

## The Main Factors and Personality Characteristics to Predict the Risk of Suicide by Military Personnel in Hostilities

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**Abstract:** *The problem of non-combat losses due to suicides of military personnel is relevant for most of the armed forces of states participating in local armed conflicts. The posthumous pathopsychological study of materials from the investigation of suicides by Ukrainian military personnel made it possible to identify the main factors of committing suicides during the period of participation in hostilities in eastern Ukraine in 2014-2019: problems of adaptation to combat conditions; insufficient level of professional and psychological training to perform missions in combat conditions; acute stressful reactions to participation in hostilities; physical and mental exhaustion, demotivation; dysfunctional families; loneliness or breakup with a beloved woman; offenses and disciplinary actions; alcohol abuse. The main types of personality who committed suicide in different periods of hostilities were: in 2014-2016 “Demonstratively-Dependent”, having two subtypes “Demonstratively-Maladaptive” and “Demonstratively-Masked”; in 2017-2019 “Asthenic-Depressive”, which has two subtypes “Constitutionally-Weak” and “Exhausted-Demotivated”. The manifestation of PTSD symptoms, physical and mental exhaustion, demotivation, indifference of society to the problems of veterans can significantly increase the risk of suicide in the post-war period. The division into periods of suicidal activity of servicemen suggests that the identified types (subtypes) of personality become suicidal only in extreme conditions with impaired adaptation and self-realization. The identified reasons for committing suicides and the typification of military personnel-suicides associated with different periods of participation in hostilities are not exhaustive.*

**Keywords:** *suicide; hostilities; military personnel; personality characteristics, Ukraine.*

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## 1. Introduction

The problem of non-combat losses due to suicides of military personnel is relevant for most of the armed forces of states participating in various armed conflicts. Increases in military and veteran suicide have been reported over the past decade in the US, UK, Germany and other countries (Bryan & Rudd, 2015; Smith et al., 2019; Willmund et al., 2019a). The significance of this problem and the desire to solve it are evidenced by the fact that the US Department of Defense initiated large-scale studies: a meta-analysis of scientific literature on the problem of suicide prevention among military personnel; the search for a conceptual model that can be used as the basis for understanding suicide in military units; development of postventive strategies with the implementation of clinical and practical guidelines (Pak et al., 2019). In addition, specialists in the study of aspects of military suicide were asked to analyze archival information from 1819 to 2017 about the circumstances and reasons for committing suicide by US military personnel (Smith et al., 2019). Researchers of suicide among U.S. military personnel suggested joining forces to solve this problem with specialists from Germany, Canada, and Great Britain (Willmund et al., 2019b).

A large number of studies on the suicidality of military personnel in 2018-2020 were carried out within the framework of the interpersonal psychological theory of suicide, which put namely acquired capability for suicide, thwarted belongingness, and perceived burdensomeness as components explaining the commission of suicide. When studying suicidal risks in military personnel participating in hostilities, studies of thwarted belongingness and namely acquired capability for suicide seemed promising. The loss of connection with their families, the perception of oneself as a burden on the family as factors of suicidal risk were attractive for constructing veterans' studies (Hom et al., 2017). Baer et al. (2019) studied the relationship of emotional dysregulation and impulsivity with perceived severity and thwarted belongingness to military personnel in a military hospital due to a suicidal crisis. Martin et al. (2019) in a study of US National Guard personnel who had unique experience of transitions from military to civilian life, determined that tolerance to distress has a significant indirect effect on the relationship between PTSD and constructs of interpersonal psychological theory of suicide.

Relevant topics among military suicide researchers are still defining the role of PTSD in suicide risk (O'Donnell et al., 2019), psychoactive substance use (Anestis et al., 2019), predictors of repeated suicide attempts

in military personnel (Bryan & Rudd, 2015), reasons why military personnel do not seek professional help (Applegarth et al., 2019).

Given that military personnel often hide their suicidal thoughts and intentions, researchers began to search for objective and non-stigmatized signs that could be markers of an increased suicidal risk in military personnel. The possibility of using suicidal risk markers such as insomnia and positive screening for traumatic brain injury (Soberay et al., 2019) has been tested. The possibility of using indirect signs of suicidal behavior to clarify suicide risk indicators for veterans with and without PTSD (Barnes et al., 2019).

The problem group for the risk of suicide is military personnel dismissed for negative reasons (Barr et al., 2019). The authors concluded that veterans dismissed for negative reasons had higher average scores for all predictors of suicide risk (PTSD, depression, alcohol use, somatic symptoms, and physical disability) than military personnel dismissed for valid reasons.

Adler et al. (2019) have studied the difficulty of obtaining psychological support when deploying military personnel with a history of suicidal thoughts and attempts. The authors brought that these difficulties are associated with both stigma and logistical problems, difficulties in organizing a reception, a long waiting time, etc. Common ways of providing support to servicemen who have experienced a suicide crisis (family support, crisis hotlines, help from priests and commanders) do not have a unanimous positive assessment among them.

The need to take into account historical content when studying suicidal activity is reflected in the publications of American and Ukrainian scientists. Trying to determine the specific content specifically for military suicides, American researchers turned to an unprecedented in its scope analysis of information about military suicides published from 1819 to 2017 (Smith et al., 2019). The authors found that starting in 1843, the overall trend in annual suicide rates among military personnel serving in the U.S. Army increased and reached its peak at 118.3 per 100 000 in 1883. Out of this historic maximum, the suicide rate among military personnel decreased in three successive waves, each of which corresponded to the end of the war: the Spanish–American (1898), the First World War (1914-1918) and the Second World War (1939-1945). After the Second World War, a historical minimum was set – 5 per 100 000 (in 1944-1945). During the Cold War (from 1945 to 1991), this figure stabilized at 10–15 per 100 000. Nevertheless after the wars in Afghanistan and Iraq, this figure increased, reaching 29.7 per 100 000 in 2012. From 2008 to the present, the annual rate

remains in the range of 20.2–29.7 per 100 000. The study authors showed that this long-term historical approach to suicide among US Army personnel provides subsequent researchers with a new analytical tool and additional perspective with which to better differentiate between long-term and historical trends (Smith et al., 2019).

In peacetime, among the population in Ukraine, it was proposed to distinguish four periods of the dynamics of suicidal mortality: a decrease in suicidal activity against the background of the anti-alcohol campaign in 1981-1988; sharp growth after the collapse of the USSR (1991-1996); stabilization of suicidal mortality at a high level (1997-2000) and its gradual decrease (2000-2013), but did not reach the level during the anti-alcohol campaign (Yuryeva et al., 2019). The authors argue that in 2014 (the first year of hostilities) among the Ukrainian population, there was a gradual decrease in suicidal mortality, which reached a minimum in 2015 and lasted until 2016.

However, among the military personnel of the National Guard of Ukraine (NGU), with the beginning of the armed conflict in the East of Ukraine, already in the first year (2014), the number of completed suicides increased several times compared with the peace period (Prykhodko et al., 2018). The authors proved that in the period from 2014 to 2016 this was due to the problems of insufficient professional and psychological preparedness of mobilized servicemen to participate in hostilities. Since 2017, other suicidogenic factors have come to the fore – mental and physical exhaustion of personal resources due to the prolonged action of combat stress factors (Prykhodko et al., 2020). This contradiction between the all-Ukrainian dynamics of suicidal mortality, where there was a tendency to decrease it, and an increase in suicide cases among NGU servicemen associated with the outbreak of hostilities in 2014, was the reason for the study.

*The aim of the study* is to determine the main factors and personality characteristics of NGU military personnel who committed suicide at different stages of participation in hostilities in the East of Ukraine in 2014-2019.

## **2. Materials and Methods**

### ***2.1 Participants***

Due to the limitations existing in the documents of the NGU, data on the number of suicides and generalized values based on the complex results of psychodiagnostic studies in the control sample of military personnel will not be presented in the article. To compare the results

obtained in the process of analyzing the materials of the psychological selection of servicemen who committed suicide, a control group of NGU servicemen (N = 983) who served in the same period (2014-2019) was compiled. The indicators of their personal characteristics according to these questionnaires were used for comparison with the results that persisted when persons who committed suicide in the future entered the military service in 2014-2019.

## ***2.2 Instruments***

Posthumous pathopsychological study of materials from the official investigation of suicides by Ukrainian NGU servicemen during the period of hostilities in 2014-2019 was used to systematize the main factors and causes of suicide.

The results of the psychological selection of servicemen prior to their conscription into military service (by mobilization or contract) were used to determine the personality types of suicides. The battery of psychological tests included 6 Questionnaires. They were implemented in electronic form for testing and processing the results obtained in the Automated Psychodiagnostic Complex (APC) "Psychodiagnostics" (Vorobyova et al., 2016). Peculiarities of motivation for choosing a profession of a serviceman of NGU was determined using the "Questionnaire for studying the motivation of professional choice" (Moskalenko & Kobzin, 2004, as cited by Vorobyova et al., 2016, pp. 216-218). To determine the character traits that worsen adaptation to new conditions and circumstances of life, the "Determination of the type of accentuation of character traits and temperament" Questionnaire was used Schmieschek (1970, as cited by Vorobyova et al., 2016, pp. 219-222) used the theory of personality accentuations by K. Leonhard (as cited by Vorobyova et al., 2016, pp. 219-222) to develop the Questionnaire. To determine the characteristics of the temperament of servicemen, the "Self-assessment of the structure of temperament" Questionnaire was used (Smirnov, 1989, as cited by Vorobyova et al., 2016, pp. 210-211). The definition of a defect in the emotional-volitional sphere, the risk of committing suicide, ways to overcome difficulties, obstacles facing a serviceman, was used "Questionnaire of suicidal risk" (Shmelev, 2008, as cited by Vorobyova et al., 2016, pp. 223-224). Features of mental resilience, adaptation of the personality to new conditions, its tolerance to changes were studied using the "Multilevel Personality Questionnaire 'Adaptability'" (Maklakov & Chermyanin, 1992, as cited by Vorobyova et al., 2016, pp. 264-276). A generalized characteristic about the formed personality traits in the

process of human life was obtained using the Sixteen Personality Factor Questionnaire (16-PF Questionnaire, Cattell as cited by Vorobyova et al., 2016, pp. 254-263). These Questionnaires have positively proven themselves in the practice of psychological selection of military personnel in Eastern Europe and made it possible to present an overall assessment of all spheres of personality.

### **2.3 Procedure**

All procedures carried out in the study conformed to the ethical standards of the 1964 Helsinki Declaration and its later amendments. The cluster analysis was used to correlate the data of psychodiagnostic studies to a homogeneous group, significantly different from one another. To represent the data, we used the main descriptive statistics (arithmetic mean  $M$ , standard deviation  $SD$ ). To reliably detect significant differences between comparative groups the  $t$ -Student criterion was used (significance level  $p < 0.1$ ,  $p < 0.05$ ,  $p < 0.01$ ); for the different groups studied – the Fisher criterion. Mathematical data processing was carried out using SPSS 17.0.

### **3. Results**

Since 2014, servicemen of the Armed Forces of Ukraine, NGU and other formations have been participating in hostilities in the East of Ukraine. At the beginning of the war (2014-2016), mobilized, volunteers took part in the hostilities, who significantly differed in professional experience and training from military contract servicemen. Analysis of the socio-demographic data of servicemen who committed suicide showed that all of them in 2014-2016 served for less than three months, the vast majority of them were mobilized or volunteers.

Analysis of psychodiagnostic data preserved in the APC showed that over 90% of suicides had similar indicators, according to which they significantly differed from the control group of military personnel. The suicide servicemen had a low level of mental resilience and adaptive abilities according to the “Adaptability” Questionnaire. According to the “Determination of the type of accentuation of character traits and temperament” Questionnaire, they significantly differed from the control group in the vast majority of scales describing the types of character and temperament accentuations: “Demonstrative” ( $17.50 \pm 3.66$ ,  $t = 3.31$ ,  $p \leq 0.01$ ), “Pedantic” ( $12.50 \pm 1.77$ ,  $t = 4.09$ ,  $p \leq 0.01$ ), “Stuck” ( $14.00 \pm 1.51$ ,  $t = 5.25$ ,  $p \leq 0.01$ ), “Cyclothymic” ( $12.00 \pm 3.21$ ,  $t = 2.86$ ,  $p \leq 0.01$ ), “Unbalanced” ( $8.63 \pm 4.37$ ,  $t = 2.25$ ,  $p \leq 0.05$ ), “Dysthymic” ( $7.13 \pm 2.75$ ,  $t = 2.45$ ,  $p \leq 0.05$ ). According to the “Suicide Risk Questionnaire”, all suicides

resorted to controlled reactions regarding the questions concerning the “Maximalism” scale, and the average score in the group on this scale was 0. According to the 16-PF Questionnaire, no statistically significant differences were found with the control group.

The results of the analysis of the investigation materials showed that the mobilization servicemen and volunteers who committed suicide in 2014-2016 did not have enough mental resilience and personal adaptive potential to overcome problems during the period of participation in hostilities. Thus, the accentuated character traits of these servicemen potentially formed the risk of more frequent getting into problem and conflict situations. They were unable to let go of control over the situation, even if for objective reasons it could not be controlled. They reflected on their own failures, as a result, periods of depressed mood appeared and increased, melancholy manifested itself, and also other depressive symptoms appeared. Analysis of the materials of the investigations showed that the majority of suicides were committed against the background of the “debut” of the first prolonged (over a day) alcohol abuse.

Based on the results of psychodiagnostic materials and official investigations, a generalized socio-psychological portrait of a Ukrainian serviceman who committed suicide in 2014-2016 was compiled. This is a soldier volunteer or called up for mobilization, who signed the first military contract service to improve the material situation and conditions of service, arrogantly believing that over the next three years he will be able to serve in combat conditions on an equal basis with professional military personnel. His idea of military service and combat operations was far from reality, he hoped that the physical and mental resources available to him would be sufficient to maintain control over the situation. And even having received a combat stress trauma, he continued to be guided by idealized notions of “unworthy behavior” for a serviceman (demonstrating his weakness) – he excluded the possibility of seeking help from comrades or specialists, hiding his feelings and fears from them. Spending his last mental resources on bravado, he completely depleted himself, and the decrease in fear of death and physical pain due to participation in hostilities allowed him to choose suicide as the only correct way to get rid of suffering and maintain “self-esteem”.

Since 2017, for military personnel (mobilized, volunteers, military contract service), a prerequisite for participation in hostilities has become the conduct of enhanced special professional and psychological training in the field, including using the acquired combat experience in Ukraine and the experience of foreign specialists. It included both the improvement of

professional skills and psychological techniques of self-regulation, adaptation to combat stressors and other activities. It should be noted that since that period, the overwhelming majority of NGU servicemen were not involved in active combat operations and continued to perform law enforcement functions in the combat zone. Nevertheless, the number of suicide soldiers in 2017-2019 did not decrease.

Using psychodiagnostic data preserved in the APC, and materials from investigations of suicides of servicemen, we determined the personality characteristics of servicemen-suicides in the period 2017-2019. In the sample of suicides of the second period (2017-2019), two groups are distinguished. The first is quite similar to the group identified in the first period (2014-2016), however, the indicators of accentuations in the servicemen of this group are smoother – they are between the indicators of the control group and the indicators of the suicide group 2014-2016 with the preservation of the leading genus demonstrative accentuation. The control of answers to the questions of the “Suicidal Risk Questionnaire” already extended not to one scale, but to half of the scales: thus, the scales “Demonstrativeness”, “Affectivity”, “Uniqueness” were added. The military service experience of persons who committed suicide increased and became more than one year; they were all military contract servicemen. Most of them had a long history of alcohol abuse and committed suicide while intoxicated. We point out that these servicemen could not have been identified as a separate group if it had not been for the selection of the first group of persons who committed suicide in 2014-2016, in which the suicidal portrait was more prominently presented. These servicemen had more favorable conditions for adaptation to combat conditions; the accumulation of stress factors in the development of the suicidal crisis was much slower. However, in spite of the external manifestations of adaptation, these servicemen did not actually have a significant positive change in their personal adaptive potential. Such problems in psychological preparation may have been associated with insufficient psychological intervention. Thus, the psychologists of NGU at that time focused on the psychological informing of the military personnel about the stress factors of the combat situation, the development of productive coping-strategies for overcoming combat stress in servicemen, etc. (Prykhodko et al., 2019). However, psychologists did not test the destructiveness of the very structure of adaptation of servicemen; the behavior of the servicemen who committed suicide did not differ from others, and they did not complain about their negative mental state. Although psychologists had to pay attention to the increase in alcohol abuse by the servicemen of this group (they told those around them that it was



necessary to “relieve constant tension”). Nevertheless, both the 2014-2016 suicide servicemen and persons of this type who committed suicide in 2017-2019, despite their mental suffering, tried to the last to play the role of “courageous servicemen” who could endure all difficulties and successfully cope with combat stress (Melnik et al., 2019).

For the second group of servicemen-suicides of the period 2017-2019, a decrease in almost all indicators of motivation was characteristic, according to which they differed at a statistically significant level from the control group: “Motives associated with objective socially set goals and the content of the profession” ( $19.25 \pm 3, 86$ ;  $t = 1.91, p \leq 0.1$ ), “Independent choice of profession” ( $14.75 \pm 4.35$ ;  $t = 3.07, p \leq 0.01$ ), “Non-independent choice of profession” ( $7, 25 \pm 4.35$ ;  $t = 3.79, p \leq 0.01$ ), “Motives associated with the external prestige of the profession and material well-being” ( $15.50 \pm 4.36$ ;  $t = 2.01, p \leq 0.05$ ), “Motives associated with the romantic attractiveness of the profession” ( $12.25 \pm 6.24$ ;  $t = 1.72, p \leq 0.1$ ) and “Motives associated with the desire to compensate for characterological shortcomings” ( $16.50 \pm 3, 32$ ;  $t = 1.81, p \leq 0.1$ ). This decrease in motivation was interpreted as evidence of energetic weakness or exhaustion.

In addition, the servicemen of this group had the lowest indices among all compared groups on such scales of the “Self-assessment of the structure of temperament” Questionnaire as “Activity” ( $16.50 \pm 5.68$ ;  $t = 1.85, p \leq 0.1$ ), “Rate of reaction” ( $9.88 \pm 3.94$ ;  $t = 1.73, p \leq 0.1$ ) and “Extraversion-introversion” ( $14.63 \pm 5.93$ ;  $t = 1.93, p \leq 0.1$ ). These low rates suggested that these soldiers were unable to respond in a timely manner to changes in situations and the environment. In this group, indicators on the scale “Hyperthymic” ( $15.00 \pm 3.46$ ;  $t = 2.03, p \leq 0.05$ ), “Demonstrative” ( $11.14 \pm 2.54$ ;  $t = 3.23, p \leq 0.01$ ) were also significantly smaller than in the control group, and higher on the scales “Dythymic” ( $12.86 \pm 6.41$ ;  $t = 1.87, p \leq 0.1$ ), “Cyclothymic” ( $12.00 \pm 5.48$ ;  $t = 1.77, p \leq 0.1$ ) and “Unbalanced” ( $9.00 \pm 3.87$ ;  $t = 2.98, p \leq 0.01$ ) types of accentuation. Such indicators suggested that in these servicemen, the hyperthymic phases (periods of forced activity) were replaced by irritation and dysthymic phases, which may indicate the presence of asthenic-depressive symptoms.

In confirmation of depressive symptoms, there are significantly higher indicators on such scales of the “Suicidal Risk Questionnaire” as “Helplessness” ( $32.73 \pm 13.48$ ;  $t = 2.27, p \leq 0.05$ ), “Social pessimism” ( $53.18 \pm 9.05$ ;  $t = 2.90, p \leq 0.01$ ) than in the control group. In addition, this group showed significantly lower indicators on the scale of “Hourly perspective” than in the control group.

Comparing the personal characteristics obtained using the 16-PF Questionnaire, we note that the servicemen of this group significantly differ from the control group in less sociability (“A” (isolation-sociability)  $7.55 \pm 1.86$ ;  $t = 1.92$ ,  $p \leq 0.1$ ), courage (“H” (timidity-courage)  $6.45 \pm 1.97$ ;  $t = 2.87$ ,  $p \leq 0.01$ ), greater sensitivity (“I” (stiffness-sensitivity)  $6.00 \pm 1.41$ ;  $t = 2.29$ ,  $p \leq 0.05$ ) and gullibility (“L” (gullibility-suspiciousness)  $3.45 \pm 1.81$ ;  $t = 1.71$ ,  $p \leq 0.1$ ). They have lower indicators on self-control scales (“Q3” (low-high self-control)  $6.55 \pm 1.51$ ;  $t = 2.09$ ,  $p \leq 0.05$ ), are more tense (“Q4” (relaxation-tension)  $4.36 \pm 1.21$ ;  $t = 2.57$ ,  $p \leq 0.01$ ) and fit worse into group interaction (“Q2” (conformism-non-conformism)  $5.36 \pm 1.29$ ;  $t = 2.36$ ,  $p \leq 0.05$ ).

An analysis of socio-demographic data and the results of investigations showed that the second group is not homogeneous and, according to similar indicators, it contains a different psychological content. The overwhelming majority in the second group (approximately 75%) are soldiers who, having no contraindications in terms of mental and physical health, were called up for military service. However, during the first weeks or 1-2 months of services committed suicide or attempted suicide. According to the materials of investigations, most of the servicemen were brought up in dysfunctional (destructive) families (incomplete, needy, there were conflicts with their parents or were subjected to violence by their parents). Some of the servicemen in their inner circle showed an intention to commit suicide; some of them had demonstrative attempts at suicide before serving in the army. These servicemen reacted to alcohol consumption with relaxation, drowsiness or lethargy; therefore it was unusual for them to commit suicides while intoxicated. The completed suicides in this group were unexpectedly violent, but without the use of weapons.

A third of the second group are military personnel with significant experience of military contract service, some of them had up to 8 rotations in the combat zone, all of them committed suicide while on vacation at home. Most were single with a long history of alcohol abuse, although they were sober at the time of committing suicide and had no obvious reason (acute problem) to commit suicide.

#### **4. Discussion**

The study allows us to assert that the suicides of servicemen committed in combat conditions are not a homogeneous phenomenon. They are interconnected both with the stage of the conduct of hostilities in which the military unit took part, and with professional and psychological training, as well as with the social and personal characteristics of servicemen.

The overwhelming majority of suicides among military personnel in the first period of hostilities (2014-2016) should not have occurred if it were not professionally and psychologically sufficiently trained and the volume of conscription for military service has not increased.

As shown by the results of our study, in positional and defensive warfare, the number of suicides among professional military personnel was zero in the first two years and gradually began to increase over the next 3-4 years of hostilities due to an increase in the number of people with depletion of physical and mental resources. American researchers also point to a small number of military suicides during the “Just War”, they found after the Second World War the historically minimal number of suicides in the US military at 5 people per 100 000 (Smith et al., 2019).

German researchers have determined that military personnel with no deployment experience are at twice the risk of committing suicide compared to those with more than one deployment experience (Willmund et al., 2019a). In addition, authors found that at risk among military personnel were single men older than 45 years old with a short service life (up to two years) and a low level of education. The revealed features are quite similar to the general characteristics of Ukrainian servicemen mobilized for military service in connection with the hostilities in the East of Ukraine – older age, insufficient military experience and low educational level.

The features of the “Demonstratively-Maladaptive” subtype of suicides are to a certain extent similar to the results of other researchers. In a study by Krafft, Hicks, Mack, & Levin (2019), it was determined that psychological inflexibility is a predictor of suicidal thoughts with an increase in their intensity and they are interconnected with distress, cognitive synthesis and the progress of values. In contrast to the “Demonstratively-Maladaptive” subtype, whose representatives almost immediately fell into the stressful conditions of hostilities, persons with a “Demonstratively-Disguised” subtype served in the army for more than one year before their conditions of service became stressful and led to an exacerbation of the suicidal crisis. Having served for a long time, the servicemen of the second subtype no longer had a romantic idea of military service and tried to avoid or delay the time of a business trip to the combat zone. In such conditions, the development of a suicidal crisis was rendered not only by combat stress, physical overload, and constant tension from the expectation of being sent to the combat zone, but also by the accumulation of negative experiences about the feeling of one's own inconsistency with the expectations of one's reference group. These servicemen committed suicide both immediately

before being sent to the combat zone and while waiting for it for a long time.

The cause of mental and physical exhaustion with further demotivation in combatants could be symptoms of PTSD. Alcohol abuse, identified in the study, can both enhance these processes and become an independent factor in physical and mental exhaustion, as well as leveling the motivational sphere, especially when there is a tradition of relieving stress with alcohol in a soldier's environment. All these processes led not only to demotivation, but also to the loss of a close environment, as a result of which the soldier became lonely, which is also an established fact of our study. Someone had a reason for suicide, a slight display of disrespect from others, which, probably, in a sober state became the impetus for experiencing shame. This conclusion is supported by a study by Cameron, Shea, & Randall (2020), in which the authors found that in veterans who used psychoactive substances and showed signs of depression and hopelessness, acute feelings of shame can increase the suicidal risk.

Post-deployment studies of U.S. National Guard personnel have found that good intimate relationships are associated with all mental health indicators – PTSD, depression, and anxiety (Blow et al., 2019). Therefore, interventions that promote the strengthening of intimate interpersonal relationships have the potential to reduce military suicide rates.

The loneliness identified in our study is one of the factors of suicidal risk in military personnel who took part in hostilities and during deployments (Willmund et al., 2019a). O'Donnell et al. (2019) using data from the National Violent Death Reporting System of 1362 veteran suicides between the ages of 18 and 34 between 2005 and 2014, the researchers found that 15% of the veterans had signs of PTSD. Individuals who were 25-34 years old had a 30-fold increase in reported PTSD, but younger people did not. In their findings, the researchers emphasize that the presence of PTSD in veterans aged 25-34 is a significant risk factor that should be considered by health care professionals, regardless of the presence (absence) of other risk factors.

## **5. Conclusions**

The main factors of committing suicides by Ukrainian military personnel during the period of participation in hostilities in the East of Ukraine in 2014-2019 were: problems of adaptation to combat conditions; insufficient level of professional and psychological training to perform missions in combat conditions; acute stress reactions to participation in

hostilities; physical and mental exhaustion; demotivation; dysfunctional families; loneliness or breakup with a beloved woman; offenses and disciplinary actions; alcohol abuse.

The main types of personality of servicemen who committed suicide in different periods of hostilities were: in 2014-2016 “Demonstratively-Dependent”, which has two subtypes “Demonstratively-Maladjusted” and “Demonstratively-Disguised”; in 2017-2019 “Asthenic-Depressive”, which has two subtypes “Constitutionally-weak” and “Exhausted-Demotivated”. Manifestation of PTSD symptoms, physical and emotional exhaustion, demotivation, indifference of society can significantly increase the risk of suicide by military personnel and veterans in the postwar period. The division into periods of suicidal activity of servicemen suggests that the identified types (subtypes) of personality become suicidal only in special (extreme) conditions with impaired adaptation and self-realization. In fact, they are a specific variant of the manifestation of a person's psychological instability to stress. Therefore, to understand the prediction of suicide by servicemen, it is important not only to determine belonging to the type of personality, but also to determine the situation in which it is: as a crisis, conflict, extreme with a great risk to life and health.

Note that the reasons for committing suicides and the distinguished typification of servicemen-suicides associated with different periods of participation in hostilities are not exhaustive. However, the results obtained prove that there is a list of the main factors that can be predictors of the risk of committing suicide in combat conditions, and military suicides are not a homogeneous group.

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