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Research of the dominant psycho-emotional states of university lecturers during the progression of the COVID-19 pandemic

Дослідження домінуючих психоемоційних станів викладачів закладів вищої освіти під час прогресування пандемії COVID-19

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Abstract

The aim of the article was empirical research of dominant psycho-emotional states of university lecturers during the progression of the COVID-19 pandemic. The article is devoted to an empirical study of the factor structure and the prevailing correlations between the psychoemotional states of the respondents. Valid empirical methods with standardized questionnaires were used: the dominant coping research method, the test differentiation of emotional states, and the anxiety research method. The study's empirical picture constructed. Psycho-emotional states were qualitatively interpreted, states were distinguished, and semantic psychological parameters were defined. The factor structure of dominant psycho-emotional states of university lecturers was determined. The psychoemotional state of F1 "Isolated activity", which had the most intercorrelations and had the most $(p \le .01)$ correlation significant with "Pragmatic avoidance" (.344), was found to have

Анотація

Метою статті було емпіричне дослідження психоемоційних станів домінуючих викладачів закладів вищої освіти під час прогресування пандемії COVID-19. Стаття присвячена емпіричному дослідженню факторної структури та превалюючих взаємозв'язків психоемоційних респонденів. Застосовано валідні емпіричні методи зі стандартизованими анкетами: методика дослідження домінуючих копінгстратегій, тест диференціювання емоційних станів і методика дослідження тривожності. Побудовано емпіричну картину дослідження. Якісно інтерпретовано психоемоційні стани, виокремлено один стан від іншого, окреслено змістові психологічні параметри. Визначено факторну структуру домінуючих психоемоційних станів викладачів закладів вищої освіти. Встановлено, що найбільше факторне навантаження отримав "ізольована психоемоційний стан F1 активність", який має найбільше

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the greatest factor load. It was empirically established and theoretically substantiated that the structure, variables, and interdependence of the factors of dominant psycho-emotional states were important components in solving issues of lecturers' professional activity. It was noted that the findings may be useful for university administrations and pedagogical psychology researchers.

Key words: mental state, pedagogical activity, educational process, psychology of lecturer.

Introduction

Our entire planet has been overwhelmed by the COVID-19 pandemic. It is difficult to imagine a person or group of people who are unaware of the progression of the COVID-19 pandemic in a civilized world and the terrible consequences that civilization has suffered and continues to suffer. Every aspect of human existence has been confronted with a challenge that has forced them to orient themselves and concentrate their efforts on overcoming it. In addition, the new socioeconomic reality that has emerged has created new opportunities for humanity. The educational sphere is not an exception, but perhaps the flagship of using such opportunities and introducing innovations. The psychoemotional load that employees of all levels of education are forced to bear, motivates us to focus on this area of research.

An enormous number of researchers are scientifically interested in the study of problems in the psychological-emotional sphere of personality. That sought, first and foremost, to identify patterns and determinants of core psychological education in human activity (Izard, 2007; Prokhorov et al., 2015b; Shevchenko et al., 2020b). Our research interest is in the study of the psycho-emotional load received by university lecturer in the context of their professional activities in a quarantined situation. Educators' professional activities are being influenced by current socio-cultural changes and challenges. Since the psychoemotional state cannot exist apart from activity, the intercorrelations, structure, and deep essence of this psychological phenomenon can only be clarified through current activity.

There are studies in the scientific literature that investigate an individual's mental state in various areas of their activities, such as education (Halian

взаємозв'язків, і має найбільш значуше (р≤.01) співвідношення з F4 "прагматичне уникнення" (.344). Емпірично встановлено і теоретично обґрунтовано, що структура, змінні i взаємозалежність факторів домінуючих психоемоційних станів важливими складовими у вирішенні завдань професійної діяльності викладачів. Зазначено, що результати можуть бути корисні адміністраціям університетів, дослідникам педагогічної психології.

Ключові слова: психічний стан, пелагогічна діяльність, освітній процес, психологія викладача.

et al., 2020b; Prokhorov et al., 2015b), sports, marine, and other areas (Nosov et al., 2020b: Shevchenko et al., 2020a). Researchers discovered and validated a significant list of psychological parameters (Halian et al., 2020a), provided an interpretation of semantic features (Blynova et al., 2020a), and proposed appropriate psychodiagnostic tools (Blynova et al., 2020c). Psychological semantic parameters psychoemotional states, as well as motivational states, are described in a variety of sources as structural components of an integrated phenomenon multifaceted (Krupnyk Tkalenko, 2019; Popovych et al., 2020c; Pinkovetskaia et al., 2020). Such interpretation results in the multifaceted content of the studied phenomenon's categoricalconceptual content as well as uncertainty in the system of psychological concepts. At the same time, we should state that the substantiation of a significant list of psychological semantic parameters in the known concepts of dimensions of professional activity (Blynova et al., 2020d; Popovych et al., 2021a), professional development, and personality development (Blynova et al., 2020d; Popovych et al., 2021a) (Tsiuniak et al., 2020) were found.

According to V. Prokhorov et al. (2015a), mental state is a general functional level of mental activity that is affected by a person's professional activity or even inactivity, as well as their individual psychological characteristics. Mental states can be stable, changeable, situational, short- and long-term, and personal, with a variety of classification characteristics (Prokhorov et al., 2015a).

In summary, dominant psychoemotional states are mental states that combine mental processes with features. Dominant psycho-emotional states

have the potential to be important regulators of successful activity. In order to effectively organize educational activities, university's administration must understand the structure and psychological content of lecturers' psychoemotional states. The type of dominant psychoemotional state has a direct impact on the educational activity's success. We believe that the understanding of the semantic parameters of psycho-emotional states by the educational institution administrators will allow them to operationalize the solution to production problems related to educators, which can have a significant impact on student training. Researchers discovered that mental states of expectation have an impact on the functioning of mental processes and have the potential to reoccur. Systemic repetition contributes to the stability of mental processes, which are transformed into personality traits as a result of activity (Popovych et al., 2021b). Internality, externality, activity, passivity, openness, and closeness are all characteristics that accompany the process of professional activity (Popovych et al., 2021b). Mental states, according to C. Izard (2007), are closely related to mental activity and can manifest as mental stress. Mental states have the ability to adapt to person's needs and desires, utilizing their capabilities and resources to ensure its development in specific living conditions (Prokhorov et al., 2015b).

We define an university lecturer's dominant psycho-emotional state as the integrated set of available characteristics that affect the outcome of their professional activities: the implementation of educational, upbringing, teaching, and research tasks.

Theoretical analysis of the scientific literature has revealed that the place and role of lecturer's dominant psycho-emotional states in universities are poorly understood. Regardless of its importance and relevance, the outlined problem requires empirical research and substantiation in a new dimension, as determined by the realities of today's COVID-19 pandemic.

Hypothesis. We suspect that the framework, parameters, and interrelatedness of the variables impacting university lecturers' dominant psychoemotional states are crucial aspects of their professional activity.

The aim of the article is to theoretically analyze and empirically study the dominant psychoemotional states of university lecturers during the progression of the COVID-19 pandemic; an empirical study of the factor structure and the

prevailing correlations between psychoemotional states of respondents.

Materials and methods

The interpretation of the dominant psychoemotional state, as an extremely important psychological content parameter of emotional-volitional sphere of personality, represented as the study's methodological starting point. A person's psycho-emotional state is a reflection of how they organize their mental and emotional activity. It reflects a person's readiness to perform activities due to their semantic features and attitudes. Mental states are the stable integration of all of person's mental manifestations during any of interactions with the environment. The mental states are reflected in the organization of the psyche. The psyche is a brain function that has the ability to reflect reality. At the same time, our empirical study of dominant psycho-emotional states requires careful research into the educational professional activities of lecturers. These views are methodologically confirmed in the study of cognitive states during intellectual activity of students through the structure of the state of interest / mental stress (Prokhorov et al., 2015b), in the study of mental state of expectation in educational and professional activities (Popovych et al., 2021b), in studies of the mental state of chronic fatigue, which impairs physical performance (Marcora et al., 2009), also in studies of other aspects of people's performance (Nosov et al., 2020a; Zinchenko et al., 2019; 2020). The study's empirical picture is built around the investigation of social expectations as a mental state of person (Popovych et al., 2021b). Participants. Lecturers from the following universities participated in the study: Kherson State University (Kherson, Ukraine) (n=12); Classical Private University (Zaporizhzhia, Ukraine) (n=23); Volodymyr Dahl East Ukrainian National University (Severodonetsk, Ukraine) (n=19). The age of the respondents ranged from 26 to 67 years old. Respondents were selected randomly with different family and social status and professional experience. They represented the social sciences, as well as the technical, physical, and mathematical sciences. The total number of participants was 54 people (45 female respondents, which represented 83.33%, and 9 male respondents, which represented 16.67%). The respondents' average age was 52.12 years. The empirical study was organized and conducted in compliance with all ethical requirements of the Committee on the Rights of Experiments, which are stated in the Declaration of Helsinki (2013).



Organization of Research. In 2020, and specifically from March to December, standardized questionnaire tests. which measured the studied variables of respondents were used. The coping test "Way of Coping Questionare" ("WCQ") was used (Lazarus & Folkman, 1984). The test was adapted by T. Kriukova and Ye. Kuftiak (2007). The following psychodiagnostic variables, which are coping strategies in an empirical situation, were measured: self-control, confrontation, pursuing support networks, distantiating, drawing up plans to resolve issues, accepting responsibility, avoidance, and positive reestimation. The semantic unipolar differentiated four-point scale was used. Scale values range from 0 (never) to 3 (often). The parameter of internal consistency α-Cronbach was $\alpha = .812$. The "Differential" Emotions Scale IV-A" method ("DES, version IV-A") (Izard, 2007) was used to measure the respondents' emotional states. The method differentiates ten emotional states: anger; disgust; interest; joy; surprise; fear; shame; grief; contempt; guilt. Also, the eleventh parameter is measured - the coefficient of self-feeling. The semantic unipolar differentiated four-point scale was used. The value of the scale - from 1 (not suitable at all) to 4 (absolutely true). The parameter of internal consistency α-Cronbach was $\alpha = .865$. Scale of self-assessment of reactive (situational) and personal anxiety ("SSRPA") the next psychodiagnostic method (Spielberger, 1971). Yu. Khanin (1976) adapted

the questionnaire. Two parameters relevant to the context of our study were taken: self-assessment of anxiety, which reflects situational reactive anxiety, and self-assessment, which reflects personal anxiety. The semantic unipolar differentiated four-point scale was used. The value of the scale is from 1 (no, never) to 4 (quite correct). The parameter of internal consistency α-Cronbach was $\alpha = .789$. It is stated that the reliability indicators of the applied α-Cronbach methods and tests are within the medium (.8) and high levels (.9).

Statistical Analysis. The statistical software package "SPSS" v. 24.0 was used to provide maintenance. Correlation statistical relationships were determined using the Spearman correlation coefficient (r_s). ANOVA factor analysis was used, as well as the Promax main component method of oblique rotation. The primary frequency characteristics have been established. Significant reliability parameters were recorded at a level not lower than $p \le .05$.

Results

The descriptive frequency characteristics of psychological semantic parameters determined using selected psychodiagnostic methods. The obtained psychological semantic parameter results were determined by using the minimum (Min), maximum (Max), arithmetic mean (M), and standard deviation scales (SD).

Table 1. The frequency characteristics of psychological content parameters according to "WCO" (n=54)

Scale	Min	Max	M	SD
Self-control	16.33	83.67	70.45	15.07
Confrontation	16.33	74.67	46.11	19.11
Pursuing support networks,	12.25	70.67	41.12	12.31
Distancing	12.25	82.67	48.91	14.15
Drawing up plans to resolve issues	12.25	82.67	65.09	21.03
Acceptance of responsibility	16.33	81.43	53.39	18.98
Avoidance	17.00	82.67	53.37	17.98
Positive Reestimation	12.25	71.33	47.29	16.90

Source: Personal elaboration, 2021.

Note: M – arithmetic mean; SD – mean-square deviation.

Table 2 demonstrates the frequency characteristics according to the method "DES, version IV-A" (Izard, 2007).

Table 2. The frequency characteristics of psychological semantic parameters according to "DES, version IV-A" (n = 54)

Scale	Min	Max	M	SD	
Anger	3.0	10.0	6.56	1.78	
Disgust	3.0	6.0	3.21	.89	
Interest	3.0	11.0	7.12	2.78	
Joy	3.0	11.0	10.11	2.44	
Surprise	3.0	13.0	6.67	2.55	
Fear	3.0	9.0	4.12	1.68	
Shame	3.0	9.0	4.44	1.56	
Grief	3.0	6.0	3.45	.77	
Contempt	3.0	10.0	3.57	1.79	
Guilt	3.0	8.0	3.78	1.56	
Coefficient of Self-feeling	0.8	2.8	1.89	.89	

Source: Personal elaboration, 2021.

Note: M – arithmetic mean; SD – mean-square deviation.

Table 3 demonstrates the frequency characteristics of the questionnaire ("SSRPA") (Spielberger, 1971).

Table 3. The frequency characteristics of psychological semantic parameters according to "SSRPA" (Spielberger, 1971) (n = 54)

Scale	Min	Max	M	SD	
Self-assessment of Situational Reactive Anxiety	9.0	52.0	37.89	8.89	
Self-Assessment of Personal Anxiety	11.00	57.0	38.97	9.78	

Source: Personal elaboration, 2021.

Note: M – arithmetic mean; SD – mean-square deviation.

The study's empirical picture was a complex of twenty-one semantic psychological parameters. These parameters were methodologically sufficient and relevantly reproduce the subject features of the study of respondents' dominant psycho-emotional states. In the context of our study, the names of the scales were relevant and appropriate.

We presently moved on to the matrix of correlation variables, which was determined by the main component method with the Promax oblique rotation. Seven factors with loads greater than one are identified, and the sum of the variances of the variables are within 62.536 % (Tabl. 4).

Table 4. *The factor load matrix (seven factors, twenty-one variables)*

Scale	F1	F2	F3	F4	F5	F6	F7
Self-control	.502	312	.407				
Confrontation		.179	.649	532			
Seeking Social Support	456		512		356		
Distancing	.541	345	.439				
Planning to Solve a Problem	.371				.378	.509	
Acceptance of responsibility	712	378	.376				
Avoidance				.589		594	.295
Positive Reestimation		.577		409			.323
Anger	.774		019	.071			



Disgust	.751		041		.043		
Interest		.652	.021				
Joy				.076	.583		
Surprise		.553			.341	127	
Fear	.884			.076			
Shame		056	.545	.069			
Grief	.859				.034		151
Contempt	.732				.353	091	
Guilt		.487	.506				
Coefficient of Self-	.760		019			.257	
feeling	.700		019			.237	
Self-assessment of							
Situational Reactive	.588					195	215
Anxiety							
Self-Assessment of	.312		.563				524
Personal Anxiety	.312		.303				324
Dispersion, %	21.418	10.175	9.938	7.160	6.412	5.012	2.421
\sum dispersion, %	21.418	31.593	41.531	48.691	55.103	60.115	62.536
Value	9.502	4.514	4.409	3.177	2.8445	2.223	1.074

Source: Personal elaboration, 2021.

Note: Loads of significant variables are highlighted in bold. The principal component method is a method for selecting factors.

F1 "Isolated activity" showed the dependence of the dominant psycho-emotional state of the lecturer, who, in connection with the quarantine distanced themselves, had a significant self-assessment of situational reactive anxiety. This psycho-emotional state was accompanied by pessimistic emotions such as anger, disgust, fear, grief, and contempt. Accordingly, the coefficient of self-feeling that loaded this mental state had a significant level (.760). The action of this factor outlined the psychoemotional state of isolated activity, without the desire to take responsibility for the tasks of professional activity.

F2 "Inquisitive reestimation" was a desire to rationalize the situation of uncertainty, an opportunity to find the positive in the current situation. Accompanied by emotions of interest and surprise, characterized by a reluctance to take responsibility and control the situation.

F3 "Destructive isolation" was a reflection of confrontation and the lack of desire to seek social support in the current situation. Respondents of this dominant psycho-emotional state were overwhelmed by emotions of shame and guilt.

F4 "Pragmatic avoidance" was planning to avoid a problem, which was partly not accompanied by a positive reevaluation of the real situation. This dominant psycho-emotional accompanied by the immaturity of emotions, a kind of indifference, without a deep experience of the real social situation.

F5 "Exaltation" consists of a variable, the content of which was a reflection of joy, accompanied by the activity of the respondent, without seeking social support. It seemed that such respondents were detached from reality. They rejoiced in changes in social reality without worrying about the consequences and losses of quarantine.

F6 "Constructive activity" was characterized by the desire of the subject to plan problem solving, to take responsibility. Such respondents strived to perform current tasks at the appropriate professional level. Their psycho-emotional state had a positive direction.

"Optimistic evaluation" showed respondents didn't have personal anxiety (-.524), were able to rationalize and positively reevaluate social reality, avoid responsibility, and psychoemotional state was accompanied by a desire to perform tasks responsibly. Such respondents were sure that everything will be fine.

The other factors were not included in our structure, because they had a load that is outside of the total variance, ie was less than .994.

We conclude the presence of seven main factors (62.536%), which determined the structure of psycho-emotional states of university lecturers (Fig. 1).

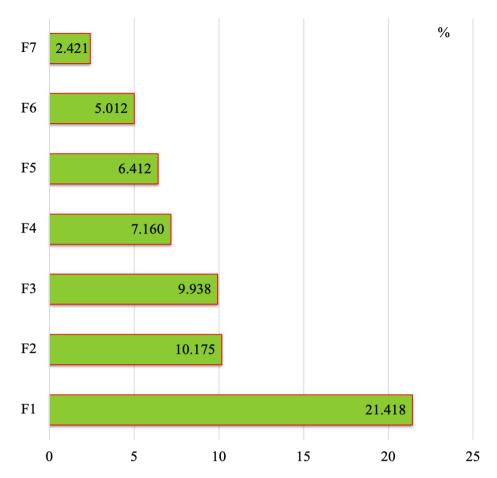


Figure 1. *The factor structure of university lecturers' psycho-emotional states.*Source: Personal elaboration, 2021.

Table 5 demonstrates the interdependence of the factors that determined the structure of university lecturers' dominant psycho-emotional states.

The strongest correlations between the established variables were investigated.

Table 5.The matrix of correlations of structural components of university lecturers' dominant psycho-emotional states.

Factor	F1	F2	F3	F4	F5	F6	F7
F1	1.000	036	113*	.356**	013	.145**	.130**
F2	036	1.000	011	021	.021	041	163**
F3	113*	011	1.000	.031	.039	006	025
F4	.356**	021	.031	1.000	179**	.109*	.038
F5	013	.021	.039	179**	1.000	269**	203**
F6	.145**	041	006	.109*	269**	1.000	.183**
F7	.130**	163**	025	.038	203**	.183**	1.000

Source: Personal elaboration, 2021.

Note: Method of factors selection: method of main components; rotation method: Promax with Kaiser normalization; * - statistically significant at $p \le .05$; ** - statistically significant at $p \le .01$.

The most significant positive relationship $(p \le .01)$ was the ratio of F1 "Isolated activity" and F4 "Pragmatic avoidance" (.344), and the most

significant positive relationship was F5 and F6 (-.269). F1 "Isolated Activity", F6 "Constructive Activity" and F7 "Optimistic Evaluation" had the





largest number of significant relationships with all factors - four. Thus, isolated activity is the most important component in contexts of psychometric properties of psycho-emotional state of mind of university lecturers. The most dependent factors in the structure were: F1, F6, and F7. The most independent factors of the dominant psycho-emotional states were F2 and

Discussion

There are almost no empirical studies in the scientific literature on the dominant psychoemotional states in lecturers' professional activities, except the study of this scientific problem, which is organized and conducted during the progression of the COVID-19 Professional formation pandemic. personality development have been considered by researchers in the context of solving, in their opinion, more important tasks related to professional identity (Blynova et al., 2020b; Popovych et al., 2020b), value orientations (Popovych et al., 2021c), critical thinking (Arbeláez-Campillo et al., 2020), and others. The present and the organization of the educational process during quarantine, encourage to focus on the study of the dominant psycho-emotional states of university lecturers. Organized research has a common starting point in scientific and methodological terms with the study of cognitive mental states in the process of intellectual activity of students (Prokhorov et al., 2015a; 2015b). Furthermore, the scientific facts we discovered are supported by research on the correlation between existential anxiety and the reason for the existence of personality (Popovych et al., 2020a). It is appropriate to point to the current study of existential semantic features during quarantine of feelings of anxiety and worry and the mediating role of existential anxiety and life satisfaction. This study qualitatively reflected the current situation regarding post-traumatic stress disorder symptoms and post-traumatic coping (Tomaszek & Muchacka-Cymerman, 2020).

The empirical data obtained by us, as well as the established factor structure of psychoemotional states, are related to a number of other studies conducted during the progression of the COVID-19 pandemic. In these dimensions, the researchers identified the features of the dimension control of the respondents' attitude, which in the context of activity/passivity and isolation/openness' dichotomous measurements, didn't contradict the current data. (Khmiliar et al., 2020). A. Hudimova (2021) identified social

media users' behavioral patterns in the context of social well-being. It is worth noting that the contours of our proposed dominant psychoemotional states are similar to the substantiated patterns of behavior of social media users (Hudimova et al., 2021). We contend that the majority of professional employment for lecturers during quarantine is reduced to work on social media and other online applications. The dominant psycho-emotional states of educators acquire resilience, stabilize, receive formation and development during professional activity. The studied states are able to transform into personality traits, which in turn can affect the content of lecturer's professional activities. Transformation of psycho-emotional states is a technological component of professional prosperity, acme. At the same time, the transformation of psycho-emotional states can lead to negative consequences - psychoemotional burnout, frustration, occupational crises, and deformities. Thus, the dominance of any psycho-emotional state has an impact on the semantic features of professional activity and the results of respondents. The most effective are F6 "Constructive Activity" and F7 "Optimistic Evaluation", which are able to maintain mental health and ensure the highest results. The dominant psycho-emotional "Destructive Isolation" and F5 "Exaltation" are the most dangerous. F3 has the fewest correlations with a pronounced coping strategy and no desire to seek social support. The obtained empirical data and theoretical substantiation support our hypothesis that the structure, variables, and interdependence of the factors influencing the dominant psycho-emotional states of university lecturers are important components of their professional activity. The operationalization of research results will assist in the effective organization of educators' professional activities.

Conclusions

- We state that the deep essence of university lecturers' dominant psycho-emotional states should be studied in the context of professional activity, during performance of educational tasks.
- The empirical results show that the dominant psycho-emotional states in professional activity are an extremely complicated complex formation. The chosen set of psychodiagnostic valid techniques and statistical data processing methods enabled to qualitatively interpret psychoemotional states, differentiate one state from another, and substantiate semantic features.

- 3. The framework of the dominant mental states, which consists of seven key trends, was determined using ANOVA factor analysis (62.536%). It is established that the most crucial element in the structure and function organization of the dominant lecturers' psycho-emotional state of mind is F1 "Isolated activity". The strongest significant positive correlation (p≤.01) has the ratio F1 and F4 (.344).
- 4. It is substantiated that the structure, variables, and interdependence of the factors of the dominant psycho-emotional states of university lecturers are important components of their professional activity. The operationalization of research results will contribute to organizing professional activity more effectively.
- It is generalized that the results of the research may be useful to university administrations, educators, as well as researchers in the field of pedagogical psychology, psychology of personality's professional activity.

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