

A Research of Post-Traumatic Stress and Adaptation Disorders of Servicemen after Being in a Combat Situation at the Hospitalization Stage

Estudio de los trastornos postraumáticos de estrés y los trastornos adaptativos de los militares después de haber estado en las condiciones de combate en la etapa de hospitalización

Doctor of Psychological Sciences Rosina Shevchenko
Odessa National Maritime University, Odessa, Ukraine
ORCID iD: <http://orcid.org/0000-0003-2515-6717> ;
ResearcherID: AAK-4166-2020

Doctor of Psychological Sciences Antonina Hrys
Kostiuk Institute of Psychology of the NAPS of Ukraine, Ukraine
ORCID iD: <https://orcid.org/0000-0002-0153-2303> ;
ResearcherID: G-4682-2018

Doctor of Psychological Sciences Mariya Pavliuk
Interregional Academy of Personnel Management, Ukraine
ORCID iD: <https://orcid.org/0000-0002-0822-8128> ;
ResearcherID: AAM-5245-2020

Doctor of Pedagogical Sciences Viktoriia Stynska
Vasyl Stefanyk Prekarpathian National University, Ukraine
ORCID iD: <https://orcid.org/0000-0003-0555-3205> ;
ResearcherID: <https://publons.com/researcher/3349109/viktoriia-stynska/>

Candidate of Psychological Sciences Olha Babiak
Mykola Yarmachenko Institute of Special Education and Psychology of the
NAES of Ukraine, Ukraine
ORCID iD: <https://orcid.org/0000-0001-6337-1202> ;
ResearcherID: P-8226-2016

Doctor of Psychological Sciences Vadym Zavatskyi
Volodymyr Dahl East Ukrainian National University, Ukraine
ORCID iD: <https://orcid.org/0000-0001-9946-9113> ;
ResearcherID: AAE-8862-2019

Doctor of Psychological Sciences Ihor Popovych
Kherson State University, Ukraine
ORCID iD: <https://orcid.org/0000-0002-1663-111X> ;
Scopus Author ID: 57208214862; ResearcherID: [F-3030-2019](https://orcid.org/0000-0002-1663-111X)

Abstract

The purpose of the article is to study the characteristics of the psychophysiological state of servicemen with post-traumatic stress disorders (PTSD) and adaptation disorders (AD) after being in combat conditions. The research was implemented at the hospitalization stage, a comparative characteristic of the level of reactive and personal *anxiety* of the studied, according to the autonomic, sensorimotor, affective and ideator registers, was carried out. Methods used: observation, conversation, the questionnaire "Scale of self-assessment of reactive (situational) and personal *anxiety* ("SSRPA") (Spielberger, 1983; adapted by Hanin, 1983). According to the received results,

in the group of servicemen with PTSD: in the affective register – complaints of a feeling of sadness, experiencing a state of melancholy, obsessive memories of experienced events; in the ideator register – a state of confusion. In the group of military personnel with AD: in the affective register – unmotivated *anxiety*, periods of intolerance towards oneself, irritability, difficulties in self-control. A study of the level of reactive and personal *anxiety* of the studied confirmed the presence of a more pronounced pathogenic picture of servicemen with adaptation disorders.

Resumen

El objetivo del artículo es estudiar las características del estado psicofisiológico del personal militar con trastornos postraumáticos de estrés (TPE) y trastornos de adaptación (TA) después de haber estado en las condiciones de combate. El estudio fue realizado en la etapa de hospitalización, se hizo la comparación del nivel de ansiedad reactiva y de *ansiedad* personal de los investigados según los registros siguientes: vegetativo, sensoriomotora, afectivo e ideador. Los métodos utilizados son la observación, la conversación con los investigados, la metodología "Escala de autoevaluación de *ansiedad* reactiva (situacional) y personal" ("EAARP") (Spielberger, 1983; adaptación Hanin, 1983). Según los resultados obtenidos, en el registro afectivo el grupo de militares con TPE se quejaba del sentimiento de tristeza, sentía melancolía y tenía recuerdos obsesivos de los acontecimientos pasados; en el registro ideador se trataba del estado de confusión. El grupo de personal militar con TA en el registro afectivo se caracterizaba por la *ansiedad* sin motivo, períodos de intolerancia hacia sí mismo, irritabilidad, dificultades con autocontrol. El estudio del nivel de ansiedad reactiva y de *ansiedad* personal de los investigados confirmó que el personal militar con trastornos de adaptación tiene un cuadro patógeno más manifiesto.

Key words

Combat Stress – Anxiety – Adaptation

Palabras clave

Estrés de combate – Ansiedad – Adaptación

Introduction

Resistance to experiencing stress is an important character trait, a necessary component of the professional suitability of a representative of power structures¹.

The issues of social and legal protection of servicemen, members of their families are especially acute in modern Ukraine, and are under close attention from the state. Programs for the psychological rehabilitation of servicemen after

¹ "About the amendment to Article 11 of the Law of Ukraine" On Social and Legal Entity of Members and Members". (Draft Law of Ukraine of April 21, 268, 2015).

completing missions in combat conditions are considered, discussed and accepted at the legislative level by the Supreme Council of Ukraine^{2,3}.

The issues of psychological, social, legal adaptation of servicemen are widely discussed in a number of other countries participating in military clashes^{4,5}. The authors emphasized the need and timeliness of the introduction by the law enforcement agencies of the Program for medical and psychological rehabilitation of people who have been in battle. Scientific and practical interest is attracted by approaches in medical and psychological support. So, under special control are fighters who have been in an armed conflict for more than a month.

According to draft law, particular in Russia, servicemen will have to pass an unscheduled medical examination no later than three days after returning from dangerous mission. Moreover, the importance of a medical examination is compared with a psychological examination of a serviceman by trained psychologist officers.

World experience shows on the example of the “Vietnamese”, “Afghan”, “Chechen” syndromes that the lack of timely psychosocial support to military personnel, survivors of the hardships of life in combat conditions, the loss of close comrades, the lack of clarity in the assessment of what is happening on the part of civil society leads to an increase in affective reactions on the part of serviceman, the formation of his state of maladaptation as a whole.

The experience of an uncompensated state of stress (acute or chronic) leads to a number of mental disorders, according to the observations of the authors^{6,7,8}.

Combat stress as a special type of socio-psychophysiological stress is associated with damage to the mechanisms of behavioral regulation,

² “About the Creation of the Program of Medical Psychological Rehabilitation of Servicemen of NSU – Participants of Combat Actions”. (The instruction of the commander of NSU from January 28, 28, 2015).

³ “Concerning the system of psychological work with NSU servicemen for the period of anti-terrorist operation”. (The order of the commander of NSU from 23.07.2014 №3/19/1-1720).

⁴ Engel, C. C., Oxman, T. & Yamamoto, C. “Respect-Mil: feasibility of a systems-level collaborative care approach to depression and post-traumatic stress disorder in military primary care”. *Military Medicine*, 10, (2014): 935-940.

⁵ Kulikov, V. “The soldier will be prescribed antidepressants. Internal troops are introducing a system of psychological assistance for the warriors”. *Russian newspaper. Federal issue*, 5553 (177), (2018): 1-12.

⁶ Maruta, N. O. & Markova, M. V. “Information-psychological warfare as a new challenge to the present: the state of the problem and directions for overcoming it”. *Ukrainian Journal of Psychoneurology*. Vol. 23, 3(84), (2015): 21-28.

⁷ Mihajlov, B. V. “The problem of evaluating the effectiveness and quality of psychotherapy care”. *Ukrainian Journal of Psychoneurology*, Vol. 18, 3 (64), (2013): 137.

⁸ Zavatska, N. Ye. & Shevchenko, R. P. “Components of social and psychological support for servicemen in a transformational society”. In: H. S. Kostiuk’s *Creative Legacy: History and Modernity* (pp. 39-41). (Kiev: H. S. Kostiuk Institute of Psychology, National Academy of Pedagogical Sciences of Ukraine, 2019).

psychoemotional failure in the well-developed behavioral program “serviceman - combat mission – necessary result”. In future, a psychological dominant arises, which, according to studies^{9,10}, is transformed into guilt for unfulfilled debt¹¹.

The inclusion of consciousness to new conditions in the space of value orientations of a personality is a definite determinant of the formation of a new behavioral pattern of “personal motive – behavior – result”. Such a transformation in behavioral attitudes, on the one hand, is necessary as a certain protective mechanism of the mental health of a serviceman; on the other hand, it is impossible without the help of a specialist¹².

Objectively, there is a need for early diagnosis of the development of maladaptive conditions. Studies of neurotic and psychosomatic disorders at their preclinical level need careful study. The development of methods and approaches for the early diagnosis of mental disorders of a selected clinical circle will allow not only the development of an early correction system, but will significantly save the economic, temporary, personal resources of a serviceman¹³.

The purpose of the empirical research is to study the characteristics of the psychophysiological state of servicemen with post-traumatic stress and adaptation disorders after being in a combat situation at the hospitalization stage.

1. Methodology and methods

The methodological basis of an empirical research of post-traumatic stress disorders and adaptation disorders of servicemen after being in a combat environment at the hospitalization stage is an algorithm that provides a sequence of activities using psycho-diagnostic tools. The choice of tools met the requirements of the relevant reflection of the subject of study.

Initial methodological principles were tested by researchers in the systemic rehabilitation of students with post-traumatic stress disorders in the context of a military conflict in the East of Ukraine¹⁴, in the study of semantic regulation^{15,16}, and in the study of the psychological meaningful parameters of

⁹ Mihajlov, B. V. “The problem of evaluation...”

¹⁰ Zavatska, N. Ye. & Shevchenko, R. P. “Components of social and psychological...”

¹¹ Zuckerman, M. “Sensation Seeking and Risky Behavior”. (NY: American Psychological Association. 2007).

¹² Yarmuratii, K. A. “Research on Social-Psychological Features of Servicemen’s Adaptation to Military Service”. *Insight: the psychological dimensions of society*, 2, (2019): 84-90.

¹³ Blinov, O. A. “Methodology for predicting psychogenic loss”. Kyiv: “VGI NAOU”, 2003.

¹⁴ Zavatskyi, V. Yu., Piletska, L. S., Zavatska, N. Ye., Semenov, O. S., Blyskun, O. O., Blynova, O. Ye. Yaremchuk, V. V. & Popovych, I. S. “Systematic Rehabilitation of Student Youth with Post-Traumatic Stress Disorders under Conditions of the Armed Conflict in Eastern Ukraine”. *Revista ESPACIOS*, Vol. 41(6), (2020): 20.

¹⁵ Popovych, I. S.; Halian, I. M., Halian, O. I., Burlakova, I. A., Serbin, Iy. V., Toba, M. V., Buhaiova, N. M. & Bokhonkova, Yu. A. “Sensory Regulation of Future Teachers in a Situation of Uncertainty”. *Revista ESPACIOS*, Vol. 41(2) (2020): 28.

various types of human activities in contact with the subject of research^{17,18,19,20}, in modeling social expectations of individuals^{21,22}. All these experimental and empirical studies are also relevant to the study of emotional deviations of servicemen.

1.1. Participants

The research was held on the basis of the Military Medical Clinical Center of the Southern Region (Odessa, Ukraine) and the Department of Practical Psychology of Odessa National Maritime University. During the research, 90 servicemen were examined. Of these, 30 people are servicemen with post-traumatic stress disorder, as well as other neurotic disorders with symptoms of post-traumatic stress disorder, 60 people are servicemen with adaptation disorders. Among them, 91.11% (n=82) of males and 8.89% (n=8) of

1.2. Instruments

During the research, such methods were used: an observation, a conversation, the questionnaire "Scale of self-estimation of reactive (situational) and personal anxiety" ("SSRPA") (Spielberger, 1983²³; adapted by Hanin, 1983²⁴).

The observation method²⁵ made it possible to describe the staging of the research, the peculiarities of complaints made by servicemen, the registration of

¹⁶ Nosov, P., Palamarchuk, I., Zinchenko, S., Popovych, I., Nahrybelnyi, Y. & Nosova, H. "Development of means for experimental identification of navigator attention in ergatic systems of maritime transport". Bulletin of University of Karaganda. Technical Physics", 1 (97), 2020: 58-69.

¹⁷ Popovych, I., Blynova, O., Zhuravlova, A., Toba, M., Tkach, T. y Zavatska, N. "Optimización del desarrollo y psicocorrección de expectativas sociales de estudiantes de filología extranjera". Revista Inclusiones. Vol: 7 num Especial, (2020): 82-94.

¹⁸ Popovych, I., Kononenko, O., Kononenko, A., Stynska, V., Kravets, N., Piletska, L. y Blynova, O. "Research of the Relationship between Existential Anxiety and the Sense of Personality's Existence". Revista Inclusiones, Vol: 7 num Especial, (2020): 41-59.

¹⁹ Popovych, I., Lymarenko, L., Tereshenko, N., Kornisheva, T., Yevdokimova, O., Koverznieva, A., y Aleksieieva, M. "Research on the Effectiveness of Training Technologies' Implementation in Student Theater". Revista Inclusiones, Vol: 7 num 2, (2020): 104-121.

²⁰ Zinchenko, S., Nosov, P., Mateichuk, V., Mamenko, P., Popovych, I. & Grosheva, O. "Automatic collision avoidance system with many targets, including maneuvering ones". Bulletin of university of Karaganda, 96 (4), 2019: 69-79.

²¹ Khmil, V. V. & Popovych, I. S. "Philosophical and Psychological Dimensions of Social Expectations of Personality". Anthropological Measurements of Philosophical Research, 16, (2019): 55-65.

²² Popovych, I., Borysiuk, A., Zahrai, L., Fedoruk, O., Nosov, P., Zinchenko, S. y Mateichuk, V. "Constructing a Structural-Functional Model of Social Expectations of the Personality". Revista Inclusiones, Vol: 7 num Especial, (2020): 154-167.

²³ Spielberger, C. D. "State Trait Anxiety". (California: Mind Garden Inc., 1983).

²⁴ Hanin, Yu. L. "Stress and Anxiety in Sports, International Journal of Scientific Articles". Physical Education and Sport, 1 (10), (1983): 12-24.

²⁵ Burlachuk, L. F. & Morozov, S. M. "Dictionary and Reference Book of Psychodiagnostics". St. Petersburg: Piter, 2001.

behavior, reactions studied at the hospital stage after being in combat operations.

The conversation with servicemen provided additional information about the experiences associated with the experienced events, about the attitude of the servicemen to their own life situation, the assessment of their own mental state.

The questionnaire “Scale of self-estimation of reactive (situational) and personal *anxiety* (“SSRPA”)^{26,27}: self-estimation of reactive (situational) *anxiety* (SR(S)A) and self-estimation of personal *anxiety* (SPA). The responses were within the range of a unipolar semantic differential scale, the ranking of the values was within the range of 1 (no, it is not true) to 4 (absolutely correct). The received indexes of reliability with Cronbach’s alpha made $\alpha_{SSSA} = .734$.

1.3. Procedure

To study the characteristics of emotional deviations of servicemen after being in combat situations, two groups of test subjects were gathered: the first – with post-traumatic stress disorder, as well as with other neurotic disorders with symptoms of post-traumatic stress disorder and the second one with adaptation disorders. Researchers paid special attention to ensuring the confidentiality of data that they received from servicemen in order to avoid random answers.

The research was held with the informational agreement of the examined, in compliance with ethical and bioethical standards. The research was held according to ethical standards of committee on the rights of experiments of Helsinki declaration²⁸.

1.4. Data analysis

Statistical processing of the empirical data and graphical presentation of the results were done using statistical programs “Statistical Package for the Social Sciences” v. 21.0 and “Microsoft Office Excel 2007”. In our research arithmetic mean value parameters (M) were used, minimum (min), maximum (max) and mean-square deviation (CD) were calculated. Differences between values of parameters at level $p \leq .05$ considered statistically significant.

2. Results

General picture of clinical expressions of servicemen with neurotic disorders differs in a protracted course. Analysis of pathopsychological symptomatology of servicemen with neurotic disorders at the hospital stage, after being in combat situations, allowed to determine the specificity of the clinical picture formation in the study groups. In Tabl. 1 we present the

²⁶ Spielberger, C. D. “State Trait ...

²⁷ Hanin, Yu. L. “Stress and Anxiety ...

²⁸ “WMA Declaration of Helsinki – Ethical Principles for Medical Research Involving Human Subjects”. (2013).

distribution of complaints about their well-being among servicemen of the selected diagnostic category.

Disturbance	Group 1, (n=30)		Group 2, (n=60)		Φ_{emp}
	M	%	M	%	
Autonomic register					
Dizziness	4.0	13.3	7.0	12.5	.219*
Gastrointestinal disorders	14.0	46.2	17.0	27.2	1.713*
Sensorimotor register					
Inability to relax, a feeling of inner tension	26.0	85.8	16.0	25.6	5.854*
Muscle tension	24.0	79.2	35.0	56.0	2.129*
Muscle aches and pains	25.0	82.5	21.0	33.6	4.624*
The feeling of "lump in the throat"	23.0	75.9	15.0	24.0	4.861*
Affective register					
Irritability	23.0	75.9	47.0	75.2	.17*
Lower mood background	24.0	79.2	31.0	49.6	2.724*
Depression	23.0	75.9	21.0	33.6	3.882*
Difficulties of self-control	21.0	69.3	47.0	75.2	.85*
Feeling sad, angry	28.0	92.2	54.0	86.4	.537*
Unmotivated anxiety	13.0	42.9	57.0	91.1	5.613*
Different kinds of fears	14.0	46.2	50.0	80.0	3.555*
Intolerance to yourself	9.0	29.7	57.0	91.2	6.851*
Obsessive memories of the experience	27.0	89.1	32.0	51.2	3.851*
Obsessive thoughts and	26.0	85.8	54.0	86.4	.461*

fears					
Ideator register					
Rapid tiredness after mental work	27.0	89.1	16.0	25.6	6.315*
States of confusion	28.0	92.2	42.0	67.2	2.844*
Increased exhaustion of attention	22.0	72.6	37.0	59.2	1.114*
Memory impairment	19.0	62.7	13.0	20.8	3.895*

Note: Group 1 – studied with PTSD and other neurotic disorders with PTSD symptoms; Group 2 – studied with adaptation disorders; M – arithmetic mean; * – the difference between the indicators of study group 1 from the indicators of study group 2 according to the criterion φ – Fisher angular transformation is significant ($p_{\varphi} < .05$); ** – the difference between the indicators of study group 1 and the indicators of study group 2 by the criterion φ – Fisher angular transformation is significant ($p_{\varphi} < .01$).

Table 1

Complaints' distribution of servicemen with neurotic disorders at the hospital stage after the combat situation

The results represent the characteristics of specific complaints, recorded from servicemen with neurotic disorders at the hospital stage, after participating in combat situations. It should be noted that in group 1, which included servicemen with post-traumatic stress disorder, as well as other neurotic disorders with symptoms of post-traumatic stress disorder, complaints from the autonomic, sensorimotor, affective and ideator registers are typical.

The recorded complaints signal the presence of problems in the physical and mental state of the studied. The most pronounced indicators are noted in the affective register.

Complaints of feeling sad, experiencing a state of melancholy noted 92.2% (with $p_{\varphi} < .05$) of the total number examined in this diagnostic group. The same number of test subjects, 92.2% (with $p_{\varphi} < .05$), was characterized by a state of confusion corresponding to complaints of the ideator register, which signals a lack of internal psychological readiness for testing in combat situations. This, in turn, formed certain personality disorientation in what is happening around the subject, as well as in the absence of a clear idea of their place and purpose in these conditions.

Obsessive memories of the events that were found in 89.1% (with $p_{\varphi} < .05$) of the described cluster of test subjects, obsessive thoughts, fears, which were recorded in 85.8% (with $p_{\varphi} < .05$) of the total number of studied in this group, signal about a high level of severity of affective worries experienced by servicemen after participating in combat situations.

The received data in group 2, which included servicemen after participating in combat situations with adaptation disorders, are also characterized by complaints from the affective register; however, their expressions are significantly different from those received in the group of servicemen with post-traumatic stress disorders.

The characteristics of “unmotivated *anxiety*”, as well as “periods of intolerance towards oneself” were noted by 91.1% of the servicemen who took part in the study (with $p_{\phi} < .05$) out of the total number examined in this diagnostic group.

The received data indicate the presence of significant deviations in the individual’s value system. The value system of the individual in this case acts as a sensitive component that responds to the conflict of the subject with the environment.

Rejection of oneself under the prevailing difficult conditions form a certain level of *anxiety* uncontrolled by the subject, rejection, condemnation of oneself as incapable of coping with one’s own mental state and, as a result, impossibility to successfully cope with assigned combat missions.

Emerging irritability and, as a result, difficulties in self-control were found in 75.2% (with $p_{\phi} < .05$) of the total number of examined servicemen with adaptation disorders after participating in combat situations.

The described results are confirmed by received data in the research of selected diagnostic groups using the method “Scale of self-estimation of reactive (situational) and personal *anxiety* (“SSRPA”) (Spielberger, 1983²⁹; adapted by Hanin, 1983³⁰) (see Tabl. 2).

Level	Group 1, (n=30)		Group 2, (n=60)		Φ_{emp}
	M	%	M	%	
Reactive anxiety					
High	21.0	69.3	53.0	84.8	2.062*
Middle	5.0	16.5	6.0	9.6	.885*
Low	3.0	9.9	1.0	1.6	1.708*
Personal anxiety					
High	15.0	49.5	38.0	60.8	1.203*
Middle	9.0	29.7	14.0	22.4	.68*
Low	4.0	13.2	8.0	12.8	.0*

Note: Group 1 – studied with PTSD and other neurotic disorders with PTSD symptoms; Group 2 – studied with adaptation disorders; M – arithmetic mean; * – the difference between the

²⁹ Spielberger, C. D. “State Trait ...

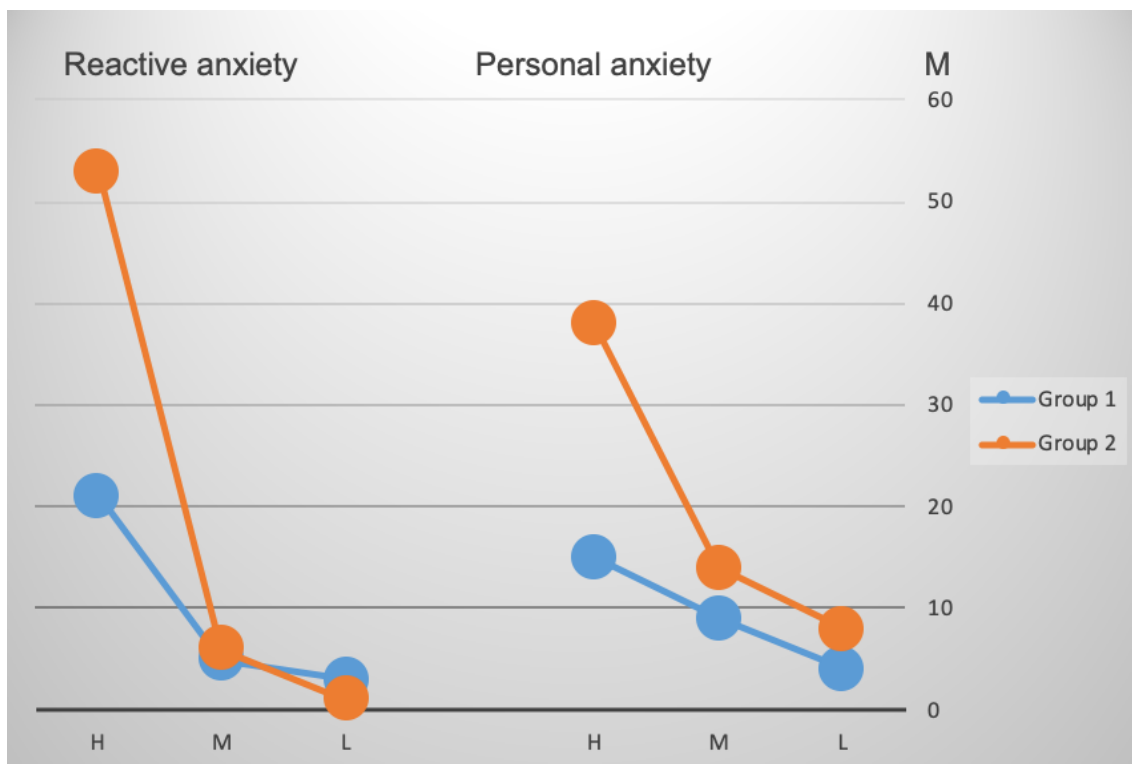
³⁰ Hanin, Yu. L. “Stress and Anxiety ...

indicators of study group 1 from the indicators of study group 2 according to the criterion φ – Fisher angular transformation is significant ($p_\varphi < .05$); ** – the difference between the indicators of study group 1 and the indicators of study group 2 by the criterion φ – Fisher angular transformation is significant ($p_\varphi < .01$).

Table 2

Correlation of *anxiety* indicators in research groups of servicemen with PTSD and AD after participating in combat situations according to “SSRPA” data

A comparative assessment of reactive *anxiety* indicators in the groups of studied servicemen showed higher parameter values in the group of those studied with adaptation disorders (high in 84.8% of the total number examined in this group, with $p_\varphi < .05$) than in the group studied with post-traumatic stress disorders (high in 69.3% of the total number examined in the group, with $p_\varphi < .05$) in Fig 1.



Note: M – arithmetic mean; Group 1 – studied with PTSD and other neurotic disorders with PTSD symptoms; Group 2 – studied with adaptation disorders; H – high level; M – middle level; L – low level.

The analysis of personal *anxiety* indicators in the indicated diagnostic groups demonstrates higher parameter values in the studied group with adaptation disorders (high in 60.8%, with $p_\varphi < .05$ individuals of the total number examined in this group) than in the studied group with post-traumatic stress disorders (high in 49.5%, with $p_\varphi < .05$ individuals of the total number examined in the group).

The received data indicate the presence of an increased level of stress of the studied servicemen in the performance of professional duties, which is displayed on their psycho-emotional state. The received indicators clearly demonstrate the presence of a more pronounced reactive and personal *anxiety* of servicemen with adaptation disorders than of servicemen with post-traumatic stress disorders after being in a combat situation at the hospital stage.

3. Discussion

Modern research^{31,32,33}, reflects the conformity of the reaction to the combat according to the three-component nature. The physiological component serves as a definite response of the organism to the demanded compensatory regulation of unbalanced functional systems. The psychological component serves as a reaction to opposing mental exhaustion arising from the “suppression” of volitional acts, the importance of professionally important qualities. Social, as one of the most vulnerable, serves as a response to the threat of destroying the identity and potential of the individual, the image of his “Self” in the system of moral patterns of duty, honor and fidelity to the military oath.

Understanding of this leads to an awareness of the value of the psychophysiological training of a serviceman, as a result of which a psychophysiological resource is formed, which in its turn prevents deep damage to the individual under conditions of combat stress.

Only a serviceman with a healthy psyche is able to realize personal responsibility for the performance of military duty, if he is in a state of depression, mental exhaustion, in a state of internal conflict, he becomes potentially unreliable in military terms.

The severity of experiencing *combat stress* is caused by a constant danger to life, as well as service in a situation of lack of information and incomplete predictability of the development of events and, consequently, incomplete psychological readiness to meet a task whose complexity may be higher than the psychophysiological capabilities of a serviceman^{34,35,36,37}.

³¹ Shevchenko, R. P. “Psycho-social factors ...

³² Hichun, V. S., Romanenko, Yu. P. & Kyslova, O. V. “Psycho-psychiatric rehabilitation of members of the rank and file officers of law enforcement agencies and units, servicemen of units and units of the National Guard of Ukraine who took part in combat situations”. (Kyiv: CP “COMPRINT”, 2014).

³³ Zavatskyi, V. Yu., Piletska, L. S., Zavatska, N. Ye., Semenov, O. S., Blyskun, O. O., Blynova, O. Ye. Yaremchuk, V. V. & Popovych, I. S. “Systematic Rehabilitation of Student Youth with Post-Traumatic Stress Disorders under Conditions of the Armed Conflict in Eastern Ukraine”. *Revista ESPACIOS*, Vol. 41(6), (2020): 20.

³⁴ Mihajlov, B. V. “The problem of evaluating ...

³⁵ Shevchenko, R. P. “The system of the socio-psychological support for military personnel in the context of transformational changes in society”. Doctor degree. (Severodonetsk: Volodymyr Dahl East-Ukrainian National University Ministry of Education of Ukraine. 2019).

³⁶ Zavatska, N. Ye. & Shevchenko, R. P. “Components of social and psychological ...

Servicemen with adaptation disorders, differing, according to the results of the research, in states of unmotivated *anxiety*, repeated periods of intolerance towards themselves, thus showed an internal conflict in the individual's value system. According to our observations, *anxiety*, which was not controlled by the subject, often had the character of a kind of internal condemnation and rejection of oneself as incapable of controlling one's own emotions and successfully coping with combat missions. It is empirically researched and substantiated that the mental state of *anxiety* is an emotional state of watchfulness, worry, a sense of threat and danger³⁸.

At the same time, issues related to a more in-depth study of the possibilities of psychophysiological training of a modern serviceman for a situation of effective action in a combat situation need additional research.

3. Conclusions

The revealed features of the psychophysiological state of the servicemen after participating in combat situation indicate the specificity of the subject's experiences in difficult conditions. The recorded complaints of servicemen in the autonomic, sensorimotor, affective and ideator registers signal deep personal feelings associated with a number of psychological, social, and ideological factors.

Despite the internal imbalance, the need to meet the high requirements of constant combat readiness imposes an additional burden on the modern serviceman, brings research on the characteristics of the psychophysiological state of the serviceman to a strategically important level.

The results of the research indicate the need to develop ongoing psychological support for the serviceman at the stages of preparation for participation in combat situation, psychological support immediately after the combat situations, psycho-correctional support, as well as the involvement of other specialists if necessary, after a while.

The scientific interest and the need for further development deserve the results of the research, signaling the lack of internal psychological readiness of the studied servicemen for testing in the conditions of combat situations, which signals the need to work out due to personal resources a motivational component affecting the system of personal value orientations. The internal attitude, the ideological harmony of personal attitudes internally with what is happening outside will allow the servicemen to more easily cope with the difficulties of staying in difficult conditions of direct military operations.

Pronounced worries of servicemen recorded more often with post-traumatic stress disorders during the study in the form of memories associated

³⁷ Sliusar, I. M. "Psychological diagnosis and correction of post-traumatic stress disorder": (Kiev: FPU Printing House, 2005).

³⁸ Striletska, I. I. "The Specificity and Nature of the Relationship between Anxiety and Social Intelligence of Students of Different Specialties". *Nauka and osvita*, 1, (2017): 21-28.

with participation, staying in combat situations. The loss of comrades-in-arms, the suffering of the civilian population often acquires an obsessive character for a serviceman. They signal the presence of an effective response from the individual, the need to study the psychotrauma received in the combat situation.

A study of the level of reactive and personal *anxiety* of servicemen who took part in combat situations at the hospital stage confirmed the presence of a more pronounced pathogenic picture of servicemen with adaptation disorders.

Discovered features of the psychophysiological state of servicemen with post-traumatic stress and adaptation disorders after being in a combat situations at the hospitalization stage according to the autonomic, sensorimotor, affective and ideator registers, as well as the comparative characterization of the level of their reactive and personal *anxiety* indicates the need for further study of the designated range of issues to ensure the safety of the psychophysical health of the serviceman.

Acknowledgments

The research was held according to the theme of the state budget research work of the Department of Practical Psychology of Odessa National Maritime University “Stressogenicity in modern society” registration number is 0119U002263 and theme of the Department of General and Social Psychology of Kherson State University, the state registration number is 0119U101096.

References

“About the amendment to Article 11 of the Law of Ukraine” On Social and Legal Entity of Members”. Draft Law of Ukraine of April 21, 2686, 2015.

“About the Creation of the Program of Medical Psychological Rehabilitation of Servicemen of NSU – Participants of Combat Actions”. The instruction of the commander of NSU from January 28, 28, 2015.

Blinov, O. A. “Methodology for predicting psychogenic loss”. Kyiv: “VGI NAOU”, 2003.

Burlachuk, L. F. & Morozov, S. M. “Dictionary and Reference Book of Psychodiagnosics”. St. Petersburg: Piter, 2001.

“Concerning the system of psychological work with NSU servicemen for the period of anti-terrorist operation”. The order of the commander of NSU from 23.07.2014 №3/19/1-1720.

Engel, C. C., Oxman, T. & Yamamoto, C. “Respect-Mil: feasibility of a systems-level collaborative care approach to depression and post-traumatic stress disorder in military primary care”. *Military Medicine*, 10, 2014: 935-940.

Hanin, Yu. L. “Stress and Anxiety in Sports, *International Journal of Scientific Articles*”. *Physical Education and Sport*, 1 (10), 1983: 12-24.

Hichun, V. S., Romanenko, Yu. P. & Kyslova, O. V. "Psycho-psychiatric rehabilitation of members of the rank and file officers of law enforcement agencies and units, servicemen of units and units of the National Guard of Ukraine who took part in combat situations". Kyiv: CP "COMPRINT", 2014.

Khmil, V. V. & Popovych, I. S. "Philosophical and Psychological Dimensions of Social Expectations of Personality". *Anthropological Measurements of Philosophical Research*, 16, 2019: 55-65. DOI: <https://doi.org/10.15802/ampr.v0i16.187540>

Kulikov, V. "The soldier will be prescribed antidepressants. Internal troops are introducing a system of psychological assistance for the warriors". *Russian newspaper. Federal issue*, 5553 (177), 2018: 1-12.

Maruta, N. O. & Markova, M. V. "Information-psychological warfare as a new challenge to the present: the state of the problem and directions for overcoming it". *Ukrainian Journal of Psychoneurology*. Vol. 23, 3(84), 2015: 21-28.

Mihajlov, B. V. "The problem of evaluating the effectiveness and quality of psychotherapy care". *Ukrainian Journal of Psychoneurology*, Vol. 18, 3 (64), 2013: 137.

Nosov, P., Palamarchuk, I., Zinchenko, S., Popovych, I., Nahrybelnyi, Y. & Nosova, H. "Development of means for experimental identification of navigator attention in ergatic systems of maritime transport". *Bulletin of University of Karaganda. Technical Physics*", 1 (97), 2020: 58-69. DOI: 10.31489/2020Ph1/58-69

Olefir, V., Kuznetsov, M. & Plokhikh, V. "Effect of physical exercises and perceived stress interaction on students' satisfaction with life". *Pedagogics, Psychology, Medical-Biological Problems of Physical Training and Sports*, 23(1), 2019: 30-35. Retrieved from: <https://doi.org/10.15561/18189172.2019.0105>

Popovych, I., Blynova, O., Zhuravlova, A., Toba, M., Tkach, T. y Zavatska, N. "Optimization of development and psycho-correction of social expectations of students of foreign philology". *Revista Inclusiones*. Vol: 7 num Especial, 2020: 82-94. Retrieved from: <http://www.archivosrevistainclusiones.com/gallery/1%20vol%206%20numesprasilapha%201%202019enemarnclu.pdf>

Popovych, I., Borysiuk, A., Zahrai, L., Fedoruk, O., Nosov, P., Zinchenko, S. y Mateichuk, V. "Constructing a Structural-Functional Model of Social Expectations of the Personality". *Revista Inclusiones*, Vol: 7 num Especial, 2020: 154-167. Retrieved from: <https://www.revistainclusiones.com/gallery/11%20vol%207%20num%20majaespecialleabriljunio2020revinclusi.pdf>

Popovych, I. S.; Halian, I. M., Halian, O. I., Burlakova, I. A., Serbin, Iy. V., Toba, M. V., Buhaiova, N. M. y Bokhonkova, Yu. A. "Sensory Regulation of Future Teachers in a Situation of Uncertainty". *Revista ESPACIOS*, Vol. 41(2), 2020: 28. Retrieved from: <https://www.revistaespacios.com/a20v41n02/20410228.html>

Popovych, I., Kononenko, O., Kononenko, A., Stynska, V., Kravets, N., Piletska, L. y Blynova, O. "Research of the Relationship between Existential Anxiety and the Sense of Personality's Existence". *Revista Inclusiones*, Vol: 7 num Especial, 2020: 41-59. Retrieved from:

<https://www.revistainclusiones.com/gallery/5%20vol%207%20num%20especialleabriljunio2020revinclusi.pdf>

Popovych, I., Lymarenko, L., Tereshenko, N., Kornisheva, T., Yevdokimova, O., Koverznieva, A., y Aleksieieva, M. "Research on the Effectiveness of Training Technologies' Implementation in Student Theater". Revista Inclusiones, Vol: 7 num 2, 2020: 104-121. Retrieved from: <https://www.revistainclusiones.com/gallery/6%20vol%207%20num%20eabriljunio2020revinclusi.pdf>

Shevchenko, R. P. "Psycho-social factors in the structure of the state of combat stress among military personnel participating in the anti-terrorist operation in Ukraine". Psihologie: revistă științifico-practică, 1-2 (30), 2017: 87-94.

Shevchenko, R. P. "The system of the socio-psychological support for military personnel in the context of transformational changes in society". Doctor degree. Severodonetsk: Volodymyr Dahl East-Ukrainian National University Ministry of Education of Ukraine. 2019.

Sliusar, I. M. "Psychological diagnosis and correction of post-traumatic stress disorder": (Kiev: FPU Printing House, 2005).

Spielberger, C. D. "State Trait Anxiety". California: Mind Garden Inc., 1983.

Striletska, I. I. "The Specificity and Nature of the Relationship between Anxiety and Social Intelligence of Students of Different Specialties". Nauka and osvita, 1, 2017: 21-28. <https://doi.org/10.24195/2414-4665-2017-1-4>

"WMA Declaration of Helsinki – Ethical Principles for Medical Research Involving Human Subjects". 2013. Retrieved from: <http://www.wma.net/es/30publications/10policies/b3/17c.pdf>

Yarmuratii, K. A. "Research on Social-Psychological Features of Servicemen's Adaptation to Military Service". Insight: the psychological dimensions of society, 2, 2019: 84-90. DOI: <https://doi.org/10.32999/2663-970X/2019-2-12>

Zavatska, N. Ye. & Shevchenko, R. P. "Components of social and psychological support for servicemen in a transformational society". In: H. S. Kostyuk's Creative Legacy: History and Modernity" (pp. 39-41). (Kiev: H. S. Kostyuk Institute of Psychology, National Academy of Pedagogical Sciences of Ukraine, 2019).

Zavatskyi, V. Yu., Piletska, L. S., Zavatska, N. Ye., Semenov, O. S., Blyskun, O. O., Blynova, O. Ye. Yaremchuk, V. V. & Popovych, I. S. "Systematic Rehabilitation of Student Youth with Post-Traumatic Stress Disorders under Conditions of the Armed Conflict in Eastern Ukraine". Revista ESPACIOS, Vol. 41(6), 2020: 20.

Zinchenko, S., Nosov, P., Mateichuk, V., Mamenko, P., Popovych, I. & Grosheva, O. "Automatic collision avoidance system with many targets, including maneuvering ones". Bulletin of university of Karaganda, 96 (4), 2019: 69-79. DOI: 0.31489/2019Ph4/69-79

Zuckerman, M. "Sensation Seeking and Risky Behavior". NY: American Psychological Association. 2007.