# POST-TRAUMATIC STRESS DISORDER IN MILITARY PERSONNEL AND THEIR REHABILITATION

[a]INNA SEMENETS-ORLOVA, [b]LARISA RODCHENKO, [c]INNA CHERNENKO, [d]OLEH DRUZ, [e]MYKOLA RUDENKO, [f]ROMAN SHEVCHUK

*[a]Interregional Academy of Personnel Management, 2, Frometivska Str., 03039, Kyiv, Ukraine; Sumy State Pedagogical University Named After A. S. Makarenko, 87, Romenska Str., 40002, Sumy, Ukraine*
*[b,c,d]Interregional Academy of Personnel Management, 2, Frometivska Str., 03039, Kyiv, Ukraine; Phychiatric Clinic of the National Military Medical Clinical Center "Main Military Clinical Hospital," 6, Hospital Str., Kyiv, Ukraine*
*[e]State Institution "National Institute of Cardiovascular Surgery named after M. M. Amosov of the National Academy of Medical Sciences of Ukraine", 6, Mykoly Amosova Str., 02000, Kyiv, Ukraine*
*[f]Interregional Academy of Personnel Management, 2, Frometivska Str., 03039, Kyiv, Ukraine*
*email: [a]innaorlova@ukr.net, [b]laurarodch@pm.me, [c]kafedrapa@ukr.net, [d]youngscientist@ukr.net, [e]civid@ukr.net, [f]bookcouncil1@ukr.net*

The publication was publicly funded by the Ministry of Education and Science of Ukraine to develop the research project "Innovation component of the security of sustainable development of old industrial regions of Ukraine: strategic directions of institutional support and technology transfer in innovation landscapes" (№ 0121U100657)

Abstract: The article aims to submit the problem of the formation and characteristics of the manifestation of post-traumatic stress disorder in military personnel. A theoretical investigation of psychological aspects and mechanisms of the formation of post-traumatic stress disorder in military personnel who have experienced difficult situations of experienced activity is presented. It empirically reveals the features of the manifestation of post-traumatic stress disorder in military personnel in current conditions of military service. The significance of the psychological support program for military personnel with post-traumatic stress disorder, who have encountered extreme situations of professional activity aimed at working through traumatic ventures and activating the psychological resources of the individual, is shown. Intense conditions of professional activity negatively impact the mental health of service members, leading to the expansion of various mental disorders: post-traumatic stress disorders, psychosomatic and neurotic disorders, and addictive behavior. A high level of emotional disturbances characterizes military personnel participating in hostilities. Such violations are called psychoneurosis or combat fatigue. These emotional disturbances can manifest in acute fear, depressive states, and hysterical reactions.

Keywords: Mental correction, Mental disorders, Post-traumatic disorders, Psychological rehabilitation of military personnel, Psychological support, Stress.

## 1 Introduction

Ukrainian service members have been defending their land for the ninth year [17]. The hot phase of the russian-Ukrainian war has been going on for more than a year. Violent and chaotic, which, even in the movies, will not be shown. The boundaries of the line of conflagration expanded from the Donetsk and Luhansk regions in the east, Chernihiv – in the north, and Mykolaiv – in the south. During the full-scale war, Ukrainian soldiers displaced the russian invaders from the northern and partial southern directions. But the war continues and requires a lot of physical and moral resources, both from the civilian population and the soldiers.

Under the conditions of explosions, skirmishes, the rumble of military equipment, and being in occupation and captivity, the population of Ukraine, particularly military personnel, faced physical and psychological problems [2]. One of them is PTSD. Psychologists say that PTSD is a normal reaction to an abnormal situation. For example, after a traumatic event, losing faith or withdrawing from others, having bad memories, or having trouble sleeping is normal [30]. However, if the symptoms last over a few months and interfere with daily life, it may be PTSD. Its risk factors for development include: (i) wars and armed conflicts; (ii) monitoring the situation of the violent death of someone; (iii) serious accidents; (iv) physical or sexual abuse; (v) serious health problems or stay in intensive care; (vi) the presence of life-threatening disease; (vii) terrorist attacks; (viii) natural or artificial disasters (for example, tsunamis or fires) [14].

The post-traumatic syndrome manifests itself in silence [36]. For example, when a military man returns home from a combat zone and finds himself in a state of rest. Extreme situations of professional activity negatively impact the mental health of service members, leading to the development of various mental disorders: post-traumatic stress disorders, psychosomatic and neurotic disorders, and addictive behavior. In addition, a high level of emotional disturbances characterizes military personnel participating in hostilities. Such violations are called psychoneurosis or combat fatigue. These emotional disturbances can manifest in acute fear, asthenic-depressive states, and hysterical reactions.

One of the psychological consequences of armed conflicts is combat post-traumatic stress disorder, which occurs in a significant part of combatants [13]. Post-traumatic stress disorder develops after an acute reaction to stress. It is characterized by confusion, fear, and nightmares; depressive reactions with anxiety disorders; reactions of a euphoric type with verbosity and substantial underestimation of the severity of one's bodily state. The duration of such conditions ranges from several weeks to several months. Incredibly persistent are depressive, obsessive-phobic disorders and sleep disturbances.

The clinical picture of post-traumatic stress disorder appears to be a combination of psychopathic (asocial, explosive, hysterical) behavioral conditions aggravated by alcoholism, drug use, and severe neurosis-like symptoms [32].

## 2 Literature Review

The problem of studying, diagnosing, and correcting negative psychological consequences resulting from the impact of stress factors, the sources of which are various traumatic events, is one of the most relevant [23]. This forced psychologists to come to grips with the victims' rehabilitation problems [1, 24, 37]. Participants in armed conflicts in Ukraine and worldwide, where there are many hotbeds of tension accompanied by active hostilities, need special attention [15]. An increasing number of service members are involved in resolving these conflicts and participating in battles. The military operations experience shows that the troops, along with physical losses, suffer tangible psychological losses. They are associated with military personnel getting mental trauma, leading to mental disorders and complete or partial loss of combat capability.

Studies by scientists have shown that a significant severity of such qualities as open aggressiveness, auto-aggression, impulsivity, depressive and psychosomatic forms of response in difficult situations, social alienation, the predominance of inhibitory processes over excitation processes in the nervous system can collectively manifest as a syndrome of post-traumatic stress disorder in military personnel [21, 25, 32].

Military personnel with post-traumatic stress disorder significantly reduce the effectiveness of their professional activities and satisfaction with their lives in general [29]. There are significant difficulties in adapting to civilian life [20, 33, 34, 35]. In the occurrence of post-traumatic stress disorders, the role of the personality of a serviceman is excellent. Extreme situations of professional activity experienced by service members lead to mental disorders only if they occupy an important place in the system of the individual's relationship to reality. The individual is not ready to adapt to these difficult conditions due to the inharmoniousness of the relationship system – self-doubt or excessive self-directedness, anxiety, pessimism, indecision or desire for dominance, aggressiveness, self-centeredness, indifference to other people and distrust of them [8].

Military personnel is mobilized when they are on the front line [32]. A person has no time to think about many things. His brain represses these experiences. Then the person returns home and begins to calm down a little. During this period, mobilization mechanisms cease to operate, and changes occur in a hostilities participant's psyche [19]. Not all military personnel who have gone through heavy combat have something similar to this disorder. However, there are, for example, individual violations of adaptation when a person does not have time to reorganize in a non-military way. Also, a person may not have PTSD, but there may be depression, ranging from space fatigue and chemical exhaustion, ending with the fact that he misses his dead comrades [22]. Therefore, each situation must be dealt with separately.

PTSD is a disorder resulting from traumatic experiences [28]. If this experience is not comprehended, a person cannot adapt typically. Therefore, in any case, with any combination of symptoms, it will be a PTSD-related case.

Symptoms of PTSD in military personnel appear within a few months from the moment of traumatization. However, in many cases, spontaneous recovery occurs: within 12 months after the injury, one-third of the victims get rid of the symptoms of stress and post-stress disorder, and four years after the injury, half of the victims have a complete absence of complaints [3]. This indicates the enormous role of social factors in helping to overcome traumatic stress conditions and in the formation of PTSD in the lack of psychological support and understanding of the people around.

Undoubtedly, military personnel with post-traumatic stress disorder need psychological help aimed at experiencing psychological trauma, the formation of skills and abilities of psychological relaxation and restoring body resources, and training in self-regulation techniques in various stressful situations [9].

**3 Materials and Methods**

The method of providing psychological assistance to military personnel with post-traumatic stress disorder is psychological support, which makes it possible to provide support to military personnel during the entire rehabilitation period [17]. Today, psychological support is understood by psychologists as support for mentally healthy people who have difficulties at a particular stage of their life path [37]. A distinctive feature of psychological support from other types of psychological assistance is the support of naturally developing reactions, processes, and states of the individual psychological aid is carried out under the laws of development, gradually opening up prospects for self-development, self-knowledge, and self-realization of the individual. As a result of psychological support, conditions are created for a person's transition from help from outside to self-help to forming a life position "I can cope with my difficulties myself."

The mechanisms of the formation of post-traumatic stress disorder and the main directions of psychological assistance to military personnel are described in theoretical models of the formation of post-traumatic stress disorder [5].

Currently, no single generally accepted theoretical concept explains the etiology and mechanisms of the onset and development of PTSD. However, several theoretical models have been developed from many years of research, among which we can distinguish: psychodynamic, cognitive, psychosocial, and psychobiological approaches and the multifactorial theory of PTSD developed in recent years [26, 27].

An analysis of theoretical approaches [4, 32] allows us to identify the following strategies for overcoming post-traumatic stress disorder in military personnel in the process of their psychological support:

A. Purposeful return to memories of the traumatic event to analyze it and fully understand the trauma's circumstances;
B. Awareness by the bearer of the traumatic experience of the significance of the traumatic event;
C. Cognitive assessment and reassessment of traumatic experience;
D. Social support of others;
E. Activating personal resources for the individual and developing productive coping strategies.

The study aimed to develop and test a psychological support program for service members with post-traumatic stress disorder who have experienced extreme situations of professional activity.

In light of current events [2, 7, 18], there is a need to create a state system for the comprehensive rehabilitation of military personnel taking or taking part in hostilities and who have suffered combat mental trauma. The creation of such a system will make it possible to purposefully carry out measures to ensure the safety of the physical and psychological health of military personnel, prevent post-stress reactions, and help maintain the readiness of personnel to perform tasks in any situation [11].

Psychological rehabilitation is a system of psychological, pedagogical, and socio-psychological measures aimed at restoring or compensating for impaired psychological functions, conditions, and personal and social status of people who have received a mental injury [30]. In addition, psychological rehabilitation aims to assist a service member in restoring optimal mental health for continuing professional activities.

**4 Results**

Military personnel with noticeable signs of post-traumatic stress disorder have a moderate severity of the symptom of invasion of experienced traumatic situations, a high severity of the symptom of avoiding traumatic situations, and moderate physiological excitability. Feelings of guilt and a tendency to suicidal behavior are moderately expressed. They show the cyclothymic of emotions: emotional detachment is replaced by emotional affect. There is sleep disturbance, anxiety, increased emotional lability, aggressiveness, and a significant decrease in mood [6].

For military personnel with signs of post-traumatic stress disorder, anxious, neurotic states are characteristic [12]. In addition, symptoms of chronic asthenia and neurotic depression, anxiety, and obsessive-phobic and vegetative disorders are significantly expressed. Military personnel who do not have signs of post-traumatic stress disorder do not have symptoms of post-traumatic stress disorder and anxiety neurotic states.

The psycho-emotional state of military personnel with apparent signs of post-traumatic stress disorder is unfavorable. A decrease in autonomy; an increase in concentricity; a focus on one's problems; a tendency to reflect were revealed; a violation of the balance of personality traits are characteristics that indicate the instability of the emotional-volitional sphere of the personality, the predominance of the tone of the parasympathetic nervous system [21]. In addition, stress is expressed in decreased performance, well-being, activity, and mood.

The psycho-emotional state of military personnel who do not have signs of post-traumatic stress disorder is favorable. Heteranomousness, eccentricity, the balance of personality traits and the autonomic nervous system, minimal signs of stress, complementary health, positive mood, and high activity are observed [31].

Extreme situations of professional activity contribute to the exacerbation of character accentuations: excitable, stuck, and temperament: anxious, dysthymic, and cyclothymic in military personnel, which is a significant sign of a decrease in the adaptive capabilities of the individual and the manifestation of post-traumatic stress disorder. After experiencing extreme situations of professional activity, stress disorder shows situational and personal anxiety, behavioral rigidity,

emotionality, resentment, sensitivity to criticism, a tendency to reflect and phase mood changes, and pessimism.

In the second stage of the study, a program of psychological support was developed for military personnel with post-traumatic stress disorder who experienced extreme situations of professional activity, aimed at working through traumatic experiences and activating the psychological resources of the individual. The program included individual psychological consultations for service members and group psycho-correctional work. At this stage, the priority methods are conversation, discussion, role-playing, Gestalt therapy techniques, neuro-linguistic programming, body-oriented psychotherapy, art therapy, meditative practices, breathing exercises, autogenic training, and deep muscle relaxation. In addition, the program should include individual consultations for military personnel and group psycho-correction, which provides for certain classes.

The effectiveness of the program of psychological support of service members with post-traumatic stress disorder is determined by repeated psychodiagnostic examination of the experimental and control groups using the methods used at the first stage and comparing the results before and after psychological support.

Military personnel with post-traumatic stress disorder, who have completed an entire course of psychological support, should come to the following results:

- Reduced symptoms of post-traumatic stress disorder and the overall severity of PTSD;
- Improvement of the psycho-emotional state.
- Reducing the presence of a stressful state, increasing emotional and volitional stability (balance of personality traits, balance of the autonomic system, autonomy, and eccentricity);
- Decreased accentuation of personality traits, manifested in increased emotional stability, behavioral flexibility, and decreased situational and personal anxiety.

Such results will indicate an increase in the individual's adaptive potential [7] and stress resistance in extreme situations of professional activity [22].

A conversation with military personnel can determine their well-being, level of activity and performance, mood, the presence of anxiety neurotic disorders, and the level of emotional and volitional stability. As a result, military personnel can practice the skills of emotional and voluntary self-regulation and develop productive strategies for coping with stress. This will contribute to the activation of the adaptive potential of military personnel. Thus, psychological support for the personality of military personnel who have experienced extreme situations of professional activity, aimed at working through traumatic experiences and activating psychological resources, helps reduce their post-traumatic stress disorder symptoms.

In the course of the study, two main directions can be formed in the development of practical recommendations:

- Introduction into the practice of military psychologists of methods for diagnosing PTSD and the use of a broader range of psycho-corrective measures;
- Formation in military personnel of the skills and abilities of psychological relaxation, restoration of body resources, and training in self-regulation techniques in various stressful situations.

**5 Discussion**

Psychological rehabilitation should include the following key stages:

*Diagnostic stage* – the study of the nature of the psychological problems that military personnel have and the degree of influence of these problems on their mental health and vital activity [1]. The objectives of studying the mental state of service members exposed to combat stress are:

A. Determination of the presence, composition, and severity of the identified negative psychological consequences of combat stress;
B. Finding out the reasons for their occurrence and persistence;
C. Establishing the effectiveness of ways for a service member to cope with the negative psychological consequences of combat stress;
D. Determining the practicality of using specific methods of psychological assistance to a particular service member.

The process of carrying out a diagnostic conversation is possible if the communication barrier is overcome, which, as a rule, arises among military personnel regarding information related to the traumatic experience they have experienced [19]. Conducting a diagnostic conversation allows military personnel to talk about what happened to them in a psycho-traumatic environment of combat activity, to react to emotions associated with a period of their life that is hard to remember, to look at what happened as if from the outside, to restore a holistic picture of events significant for their current mental state, and have a deeper understanding (or rethinking) of what they experienced in a traumatic situation and how it affected their subsequent actions, life, and health. A full-fledged diagnostic conversation also contributes to the psychological preparation of military personnel for further participation, if necessary, in rehabilitation work.

The *psychological stage* implies the purposeful use of specific methods of influencing the psyche of rehabilitated service members [16].

The *readaptation stage* is carried out mainly during specific rehabilitation [38].

The providing psychological assistance includes observation of military personnel, their counseling, and, if necessary, the provision of additional psychological aid to them after the phase of psychological rehabilitation. The main principles of psychological rehabilitation are: (i) efficiency; (ii) consistency; (iii) flexibility; (iv) multistage [10].

The first means the expediency of providing psychological assistance shortly after the end of the impact of the stresses of combat activity. The second is the use of methods that allow for a complex and interconnected effect on the psyche of military personnel based on the structure of the primary forms of manifestation of the negative consequences of combat stress. The third is the time change in the forms and methods of psychological influence, depending on the mental state of military personnel and the conditions for psychological rehabilitation. The fourth is the operational use of points and centers for psychological rehabilitation, depending on the complexity of the tasks solved in the rehabilitation process.

Psychological assistance to military personnel can be provided individually and in a psychotherapeutic group [28]. Individual psychotherapy can be based on a psychotherapeutic training approach that includes six main components:

- Correction of the most common misconceptions regarding the stress response;
- Provide the patient with information about the nature of the stress reaction;
- Focus on the role of excessive stress in the development of the disease;
- Bringing the patient to independent awareness of the manifestation of the stress reaction and the characteristic symptoms of PTSD;
- Development of the patient's ability to introspect to identify stresses characteristic of him;
- Communication with the patient about the active role that he plays in the treatment of excessive stress.

Post-traumatic symptoms have a detrimental effect on relationships with other people [5]. Uncontrollable anger,

emotional withdrawal, and an inability to communicate appropriately with representatives of social institutions of power complicate the relationship between those who have been traumatized and those who come into contact with them in life. As a result, the three-phase model of group psychotherapy becomes relevant. In the first phase of therapy, "understanding groups" are formed, consisting exclusively of those who have received severe mental trauma. In the second phase, at least 2-3 new individuals join the group, the diagnosis of which is somewhat different. The resulting group is called "psychotherapeutic." Introducing new members contributes to the emotional outburst of the most disorganized patients with traumatized "I." The result of such a therapeutic maneuver is usually the irritable behavior of the group members, the weakening of the "we-feeling," and the anger associated with the fact that the group members are faced with the "real" world and its complexities. However, under the guidance of a psychotherapist, group members gradually learn to manage their anger and analyze their experiences, after which they move into the third phase, i.e., into a "psychoanalytically oriented group."

Relationships in the family are significant for the psychosocial adaptation of the traumatized [37]. Speaking about working with the families of combatants, there are two aspects: a) working with them as one of the most significant factors in psycho-rehabilitation and psychological assistance to those who returned from the war; b) the provision of direct psychological assistance to the members of the families of those who fought [2].

One of the main directions within the framework of this program should be to work with the families of military personnel before their return, holding seminars and disseminating the following recommendations:

A. It is paramount to carefully listen to your partner's stories about what he had to endure. Also, it is imperative to let him speak out in a comfortable atmosphere of moral support for a loved one.
B. Try to help psychologically return to everyday, familiar life.
C. Show attention and patience to the problems of a loved one that inevitably arise after combat stress, to his psychological discomfort, increased irritability, a possible long-term depressive state, etc. This is a temporary phenomenon; help him cope with it.
D. It must be borne in mind that it has been changed somewhat during the separation, and it takes some time to get used to each other again.
E. Pay special attention to children. It is essential to restore relations with due attention and care.
F. Create a favorable environment.
G. Do not encourage the use of alcohol.

There should be active questioning and compassionate and attentive listening to the most unpleasant experiences – this reduces affective tension and structured experiences and activates the purposeful activity of the victims [28]. The result is:

- Change of attitude to the situation as one of the possible already happened, become a reality;
- Relaxation;
- Increase in the threshold of sensitivity to the psychogenic factor;
- Response;
- Emotional support;
- Tactile contact with the victim.

In addition, various methods and techniques of psychodynamic, behavioral, cognitive, and hypnosuggestive therapy, gestalt therapy, neurolinguistic programming, art and creative self-expression therapy, logotherapy, transactional analysis, psychodrama, acupuncture, and other techniques are used [18]. The methods are focused on the following:

- Awareness and understanding of those events that caused the current mental state;
- Reacting to experiences associated with memories of psycho-traumatic events of combat activity;
- Acceptance of what happened as an integral part of life experience;
- Actualization of coping behavior necessary to overcome the negative consequences of combat stress and readaptation to the changed internal and external conditions of life.

Thus, psychological rehabilitation is an essential component of psychological work in current conditions of military service [10]. Unfortunately, it is impossible to avoid psychological trauma among military personnel in combat. However, with the help of psycho-prophylactic measures, it is possible to reduce the percentage of psychological losses through the timely provision of psychological assistance and the implementation of rehabilitation measures.

### 5.1 Foreign Experience

To complete the study of the problem, the experience of other countries is also of interest. For example, according to a psychologist at the American Center for Anxiety Disorders of the Life Institute, there is a national system of hospitals in the United States for treating military personnel and veterans with post-traumatic stress disorder. The two most common and effective treatments are long-term exposure therapy and cognitive processing therapy. Both are very effective and can be taught to many psychologists. But in my experience, active-duty soldiers usually don't receive treatment until they leave the military [3].

Long-term exposure therapy is helpful when it is tough for someone to deal with what happened during a single traumatic event. Here the person describes over and over what happened during the traumatic event under the guidance of a qualified professional to help them emotionally process what happened [36]. Cognitive processing therapy, in turn, focuses on problematic changes in how one perceives oneself, the world, and other people after a traumatic event [4]. This is a valuable therapy for people who have experienced multiple traumatic events that affect them at different levels but find it difficult to distinguish between traumas.

The average American usually knows that many veterans struggle with PTSD but are not openly engaged because therapy is most often done in hospitals where only veterans can go. Nevertheless, the main focus is on specialized institutions and specialists who can assist the victims. However, the social factor is also essential. For example, some Ukrainian brands have supported the employment of veterans returning from the front [7]. While it doesn't cure PTSD, things like building social support, structured activities, and the like are generally suitable for healthy mental well-being. In addition, films about PTSD are being made in the United States, lectures are actively held on the topic, and June 27 is National PTSD Awareness Day. That is, the population pays attention that there is such a problem [15].

The Israeli experience, in turn, relies on the fact that soldiers returning from the war do not need to wait until the symptoms of the post-traumatic disorder appear but immediately contact specialists. The country also operates the MAGEN program, during which soldiers learn emotional support skills. This is done to support each other in difficult moments and prevent the development of PTSD [6].

Today, Ukrainian society must prepare the conditions for the return of the military from the front home [10]. In addition to the preparation of various programs at the state level, there should be a social component – lectures, training for relatives and friends of military personnel, or just caring people. The more people understand that the military needs time to return to normal life, the faster the military will return to it.

## 6 Conclusion

Post-traumatic stress disorder for most participants in armed conflicts is one of the main internal barriers to social adaptation in society. In most cases, the return to civilian life is

accompanied by new stress factors associated with the difficulties of adaptation (misunderstanding of others, challenges in communication, professional self-determination, etc.). It should also be taken into account that in military personnel, post-traumatic stress disorder is also superimposed by such additional negative social factors as low quality of life, material disadvantage, and uncertainty about the future.

It is recommended to use the methods of neuro-linguistic programming, Ericksonian hypnosis, body-oriented therapy, and the Imago-therapy exercises to develop the skills and abilities of psychological relaxation, restore the body's resources and teach self-regulation techniques in various stressful situations. As part of body-oriented therapy, the exercises of tense postures, the Lowen tilt, and the release of anger can be used too.

The data obtained in the study, the developed program of psychological support for service members with post-traumatic stress disorder who have experienced extreme situations of professional activity, aimed at working through traumatic experiences and activating the psychological resources of the individual, can be used by psychologists in working with personnel serving in extreme conditions.

**Literature:**


1. Aikins, D. E., & Aikins, J. W.: *Pain, misery, and suffering: Unresolved attachment as a predictor of treatment outcome in male combat-related Post-Traumatic Stress Disorder*. Working with Attachment Trauma. Routledge, 2023. 82–94 pp.
2. Alibudbud, R.: *A web-based analysis of public concern about Post-Traumatic Stress Disorder (PTSD) Ukraine during the 2022 military conflict: An infodemiological study*. European Journal of Trauma & Dissociation, 6(3), 2022. 100286.
3. Atlas Institute for Veterans and Families: *For families: supporting yourself when your loved one is struggling with a post-traumatic stress injury*, 2023. https://atlasveterans.ca/documents/families-and-post-traumatic-stress-injuries-en.pdf.
4. Augustat, O.: *Finding Meaning after Prolonged Trauma: Is the Construct of Post-Traumatic Growth Relevant for Survivors with Elevated Symptoms of Complex Posttraumatic Stress Disorder?* North Texas Journal of Undergraduate Research, 3(1), 2023.
5. Babov, K. D., Zabolotna, I. B., Plakida, A. L., Volyanska, V. S., Babova, I. K., Gushcha, S. G., & Kolker, I. A.: *The effectiveness of high-tone therapy in the complex rehabilitation of servicemen with post-traumatic stress disorder complicated by traumatic brain injury*. Neurological sciences, 2022. 1–10 pp.
6. Bronze, L.: *War, hypertension and post traumatic stress disorder. A personal experience*. Blood Pressure, 31(1), 2022. 225–227 pp.
7. Bryant, R. A., Schnurr, P. P., & Pedlar, D.: *Addressing the mental health needs of civilian combatants in Ukraine*. The Lancet Psychiatry, 9(5), 2022. 346–347.
8. Carra, K., Curtin, M., Fortune, T., & Gordon, B.: *Rural former service members participate in meaningful occupations to 'fill the void'after military service*. Australian Occupational Therapy Journal, 2023.
9. Chen, X.: *The Causes and Effects of Post-traumatic Stress Disorder*. In SHS Web of Conferences. EDP Sciences, Volume 157, 2023. 04029 p.
10. Chudzicka-Czupała, A., Hapon, N., Chiang, S. K., Żywiołek-Szeja, M., Karamushka, L., Lee, C. T., et al.: *Depression, anxiety and post-traumatic stress during the Russo-Ukrainian war in 2022*. A Comparison of the Populations in Poland, Ukraine and Taiwan, 2022.
11. Dyball, D., Bennett, A. N., Schofield, S., Cullinan, P., Boos, C. J., Bull, A. M., et al.: *The underlying mechanisms by which PTSD symptoms are associated with cardiovascular health in male UK military personnel: The ADVANCE cohort study*. Journal of psychiatric research, 159, 2023. 87–96 pp.
12. Fantasia, A. T., Prybutok, G., & Prybutok, V.: *The Impact of Post-Traumatic Stress Disorder on Addiction to Information over Searching and Information Avoidance*. Journal of Addiction and Recovery, 6(1), 2023.1040.
13. Hamama-Raz, Y., Goodwin, R., Leshem, E., & Ben-Ezra, M.: *Can patriotism be a protective factor for symptoms of post-traumatic stress disorder? The case of the Russia–Ukraine 2022 war*. Journal of psychiatric research, 155, 2022. 100–103 pp.
14. Huang, J., Chopra, N., Yepuri, N., & Kinthala, S.: *Emergence Agitation and Anesthetic Considerations in the Management of Patients with Post-Traumatic Stress Disorder: a Report of Two Cases and a Review of the Literature*. Cureus, 15(1), 2023.
15. Jones, J. P., Drass, J. M., & Kaimal, G.: *Art therapy for military service members with post-traumatic stress and traumatic brain injury: Three case reports highlighting trajectories of treatment and recovery*. The Arts in Psychotherapy, 63, 2019. 18–30 pp.
16. Kokun, O., Pischko, I., & Lozinska, N.: *Military personnel's stress reactivity during pre-deployment in a war zone*. Psychology, Health & Medicine, 2022. 1–12 pp.
17. Kokun, O.: *The Ukrainian population's war losses and their psychological and physical health*. Journal of Loss and Trauma, 2022. 1–14 pp.
18. Malakhov, K. S.: *Letter to the Editor–Update from Ukraine: Rehabilitation and Research*. International Journal of Telerehabilitation, 14(2), 2022.
19. Morganstein, J. C., Bromet, E. J., & Shigemura, J.: *The neuropsychiatric aftermath of exposure to weapons of mass destruction: applying historical lessons to protect health during the war in Ukraine*. Psychological medicine, 2022. 1–3 pp.
20. Mykytyuk, P., Semenets-Orlova, I., Blishchuk, K., Skoryk, H., Pidlisna, T., & Trebyk, L.: *Outsourcing as a tool of strategic planning in public administration*. Estudios De Economia Aplicada, 39(3), 2021. doi:10.25115/eea.v39i3.4718.
21. Nash, R. P., Laughon, S. L., & Burker, E. J.: *Pre-and Post-Transplantation Post-Traumatic Stress Disorder (PTSD).* Transplant Psychiatry: A Case-Based Approach to Clinical Challenges. Cham: Springer International Publishing, 2023. 51–57 pp.
22. Osokina, O., Silwal, S., Bohdanova, T., Hodes, M., Sourander, A., & Skokauskas, N.: *Impact of the Russian invasion on mental health of adolescents in Ukraine.* Journal of the American Academy of Child & Adolescent Psychiatry, 2022.
23. Overchuk, V., Kushnir, J., Shportun, O., Matokhniuk, L., Sydorenko, Zh., Vasyuk, K., Shevchuk, V., & Bloshchynskyi, I.: I*mproving the Quality of Life of Persons with Disabilities by Promoting Their Professional Rehabilitation*. Universal Journal of Public Health, 9(3), 2021. 140 – 148 pp. doi: 10.13189/ujph.2021.090305.
24. Overchuk, V., Smulson, M., Liashch, O., Ihnatovych, O., Kovalova, O., & Smokova, L.: *Personal factors of psychological well-being in conditions of socioeconomic instability*. AD ALTA: Journal of Interdisciplinary Research, 12/02-XXXI, 2022. 167–172 pp. https://www.magnanimitas.cz/ADALTA/120231/papers/A_29.pdf.
25. Overchuk, V., Yaroshchuk, M., Danylchenko, T., Litvinova, A., & Absalyamova, L.: *Metodologia de aconselhamento psicológico para superar uma crise de vida.* Laplage Em Revista, 7(Extra-E), 2021. 359–368 pp.
26. Overchuk, V., Zahnitko, A., Afanasieva, N., Maliar, O., Lapshova, N., & Shevchenko, I.: *The ways to improve of the medical-social examination in the context of vocational rehabilitation of the persons with disabilities in Ukraine*. AD ALTA: journal of interdisciplinary research, 11/02/XXIV, 2021. 165–171 pp. https://www.magnanimitas.cz/ADALTA/110224/papers/A_29.pdf.
27. Pejičić, M., Ristić, M., & Anđelković, V.: *The mediating effect of cognitive emotion regulation strategies in the relationship between perceived social support and resilience in postwar youth*. Journal of Community Psychology, 46(4), 2018. 457–472 pp. doi:10.1002/jcop.21951.
28. Pisaruk, A., Shatilo, V., Chyzhova, V., Koshel, N., Pisaruk, L., & Ivanov, S.: *Posttraumatic stress disorder: online poll of people who experienced war stress in Ukraine in 2022.* Ageing and longevity, 3(2), 2022. 57–62 pp.
29. Popescu, M., Popescu, E. A., DeGraba, T. J., & Hughes, J. D.: *Cognitive flexibility in post-traumatic stress disorder: Sustained interference associated with altered modulation of*

*cortical oscillatory activity during task-switching.* NeuroImage: Clinical, 37, 2023. 103297.
30. Proctor, D. M., Emmons, K. R., & Scannell-Desch, E.: *An education intervention to improve knowledge of post-traumatic stress disorder symptoms and treatments among US women service members and veterans*. Military medicine, 188(1-2), 2023. 368–373 pp.
31. Prykhodko, I., Kolesnichenko, O., Matsehora, Y., Aleshchenko, V., Kovalchuk, O., Matsevko, T., et al.: *Effects of posttraumatic stress and combat losses on the combatants' resilience*. Československá psychologie, 66(2), 2022. 157–169 pp.
32. Samara, O., Shkrabiuk, V., Kompanovych, M., Liebiedieva, S., Mateiko, N., & Shelever, O.: *Psychological Aid to Victims of War and the Covid Pandemic-19 in Ukraine. BRAIN*. Broad Research in Artificial Intelligence and Neuroscience, 13(4), 2022. 227–241 pp.
33. Semenets-Orlova, I., Klochko, A., Shkoda, T., Marusina, O., & Tepliuk, M.: *Emotional intelligence as the basis for the development of organizational leadership during the covid period (educational institution case)*. Estudios De Economia Aplicada, 39(5), 2021. doi:10.25115/eea.v39i5.5074.
34. Semenets-Orlova, I., Teslenko, V., Dakal, A., Zadorozhnyi, V., Marusina, O., & Klochko, A.: *Distance learning technologies and innovations in education for sustainable development*. Estudios De Economia Aplicada, 39(5), 2021. doi:10.25115/eea.v39i5.5065.
35. Shkoda, T. N., Tepliuk, M. A., Riepina, I. M., Semenets-Orlova, I. A., & Domina, O. M.: *Motivational climate as the realization mechanism of young scientists' potential in business environment.* Financial and credit activity problems of theory and practice, 4(35), 2020. 522–529 pp.
36. Silverberg, N. D., & Mikolić, A.: *Management of Psychological Complications Following Mild Traumatic Brain Injury*. Current Neurology and Neuroscience Reports, 2023. 1-10 pp.
37. Zasiekina, L., Kokun, O., Kozihora, M., Fedotova, T., Zhuravlova, O., & Bojko, M.: *A concept analysis of moral injury in Ukrainian National Guard service members' narratives: A clinical case study*. East European Journal of Psycholinguistics, 9(1), 2022.
38. Zhao, Y.: *The Effects of Acute Stress Reaction on Trauma-Related Symptoms and Relevant Factors*. Journal of Education, Humanities and Social Sciences, 8, 2023. 163–168 pp.

**Primary Paper Section:** A

**Secondary Paper Section:** AN