

PAPER

University Teachers' Psychological State During the Stress of Online Education After Pandemic in Wartime in Ukraine

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ABSTRACT

Online education is a world need. Many universities continue providing online education. The first stress from pandemic and online teaching went on and university teachers managed to cope it. The next stress from wartime in Ukraine came and online teaching goes on, so university teachers manage to cope it again. The purpose of the research is to show university teachers' psychological state during online education after pandemic in wartime in Ukraine. For achieving the stated purpose, we applied the methods of analysis and synthesis, questionnaire, calculating methods, in particular, MS Excel. The questionnaire consisted of questions help to describe the psychological teachers state, fear, stress, anxiety. The participants of the research became 49 university teachers from Ukraine. The results are as follows. The most common negative impacts on mental health are depression, isolation, family danger, possibility of being attacked, pressure from the war, lack of social life. The most constructive impacts on mental health are morale, social media, chatting, good war news. It is recommended to use different resources to overcome university teachers' stress. They are faith, feelings, socialization, imagination, thinking, physiological activity. The conclusion is online education after pandemic in Ukraine is still stressful because of wartime. It is recommended to use different resources to overcome university teachers' stress.

KEYWORDS

questionnaire, stress, online, university teacher

1 INTRODUCTION

One of the main features of a modern person's life is a fast pace and the presence of a large number of various challenges, difficult and sometimes even extreme situations, different physiological and moral problems. The mentioned external influences may cause stress. Moreover, one or another level of stress is almost constant

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in our lives, since, according to the generally accepted understanding of the notion, stress is a reaction of the body in response to a very strong action or stimulus from the outside, which exceeds the norm. In addition, some researchers suppose that we need stress to live, move and survive as it mobilizes us to act, especially in wartime [22]. Nevertheless, the mentioned reaction is nonspecific, as well as it is a corresponding reaction of the nervous system.

That is why, on the one hand, any society needs its members to be stress-resistant for overcoming any challenges in different spheres of activity; on the other hand, psychological state of a person is under the effect of stress as a part of objective reality. Taking into consideration the fact that it is not a life event in itself that is stressful (change of job, exchange of housing, termination of a relationship, etc.), but the related loss of any position in life such as loss of status, earnings or power, change of usual means of work, loss of self-respect etc., during the pandemic a lot of people lost usual lifestyle.

It especially concerns Ukrainians, millions of which in wartime in 2022–2023 lost their home, job, thousands lost their relatives and friends due to military aggression. So, modern people faced long-lasting or even permanent stress that may become destructive and lead to deep depression.

Thus, it is significant to study the psychological state of a person during the stress not to miss the characteristic signs which signal that a person is approaching the critical value of stress. If a person understands his reaction to a stressful situation, he/she is able to learn to handle it.

Modern online, distance, mobile teaching and learning is a world need. Many universities, colleges, schools continue providing online education. The first stress from pandemic and online teaching went on and university teachers managed to cope it. The next stress from wartime in Ukraine came and online teaching goes on, so university teachers manage to cope it too. The research conducted among Ukrainian university teachers as for their psychological state, during long-lasting stress of 2 years pandemic and 1 year wartime, it may shed some light on the problem how to be stress resilient during online education even in wartime.

Thus, the **purpose** of the research is to show university teachers' psychological state during online education after pandemic in wartime in Ukraine.

2 LITERATURE REVIEW

A psychological state of a person in the pandemic is a subject of a great number of researches. So, there are national surveys analysing psychological impact of the pandemic in general, particularly, in Italy [4], Spain [15], Turkey [18], China [21] and Nepal [19].

A stress of online learning also attracts the attention of modern scientists. So, its essence was explored by researchers [13], [16]; the effect of stress on the body from a medical point of view was considered [2], [3], [6], [9]. Adaptation to stress was examined [5], [7], [17]. However, the problem of university teachers' psychological problems during online teaching and learning in wartime was not analyzed in details.

3 METHODOLOGY

3.1 Participants

The participants of the research became 49 University teachers, who took part in this study. All respondents are representatives of Ukraine, residents of Ukraine

(97.9%). Considering gender distribution, men make up 12.2% and 87.8% are women. The age categories of participants and the number of representatives of each age group are shown in the diagram below (Figure 1).

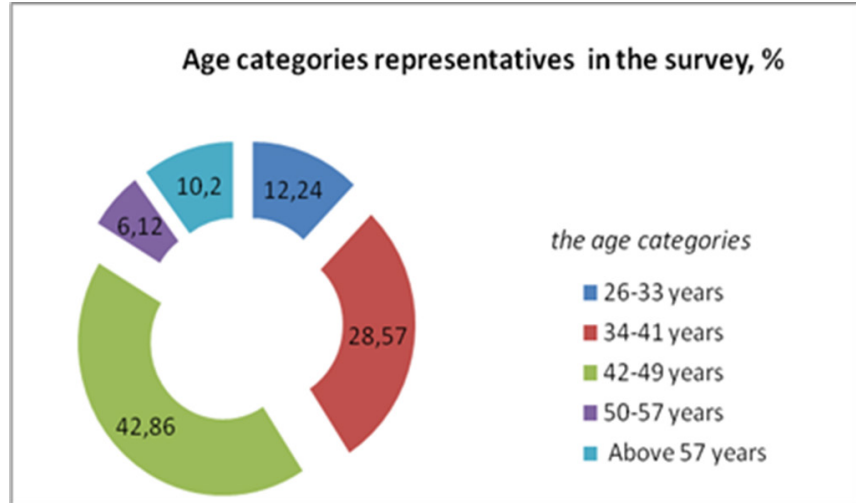


Fig. 1. Number of participants in our survey by age category in percentage terms

With regard to the qualitative composition of the survey participants, it should be noted that 67.4% of the participants have a PhD degree in various fields; 14.3% have a Professor diploma; 18.4% of those surveyed have no academic degree, just have Master Degree. The quantitative characteristics of survey participants with a certain teaching experience is presented in the diagram below (Figure 2).

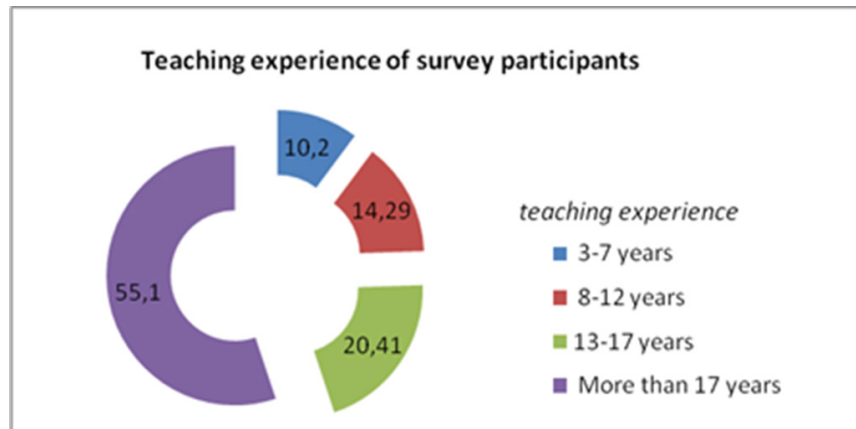


Fig. 2. Number of participants in our survey by their teaching experience as a percentage

3.2 Research methods

For achieving the stated purpose we applied the following methods: 1) general methods of theoretical level, namely: analysis and synthesis of psychological research on the problem under study in order to find out definition of the notion “stress”, understand its causes, stages and the features of the psychological state of a person under stress, and finally, to develop the questionnaire for investigating psychological

state and the level of stress of teachers – research participants; 2) empirical methods such as: questionnaire; 3) calculating methods, in particular MS Excel.

We received all the data after the pandemic in wartime, conducting an online survey of university teachers. A general Excel spreadsheet was created based on the results of our survey. All calculations were also performed using Excel tools.

3.3 Research procedure

Our questionnaire consisted of the group of questions helps to describe the psychological teachers state, do they have a fear, a stress, a feeling of overload, etc., because they lost a full social life due to necessary to be isolated.

Initially, we analyzed the composition of respondents by age, gender and experience of teaching. Having created a summary table of answers to the questions, we decided to investigate the patterns of answers to these questions depending on the teaching experience. Thus, in the table we sorted the answers of certain defined groups, performed calculations using Excel and created charts based on the results to discover some negative and constructive factors that impact on psychological teachers' state.

4 FINDINGS

4.1 Theoretical finding

Today the term “stress” is used in physiology, psychology, and medicine and denotes a wide range of human conditions that arise in response to various extreme influences. In our research we understand stress as a functional state of the body and psyche, which is characterized by significant violations of the biochemical, physiological, mental status of a person and his/her behavior as a result of the influence of extreme factors of a psychogenic and physical nature.

It is significant that stress may be both of negative and positive nature. Many pleasant events can also cause stress-like physiological reactions in a person, because from the point of view of the stress reaction, it does not matter whether the situation that a person encountered is pleasant or unpleasant. Only the intensity of adaptation to this situation matters. So, it is distinguished are two types of stress – distress associated with negative emotional reactions and eustress associated with positive emotional reactions. Our study deals with distress.

Speaking about the transition of stress into distress, the following factors can be distinguished: 1) emotional and cognitive factors (among them there is: lack of necessary information, negative forecast of the situation, feeling of helplessness in front of the problem that has arisen, etc.); 2) the prevailing force of stress over the adaptive capabilities of the body; 3) a long duration of stressful exposure, which leads to exhaustion of the adaptation resource.

As it has been noticed that severe stress accelerates the aging process, and moreover, it has even been proposed to consider stress as a measure of wear and tear on the body, it is vital to understand stages of distress development. There are three stages of distress: the alarm stage, the resistance stage and the exhaustion stage [5].

At the alarm stage the body mobilizes to meet the threat. Biological reactions that cause fight occur. From the point of view of physiology, these are certain changes: thickening of the blood, increased pressure, enlargement of the liver, etc. The body's

resistance first decreases (“shock phase”), and then protective mechanisms are activated (“anti-shock phase”). So, we can say that we endure stress for a while, and then the psyche weakens and becomes uncomfortable.

At the stage of resistance or adaptation the body’s resistance to stimuli increase, mental activity is activated, and the will and desire to overcome circumstances are mobilized. The organism tries to resist the threat or cope with it in the case if the threat continues to act and it cannot be avoided. Eventually, the body adapts to the stress and returns to a normal state. Due to the tension of the functioning systems, adaptation of the organism to new conditions is achieved. So, we learn to live with stress, we get used to it and say we have adapted.

However, if the stress factor is strong, it does not decrease and does not disappear, its effect continues and the person is unable to adapt, then the psyche enters the stage of exhaustion and it can deplete the body’s resources. Physiological responses exceed the norm, and this makes the body more vulnerable to other stressors. If a person does not understand that he lives in constant stress and does not eliminate it, it can even lead to fatalities.

The exhaustion stage is characterized by vulnerability to fatigue. Physical problems lead to diseases and even to the death of the body. The same reactions that allow us to resist short-term stressors – increasing the energy of muscle tension, preventing signs of pain, stopping digestion, increasing blood pressure – are harmful in the long term. The inability of protective mechanisms is revealed and the violation of the harmony of vital functions is increasing.

Considering psychological state of a person during long-lasting stress it is also important to keep in mind that, on the one hand, the stress reaction has a different manifestation in psychologically different people. For example, in active people the efficiency of activity increases, while in passive people it decreases sharply. And this is the basis of the psychological pressure of stress. On the other hand, a person’s stress reaction caused by a threat is strongly related to the internal psychological characteristics of the individual, the subject’s desire to cope with this threat. Certainly, to a large extent it depends on a degree of stress.

Although scientists distinguish three degrees of stress (weak, average, and strong), a weak degree indicates its almost absence, when neither changes in the mental state nor physical or physiological changes are noted. Noticeable changes in somatic and mental states appear with an average degree. They are the following: a general mobilization of mental activity is observed, which is often not characteristic of a person under normal circumstances: composure, organization, increased mental capacity, intelligence, self-confidence, lightning reaction, resistance to obstacles, activation of speech activity, a general positive assessment of this condition as a whole. In general, the nature of these changes is pleasant and positive.

However, long-lasting stress even if it started as a stress with an average degree, turns into equal to the strong degree one because such stress index as the intensity and duration of the impact of the stressor are interdependent; in addition, the body has limited reserves of adaptive capabilities. So, the picture changes significantly and is reversed with a strong degree when stress is severe or excessive. A person in such a state demonstrates a violation and disorder of the main physical, physiological and mental functions, the number of complaints about various unpleasant sensations and discomfort increases. Conscious control over the performance of activities deteriorates, difficulties in concentration, memorization, and thinking occur, the number of errors, unusual reactions, and inaccuracies increases, the role of automatic, stereotyped actions that displace creative, conscious, and voluntary actions increases. This condition is definitely harmful and should be stopped as soon as possible.

In addition, a distinction is made between physical stress associated with exposure to a real physical stimulus and psychological (emotional) stress associated with a person's assessment of the future situation as threatening and difficult. However, such a division is quite conditional, since physical stress always has elements of psychological (emotional) stress, and psychological stress cannot but have physiological changes. So, we cannot say that psychological state of a person will suffer only in the case of psychological (emotional) stress.

4.2 Practical findings

All our practical results are presented at the Table 1.

Table 1. Teachers' survey general results after pandemic in wartime of negative and constructive impacts of on their psychological state

Answer		Agree, %	Neutral, %	Disagree, %
Negative impacts on mental health	After pandemic in wartime, when I follow up with students, I feel exhausted and overwhelmed	69.39	22.45	8.16
	After pandemic in wartime, I feel depressed as I am not accustomed to the new situation of isolation	36.73	28.57	34.69
	After pandemic in wartime, I feel frustrated as I am not accustomed to the new teaching environment at home with family danger	32.65	36.73	30.61
	After pandemic in wartime, I have a feeling of anxiety of the possibility of being attacked	59.18	20.41	16.33
	After pandemic in wartime, I am not able to control my stress and anxiety	16.33	30.61	53.06
	After pandemic in wartime, I envisioned losing my job and financial burden	40.8	28.6	30.6
	After pandemic in wartime, I get angry and lose my balance easily because of the pressure from the war, my workload and increased family danger	24.5	36.7	38.8
	After pandemic in wartime, I feel stressed as I cannot practice my social life outside my house easily	48.98	28.6	22.4
Constructive impacts on mental health	After pandemic in wartime, I feel frustrated as I cannot practice any sport activities outside my house	26.5	26.5	46.9
	After pandemic in wartime, I get support to maintain morale from my university and/or colleagues	40.9	32.7	26.5
	After pandemic in wartime, I feel relief through exploring social media websites (e.g., Facebook, Twitter, Instagram, Telegram, etc.)	32.65	26.53	40.9
	After pandemic in wartime, I feel positive through practicing sports in-house	38.8	42.9	18.4
	After pandemic in wartime, I feel positively joyful when chatting with my colleagues in various social media Apps	38.8	30.6	30.6
	After pandemic in wartime, I get better mood when chatting with my children and/or my wife /husband	71.4	26.5	2.04
After pandemic in wartime, I feel cheerful when get to know good war news	71.4	20.4	8.4	

As for our study results, 69.39% of respondents feel exhausted and overwhelmed, most of them are representatives of the age category 42–49 years, and it is 47.06% of all who agreed with the statement that they are exhausted and

overwhelmed. Considering the answers of each age group, we observed that in this age category there are the most representatives with these feelings, as 76.2%.

Also, only 8.16% of all survey participants didn't identify these feelings in themselves. Representatives of the age category 42–39 years make up 75% of all respondents who do not experience an exhaustion feeling. But all representatives whose age is 26–33 years old or 50 and older state the presence of this feeling. At the same time, 42.9% of representatives of these age categories still define their condition as neutral.

There are 36.73% of teachers who feel depressed due to the situation that requires isolation, in addition, 34.69% are those who do not feel depressed, and 28.57% are those who cannot decide. 71.4% of respondents who do not experience depression are representatives of the age category 33–42 years, and 47.06% are representatives of the age category 42–49 years. The answers of respondents of these age categories can be seen in the Figure 3.

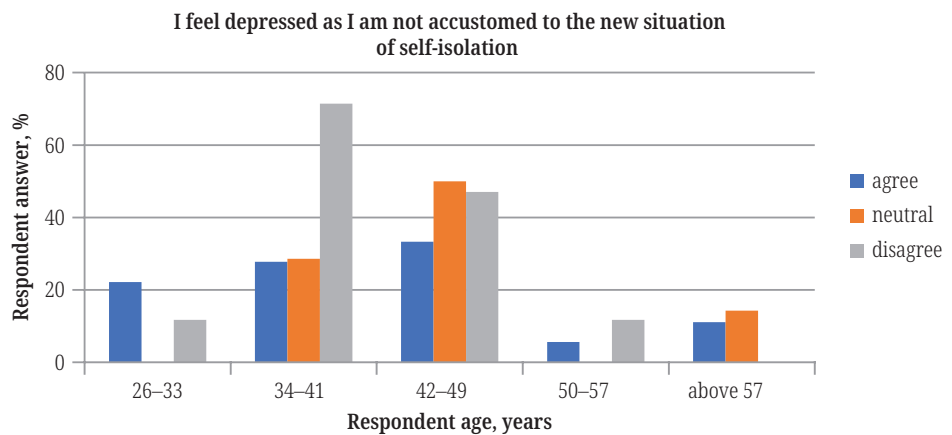


Fig. 3. Results of the question answers about the respondents' depression by age category

As we see the answers of the respondents of these age categories have equivalent indicators for three possible ones: agreement, disagreement and neutral. Similar results were obtained in the answers analysis to the question about the overt feeling of stress, frustration, which is associated with online teaching at home and family danger. Thus, 32.65% of the respondents admit that they have such a feeling, 36.73% have a neutral answer, and 30.61% of the participants do not agree with it, they don't feel it.

Asking a question about the anxiety feelings of the possibility of being attacked, we got the following results, that 59.18% of respondents are afraid of being attacked, 16.33% of respondents are not afraid, and 20.41% of respondents have a neutral attitude towards attacked. At the same time, 60% of all surveyors, who expressed a neutral attitude to the possibility of becoming attacked, are people of the age category of 34–41 years. The greatest concern about the possibility of attack was expressed by representatives of the age category of 42–49 years (51.72%). Those, who don't have a feeling of anxiety of the possibility of being attacked more than others, are representatives of 34–41 years (37.5%) and 42–49 years (37.5%) age categories.

But not everyone loses balance due to increased family stress and in a certain way tries to maintain it and does not allow the feeling of anger to dominate. The most successful in this are people 42–49 years old (42.1%). Unexpectedly enough, but, at the same time, representatives of this age category (42–49 years) more often demonstrate uncertainty about their feelings (52.9% of all respondents who have neutral answer). Only 24.5% of our respondents get angry and lose their balance

easily because of the pressure from the war, their workload and increased family danger, most of them are people 34–41 years old (41.6%).

Disappointment feeling that the social life outside house is not possible was revealed at 48.98% of our respondents, the most interviewers' numbers, who have it, are teachers of the 42–49 years old age category (41.7%). Representatives of the 50–57 years age category have the least concern about the lack of social life outside the home (only 4.2% of respondents have stressed over the lack of a social life).

It is clearly, because some Ukrainians at this age already have grandchildren; they help their children to foster them, so they spend most of time with family. Analyzing the responses of the 26–33-year-old age group, we see that they do not have any discomfort at all regarding to the changes in the activity of the external social life. It is a completely explainable fact, because this generation is already accustomed to create relationships in the virtual world and they can easy transfer their social activity into the Internet space.

The social life restrictions after pandemic in wartime entail the decreasing of physical activity. We found out whether our respondents are upset because of the restriction to play sports after pandemic events. Only 26.5% of all respondents expressed their concern about the inability to sport activities, while 46.9% of respondents believe that there are other forms of sports. The most progressive were representatives of the 42-year-old age category. Really, the true context of their disagreement with the statement remains unclear. They either do not exercise at all or are considering alternative ways of exercising. We have not carried out a deeper study of this issue.

However, despite the large number of negative factors after pandemic in wartime, we still tried to find a few points with a constructive outcome from numerous disadvantages. So, we found out that 38.8% of respondents experience positive feelings from doing sports at home, and a large part (42.9%) of the participants in our survey has a neutral opinion, and only 18.4% of those interviewed are not satisfied with this type of physical activity or the place for doing sports.

Unfortunately, not all interviewed teachers are friendly with social networks and they are just beginning to get used to using them in their work [10]. Thus, 40.9% of respondents don't feel relief through exploring social media websites, e.g., Facebook, Twitter, Instagram, Telegram, etc., of which 50% are representatives of the 42–49 age group.

The situation is similar with feeling of positively joyful when chatting with their colleagues in various social media Apps. Only 38.8% of the respondents confirm the presence of this feeling, but 30.6% of the participants determine its absence, and the same number of respondents indicates a neutral answer. Also, only 40.9% of our interview participants get support to maintain morale from the institution and/or colleagues and 26.5% of respondents don't get it. At the same time, 71.4% of interiors say they get better mood when chatting with children and/or wife /husband and they feel cheerful when get to know good war news. Thus, it shows us that our participants – university teachers – concern the general situation in the country, they are empathetic personalities, and they focus on their family and relatives, war news, health, online job.

So, to overcome university teachers' stress, it is recommended to use different resources. They are faith (belief and values); feelings (affect and emotions); socialization (family support, groups, friends); imagination (creativity); thinking (cognition, thoughts); physiological activity (body, exercises). Definitely, everyone uses these resources, but often actively using one or two resources, others are not taken into

account. To develop stress resilience, it is time to think about how to master a new strategy and improve the skills of sharing emotions, feelings, thoughts and worries around yourself, remember or create a hobby that gives you pleasant emotions, give yourself the freedom to cry sometimes, talk about your sadness and ask for the care and emotional support openly.

5 DISCUSSION

The factors of online teaching and learning that worsen mental health and lead to stress, anxiety, and depression during pandemic restrictions were investigated [11], [12], [14]. Scholars studied the pandemic impact on psychological state of different professional groups such as medical workers [23]; University teachers [8]; University students [1], [20] and others. So, there are not enough results to discuss and give more recommendation to overcome the teachers' stress in wartime.

6 CONCLUSIONS

Strong external stimuli disrupt the internal balance. The body reacts to any stressor, pleasant or unpleasant, with a non-specific physiological arousal. This reaction is protective and adaptive. The development of stress and adaptation after pandemic in wartime in Ukraine to it goes through several stages. The time of progression and transition to each stage depends on the level of resistance of the body, the intensity and duration of the impact of the stressor. The body has limited reserves of adaptive capabilities to prevent and eliminate stress – their exhaustion can lead to illness and death. It is recommended to use different resources to overcome the teachers' stress.

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