

## MENTAL HEALTH IN WARTIME: THE PSYCHOLOGY OF LATENT STRESS

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Abstract: The article considers dimensions of mental health during the wartime. Based on the analysis of an array of publications, as well as data for the period from Second World War to current war in Ukraine, the phenomenon of latent stress is investigated. It is shown that the notion of pre-traumatic stress disorder deserves special attention and development in studies devoted to wartime stress and mental health.

Keywords: mental health; latent stress; wartime stress; pre-traumatic stress disorder.

### 1 Introduction

Today one can only have a rough idea of the true scale of the negative consequences of the war. The only thing that can be stated absolutely definitely is that none of the known natural and man-made disasters are comparable to war in terms of the degree of extremity and its psychological consequences. Currently, there are a large number of long-term armed conflicts taking place in the world. Military operations are an integral part of almost all wars and military conflicts. They can be carried out by certain subjects of confrontation both during wars and military conflicts, and as an independent type of combat operations. One example of a prolonged armed conflict is the war in Ukraine. According to the World Health Organization (WHO), 10 million Ukrainians, or about a quarter of Ukraine's population, may be suffering from mental health disorders due to the war. According to forecasts by the Ministry of Health of Ukraine, more than 15 million Ukrainians will need psychological assistance due to the consequences of the war. Of these, about 3-4 million people may require medication treatment [7].

The military theorist and empirical psychologist C. Clausewitz repeatedly emphasized that the main element of war is danger [15]. Indeed, fear during war is one of the most powerful emotions. "A person becomes dull and in this dullness he no longer controls himself, he cannot strain his attention to what is necessary - he surrenders to the power of fear" [15]. Many researchers note that there are no absolutely fearless mentally healthy people [29].

Military actions associated with an immediate threat to the life and well-being of people are among the most significant psychotraumatic factors of modern life. It is clear that in an extreme situation, every person can experience fear, anxiety, lack of a sense of security, and nervousness, which will lead to an increase in the number of mental disorders and the emergence of protective, compensatory mechanisms. At the same time, as Ukrainian scientists Rakhman et al. [22] rightly note, it is not always easy to clearly define trauma and traumatic experiences. Experiences on the trauma spectrum range from mild to moderate anxiety, which would not significantly interfere with day-to-day functioning, to severe psychotic illnesses that need long-term care.

A survey of psychologists and psychotherapists working in Ukraine showed that people who sought psychological help most often experienced changes in the physical and emotional spheres [21]. Partly it was a feeling of inner anxiety and tension. 90% experienced panic attacks, 80% experienced an inability to control their own emotions, 73% experienced poor sleep, and 70% experienced physical and emotional exhaustion [19]. However, there is also a category of people in whom the external

influence of stress actually does not manifest itself in any way - they are active, maintain good performance, are invariably polite and friendly, and do not have problems with sleep. When asked whether they experience strong feelings of anxiety, they answer "no" with complete sincerity. At the same time, they may forget the name of a street in the city that they know well, or cannot remember the name of a book they recently read. They do not realize they are under stress. This is the phenomenon of so-called latent stress. Namely because of its latency, the absence of externally expressed signs and the unconsciousness of the subject himself, this type of stress is one of the most dangerous for mental health.

### 2 Materials and Methods

The theoretical and methodological basis of the study is the theory of stress presented by researchers at the main stages of the development of psychological science, as well as the methodological prerequisites of the principle of system determination.

During the research process, we relied on interdisciplinary discourse and integrative methodology to study the problem. Comparative and typological methods were used to interpret phenomena.

The analysis was carried out by means of transpective analysis - a method of theoretical analysis adequate to post-non-classical thinking, which allows identifying the main trends in the formation (systemic complication) of scientific ideas about psychological stress and stress resistance and, naturally, according to the trends in the development of psychological science, lead to the design of the conceptual foundations of the theory of stress.

### 3 Results and Discussion

Although stress can be caused by physical, physiological, psychological, social, economic, and other factors, its impact on a particular person will be determined not only by the source of stress (stressor), but also by how the person processes this situation. At the same time, the features of information processing can be determined by subjective, psychological plane factors. One of these psychological factors can be locus of control (LC). The concept, introduced by J. Rotter [23], suggests that a person may have a certain tendency, or style, according to which he is inclined to attribute the causes of events occurring around him to external (external locus of control) or internal (internal locus of control) causes.

Research on LC suggests that external LC may be associated with stress, depression, anxiety, and difficulty coping with stress [10]. Research also demonstrates the long-term negative effect of external locus of control on a person's overall psychological functioning. At the same time, internal LC is associated with psychological maturity [25]. There is evidence that LC is associated with adaptation to stressful events [16]. Although in general the evidence suggests that the internal locus is more productive in terms of a person's psychological functioning, in some cases, when a person lacks control over the situation, the external locus can become an advantage [18].

Another possible psychological factor associated with the perception of stress may be the self-concept and its various components [8]. Self-concept is a complex system of ideas about oneself, including self-esteem, level of aspirations, and self-attitude. The literature has accumulated quite extensive material on the connections between self-esteem and stress. Thus, studies have found that self-esteem may be associated with depression, which in turn is partly associated with stress, but the results of studies vary depending on the type of stress studied, the time frame and associated factors [5]. Little research examines the relationship between self-acceptance and stress. Among studies of stress and self-acceptance, self-acceptance is generally considered as a mediator [13].

It is interesting that in Ukraine, latent stress is characteristic mostly of residents of rear regions. They are kept in suspense by the tactics of unpredictable shelling of civilian infrastructure by the Russian Federation, the uncertainty of the situation at the front and, accordingly, the difficulty of predicting the further course of the war.

It is appropriate to bring up Amy Bell's piece [2] in this context, which examines London's civilian experiences during World War II. In order to uncover the hidden landscapes of terror in a city at war, the study looks at three narratives of civilian experience in wartime London: fiction, psychiatrists' notes, and private diaries. London was the main and most dramatic stage during the Second World War where individual and collective concerns were acted out. Londoners dreaded injury, bereavement, death, and, more broadly, the end of Britain and the loss of the war. Thus, earlier Victorian worries of London as a dangerous canker in the core of Imperial Britain began to be elaborated in the 1940s. The "enemy within" threatened to undermine British society once more, and many looked for signs of the dreaded degeneracy in latent stress manifestations.

The work of A. Bell is cited in J. Stratton [28], who argues that English identity holders have long been concerned about invasion, occupation, and loss of sovereignty. These worries were realized in 1940 when it appeared that Hitler's soldiers may invade. Because of the unresolved cultural trauma linked to these anxieties, conversations regarding the UK's membership in the EU have frequently been framed in terms of World War 2, with the EU's effects on the UK being emotionally constructed in terms of Nazi invasion, occupation, and loss of sovereignty.

Actually, these topics are present in today Ukrainian public discourse, and fear of loss of sovereignty for many people even surpass the fear of physical damage and death.

The phenomenon of latent stress manifestations is investigated, in particular, by Simon et al. [27]. These authors presented their results in the article published in 2022, named "Multi-trajectory analysis uncovers latent associations between psychological and physiological acute stress response patterns". They list the following as some of the study's high points: 1) Psychological outcome is not predicted by single physiological acute stress response patterns; 2) Individuals with similar patterns across responses were grouped using multi-trajectory analysis; 3) Psycho-physiological stress response variability was explained by three latent classes; 4) Stress response adaptivity may be clarified by uncovering latent psycho-physiological associations. The authors looked at how 96 healthy young adult females' physiologic and psychological stress response trajectories were affected by an acute stress manipulation. The discovery of latent classes of individuals that follow similar trajectories across response patterns was made possible by group-based multi-trajectory analysis of this data, which mixes the many response trajectories instead of examining them separately.

In summarizing their research, Simon et al. [27] noted that exposure to an acute stressor causes a variety of physiological and psychological reaction trajectories that disperse over various time scales and orientations. It has been difficult to link a particular physiological response trajectory to a particular psychological reaction because of potential interactions between the many stress response pathways. In order to account for response variability, multidimensional analysis of stress response trajectories may be more appropriate. In order to investigate this, 96 female participants in good health underwent a rigorous acute laboratory stress induction procedure. Prior to, during, and following the stressor, the participants' physiological and psychological responses were monitored, including heart rate (HR), heart rate variability (HRV), and saliva cortisol (CORT). Three latent classes that were most effective in explaining the variability observed in both physiological and psychological stress response trajectories were identified through the combination of these data using unsupervised group-based multi-trajectory modeling. A prototypical response group ( $n = 55$ ) depicting a moderate increase in negative and decrease in positive affect during stress, with both patterns recovering after

stress offset; a heightened response group ( $n = 24$ ) depicting excessive affective responses during stress, which recover after stress offset; and a lack of recovery group ( $n = 17$ ) depicting a moderate increase in negative and decrease in positive affect during stress, with neither pattern recovering after stress offset. These classes were labeled based on their psychological response patterns. All three groups showed similar increases in HR and CORT during stress, which recovered after stress offset, in terms of physiological acute stress trajectories. However, only the prototypical group showed the expected reduction in HRV caused by stress, with the other two groups displaying blunted HRV response. Crucially, psychological response variability was not taken into consideration while concentrating on a single physiological stress response trajectory, including HRV, and vice versa. When combined, a multi-trajectory approach has the potential to reveal hidden connections between physiological and psychological response patterns and more fully explain the multidimensionality of the acute stress response. The archetypal group also showed considerably lower total stress levels on the DASS-21 scale in comparison to the other two groups. This suggests that latent psycho-physiological linkages may provide insight into stress response adaptivity, or lack thereof, along with the response patterns that have been revealed.

According to Dalile et al. [6], psychological stress causes the hypothalamic-pituitary-adrenal (HPA) axis to become activated, which in turn causes the production of cortisol and the associated subjective reactions. Although theoretically predicted to maximize the organism's reaction to external challenges, coherence across the stress response systems has not received much empirical support, probably because of the assumption of linear relationships. This study looked at the relationships between 133 healthy men's cortisol levels during the Maastricht Acute Stress Test (MAST), concurrent subjective stress reactions, and mood states throughout the previous several weeks. In order to find uniform response trajectories among the more diverse population and to investigate non-linear connections while maintaining the temporal resolution of the stress responses, latent class growth analysis (LCGA) was used on individual cortisol and subjective stress responses. Four latent cortisol response classes - mild responders ( $n = 15$ ), moderately-low responders ( $n = 46$ ), moderately-high responders ( $n = 48$ ), and hyper responders ( $n = 24$ ) - were identified using LCGA analysis. Concomitant subjective stress responses were not linked to these latent groups. In a similar vein, concurrent cortisol responses were not linked to any of the three unique latent classes that represented the diversity in subjective stress reactions. On the other hand, a hypercortisol stress response profile was more likely to be seen if there had been higher stress levels during the preceding weeks.

The goal of Goral et al.'s study [9] was to determine if peritraumatic danger encountered during an armed conflict was a predictor of depressive symptoms later on. During the 2014 Israel-Gaza conflict, ninety-six Israeli citizens reported in real-time that they had been exposed to missile warning sirens and that they felt a subjective threat twice a day for thirty days. There were reports of depression symptoms two months following the conflict. Peritraumatic threat levels and peritraumatic threat reactivity (within-person increases in danger following siren exposure) were estimated using mixed-effects models. Then, using an adjusted regression model, these were evaluated as predictors of depressive symptoms at two months. Even after adjusting for baseline depressive symptoms, the authors discovered that individual peritraumatic threat level - but not peritraumatic threat reactivity - was a significant predictor of two months' worth of depression symptoms. They contend that screening for perceived levels of peritraumatic danger may be helpful in identifying individuals who are at risk of exhibiting signs of depression later on in scenarios involving continuous exposure.

In a 2024 article, Qiong He [11] challenges earlier research that viewed modernist depictions of trauma as post-traumatic by applying Saint-Amour's notion of a "pre-traumatic stress syndrome" to an analysis of Bowen's two war novels, "The Last

September" and "The Heat of the Day". According to the article, Bowen's work suggests that, similar to actual warfare, psychological harm can also result from the dread and anticipation that precede it. By reading Bowen's work as pre-trauma, one might gain fresh insight into trauma studies as well as a deeper understanding of people's psychological states prior to the conflicts.

In his work "Tense Future: Modernism, Total War, Encyclopedic Form", Saint-Amour explores the relationship between warfare and futurity. He suggests using the term "pre-traumatic stress syndrome" to analyze books from the 1920s, which are the years between World War I and World War II. This theory holds that traumatic symptoms manifest prior to the incident rather than following it: "The sequentially inverted or preposterous phenomenon of traumatic symptoms - denial, dissociation, fragmentation, repression, the compulsive repetition of violence - that exists not in the wake of a past event, but in the shadow of a future one" [24, p. 25]. Saint-Amour emphasizes the importance of anxiety and the expectation of conflict, claiming that these can also result in traumatic psychosis. He states that both hypothetical and real-world disasters will cause equal psychological harm, and anticipation will be a state in which one can 'die a thousand deaths' [11]. His theory of trauma acts as a mediator between the expectation of catastrophic events in the future and the repression of traumatic memories from the past, with a focus on the latter.

Pre-traumatic stress disorder is described as follows: "It is both a symptom and a cause of helplessness, compounded by witnessing the rapid changes of a once familiar Earth" [30]. APA Dictionary of Psychology determines it as follows: "a condition characterized by prolonged, significant anxiety about a potential threatening or otherwise devastating event, such as a terrorist attack or wartime violence. The individual remains in a constant state of worry and heightened stress at their perceived helplessness to prevent the expected future trauma and often mentally experiences the dreaded event again and again" [1].

Today in Ukrainians living in rear, this pre-traumatic stress syndrome acts as one of the drivers of constant latent stress, manifesting in memory deterioration, inhibition of emotional reactions and a decrease in physical health indicators (increased blood pressure, excess weight gain, shortness of breath, etc.).

At the same time, it should be noted that repression is one of the most common defensive reactions of the psyche. On the one hand, it protects a person from excessive stress, transferring into the realm of the unconscious what is difficult for the conscious mind to cope with, on the other hand, it alienates him from reality, limits thinking and prevents new decisions. It is traditionally believed that a repressed problem must be discovered and worked through consciously. But there is a question - is it advisable to bring into consciousness threatening information that gives rise to problems the solution to which cannot be found at a conscious level, for example, knowledge about the inevitability of one's own death (after all, such knowledge poses a serious threat to the full life of an individual)? Science does not give a clear answer to this question: while some scientists consider the repression of thoughts about death from the sphere of consciousness necessary and even useful, others are convinced that the fear of death is not just a phobia, but a fundamental fear necessary for full functioning and development personality [17].

Currently, the problem of attitude towards death, fear of death and its repression is being developed mainly by psychologists of the existential direction. Scientists such as H. Feifel, I. Yalom, K. Horney, E. Fromm, A. Maslow, R. May, S. Muddy, and others are of the opinion that the fear of death is a universal reaction, and, accordingly, no one can be completely free from it. This idea suggests that even if death anxiety is not explicitly present in the conscious mind, it still potentially exists on a subconscious level.

For most modern people, the topic of death is so unpleasant and frightening that they prefer to consider it non-existent. However,

when displaced from consciousness, the problem does not disappear. This idea is supported by studies that have found that longer exposure times are required to recognize threatening words and that they elicit a significantly stronger galvanic skin response than neutral words [3]. Moreover, it has been established that the presentation of threatening words for a period too short for the possibility of their awareness is also accompanied by an increase in the galvanic skin response [14]. These experiments demonstrate that the body responds to unconscious stimuli which cause fear.

In addition to tachistoscopic projections and galvanic skin response measurements, projective methods such as TAT (thematic apperception test) and Incomplete Sentences, as well as association experiments, are used to study unconscious anxiety about death. For example, H. Feifel and his colleagues assessed the unconscious relevance of the topic of death by the average reaction time of subjects to death-related and neutral words in a word association test [12]. The research results showed that, despite the fact that at a conscious level over 70% of the subjects denied the fear of death, at the unconscious level most of them showed strong anxiety in relation to this topic.

In general, research demonstrates that a significant proportion of death anxiety is unconscious [3]. This suggests that the fear of death cannot be avoided without yet unexplored, but possibly negative consequences, which determines the relevance of the problem under consideration and indicates the need to study attitudes towards death at different levels of awareness.

When knowledge about own mortality is repressed from the sphere of consciousness, the affective component of this knowledge can remain at an unconscious level. The specifics of diagnosing unconscious fear of death involves the application of methods without the use of self-reports (questionnaires), which make it possible to eliminate the participation of consciousness in the process of psychodiagnostics to the maximum possible extent.

To diagnose unconscious fear, in particular, four currently experimental methods are used: two traditionally used ones - recognition of words emerging from the background and a free associative experiment, as well as one author's developments, called "Falling Words" and "Priming Diagnostics". According to the theoretical positions, the presence of perceptual defense, identified using these techniques, is considered as an indicator of an unconscious fear of death. As part of one of experiments, the effectiveness of the methodological techniques used for diagnosing unconscious fear was compared.

For each subject, using each method, the difference between the speed of reaction to threatening and neutral words was calculated, on the basis of which conclusions were drawn about the severity of the subjects' perceptual defense (unconscious fear) or vigilance (hypochondriacal fixations) in relation to threatening information. In order to make it more convenient to compare the results of different experiments, this indicator was calculated as follows: for the "Emerging words" and "Associative experiment" methods - in the form of the difference in reaction time to threatening and neutral words; for the "Falling Words" and "Priming Diagnostics" methods, on the contrary - in the form of a difference in reaction time to neutral and threatening words. As a result, equivalent indicators were obtained for each method: the higher this indicator, the stronger the severity of perceptual protection, and the lower, the more pronounced vigilance. A correlation analysis was carried out using this indicator. Based on processing the results of the experiment, the researchers came to the conclusion that a higher rate of repression corresponds to a more pronounced unconscious fear of death, identified using the "Priming Diagnostics" technique. Of all the experiments carried out, this is the only technique that shows a significant correlation with repression, which confirms the conclusions about the greatest effectiveness of this technique for diagnosing unconscious fear [26]. The results of the study demonstrated the least effectiveness for measuring the unconscious fear of death of the used version of the "Emerging Words" technique, which,

apparently, is subject to random influences, and the greatest effectiveness of the “Priming Diagnostics” technique, which is author’s development. Since the test stimuli in this technique are presented to subjects at a subthreshold level, its successful testing implies confirmation of the idea that it is possible to exclude the participation of consciousness in the process of identifying phobias and hypochondriacal fixations associated with death, and in a more general form - about the possibility of calling and registering manifestations of personality that are not consciously controlled.

Interestingly, people who claim to be least afraid of death at the unconscious level show the greatest perceptual defense, which indicates that they have an unconscious fear. And, on the contrary, people who consciously assess their fear of death as high, at an unconscious level, exhibit a tendency that is opposite to perceptual defense, that is, perceptual vigilance, which indicates their inherent fixation on threatening information [12]. The absence of fear of death at a conscious level is apparently a consequence of repression.

Information overloads of consciousness, that have become constant and caused by disordered, continuous, often destructive information flows in which modern man exists, reduce his adaptive capabilities. The emerging model of a permanent crisis (economic, environmental, crisis of personal and national security observed in the wartime) leads to the constant mobilization of internal resources, and this in turn leads to “burnout” of psychological and physical readiness for action.

In late July of 2020, during one of his several mentorship meetings for the Michigan Integrative Well-Being and Inequality (MIWI) Training Program, the late Dr. James S. Jackson (1944–2020) said jokingly, “Stress is really a latent construct” [4].

Chronic stresses that are continuing need continuous coping strategies, are durable and persistent, and frequently manifest in significant social and role dimensions. Compared to short-term acute stressors like getting divorced or losing a job, chronic stressors in older adulthood, like ongoing housing insecurity, are more persistent and unrelenting and can have serious negative effects on older adults’ mental health because they may not have the means to handle them [20].

The heterogeneity in the stress experience is demonstrated by defining stress as a latent concept. Stress is a multidimensional experience that has implications for mental health dependent on other aspects of the individual and collective stress experience. It is neither a unidimensional concept nor a simple accumulation of exposures throughout a battle. Accordingly, aspects of mental health in wartime, as well as possible interventions, should be considered within a multi-dimensional, non-linear paradigm, taking into account the phenomenon of pre-traumatic stress disorder.

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**Primary Paper Section: A**

**Secondary Paper Section: AN**