Cronbach of the empirical data equaled $\alpha=.845$.

Examination of psycho-emotional states requires researchers’ special attention to the emotional-volitional sphere. The emotional sphere during the lockdown and the martial law has undergone

excessive pressure and permanent trials. Some respondents could not handle such psycho-emotional pressure. The following psycho-diagnostic instruments were used to measure depressiveness – the method “Zung Self-Rating Depression Scale” (“SDS”) (Zung, 1965) and to identify signs of neuro-psychic tension – the questionnaire “Neuro-psychic tension” (“NPT”) (Nemchin, 1983). The methods allowed determining the degree of manifestation of the above parameters. The coefficient of homogeneity α -Cronbach of the empirical data equaled $\alpha=.823$. The research on the psycho-emotional sphere would be incomplete if it did not involve measurement of anxiety. Anxiety was a dominating characteristic at the initial stages of the lockdown and the martial law, it was often accompanied by panic and despair turning into a mental block and desperation. The questionnaire “The Spielberger trait anxiety inventory” (“STAI”) (Spielberger, 1971) reflected parameters of situational reactive anxiety (SRA) and personal anxiety (PA). A parametric four-point scale was used. The coefficient of homogeneity α -Cronbach of the empirical data equaled $\alpha=.789$.

Application of the general scale “Psychological Well-Being” (PWB) with the questionnaire “The Scales of Psychological Well-being” (“SPW”) (Ryff, 1989) is considered to be appropriate in the diversity of the suggested measurements. The coefficient of homogeneity α -Cronbach of the empirical data equaled $\alpha=.809$.

Statistical Analysis. The obtained empirical data were processed and comparison was performed by means of the computer program “SPSS” v. 27.0. The key descriptive frequency characteristics were used in the comparison. The level not lower than $p \leq .05$ is considered to be a reliable level for scientific conclusions.

Results and discussion

The research results were interpreted through descriptive frequency characteristics of the average measurements (M and SD). The empirical data were presented as comparison of the content parameters of psycho-emotional states under lockdown (Group 1) and martial law (Group 2). Tabl. 1 presents comparison of all the parameters under study.

Table 1.

Comparison of the average data by psycho-diagnostic methods Group 1 ($n_1=58$) and Group 2 ($n_2=58$)

Scale	Group 1		Group 2		Student's t-test	Level of significance
	M ₁	SD ₁	M ₂	SD ₂		
SC	71.34	±15.12	68.05	±14.89	.3675	–
CF	47.45	±13.21	49.09	±14.33	.4091	–
SSS	41.03	±12.34	42.22	±12.49	.9045	–
DT	48.34	±14.09	49.45	±14.78	.8091	–
PSP	64.12	±20.19	62.19	±19.37	.7322	–
AR	52.87	±17.34	51.45	±16.89	.6561	–
AD	53.00	±17.56	52.99	±17.28	.7345	–
PR	47.07	±16.68	45.23	±15.58	.6081	–
SDS	44.78	±7.12	49.23	±7.99	.7334	–
NPT	43.24	±7.22	48.78	±7.49	.6012	–
SRA	35.12	±8.76	38.43	±8.91	.5609	–
PA	36.14	±9.45	39.03	±9.89	.6438	–
PWB	351.19	±49.33	351.19	±49.33	.7770	–

Source: Personal elaboration, 2021-2022.

Note: Group 1 – data on the group of the research participants under lockdown; Group 2 – data on the group of the research participants under martial law; M₁ – arithmetic mean Group 1; M₂ – arithmetic mean Group 2; SD₁ – mean square deviation Group 1; SD₂ – mean square deviation Group 2; SC – Self-Control; CF – Confrontation; SSS – Seeking Social Support; DT – Distantiating; PSP – Planning to Solve a Problem; AR – Accepting Responsibility; AD – Avoidance; PR – Positive Reestimation; SDS – self-rating depression scale; NPT – neuro-psyche tension; SRA – situational reactive anxiety; PA – personal anxiety; PWB – Psychological Well-Being.

Tabl. 1 shows a considerable advantage of the parameters determined during the lockdown that allows making a conclusion that the parameters registered during the martial law have an extremely negative tendency for mental health. At the same time, we can state that comparison of the key parameters of the research on psycho-emotional states of future specialists in a

socioeconomic area by the coefficient Student's t-test did not allow registering any significant differences. Therefore, a lack of significant differences of the content parameters examined under lockdown (Group 1) and martial law (Group 2) confirms the first hypothesis of our research that there are no differences.

Table 2.

Factor analysis of psycho-emotional states in Group 1 and Group 2

Group 1, (n=58)				Group 2, (n=58)			
Identification of factor loadings	V	d	∑d	Identification of factor loadings	V	d	∑d
1F1	5.437	23.89	23.89	2F1	5.834	25.12	25.12
1F2	3.567	15.88	39.77	2F2	4.003	17.45	42.57
1F3	2.322	9.12	48.89	2F3	2.950	10.47	53.04
1F4	1.834	6.34	55.23	2F4	2.001	8.03	61.07
1F5	1.256	4.68	59.91	2F5	1.758	5.78	66.85
				2F6	1.109	3.04	69.89

Source: Personal elaboration, 2021-2022.

Note: Group 1 – data on the research group under lockdown; Group 2 – data on the research group under martial law; V – value; d – dispersion; ∑d – sum dispersion; 1F1 – isolated activeness; 1F2 – destructive isolation; 1F3 – a change in the values of the current situation; 1F4 – pragmatic avoidance; 1F5 – constructive interaction; 2F1 – uncontrolled passiveness; 2F2 – controlled passiveness; 2F3 – moderate helplessness; 2F4 – depressiveness; 2F5 – constructive interaction; 2F6 – a change in the values of the current situation.

In the sample of Group 1, undergoing measurements during the ongoing COVID-19 pandemic, there were five factors loaded with their own values more than unity making the total dispersion $\sum d=59.91\%$. In the sample of Group 2, undergoing measurements during the imposition of the martial law, there were six factors loaded with their own values more than unity making the total dispersion $\sum d=69.89\%$. The following factor loadings were identified in Group 1: 1F1 ($V=5.437$) – isolated activeness is the most loaded psycho-emotional state during the lockdown. It shows that the respondents in which this state dominates are inclined to be isolated, they do not take responsibility and have poor communication with other colleagues; 1F2 ($V=3.567$) – destructive isolation. Confrontation dominates in such respondents. They do not seek social support and do not accept others while solving their problems; 1F3 ($V=2.322$) – a change in the values of the current situation. The respondents evaluate the current situation critically, try to find a way out, make few decisions, mainly contemplate and evaluate; 1F4 ($V=1.834$) – pragmatic avoidance. The desire to avoid responsibility dominates, the respondents are characterized by an immature social position and indifference; 1F5 ($V=1.256$) – constructive interaction. This mental state is accompanied by the desire to solve a problem, readiness to act and take responsibility. The following factor loadings are identified in Group 2: 2F1 ($V=5.834$) – uncontrolled passiveness. Such respondents are inclined to fall into despair. They experience emotions caused by the loss of their homes for a long time. This psycho-emotional state is the most loaded during the war; 2F2 ($V=4.003$) – controlled passiveness. It is accompanied by making a plan of actions and control, but there are no motivation and potential to follow the outlined scenario of the course of actions. It is frequently accompanied by strong emotions and unrealized expectations; 2F3 ($V=2.950$) – moderate helplessness. This state resembles the previous one to a certain degree, but there is inclination to avoid solving a problem, to think over the ways to ignore a problem without solving it; 2F4 ($V=2.001$) – depressiveness. The respondents with the dominating psycho-emotional state of depressiveness are severely depressed and need psychological support; 2F5 ($V=1.758$) – constructive interaction. During the martial law few respondents are ready to handle the situation calmly, make appropriate decisions and control the course of actions; 2F6 ($V=1.109$) – a change in the values of the current situation. This state is characteristic of the respondents who start believing that their life goes on in spite of the losses: human, moral and material.

The rest of the factors in Group 1 and Group 2 were not reflected in Tabl. 2, since their loadings were less than unity. Therefore, we can state that five factors (59.91%) made the factor structure of psycho-emotional states of future specialists in a socioeconomic area during the lockdown, and six factors (69.89%) made the factor structure under martial law.

There can be found many studies outlining content parameters, their features, impact and respondents' mental states during the ongoing COVID-19 pandemic (Haffejee et al., 2022). There are articles describing research carried out under martial law (Joshi & O'Donnell, 2003; Murthy & Lakshminarayana, 2006). The above papers reveal the consequences of the impact of war and terrorism on a child's mind (Joshi & O'Donnell, 2003) and the consequences of war affecting mental health of people who became war victims (Murthy & Lakshminarayana, 2006). There is a study comparing psychological well-being of young students during the ongoing COVID-19 pandemic and martial law (Savelyuk, 2022). The researcher found out that in "COVID-epoch" and at the beginning of the war in Ukraine, in young students there are certain statistically significant differences, both positive and negative, in the context of psychological well-being. The author stated that positive transformations of the corresponding experiences of psychological well-being are mostly related to "Autonomy", and negative transformations – to "Space management". The data obtained by N. Savelyuk (2022) in the dimension "Autonomy" are confirmed by our data on psycho-emotional states under lockdown: isolated activeness (1F1); destructive isolation (1F2); pragmatic avoidance (1F4). All these states are characterized by autonomy which acquired a new content under lockdown, respectively, the respondents have less potential in "Space management".

The obtained identification of factor loadings (see Tabl. 2) showed significant differences in the form of the factors, in spite of the fact that there were no significant differences in the psychological content parameters. It proves that the factor analysis ANOVA was selected for examination of psycho-emotional states rather appropriately. But even under such conditions, it did not allow comparing the identified states. It confirms the fact that we observed essentially different psycho-emotional states of the respondents under war, which require further differentiation and substantiation of their psychological nature. We can state that the second hypothesis was not confirmed and was

not disproved since there are significant differences in the respondents' psycho-emotional states, but we cannot identify them by means of coefficients, and it is impossible to compare them. However, the established scientific facts are of value that should be taken into consideration by organizers of educational and professional training for specialists in a socio-economic area.

Conclusions

1. The research substantiates that quality of education for specialists and their ability to develop general and specific competencies in the area of educational and professional training depend on dominating psycho-emotional states.
2. It was established that psycho-emotional states of future specialists in a socio-economic area are an integral complex of the respondents' dominating characteristics which have an impact on the process and results of educational and training activity.
3. It was determined that in the comparison of the selected complex of psychological content parameters in Group 1 and Group 2 there were no significant differences that allowed confirming the first hypothesis.
4. The factor analysis ANOVA was used to make the factor structure of psycho-emotional states of future specialists in a socio-economic area under lockdown consisting of five factors (59.91%) and the factor structure under martial law consisting of six factors (69.89%).
5. The obtained data on psycho-emotional states under lockdown and martial law are essentially different that does not allow determining significant differences by means of statistical coefficients. Consequently, it allowed neither confirming or disproving the second hypothesis.
6. The research substantiates that the identified scientific facts are of value that should be taken into consideration by organizers of educational and professional training for specialists in a socio-economic area.

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