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## Psychological health of personnel of educational and scientific organizations under conditions of war (Ukrainian experience)

### Salud psicológica del personal de organizaciones educativas y científicas en condiciones de guerra (Experiencia Ucraniana)

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#### Abstract

Open Russian aggression against Ukraine, which began on February 24, 2022, quite predictably had a negative impact on the whole Ukrainian society. At the same time, employees of pedagogical and scientific industries experienced significant pressure, as they were among the vulnerable categories of the population subjected to special repressions in the occupied territories, and in subordinate Ukraine experienced restrictions due to the general fall of the standard of living. With this in mind, the purpose of the article is to analyze the psychological health of the personnel of educational and scientific institutions during martial law in Ukraine. Methods of comparison, content analysis, systematic approach, abstraction, predictive method, and modeling were used to write the floor. As a result, based on theoretical knowledge and certain empirical generalizations the formation of psychological problems of teachers and mechanisms of their overcoming are demonstrated. Particularly, the constituent parts

#### Resumen

La agresión abierta de Rusia contra Ucrania, que comenzó el 24 de febrero de 2022, tuvo, como era de esperar, un impacto negativo en toda la sociedad ucraniana. Al mismo tiempo, los empleados de las industrias pedagógicas y científicas experimentaron una presión significativa, ya que se encontraban entre las categorías vulnerables de la población sometida a represiones especiales en los territorios ocupados, y en la Ucrania subordinada experimentaron restricciones debido a la caída general del nivel de vida. Teniendo esto en cuenta, el propósito del artículo es analizar la salud psicológica del personal de las instituciones educativas y científicas durante la ley marcial en Ucrania. Para su redacción se utilizaron métodos de comparación, análisis de contenido, enfoque sistemático, abstracción, método predictivo y modelización. Como resultado sobre la base de los conocimientos teóricos y ciertas generalizaciones empíricas se demuestra la formación de los problemas psicológicos de los profesores y los mecanismos de su superación. En particular, se

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of professional burnout of pedagogical workers are demonstrated, but also the mechanisms of protection against stressful situations which are available for use even during the continuation of military operations are suggested. The article also draws attention to the problem of the psychological health of scientific workers - it says about the gradual decline of labor prestige and funding of the scientific industry, especially intensified during the war. The average age of scientists in Ukraine is quite high, so it entailed a decrease in the level of self-control and increased dependence on the opinion of others. The conclusions summarize ways to improve the psychological state, noting that the continuation of war and destruction will have a further negative impact.

**Keywords:** Psychological health, personnel of educational and scientific organizations.

## Introduction

The Russian military aggression actualized many problematic aspects of the functioning of public institutions, state mechanisms, sectors of the economy, individual collectives, etc. Certain areas of functioning turned out to be unadapted to the wartime and ceased to work properly. The experience of solving and confronting these challenges is extremely important and valuable not only for Ukraine but also for Europe as a whole. European countries have not faced the threats and consequences of hostilities since the 1990s when war engulfed the Balkan Peninsula. Therefore, a detailed consideration of certain aspects of the impact of Russian aggression on Ukrainian society is extremely important because highlighting certain rules and principles of confronting the latest threats, unfortunately, may become demanded in the future as well.

In conditions of full-scale war, a special burden falls on the psyche of people. Military actions, shelling, destruction, loss of loved ones, constant stress from possible shelling, domestic problems (power cuts, lack of water, etc.) lead to oppression and depression. Employees of educational and scientific institutions, who have an additional burden because they work with people in very difficult times, face serious challenges. The article aims to analyze the Ukrainian experience of the psychological health of the personnel of educational and scientific organizations under martial law. Disclosure of this purpose involves consideration of certain aspects related to psychological problems and

demuestran las partes constituyentes del agotamiento profesional de los trabajadores pedagógicos, pero también se sugieren los mecanismos de protección contra las situaciones estresantes que están disponibles para su uso incluso durante la continuación de las operaciones militares. El artículo también llama la atención sobre el problema de la salud psicológica de los trabajadores científicos: se habla de la disminución gradual del prestigio laboral y de la financiación de la industria científica, especialmente intensificada durante la guerra. La edad media de los científicos en Ucrania es bastante elevada, por lo que supuso una disminución del nivel de autocontrol y una mayor dependencia de la opinión de los demás. En las conclusiones se resumen las formas de mejorar el estado psicológico, señalando que la continuación de la guerra y la destrucción tendrán un mayor impacto negativo.

**Palabras clave:** Salud psicológica, personal de organizaciones educativas y científicas.

probable mechanisms of prevention, ways to avoid the additional psychological burden.

## Theoretical Framework or Literature Review

The methodological basis of the article is based on the work of American, Chinese, and Ukrainian scientists. For example, Bashir (2017) in his empirical study characterized the problem of job satisfaction of modern teachers, based on this problem the author also characterized a number of mental and social problems faced by educators. Ofovwé et al (2013) studied the state of psychological health of modern teachers. At the same time, the work did not identify the relationship between job dissatisfaction and psychological distress. A separate subject of the above authors' research was the determination of teachers' marital satisfaction levels and their impact on the level of professional development. Francis & Lankshear (2018) in their empirical study characterized the influence of psychological type on the mental health status of educators. Their work also determined the relationship between the balanced influence model of psychological health and psychological type in a sample of 260 elementary school teachers in Wales. The researchers noted that the experiment included "more extroverts (59%) than introverts (41%), more sensual types (77%) than intuitive types (23%), more sensual types (60%) than thinking types (40%)" (Francis & Lankshear, 2018, p. 391). The results of the experiment demonstrated that introverts

experienced “higher levels of emotional exhaustion than extroverts, in addition, intuitive types experienced higher levels of enjoyment of learning than sense and thought types” (Francis & Lankshear, 2018, 391). The above factors are also reflected in the mental health of teachers. Vijayashree & Srinivasa (2021) characterized the major psychological problems of students and teachers against the background of the Covid-19 pandemic. The role of psychological health on teachers' professional careers was characterized by Li (2022). At the same time, Zhang (2022) analyzed the specifics of applying psychological contract theory to the mental health and professional development of higher education teachers.

Of the Ukrainian researchers, we should highlight the work of Karamushka et al. (2020), which analyzed in detail the physical and psychological health of educational workers. See also Karamushka et al. (2022) investigated the key aspects of health formation of scientific and educational workers. Maksymenko et al (2020) identified conditions of psychological health formation in crisis conditions. Tsekhmister et al. (2021) investigated current educational trends, from which their impact on the social and psychological lives of educators can be identified. Despite this, little researched is the impact of warfare on certain aspects of the psychological health of education and science workers.

### Methodology

The article refers to theoretical research, which led to the use of appropriate methodological tools. The study is formed based on a comparative analysis of the psychological health of the personnel of educational and scientific organizations under martial law. Based on the content analysis it was possible to analyze in detail the modern pedagogical literature, to identify understudied and debatable problems. At the same time, as a result of using a systematic approach, the phenomenon of psychological problems of employees of education and science is illuminated as a system of relationships in pedagogical and scientific-pedagogical teams under the permanent influence of the circumstances of war. The work used the principle of abstraction, based on which there was a transition from the analysis of general scientifically accepted theses to the formation of our own conclusions and recommendations.

Although the research belongs to theoretical works, the work uses predictive principles and

modeling. In particular, based on the method of modeling the main problems in the psychological health of employees of education and science were identified, a schematic model of the mechanisms of protection against stress was made. As a result of using the predictive method of research, individual recommendations for improving the psychological atmosphere among educators and scientists were formed.

The research took place in several stages: on the first - the modern pedagogical literature was analyzed, on the second - the psychological problems of workers of education were characterized and the basic mechanisms of stress and anxiety prevention were outlined, on the third - the psychological problems of scientists and possible, on the last - the obtained results were summarized and the own judgments about the state of mental health of workers of education and science of Ukraine in the realities of martial law were formed.

### Results and Discussion

#### Psychological problems in educators and mechanisms of stress prevention

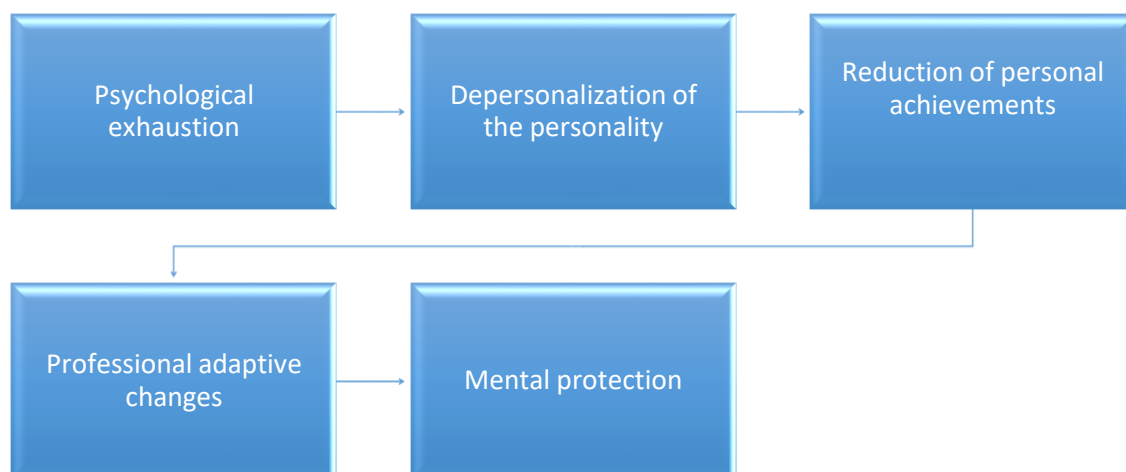
Contemporary changes taking place in the educational system (caused first by the Covid-19 pandemic and later by the Russian-Ukrainian war) form new requirements for teachers and other educational personnel (Almäng, 2019). The current requirements of the renewal of the system of relations between the participants of the educational process, modified standards of learning competencies, total digitalization of learning, the transition to a mixed system of education require from teachers a stable professional improvement (Tytova & Mereniuk, 2022). This, in turn, can affect the state of psychological health of workers in the education industry. In addition, the presence of psycho-emotional stress associated with social communication at all levels (face-to-face and distance), the requirement for continuous professional development, the need to assimilate a large array of information, the severe deadline restrictions for implementing certain decisions, the numerical overload of groups or classes, the presence of a student population requiring special attention and interaction, affect the appearance of stress and anxiety in teachers (Chan et al., 2021). As noted by contemporary researchers, Maksymenko et al., (2020) the most prominent features of the teacher's activity are increased responsibility, tension, the presence of many responsibilities (not only the curriculum), which causes their stressogenicity. On the other

hand, teachers who are under stress for a long time cannot fully implement their responsibilities (Maksymenko et al., 2020).

At the same time, insufficient level of awareness of pedagogical workers about the preservation of their own psychological state and health, mechanisms of self-regulation and prevention of mental problems, ineffective means of solving stressful situations affect the increase of risk of complications in professional work, social interaction with the environment, reduction of the level of adaptive psychological changes, psychosomatic manifestations (Francis & Lankshear, 2018). The result of this can be the manifestation of emotional burnout. It is possible to solve all these challenges only by having a high level of psychological health culture, i.e., taking care of personal psychological well-being, strengthening own mental resources (Maksymenko et al., 2020). Consequently, the actual task of modern psychological support of

the professional development of teachers is the formation of special conditions and the use of effective mechanisms for the preservation and maintenance of psychological health in general.

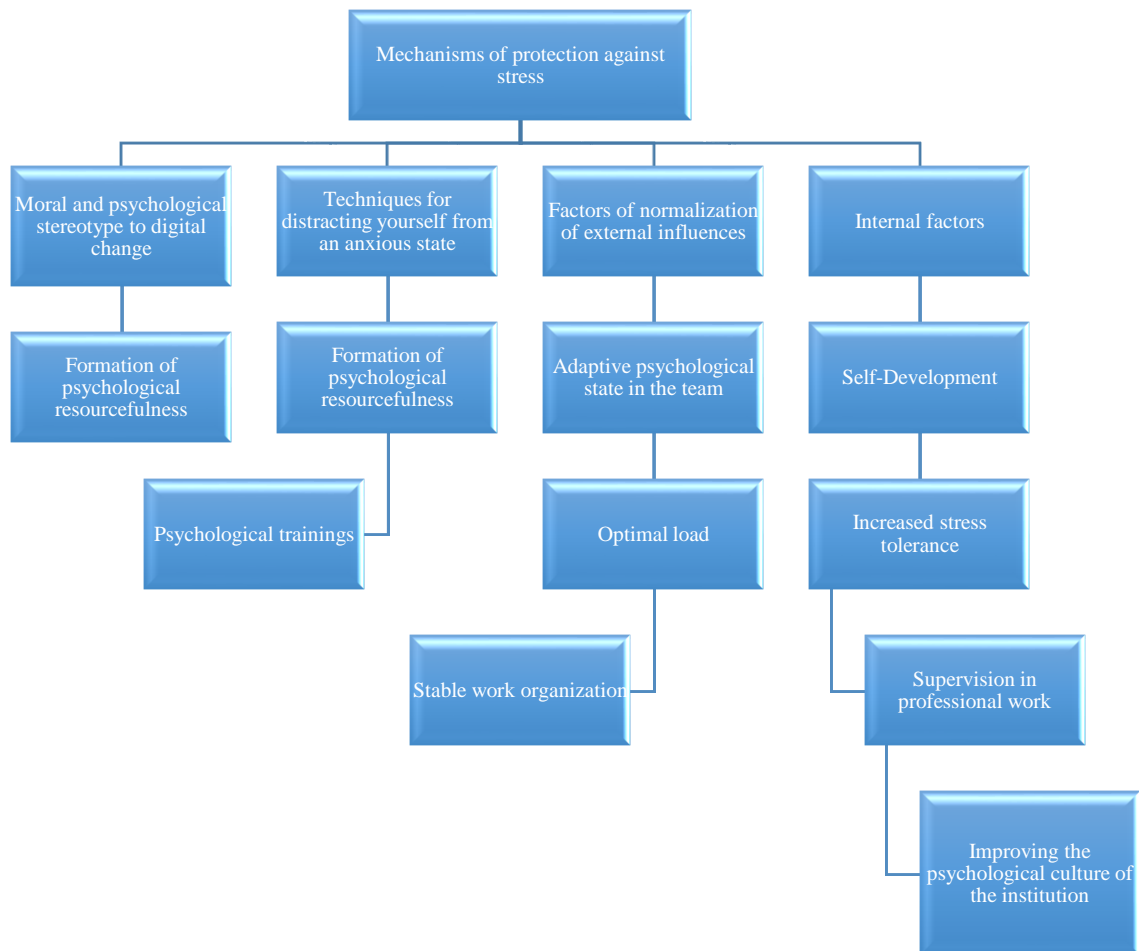
Professional stress should be considered in a complex with emotional burnout. There is a system of burnout, which includes three components of symptoms: 1. Psychological exhaustion; 2. Depersonalizing aspects; 3. Reduction of personal achievements. At the same time, emotional burnout is not the main consequence of professional-adaptive changes, so preventive mechanisms can prevent the appearance of burnout or reduce it (Li, 2022). Other researchers, in particular, Maksymenko et al., (2020) treat the phenomenon of emotional burnout as a mental protection tool produced by a person in the form of complete or separate exclusion of emotions as a reaction to some psychological and traumatic factors (See Figure 1).



**Figure 1.** Components of teacher burnout.  
Compiled by the authors of the article

Let us highlight the main mechanisms of protection against work stress. We believe that an effective means is the formation of stress resistance of future teachers, educators during their training. It is also important to develop preventive ways of preventing the appearance of stress in pedagogical workers during their professional self-realization (Karamushka et al., 2020). Some scientists, in particular, Ofovwe et al., (2013) note that psychological trainings, based on resource burnout, are effective for mentality stabilization. Besides, such trainings should be adapted to all participants and allow practicing mechanisms of constructive behavior, social skills and activate own resources (Wang et

al., 2021). In the system of teachers' stress prevention, it is also important those tools that contribute to normalization of external influences (formation of appropriate psychological state in the team, adaptive organization of teacher's work, optimal workload). The internal factors of stabilization of the psychological state of a teacher include increasing stress resistance; self-development and self-improvement of a teacher; supervisions in professional work; participation in conferences, trainings that promote professional and social growth; improving the level of mental and managerial culture in educational institutions of different levels (See Figure 2).



**Figure 2.** Key mechanisms of protection against stress.  
Compiled by the authors of the article

As for the determination of responsibility for the implementation of certain mechanisms, in the part relating to external factors, this responsibility is assigned to the management and administration of the educational institution (Bashir, 2017; Haliuk, 2022). At the same time, the psychological service is responsible for the implementation of internal factors. However, normalization and stability of personal factors belongs to personal responsibility. Some subjective factors arise here: the low level of referral to specialists to solve mental problems; neglect of mental health, which correlates with the low level of mental health in the general population (Veronese et al., 2018). At the same time participation in conferences (as well as distant ones), professional development courses, trainings, special seminars is a powerful motivation to overcome burnout. We believe that such professional development will be able to influence the realization of the solution of some problems, offering teachers different forms of work.

### **Psychological problems of employees of scientific institutions in Ukraine on the background of the deployment of Russian aggression**

After 1991 and the collapse of the Soviet Union, Ukraine inherited a complex model of the scientific system. University workers and professors were to be partially engaged in science, but they continued to be identified precisely as educators, whose main task should be teaching and working with students. The main scientific functions were assumed by the National Academy of Sciences of Ukraine and other branch academies, which owned certain institutes, research equipment, and facilities specifically for scientific activities. The psychological comfort of scientists has always been under the pressure of circumstances: economic, social, prestigious, etc. First of all, it is worth noting the place of scientists in Ukrainian society (Tsekhmister, 2022).

In particular, an important challenge for Ukrainian researchers is the question of prestige - a certain conventional point, which simultaneously combines certain managerial powers, obtaining financial resources, popularity, and influence on society. Russian aggression has actualized this problem from another perspective - how important the work of Ukrainian scholars is under martial law (Ghilès, 2022). This challenge was part of the psychological impact on the situation of science in general, as the cuts in funding (including grant funding) were almost the most tangible among all other industries (Rajab, 2018). The dramatic drop-in material support has created very negative consequences: uncertainty about the future, limited economic opportunities, stress, depression, etc.

The depressing effects have also been exacerbated by a considerable number of formalistic requirements for scientific work, according to which a certain set of publications, which may have nothing to do with real scientific developments, are considered to be the main results. A lot of time is also taken up by organizational aspects, work with documents, on which future employment may depend. The bureaucratic indicators have not been eased, which creates additional psychological pressure, because the war has greatly reduced opportunities for publishing results, men (who are on the military register) have been restricted from leaving to participate in international symposia or conferences, some infrastructure or research facilities, destroyed by Russian shelling or bombing, etc. (See Table 1).

**Table 1.**  
*Psychological Challenges of Science Workers at War*

Psychological Challenges of Science Workers at War
1. Sharp decline in material support
2. Formalization of labor
3. Decline in the prestige of being a scientist
4. Increased stressful environment
5. Restriction of international cooperation and other professional contacts
6. Difficulty in adapting to changes

*Compiled by the authors*

An important aspect was also the age of the scientists. The conducted statistical and sociological studies demonstrated the presence of an inverse significant correlation between the age of the interviewees and their reflexive-personal characteristics of mental health (it is said about elements of internal self-control and elements of subservience to others). In practice, this means that with age, the positive orientation of mental health among research teams and organizations decreases (Karamushka et al., 2022). For this reason, the capacity for internal self-control of one's mental and psychological state decreases, but the dependence on orienting toward the behavior of others increases. That is, older researchers are more susceptible to the general negative attitudes present in society. On the one hand, this is also due to the partial cessation of social contacts, less active professional activity (since many important institutions are inaccessible).

Less pronounced in scientific workers (if compared to other negative states) is frustration, i.e., people are found to be worried about a really existing failure or a state that is considered

unsuccessful, which leads to the blocking of habitual behavioral matrices. According to statistics obtained by researchers Karamushka et al., (2022), an elevated level of experience was traced to more than a third of those surveyed, a moderate level to almost 47%, while a low level to only 18% (p. 67). If we compare these figures with those obtained by the same researchers by the beginning of straight Russian 2022, a striking expression of these trends among the personnel of scientific organizations will become noticeable. First of all, it is said about the increase of aggressiveness and rigidity, especially reflected in the surveys of already wartime. Probably the reasons for such phenomena were not only the general public sentiment but also the inability to fully satisfy the main own needs under the prevailing extremely unfavorable conditions, to continue the habitual life under the constant influence of stress and psychological pressure of circumstances, etc. (Francis & Lankshear, 2018). Consequently, we should agree with researchers Karamushka et al. (2022), whose results point to the not insignificant destructive impact of negative high and medium degrees among a considerable

number of scientific workers under martial law, which is caused, on the one hand, by the influence of chronic stress phenomena. A large number of scientists experienced this influence during the beginning of the war and its aftermath, so they are quite fresh in the memory and have a direct impact on the present day (Rajab, 2018). Under conditions of open Russian aggression, the positive direction of mental health among members of the scientific community has naturally decreased. The reasons for this are quite concrete: direct or indirect threats to the lives and health of workers of scientific institutions, material losses and physical destruction of many scientific institutions and premises, forced abandonment of habitual way of life, loss of quite a few professional contacts, crises in everyday communication caused by family members abroad, relocation to another part of the country, being under occupation, loss of loved ones in war, etc.

At the same time, every crisis also presents certain opportunities. The war has posed an acute question about social elites. Scientists should belong to these elites, and not only representatives of technological specialties, but also humanists and representatives of worldview branches. The popularization of science undoubtedly depends on scientists as well as on financing their activities. For a long time, Ukrainian science as a whole could not boast of achieving systemic results at the highest international level. Martial law is a time of mobilization and moral strength. As practice has shown, the developments of Ukrainian scientists and designers working in the military industry are quite broad. Obviously, the situation is better in other areas: Ukrainian historical works and scientific YouTube channels have become popular, popular science books are published, etc. If stable financing continues, the status of scientists in society will increase, and this can be considered the beginning of psychological stabilization. The growth of prestige will become a fundamental basis of the popularization of scientific activity. Separately, in order to overcome burnout, a powerful motivation is participation in professional conferences, trainings, special seminars, etc. We believe that against the background of Russian aggression deployment scientific workers experienced a tangible stress effect. The work of appropriate psychological services will allow timely informing scientists about mental threats and the possibility of overcoming them.

## Conclusions

Russian aggression against Ukraine has a very negative impact on the psycho-emotional state of the whole Ukrainian society, including employees of the pedagogical and scientific branches. Based on the analysis of stress manifestations in the environment of teachers of higher educational institutions certain mechanisms of protection against stress are highlighted. In particular, it is proved that among the effective means of increasing stress resistance are training and self-training. In particular, among the preventive means of preventing the occurrence of stress, there are opportunities to improve the professional self-realization of teachers through the use of psychological training. This will make it possible to counteract professional burnout with all its negative consequences. Training should be aimed at the improvement of constructive behavior, the actualization of social skills, and personal resources. Additional factors of psychological condition improvement are self-development, participation in projects and conferences, improvement of mental and managerial culture skills. War, military destruction, and constant tension have also had a negative impact on scientists. Financial constraints, the formalization of scientific processes, the restriction of professional contacts (also international), and the difficulty of adapting to change (due to the high average age) are current challenges facing the psychological health of the academic community. Among the effective mechanisms of counteraction, it is proposed to use moral factors of influence (popularization of science in society) and the financial situation.

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