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Model of psychological prevention of emotional burnout among military personnel

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◆ **Abstract.** In the context of the prolonged armed aggression of Russia against Ukraine, the issue of preserving the mental and psychological health of military personnel is acquiring strategic importance. Chronic combat stress is one of the main factors in the development of emotional burnout syndrome, which directly reduces the combat effectiveness of units and the human potential of the armed forces. Despite the growing interest of researchers in this topic, the literature still lacks a comprehensive model for the prevention of emotional burnout among defence forces personnel that would integrate organisational, interpersonal, and individual levels into a unified system with clearly defined measures and expected outcomes. The aim of the study was to develop a model of psychological prevention of emotional burnout syndrome in military personnel. The theoretical foundations of the study were based on the analysis and synthesis of scientific sources from recent years. A systems approach was applied, allowing prevention to be considered as a multi-level structure. An original model of psychological prevention of emotional burnout among military personnel was developed, consisting of four levels of prevention. The defining element of the model is the meta-level, which acts as the system-forming core and ensures the conceptual integrity of the entire model. The second level is the macro-level (organisational environment), which is based on the “demands-resources” model and involves the implementation of two types of comprehensive preventive measures: organisation-focused measures (audit of stress factors, provision of resources, leadership development, stress resilience) and individual-focused measures (job crafting, designing one’s own work, development of professional agency). The micro-level (direct person-job fit) is based on the concept of six domains and includes measures aimed at harmonising the areas of workload, control, reward, community, fairness, and values. The individual-personal level encompasses physiological recovery, the development of adaptive coping strategies, and psychoeducation. The outcomes of effective prevention include the preservation of mental health, increased engagement and motivation, strengthening of unit combat capability, and reduced staff turnover. The developed model can serve as a methodological basis for building a system of psychological prevention of emotional burnout in military units and may also be used by psychologists, commanders, and human resource specialists for planning and implementing preventive measures

◆ **Keywords:** mental health; stress; resources; stress resilience; well-being; combat conditions; leadership

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♦ Introduction

The mental health of military personnel acquires particular significance during service in areas where combat tasks are carried out. Emotional burnout, as both a syndrome and a dynamic phenomenon, poses a threat to the execution of combat tasks due to its negative impact on the health of service members, as well as on the performance of key functions within military units. The problem of emotional burnout may arise unexpectedly, affecting individuals from soldiers to generals, due to the latent nature of its development. Thus, the issue of preventing emotional burnout is of critical importance in the military environment for maintaining combat capability, increasing engagement and motivation, and preserving the mental health of the defence forces. Yu. Palovskyi (2021) outlines the methodological foundations for preventing burnout among business leaders, based on two broad approaches: the person-oriented and the organisation-oriented. First, the organisation-oriented approach was examined, in which the cause of burnout is an imbalance between work and the individual. Emotional burnout syndrome is viewed not merely as an individual syndrome, but as a characteristic of work groups and the organisational environment. This phenomenon is caused by chronic stressors related to work and, above all, to interpersonal communication.

Researchers V. Bosko & V. Lefterov (2023) identify the main individual and organisational measures for preventing emotional burnout; however, they do not specifically divide these into two categories but examine them collectively. It is noted that the studies propose techniques, the essence of which lies in developing strategies for selective perception, recognising the positive aspects of a situation and minimising the unpleasant ones, learning to use humour as a buffer between a stressful situation and the individual, developing assertiveness and Type B behaviour (not displaying hostility, a desire for constant competition, haste, etc.), and developing self-regulation skills, which include reflective assessment, training sessions and other group-based forms of psychological work. N. Orlianska (2024), in her study of professional burnout among engineers, emphasises a training programme as a key strategy for preventing the phenomenon, where the development of emotional resilience and self-regulation among military personnel is identified as the key factor in preventing burnout, a theme that runs through the training programme. Chronic stress in the form of combat stress often leads to emotional burnout among military personnel; therefore, the prevention of combat stress will reduce the risks of emotional burnout. I. Prykhodko *et al.* (2024) emphasise the need to develop and implement a system for the prevention and management of combat stress and emotional burnout among military personnel. Such a programme should include psychological support measures carried out in three stages: the preparatory stage (prior to the execution of combat tasks), the stage of direct task execution in the combat zone, and the final stage (after the completion of tasks, upon return to permanent deployment locations).

E. Demerouti (2024) described in a review a broad study on interventions aimed at reducing or eliminating burnout and its symptoms. Evidence suggests that interventions to reduce burnout symptoms are more commonly implemented at the individual level rather than the organisational level. Interventions at the individual level, such as staff training and cognitive-behavioural programmes, effectively reduce burnout. Furthermore, changes in organisational culture and working practices, often related to workload and work behaviour, appear to mitigate stressors and factors contributing to burnout, whilst simultaneously increasing employees' autonomy and social support. Combined interventions addressing both individual and organisational aspects are found to be more effective than those focusing solely on either individual or organisational levels. In addition, C. Leclercq & I. Hansez (2024) view emotional burnout as a complex process comprising four stages: Stage 0 – emphasises key aspects such as commitment and enthusiasm, coupled with a high sense of professional idealism; Stage 1 – a weakening of the ideal; Stage 2 – defensive avoidance; Stage 3 – confirmed burnout. The authors integrated both individual and organisation-oriented interventions, ranging from early strategies at the organisational level (primary prevention) to clinical consultations aimed at addressing the erosion of professional ideals (secondary prevention), as well as psychoeducational sessions aimed at promoting staff well-being. The authors G. Carles *et al.* (2025) argue that the prevention of emotional burnout is best viewed as a shared responsibility of managers, team members and the organisation. The authors also note that the most effective tool for preventing burnout is a combination of strategies focused on positive emotions and problem-solving, in addition to emotional intelligence, lifestyle and clinical supervision.

Despite growing academic interest in this topic, the scientific literature still lacks a single comprehensive prevention model that would treat the organisational and individual levels as a unified system. Most existing approaches focus on both individual strategies and organisational measures, yet a general prevention model is absent. The aim of the article was to develop a model for preventing emotional burnout among military personnel in combat conditions based on contemporary scientific research. To achieve this aim, the following objectives were set: (1) a theoretical analysis of contemporary scientific approaches to the prevention of emotional burnout was conducted; (2) the factors and symptoms of emotional burnout among military personnel at various levels were systematised; (3) a model for the prevention of emotional burnout among military personnel was developed, specifying measures at each level of prevention and the expected outcomes. The scientific novelty of the study lay in the development of the author's model for the prevention of emotional burnout.

♦ Materials and Methods

The timeframe of this study covered the year 2025. This article examined research on the prevention of emotional

burnout through the analysis of contemporary scientific sources. The sources were drawn from the scientific databases Web of Science, Scopus, Google Scholar, as well as the National Repository of Academic Texts. The model of emotional burnout prevention was based on the analysis, synthesis, systematisation, comparison, and generalisation of current scientific literature. This review was grounded in over 30 years of research experience in the field of organisational psychology. This made it possible to identify a broad range of studies, integrating regularly updated and accessible articles in this field. The search was not limited by publication date; however, most of the studies were published after 2000. Search terms were entered in Ukrainian in Google Scholar and the National Repository of Academic Texts: “prevention”, “burnout prevention”, “burnout interventions”, and “prevention of emotional burnout”. These were used in various combinations to ensure a comprehensive search, as well as in English in the Scopus, Web of Science, and Google Scholar databases: “prevention”, “prevention of emotional burnout”, and “interventions”.

The selection of sources for the review was carried out in stages. At the first stage, the titles and abstracts of publications were analysed in order to identify studies related to the prevention of emotional burnout. At the next stage, full-text analysis of the selected works was conducted to verify their compliance with the established inclusion criteria: empirical studies, review papers, and theoretical works focused on measures, strategies, or interventions aimed at preventing burnout were included. The exclusion criteria involved filtering out publications with limited access (those not available in open access or via institutional subscription), as well as works not aligned with the professional context of the study (in particular, those related to parental or school settings). This made it possible to focus the analysis exclusively on the issue of preventing emotional burnout among military personnel, as understood by the World Health Organization. Relevant scientific publications and doctoral research were included in the analysis. The following theoretical approaches were used to develop the model: the systems approach, which allowed prevention to be considered as a multi-level structure encompassing meta-, macro-, micro-, and individual levels; the Job Demands-Resources (JD-R) model, used to analyse the balance between combat demands (stressors) and organisational resources (support, autonomy); the six areas of worklife model by M. Leiter & C. Maslach (2003), applied to identify zones of mismatch between the service member and the environment; and the meta-approach proposed by J. Shay *et al.* (2003), used to substantiate the role of cohesion, leadership, and training. The applied methodology also included a comparative analysis of the effectiveness of individual-focused measures (e.g., self-regulation, coping strategies) and organisation-focused measures (e.g., leadership development, workload audits). The experimental basis for the generalisation was provided by the results of contemporary Ukrainian research in the field of military psychology, ensuring the contextual relevance of the model to the conditions of large-scale armed aggression.

◆ Results and Discussion

The search for a substantive understanding of the category of “prevention” in the context of emotional burnout among military personnel began with an examination of the work of Dr J. Shay (1995). The author emphasises that the most effective approach to psychological prevention is the reduction of all forms of loss. Psychological and physical combat losses tend to increase and decrease simultaneously. At the same time, the greater the number of bodily injuries, the higher the likelihood of mental disorders. This was documented during the Second World War and the Yom Kippur War. Thus, a reduction in overall losses will also lead to a reduction in psychological losses. According to the reasoning of J. Shay *et al.* (2003), the most effective form of psychological prevention is the limitation of the duration and intensity of combat exposure, which indirectly contributes to reducing both physical and psychological losses. Such an approach makes it possible to broaden the traditional understanding of “prevention” by incorporating not only individual psychological or organisational measures, but also systemic factors of combat activity. Taking these provisions into account, the proposed model of psychological prevention of emotional burnout among military personnel is grounded in the meta-approach of J. Shay *et al.* (2003) as its conceptual foundation. The model is structured according to a four-level framework and includes the meta-, macro-, micro-, and individual levels (Table 1). J. Shay (1995) emphasises that the key mechanisms of psychological prevention lie within the sphere of managerial decision-making and largely depend on the activities of military and civilian leaders at the strategic level, as well as representatives of executive authorities and legislative institutions. This approach broadens the understanding of prevention, moving it beyond purely individual measures and placing emphasis on the systemic level of organising military activity. In the proposed model, three core categories – cohesion, leadership, and training – are identified as key determinants of the psychological prevention of emotional burnout among military personnel (Table 1). They form the meta-level of the model and perform an integrative function, ensuring the coherence of preventive measures across all levels. Within the model, the first category of prevention, “cohesion”, is interpreted as a systemic characteristic of a military unit that ensures stability, mutual support, and a high level of trust among its members. According to the concept of J. Shay *et al.* (2003), which is based, among other things, on the practical experience of Albert Glass (Army Medical Corps, Second World War), effective prevention of mental disorders involves shared participation in combat training, engagement in combat operations, return from the theatre of operations, and collective reflection on these experiences. This approach highlights that cohesion is not a spontaneous phenomenon but is formed through deliberate organisational policy. In this regard, J. Shay *et al.* (2003) emphasise the need for institutionalising these practices through appropriate policies and standards for managing military units.

Table 1. Model for the prevention of emotional burnout among military personnel

Level	Factors and symptoms	Organisational measures	Individual measures
Meta-level	Leadership • Cohesion • Education/Training (ensuring conditions for the effective implementation of prevention at all levels)		
⇓			
Level I: Macro-level (organisational-systemic)	Factors: ✦ extreme conditions of service and combat activity; ✦ shortage of resources (material, technical, human, time-related); ✦ authoritarian management style; ✦ lack of feedback; difficult socio-economic conditions. Symptoms: ✦ reduced combat effectiveness of units; ✦ mental distancing; ✦ decreased task performance efficiency; ✦ staff turnover; ✦ absenteeism.	✦ analysis of stress factors; ✦ assessment of unit workload; ✦ implementation of regular screening for emotional burnout; ✦ identification of at-risk units; ✦ development of leadership and team management; ✦ training of commanders in early detection of burnout; ✦ provision of resources, logistical support, optimisation of rotations, leave, and service schedules; ✦ review of reward systems; ✦ development and implementation of medical and psychological support programmes.	✦ individual strategies; ✦ proactive self-management of one's own activities; ✦ development of professional agency; ✦ participation in decision-making (within military competence).
Accumulated stress ↓			
Level II: Micro-level (interpersonal)	Factors: ✦ socio-demographic; ✦ excessive workload; ✦ limited control (low autonomy); ✦ lack of recognition; ✦ interpersonal conflicts; ✦ violation of principles of fairness; ✦ value and meaning conflicts. Symptoms: ✦ depersonalisation/cynicism; ✦ mental distancing; ✦ reduced sense of achievement; ✦ conflicts within the unit.	✦ assessment of the level of emotional burnout; ✦ optimisation of control and workload; ✦ implementation of medical and psychological support programmes for personnel; ✦ socio-psychological support; ✦ training of commanders; ✦ ethical principles of leadership and management, trust within the team, conflict resolution, supervision; ✦ resilience training; ✦ fairness and recognition; ✦ transparent evaluation systems; ✦ constructive feedback.	✦ communicative coping; ✦ organisation of interpersonal relations: reflection, exchange of experience, seeking social support; ✦ value and meaning reflection; ✦ alignment of personal values with the mission; ✦ reconsideration of one's role; ✦ boundary setting; ✦ segmentation of "professional self" and "personal self"; ✦ protection of psychological boundaries.
Accumulated stress ↓			
Level III: Individual	Factors: ✦ nervous system exhaustion; ✦ Type A personality – perfectionism; ✦ maladaptive coping strategies; ✦ neuroticism (Big Five). Symptoms: ✦ physical and emotional exhaustion; ✦ cognitive impairments, irritability; ✦ psychosomatic manifestations: insomnia, pain, weakened immunity; ✦ destructive behaviour.	✦ implementation of medical and psychological support programmes for personnel; ✦ monitoring of service routines; ✦ psychoeducation; ✦ self-regulation; ✦ recognition of symptoms; ✦ psychological hygiene; ✦ medical and psychological support; ✦ decompression rooms, debriefing; ✦ group work (AAR – After action review); ✦ counselling; ✦ rehabilitation.	✦ physiological self-regulation; ✦ sleep and nutrition, physical activity (cardio, strength training, yoga, swimming, etc.); ✦ relaxation techniques; ✦ self-management, adaptive coping strategies.
↓ Results of effective prevention ↓			
Expected outcomes			
Preservation of mental health Restoration of resources, resilience	Engagement and motivation	Unit combat capability	Prevention of staff turnover

Source: compiled by the authors

The second category of prevention is "leadership", understood as competent, ethical, and adequately supported command. A system-forming factor of such leadership is a culture of truthfulness, which can only emerge when the organisational environment encourages rather than suppresses open communication. Furthermore, J. Shay *et al.* (2003) identify careerism as a primary source of unethical behaviour within the armed forces, undermining trust between the officer corps and enlisted personnel and reducing unit combat effectiveness. The third category, "training", involves systematic, gradual, and realistic combat preparation, which should ensure not only

the development of individual tactical skills but also the enhancement of team cohesion, requiring sufficient time resources. Achieving an "elite level" of combat capability is a function of comprehensive resource provision rather than an exclusive attribute of special units.

O. Kokun *et al.* (2017) define the concept of "psychological prevention of emotional burnout among military personnel" in psychological science as a comprehensive system of organisational, socio-economic, psychological, and medical measures aimed at preserving, strengthening, and restoring the mental health of service members. The objectives of prevention, as characterised by

O. Khairulin (2015), involve creating such conditions of military service and implementing such psychological measures that prevent excessive strain, stress, and trauma, while also increasing psychological tolerance to them. Researchers K. Ahola *et al.* (2017) classify prevention, depending on its purpose, into primary, secondary, and tertiary levels. Primary prevention is aimed at all military personnel and targets risk factors associated with burnout. At this level, issues related to stress are often addressed at the organisational level. I. Prykhodko *et al.* (2026) note that at this stage, measures may be carried out both by the service members themselves and by their commanders and unit psychologists. Secondary prevention is aimed at preventing emotional burnout in high-risk groups.

A fundamental contribution to understanding the nature and organisation of the prevention of emotional burnout syndrome (EBS) is the work of C. Maslach & J. Goldberg (1998), in which prevention is conceptualised as a system of targeted strategies aimed at preventing the onset and reducing the manifestations of burnout. The authors identify key methodological criteria necessary for developing effective preventive approaches. The first criterion is a clear conceptual definition of EBS. The need for precise differentiation of this phenomenon and its individual components is emphasised in order to guide the development of any strategy to address it. The second criterion is the presence of a model that defines relevant outcomes (such as job performance or mental health) and how they relate to burnout. The third criterion is the use of valid and reliable methods for assessing burnout levels. The availability of appropriate measurement tools is a necessary condition for determining the effectiveness of implemented preventive strategies, as well as for monitoring changes in personnel well-being over time.

Historically, the prevention of EBS has been viewed primarily through the lens of an individual-focused approach. Organisations typically offer employees training in time management, relaxation techniques, resilience development, or the use of individual coping strategies. However, research by M. Leiter & C. Maslach (2003) has demonstrated that this approach is incomplete and insufficient. Emotional burnout concerns not only the individual but also the work environment as a whole. Employees have significantly less control over workplace stressors; therefore, individual strategies tend to produce only temporary effects and are unable to halt the progression of cynicism and reduced effectiveness. Contemporary research suggests moving away from traditional approaches that focus solely on individual personality traits and are relatively ineffective. Instead, W. Schaufeli (2017) recommends the widely recognised Job Demands-Resources (JD-R) model, whose authors conceptualise burnout prevention not merely as stress reduction, but as achieving a balance between the work environment and the individual in order to enhance motivation and engagement.

Based on the organisational approach, the following key components of the EBS prevention model have been

identified within the JD-R framework: maintaining a balance between demands and resources, and applying a dual-level intervention approach comprising both organisation-focused and individual-focused measures. According to W. Schaufeli (2017), within the JD-R model every occupation is characterised by two categories: job demands and job resources, which trigger different psychological processes. “Job demands” refer to physical, psychological, or social factors that require sustained effort and lead to exhaustion (such as overload, emotional strain, or role conflict). These factors initiate a health-impairment process that contributes to burnout. In the model, this block of “job demands” is represented by factors that may give rise to emotional burnout syndrome. In contrast, “job resources” refer to factors and measures that help achieve goals, reduce the impact of demands, and stimulate personal growth (such as autonomy, colleague support, and feedback). These resources generate motivation, leading to professional engagement. Accordingly, “job resources” in the model are represented through organisational and individual measures. The availability of sufficient resources serves as a “buffer”, since merely reducing job demands decreases exhaustion but does not increase motivation. Thus, effective prevention lies in increasing resources through the implementation of both organisational and individual measures, which simultaneously prevents burnout and promotes engagement.

The two-level approach to prevention is implemented at both the organisational and individual levels. A. Bakker & E. Demerouti (2017) note that the organisational level shapes the work environment through changes in management practices, the reduction of bureaucracy, and the provision of resources (such as flexible schedules, opportunities for training, adequate rest, and leave). At the same time, the individual level emphasises that employees are not passive recipients of working conditions. This level includes the concept of “job crafting” (designing one’s own work), which refers to proactive behaviour whereby individuals independently optimise their environment: seeking additional resources (e.g. requesting feedback or assistance), taking on new and engaging challenges, or attempting to reduce workplace obstacles. Training in job crafting is considered an effective tool for preventing EBS. The development of professional agency and proactive self-management is reflected through this process of job crafting.

Drawing on the findings of N. Orlianska (2024) in the field of military psychology, as well as the author’s own empirical research, key factors determining the development of emotional burnout syndrome at the macro-level (i.e. the organisational environment) were identified. These include extreme conditions of service and combat activity, resource deficits (material, technical, human, and time-related), excessive control (authoritarian management style), lack of leadership support and feedback, and difficult socio-economic conditions. These factors contribute to the emergence of characteristic symptoms of emotional burnout, such as mental distancing (loss of

motivation and interest in work), an overall decline in performance and productivity, and reduced effectiveness in task execution. Furthermore, Yu. Palovskyi (2021) argues that an “unhealthy” environment leads to an increase in errors, conflicts, absenteeism (absence from work due to sickness or unauthorised leave), and high staff turnover. In the work of O. Khairulin (2015), it is emphasised that at the macro level, psychological prevention is initiated by senior management, team leaders and heads of administrative bodies. Given that organisational factors have a more pronounced influence on the onset of burnout than individual factors, it is the management that bears direct responsibility for creating a safe and psychologically supportive professional environment. At the macro level, a set of preventive measures is implemented, covering both organisation-focused and individual-focused measures.

According to the studies of O. Khairulin (2015) and Yu. Palovskyi (2021), organisation-focused measures include: auditing and monitoring stressors (regular assessment of the risk of emotional burnout within units, for example through questionnaires); commanders identifying high-risk units, evaluating workload levels, personnel satisfaction, and the adequacy of available resources; organisational innovations and resource provision, including workload optimisation, improvement of material and technical support, ensuring access to necessary tools and financial resources, and revising reward systems (institutional and financial) in accordance with workload demands; and the development of leadership capacity among managers through the implementation of a human-centred, supportive management style. Leaders should be trained in methods for the early detection of emotional burnout among subordinates, the provision of effective feedback, and the creation of a climate of trust. Research indicates that leadership support is one of the most powerful protective factors. Individual-focused measures at the macro-level include proactivity (job crafting), the development of professional agency, and participation in decision-making (within the limits of military competence).

Despite the fact that this is the macro-level, military personnel can also influence their environment through conscious proactive behaviour. These strategies are initiated by the service members themselves. Proactivity (job crafting) refers to the deliberate modification by military personnel of the characteristics of their own professional activity, that is, the “design of one’s own work”. In this context, particular importance is attached to the development of professional agency as an integral psychological characteristic of the individual. Professional agency is understood as the ability of a person to act as an active agent of their own activity, to exercise conscious self-regulation, make responsible decisions, reflect on their experience, and purposefully transform the conditions of professional interaction. It includes such components as autonomy in decision-making, responsibility for outcomes, capacity for self-development, reflexivity, and readiness to initiate changes within the professional

environment. In implementing proactive strategies, military personnel may independently seek and mobilise additional resources (for example, consulting more experienced colleagues or initiating feedback), participate in decision-making related to unit activities, and initiate the revision or redistribution of tasks in order to reduce the impact of stress-inducing factors.

O. Mykolaichuk (2025) determines that at the micro-level the prevention of emotional burnout is limited to the direct correspondence between the individual and their work, as well as their immediate environment. The micro-level serves as a link between the global objectives of the organisation and the inner world of the individual. While the macro-level considers the system as a whole, the micro-level focuses on the daily, direct interaction of military personnel with their professional environment (colleagues, commanders, tasks), as well as the influence of their immediate social circle (family). According to research, the micro-environment encompasses socio-demographic characteristics, marital status, the presence of family and children, living conditions, and the influence of close surroundings, including comrades and family relationships. The micro-level is grounded in the theoretical model of M. Leiter & C. Maslach (2003), which conceptualises emotional burnout as the result of chronic mismatch between the individual and their work. This mismatch develops across six key domains, described in detail by V. Khalanskyi (2023): workload, control, reward, community, fairness, and values. Workload is one of the most extensively studied domains and reflects situations in which job demands exceed human capacity. Mismatch arises due to excessive quantitative workload, the requirement to suppress genuine emotions at work (emotional labour), and the performance of tasks that do not align with an individual’s abilities. As a result, chronic resource depletion occurs, preventing adequate recovery and directly contributing to the core symptom of burnout – emotional exhaustion.

Control reflects the level of autonomy of military personnel, including their ability to influence decision-making, exercise a voice, make choices, and the degree of flexibility available to them. Research indicates that greater autonomy and control in the workplace are associated with a lower likelihood of burnout. Reward, as described by V. Wilcox (1994) and M. Leiter & C. Maslach (2003), encompasses not only financial incentives but also social and intrinsic rewards. Mismatch occurs when military personnel do not receive adequate compensation (such as combat-related pay), when their efforts are ignored by others (lack of social recognition), or when they lose a sense of internal pride in the quality of their work.

Community reflects the overall quality of social interaction, including levels of support, trust, and the ability to function as a team. Individuals perform best when they feel a sense of belonging with colleagues whom they respect. V. Wilcox (1994) notes that the most destructive element in this domain is chronic and unresolved interpersonal conflict at work, which generates persistent feelings of

frustration, hostility, and envy. Fairness in the workplace communicates respect to military personnel and affirms their sense of self-worth. Mismatch manifests through unequal distribution of workload or pay, favouritism in evaluation and promotion, or the absence of a voice in resolving disputes. Injustice operates in a dual manner: it causes emotional exhaustion while simultaneously fostering a deep sense of cynicism and detachment from work.

Values: this domain represents the “core” of the relationship between a service member and their work, as it encompasses ideals and meaning. Value conflict arises in several situations: when an individual is required to act contrary to their ethical and moral principles (for example, to deceive); when there is a discrepancy between the official high mission of a military organisation and its actual practices; or when a service member’s career aspirations do not align with the organisation’s value priorities. E. Nagoski & A. Nagoski (2021) note that values play a central mediating role between all other domains and emotional burnout. According to Schwartz’s theory, conflict arises when fundamental values (such as benevolence, universalism, self-direction, security, achievement, stimulation, hedonism, tradition, and conformity) cannot be realised within the military environment.

O. Mykolaichuk (2025) focuses on the micro-level, where stressors of mismatch accumulate (which an individual may tolerate over a prolonged period), resulting in a process of “gradual erosion”. This imbalance is reflected in specific symptoms (according to the Burnout Assessment Tool (BAT) and the Maslach Burnout Inventory (MBI)): depersonalisation/cynicism – in response to emotional exhaustion and interpersonal conflicts, the service member begins to employ a dysfunctional defensive strategy of psychological detachment; individuals showing signs of burnout start to treat others (subordinates, colleagues, cadets) not as people but as objects or “problems”, demonstrating indifference, emotional coldness, formalism, and detachment in communication; reduction of professional accomplishment – due to lack of control, perceived injustice, or absence of reward, the individual develops a persistent sense of incompetence, futility of effort, and perceived failure. Role conflicts and role ambivalence also emerge. At the micro-level, leadership (particularly company and battalion commanders) should implement targeted interventions aimed at harmonising the six domains of worklife for their subordinates. At this level, organisation-focused measures can be systematised as follows: optimisation of control and workload (delegation of authority, granting greater autonomy in choosing work methods, and involving personnel in decision-making processes); socio-psychological support (humanisation of leadership style, shifting from a directive to a supportive approach). Yu. Palovskyi (2021) and N. Orlianska (2024) emphasise that leaders should foster trust within the unit and act as arbiters in conflict resolution in order to restore the “community” domain; ensuring fairness and recognition (implementation of transparent performance evaluation systems,

and regular, constructive feedback, including praise, to satisfy the need for recognition and prevent the reduction of professional accomplishment).

Individual-focused measures are also crucial at the micro-level. These include communicative coping and the organisation of interpersonal relations: reflection, exchange of experience, and seeking social support. Service members should consciously cultivate their support networks – rather than isolating themselves, they should engage with comrades, share experiences, and seek advice and assistance. Yu. Zhogno (2009) demonstrated that such measures help to resolve conflicts and provide emotional support. Value-based reflection is also important, involving the alignment of personal values with the mission of the unit. In cases of value conflict, the service member may either reinterpret their role (finding new meaning in routine activities) or, if the conflict is irreconcilable, decide to change their place of service in order to preserve personal integrity. Boundary-setting (segmentation) is equally essential, involving a clear distinction between the “professional self” and the “personal self”. Researchers I. Diamant & M. Hakhmigari (2025) particularly emphasise the importance of not transferring work-related interpersonal conflicts into the home environment and of maintaining one’s psychological boundaries.

The third level is referred to as the individual-personality level. Here, the influence of factors is reflected at the level of the body and personal beliefs. O. Mykolaichuk (2025) includes age, gender, professional experience, typological characteristics of the nervous system, and personality traits among the individual factors. The traits of the “Big Five” model play a particular role: extraversion (sociability, activity); conscientiousness (competence, perseverance); agreeableness (friendliness, good-naturedness, altruism); neuroticism (insecurity, anxiety, vulnerability); openness to experience (breadth of interests, creativity); low levels of resilience and self-esteem. At this level, burnout manifests as asthenia, sleep disturbances, shortness of breath, and weight loss or gain, as analysed in detail by researchers E. Urbon *et al.* (2025). Thus, prevention should include methods of physical therapy, relaxation and physiological recovery.

The individual level is the most profound and personalised. Whilst at the macro- and micro-levels factors are merely shaped by the external environment, at this level stress is accumulated in the body and psyche of a specific individual. This level reflects how individual characteristics (genetics, features of nervous activity, cognitive attitudes) interact with stress, and how the body attempts to adapt to exhaustion. The theoretical foundation here is the theory of the general adaptation syndrome (the body’s stress response), psychosomatics, and the multidimensional model of stress coping. N. Orlianska (2024) notes in her research that individual vulnerability to burnout is closely linked to: behavioural type: for example, “Type A” personalities (high achievement orientation, willingness to expend excessive energy, low frustration tolerance) are at the

highest risk of rapid burnout; physiological mechanisms: burnout is accompanied by changes at all levels of human life (from molecular to behavioural) and manifests itself in malfunctions of the nervous, cardiovascular and immune systems, as well as sleep disturbances; coping strategies (mechanisms for overcoming difficulties): the way in which a person is accustomed to overcoming difficulties – constructively (planning, seeking support) or destructively (avoidance, use of stimulants).

Signs of imbalance and key symptoms at the individual-personal level. When one's own adaptive resources are exhausted, clear clinical signs appear at the physical and individual level (based on the symptom complexes of the BAT and MBI questionnaires): extreme physical and emotional exhaustion: a feeling of "emptiness", chronic fatigue, inability to recover even after a weekend or holiday; cognitive and emotional disturbances: reduced concentration, memory problems, irritability, inability to control outbursts of anger; psychosomatic complaints: sleep disturbances (insomnia), digestive disorders, muscle pain, headaches, weakened immunity; destructive behaviour: increased use of "stimulants" (coffee, tobacco, alcohol, sedatives) as a misguided attempt to cope with stress.

Organisation-focused measures at the individual level. Although this is the individual level, research highlights that the organisation (management, medical services, psychologists) must create conditions to safeguard the physical health of personnel (Morgan & Goldston, 1987). These measures are grouped in the model as: comprehensive health programmes: implementation of programmes to monitor adherence to work and rest schedules, ensuring adequate nutrition and sleep, implementation of medical and psychological programmes for the medical and psychological support of personnel; monitoring of duty schedules; self-regulation; psychoeducation and "stress inoculation": training staff (stress inoculation) in self-regulation methods, recognising the early symptoms of burnout and the basics of mental hygiene, debriefing, and post-event group analysis; medical and psychological support: organisation of psychological relief rooms (corners), regular medical check-ups, psychological counselling and, where necessary, rehabilitation (tertiary prevention) for those who already have psychosomatic disorders.

Individual-focused measures (self-help) at the individual level constitute the direct responsibility of the service member. For prevention at the physical level, it is necessary to apply specific recovery practices (self-management and self-regulation). These include: physiological self-regulation (restoration of the body): sleep and nutrition (maintaining a proper sleep routine and a balanced diet to support cognitive functioning); physical activity (cardio training such as running or swimming reduces cortisol levels and increases endorphins; strength training and yoga help relieve "muscle tension" and stabilise emotional states); relaxation techniques (breathing exercises (e.g., "square breathing"), progressive muscle relaxation, and meditation (mindfulness), which activate

the parasympathetic nervous system and reduce nervous tension); and training in self-management and adaptive coping strategies.

A comparative analysis of existing approaches to the prevention of emotional burnout shows that each of them addresses only part of the problem. C. Maslach & J. Goldberg (1998) define the criteria for effective prevention but do not propose a comprehensive intervention system. C. Leclercq & I. Hansez (2024) divide measures into organisational and individual, yet do not demonstrate how these levels interact with one another. A. Bakker & E. Demerouti (2017) describe the organisational level in detail within the JD-R model, but the individual and interpersonal levels remain overlooked. M. Leiter & C. Maslach (2003), in their six-domain concept, focus on the micro-level – the interaction between the individual and the work – but do not link this to organisational and individual factors. O. Khairulin (2015) and O. Mykolai-chuk (2025) describe primary, secondary and tertiary prevention, which reflects the temporal dimension but does not reveal the links between the levels.

The model synthesises all these approaches into a single framework. It combines the meta-level, macro-level, micro-level and individual-personal level. At each level, stressors, symptoms and two directions of intervention – organisational and individual – are identified. At the same time, the outcome of prevention is common to all levels: the preservation of mental health, increased engagement, strengthened combat effectiveness and reduced staff turnover. This outcome can only be achieved if all levels of the model operate simultaneously and in a coordinated manner. The developed prevention model is theoretical and requires further empirical testing – in particular, testing in real military conditions and verification of its effectiveness using validated instruments for measuring emotional burnout.

◆ Conclusions

The theoretical study demonstrates that the prevention of emotional burnout among military personnel in the context of modern warfare requires a shift from fragmented individual measures to the development of a comprehensive, multi-level prevention system. The developed model for the prevention of emotional burnout among military personnel integrates fundamental factors of the military environment with contemporary approaches to preserving mental health, thereby creating a coherent framework for safeguarding the combat effectiveness of personnel. The main outcome of the study is the structuring of preventive measures across four interrelated levels of influence. At the meta-level, the unit's basic protective factors are identified, such as cohesion, leadership and the intensity of professional training. The macro-level (organisational) focuses on systematically balancing service requirements and available support resources. The micro-level aims to harmonise the individual's interaction with the work environment in the areas of control, reward, fairness and value

orientations. The individual level ensures the development of personal resilience and psychological self-regulation skills.

The scientific novelty of the study lies in the formulation of an integrated strategy that simultaneously combines organisation-focused measures with the strengthening of individual capabilities of military personnel. This approach allows the prevention system to be upgraded from a reactive (responding to symptoms) to a proactive one, where the main emphasis shifts to creating a supportive environment and developing the soldier's agency. It has been established that the effectiveness of prevention directly depends on its phased nature: from supporting professional motivation in the early stages of service to specialised rehabilitation in cases of confirmed exhaustion. The practical significance of the results lies in the possibility of implementing the proposed model within the psychological services of the Armed Forces of Ukraine to prevent losses in combat capability. The systematic application of

the developed levels of prevention will minimise the risks of burnout even in situations of prolonged combat stress. Prospects for further research lie in conducting an empirical test of the effectiveness of the proposed model under real-world conditions of combat operations. In particular, it is relevant to study the influence of different leadership styles on the dynamics of burnout among subordinates, as well as to test specific psychological stress relief techniques adapted to combat service conditions.

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Модель психологічної профілактики емоційного вигорання військовослужбовців

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♦ **Анотація.** В умовах тривалої збройної агресії Росії проти України проблема збереження психічного та психологічного здоров'я військовослужбовців набуває стратегічного значення. Хронічний бойовий стрес є одним із головних чинників розвитку синдрому емоційного вигорання, що безпосередньо знижує боєздатність підрозділів та людський потенціал збройних сил. Попри зростаючий інтерес науковців до цієї теми, у літературі й досі відсутня комплексна модель профілактики емоційного вигорання військовослужбовців Сил Оборони, яка б інтегрувала організаційний, міжособистісний та індивідуальний рівні в єдину систему з визначенням конкретних заходів та очікуваних результатів. Метою дослідження стала розробка моделі психологічної профілактики синдрому емоційного вигорання військовослужбовців. Теоретичні засади дослідження ґрунтувалися на теоретичному аналізі та синтезі наукових джерел за останні роки. Застосовано системний підхід, що дозволив розглянути профілактику як багаторівневу структуру. Розроблено авторську модель психологічної профілактики емоційного вигорання військовослужбовців, що складається з чотирьох рівнів профілактики. Визначальним у моделі став метарівень, який виступає системоутворювальним ядром та забезпечує концептуальну цілісність усієї моделі. Другим рівнем є макрорівень (організаційне середовище), що ґрунтується на моделі «вимоги-ресурси» та передбачає реалізацію комплексних профілактичних заходів двох типів: організаційно-фокусовані заходи (аудит стрес-факторів, забезпечення ресурсами, розвиток лідерства, стресостійкість) та індивідуально-фокусовані (job crafting (дизайн власної роботи), розвиток професійної суб'єктності). Мікрорівень (безпосередня відповідність людини і роботи) базувався на концепції шести сфер і включав заходи, спрямовані на гармонізацію сфер навантаження, контролю, винагороди, спільноти, справедливості та цінностей. Індивідуально-особистісний рівень охопив фізіологічне відновлення, розвиток адаптивних копінг-стратегій та психоедукацію. Результатами ефективної профілактики стали збереження психічного здоров'я, підвищення залученості та мотивації, зміцнення бойової міцності підрозділу та зниження плинності кадрів. Розроблена модель може слугувати методичною основою для побудови системи психологічної профілактики емоційного вигорання у військових підрозділах, а також може бути використана психологами, командирами та фахівцями з управління персоналом для планування та впровадження профілактичних заходів

♦ **Ключові слова:** психічне здоров'я; стрес; ресурси; стресостійкість; благополуччя; бойові умови; лідерство



A spatial-mnestic model of deviant behaviour: The topology of phenomenological space and the associativity of memory in the context of deviant behaviour

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◆ **Abstract.** The article examined the development of a trichotomous spatial-mnestic model of deviant behaviour in the context of memory associativity. The theoretical foundation of the study was the conception of phenomenological space as a primary matrix of consciousness, within which thinking, memory, and behaviour are organised topologically. Space was considered not as a physical given, but as a structured field of experience formed through the interaction of perception and mental functions. Particular attention was paid to the associativity of memory as the capacity to make transitions between elements of experience, ensuring the meaningful coherence of consciousness. The relevance of the study stems from the growing interest in the problem of cognitive maps and the spatial organisation of memory in contemporary science. The aim of the study was to theoretically and empirically substantiate the existence of a correlation between the associativity of memory, the topological characteristics of phenomenological space, and forms of deviant behaviour. The methodology included phenomenological analysis, theoretical modelling and empirical research. The empirical stage was carried out using the Word Association Test. A procedure was developed for operationalising the topological characteristics of space based on associative indicators (indices of continuity, extent, structuredness, three-dimensionality, and infinity). The results of the study showed that, for the majority of respondents, moderate values of continuity and structuredness of phenomenological space predominate, alongside relatively high extensiveness and an average level of its openness. It was found that the variability of associative transitions reflects the degree of organisation of mental space and may be linked to regulatory mechanisms of behaviour. Based on an analysis of topological parameters and the nature of associative links, a typology of potential deviant manifestations has been proposed. Four types of deviation have been identified: situational, associated with local disruptions of continuity; value-existential, caused by a reduction in the structure of the semantic space; cyclical, arising from repetitive associative trajectories; and intellectual-symbolic, manifested in excessive abstraction and the expansion of associative space. The results obtained indicate the possibility of using topological characteristics of phenomenological space as indicators of the cognitive prerequisites of deviant behaviour. The practical value of this work lies in the possibility of using the proposed model for the diagnosis and prediction of deviant forms of behaviour in psychological practice, as well as in research in cognitive psychology, psychotherapy and behavioural sciences

◆ **Keywords:** systems approach; structure of phenomenological experience; cognitive-spatial organisation; patterns of behavioural regulation; psychological rigidity

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◆ Introduction

According to contemporary cognitive science, space is the primary matrix that determines human thinking. A person does not simply live in space; they think in spatial categories. The perception of physical space and, consequently, human behaviour depend on the imprint imposed on it by mental functions such as memory, thinking, attention, and others. As a result of the physical perception of real space, the interaction of this perception with mental functions, and the projection of the result onto external space, phenomenological space emerges. Among all known mental functions, memory is one of the most essential and fundamental characteristics contributing an emergent role in the formation of consciousness. Thus, the systematic study of correlations between phenomenological space, represented topologically, memory (selectivity, associativity, durability, reproducibility, contextuality), and formats of deviant behaviour is a highly relevant topic, intersecting with recent research.

Thus, J. Colelli (2025) attempts to integrate a phenomenological description of experience with cognitive theories. The author speaks of “pure experience” – this is not subjective experience, but that which remains after all individual and contextual features have been discarded. “Pure experience” serves as a bridge between lived experience and cognitive science. The study investigates which structures of experience make possible, for example, attention or memory as phenomenal phenomena. The concept of adaptation does not apply here, as the focus is on functional changes arising from alterations in the structures of lived experience. In the article, the topology of space is characterised by several features – extension, continuity, and structure – and is understood as the structure of phenomenal experience. Associativity is the ability to move from one content of experience to another. The author demonstrates that associative memory is possible only in phenomenal space with the properties of extension, continuity and structure. This is the spatial logic of associative memory. Associativity will be defined differently by different topologies of space. The article does not consider a complete system of topological characteristics, nor does it analyse how deviations in associativity lead to the deformation of the topology of space; furthermore, it does not address the question of the connection between spatial topology, the associativity of memory, and forms of deviant behaviour.

B. Marome *et al.* (2025) investigate the connection between the phenomenology of inner experience and the structure of memory. The article confirms the idea of the importance of phenomenological space and memory: the process of memorisation is not merely a mechanical recording of data, but active “navigation” within a space of internal images and thoughts. The authors demonstrate that deviant or maladaptive cognitive states (distraction, loss of focus) can be viewed as errors in this “topology of encoding”, leading to a loss of coherence in experience. T. Solodovnyk *et al.* (2026) analyse the mechanisms of

adaptation in veterans, with particular attention to the “rupture” between the inner space of military experience and the external space of peaceful life. S. Shinan-Altman (2024) demonstrates how a radical change of space (captivity/war) disrupts the “cognitive maps” of the individual. The author identifies a dichotomy between inner and outer space, illustrates the topology of phenomenological space, and shows that disturbances in spatial perception lead to maladaptive behaviour. A. Melnyk & T. Haliant (2026), in their work, propose an analysis of the process of “rewiring” traumatic memory and restoring temporal perspective. Reintegration is understood as the restoration of psychological and behavioural integrity. This work supports the idea of memory associativity, showing how veterans reinterpret combat experience in order to “integrate” it into a new social framework of coordinates.

A group of authors led by R. Heinen *et al.* (2025) demonstrate that the brain creates “cognitive representational spaces” (cognitive maps), in which information is organised according to a specific topology. As a result of their study, the authors found that the “distance” between objects in this mental space directly affects the strength of associations and the accuracy of memory. The article shows that behaviour (decision-making) is determined precisely by the structure of this “map”. If the map is distorted (for example, due to stress or war), behavioural “routes” become inadequate to reality, which manifests as deviation. L. Marku (2025) investigates how topological constraints (the structure of connections) and the phase dynamics of neurons make it possible to form stable associative memory. The article describes how network topology “imposes” certain patterns of memory retrieval. This provides a mathematical and neurobiological justification for why memory associativity is not chaotic, but rigidly tied to spatial structure (topology). The work logically leads to the idea that “deviant” behaviour may result from consciousness becoming “trapped” in certain topological attractors (memory traps), from which a person cannot escape due to the rigidity of established connections.

Thus, the literature review makes it clear that the exploration of various aspects of the relationship between space, memory associativity, and forms of deviant behaviour is a topic of considerable scientific interest. It should be noted that memory is a complex mental function, encompassing such aspects as selectivity, associativity, durability, reproducibility, and contextuality; in earlier work, the authors examined its selectivity and constructed a spatial-mnemonic model of deviant behaviour for this aspect of memory. The aim of the present study was to develop a trichotomous spatial-mnemonic model of deviant behaviour for memory associativity. Achieving this aim involved, first, theoretically and analytically demonstrating the relationship between memory associativity, spatial characteristics, and forms of deviant behaviour; and second, proposing an empirical investigation of the issue.

◆ Materials and Methods

The study was based on phenomenological, theoretical and empirical methodological approaches. It was conducted in 2025 and included several stages. Due to the fact that memory is a complex mental process requiring a differentiated research approach, at the first stage of the study the focus was directed towards one of its fundamental aspects – associativity. To demonstrate the functioning of associative memory in the norm, a phenomenological analysis was carried out using the example of a 2nd-century work of art – the image “The Prophet before the Mother of God with the Infant,” located in the Roman Catacombs of Priscilla. The analysis, in which space was considered as a unified, undivided field, demonstrated how the transition of meaning occurs from one element of the composition to another, forming an organic symbolic-thematic order. At the second stage, an analysis of a text by V. Frankl (2023) was proposed, examining the relationship between memory associativity, phenomenological space – expressed through topological characteristics (continuity, extent, structuredness, three-dimensionality, infinity) – and behavioural forms, including deviant behaviour. The possibility of presenting a unified phenomenological space in the form of specific topological characteristics, as well as the analytical transition from the topology of space to its phenomenological perception, was based on the work of D. Arabadzhy (2025). The third stage involved the selection of a psychodiagnostic method for the empirical study of memory associativity. This method was the Word Association Test, as it allows each associative transition to be interpreted as movement within phenomenological space, where the stimulus is the entry point into the space, the response is the point of actualisation, reaction time is the length of the trajectory, and the type of connection is the form of the route. Through the Word Association Test, it is possible to carry out a topological reconstruction of phenomenological space on the basis of associative indicators, after which the characteristics of space can be linked to forms of deviant behaviour.

The fourth stage included the organisation and conduct of an empirical study in a remote format using a digital platform for individual testing. The study involved 44 individuals aged 20 to 50 years living in one city. The inclusion criteria were compliance with the specified age range and residence within a single urban social space. No specific exclusion criteria were established, since the study did not involve clinical diagnosis and was aimed at identifying general patterns of the relationship between memory selectivity and the spatial organisation of experience. The choice of the 20-50 age group is explained by the fact that this period is characterised by relative cognitive stability. In terms of deviant behaviour, this stage was considered not as a phase of primary formation, but as a period of practical manifestation of deviant forms in social and psychological space. The factor of participants living in the same city was taken into account in order to reduce the influence of heterogeneous socio-cultural conditions and to ensure relative homogeneity of the

external space. All participants completed the Word Association Test remotely, in a familiar environment of their own choosing. Before the procedure, they were provided with standardised written instructions, fully identical in content and wording. The instructions explained the purpose of the task, the procedure for its execution, and the requirements for the responses provided. The fifth stage involved calculations and analysis of the obtained empirical data. The phenomenological concepts of continuity, extent, structuredness, three-dimensionality, and infinity of space were operationalised, calculated, and described in terms of possible forms of deviant behaviour for 44 individuals, and conclusions were drawn.

Data processing was carried out using descriptive statistical methods with the use of Excel software. The study was conducted in accordance with the ethical requirements established by the WMA (2024). All participants provided informed consent in electronic form prior to testing, were informed about the voluntary nature of participation, as well as the possibility of withdrawing at any time without negative consequences. The obtained data were used exclusively in aggregated form in accordance with the principle of confidentiality.

◆ Results and Discussion

A phenomenological analysis of memory associativity in the normative case is illustrated using the example of a 2nd-century work of art, the image of the Virgin Mary in the Catacombs of Priscilla. If, in the case of the selectivity of memory, what matters is what exactly is selected, then in the case of memory associativity what is important is how the selected information is connected, that is, how the transition from one fragment of information to another occurs. As an example of the functioning of associativity under normal conditions, the earliest monument of Christian art of the 2nd century is presented, located in the Catacombs of Priscilla – the image “The Prophet before the Mother of God with the Infant” (Fig. 1).

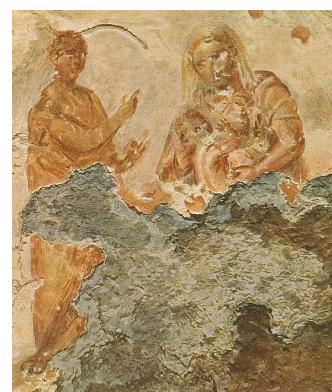


Figure 1. *The Prophet before the Mother of God with the Infant. Catacombs of Priscilla, 2nd century*
Source: I. Foletti (2011)

This example demonstrates cultural associative memory, understood as a set of historically formed, collectively

assimilated semantic connections between images, symbols, and texts, which ensure the recognition and correct interpretation of an image within a particular tradition (Ohiyenko, 1962; Panofsky, 1962). It is this memory that determines which elements are connected and in what direction the transition of meaning occurs. Cultural associative memory between the elements of the composition ensures the understanding that the central image should be correlated with the historical image of the Virgin Mary, rather than with any other figure or with an abstract representation of a female figure. The system of elements – the star, the prophet with the scroll, and the Infant – being thematically interconnected, allows the central image to be recognised.

The figure of the Old Testament prophet is identified primarily through an iconographic feature – the scroll in his hand. In the Christian tradition, the scroll is a sign of the prophetic word, and the specific text associated with this image comes from the Book of the Prophet Isaiah: “Behold, a Virgin shall conceive, and bear a Son, and shall call His name Emmanuel” (Isaiah 7:13-14). It is precisely this quotation that has become fixed in the cultural memory as a prophecy of Christ’s birth; therefore, the presence of the scroll automatically narrows the range of possible interpretations of the figure – this is not an abstract old man, but the prophet Isaiah. The gesture of the right hand, pointing towards the star, reinforces this semantic connection. In Christian symbolism, the star signifies the sign of the Messiah’s birth in Bethlehem. Thus, a double associative chain emerges: the prophetic word (Isaiah’s text) – its fulfilment in history (the birth) – the cosmic sign of fulfilment (the star).

As a result, the star and the prophet with the scroll function as interpretative markers. They do not merely accompany the central figures, but guide the viewer’s perception, establishing the correct direction of associative transition. Through this, the figures of the Woman and the Infant are identified not as a generalised image of a mother and child, but as specific historical and theological figures – the Mother of God and Jesus Christ. Associativity here functions as a mechanism linking prophecy, symbol, and event into a unified semantic structure. There is also an aspect of the narrative that should be attributed to the operation of cultural-collective, unconscious associative memory. The depiction of the Christ Infant as naked is a specific feature of images belonging to the first three centuries; from the 4th century onwards, the Infant is predominantly depicted clothed. One possible explanation is as follows: clothing conceals human nakedness and provides a sense of protection. The early centuries were a period of persecution of Christians; the Church experienced vulnerability, lack of protection, and exposure to external aggression. Thus, the Infant, as an image of the Church of Christ, is associatively linked to a naked depiction. When the Church historically rose to the level of a state religion, becoming protected – this occurred from the 4th century onwards – the Infant began to be depicted clothed (Warburg, 1999).

Thus, this example illustrates the functioning of symbolic cultural associative memory in the normative case. Memory associativity is a mechanism of meaningful connection between selected elements, ensuring the transition from fragments to a coherent whole; in the example of the image “The Prophet before the Mother of God with the Infant” from the Catacombs of Priscilla, the star, the prophet with the scroll, and the Infant form a thematically coherent system that allows the identification of the Mother of God and Christ. Associativity has a cultural-collective dimension: the recognition of the prophet is based on the text from the Book of the Prophet Isaiah, while the change in the depiction of the Infant (naked-clothed) reflects the historical state of the Church. Under normal conditions, associativity is characterised by logical transitions, historical rootedness, and symbolic coherence, ensuring the integrity of the interpretation of the image.

The relationship between the topology of space in its five characteristics, memory associativity, and deviant behaviour is illustrated using the example of the text by V. Frankl (2023). Continuity of phenomenological space consists in the fact that the transition from one point to another occurs without gaps, ruptures, or jumps. In the context of memory associativity, continuity of space determines the integration of discrete elements into a flow of meaning. From the analysed text describing the psychology of camp experience, V. Frankl notes that at times an external stimulus can trigger a “withdrawal into oneself”, an “escape inward”. However, such withdrawal should not be interpreted as a rupture with reality, since the connection with it remains, and a person can consciously move between inner and outer reality. Inner reality is, as it were, superimposed upon external reality without any abyss between them, so it would be incorrect to speak of derealisation in this case. V. Frankl attributes the tendency to withdraw into oneself to intellectually inclined individuals of a “fragile constitution”, and for this reason they “withstand camp reality better than those who are outwardly strong and robust”.

An example of such inward escape is provided by V. Frankl through recourse to personal memories: “We marched at dawn from the camp to the construction site”; commands are heard; “we pass through the camp gates”; unbearable cold; “searchlights are directed at us”; “in the darkness we continue walking, stumbling”; “the guards constantly shout at us”; “the wind cuts our faces, preventing speech”... “And before me appears the image of my wife...” “Through the thick clouds, the pink light of the morning dawn begins to break through. And before my inner gaze stands my beloved. My imagination has managed to render her so vividly, so clearly, as never before in my previous, normal life”. After some time, “...the one walking in front of me falls, those behind him also lose their footing. The guard is already there, already striking us to restore order. Within seconds my inner contemplative life is destroyed. But the soul is again capable of rising; it once more breaks free from the immediate camp existence,

beyond it, and resumes its dialogue with the beloved". From this it is evident that the world, with its harsh conditions, remains present – it is felt and experienced. The transition between inner and outer reality occurs easily in both directions. This indicates that phenomenological space is continuous. A "return to the past", when "the imagination is occupied with reconstructing past impressions" – sometimes "details of everyday life" – was important for prisoners, as it "brought them light". V. Frankl (2023) also describes the experience of those whose phenomenological space was disrupted, that is, whose associations were broken and whose flow of experience became fragmented – they ceased to feel, lost interest in life, existence became mechanical, and states of "stupor" and "apathy" emerged. Thus, the loss of associativity leads to deviant behaviour.

The extent of phenomenological space is revealed through its dimensionality. If space is measurable, then it becomes important to what degree it is extended. In the context of associativity, the length of phenomenological space is determined by extended associative connections. Analysis of the text shows that associative memory possesses length in two directions – temporal and existential. Temporal length is the capacity of associations to extend into the past or the future. It is a chain of memories in which transitions occur from one image to another, either towards the past or the future. "Here," writes V. Frankl (2023), "you are riding in a tram; here you arrive home, open the door; here the telephone rings, you pick up the receiver; switch on the light".

Existential length implies the breadth of associative coverage. A given event is capable of triggering a long associative chain of images. V. Frankl (2023) writes about this as follows: "I speak with my wife, I ask, she answers. I see her smile, her encouraging look, and – even if this look is bodiless – it shines more brightly for me than the rising sun at that moment". "You dig the ground for hours... and once again begin a dialogue with your beloved. And you feel her presence more and more, feel ever more distinctly that she is near. And it seems that you could touch her, that one need only stretch out a hand – and her hand will reach out towards you". The extension of phenomenological space reflected in these examples should be contrasted with the camp's reduction of space to a narrow corridor of bodily survival, which in its manifestations may be regarded as deviant behaviour.

The structuredness of phenomenological space presupposes the subordination of its content to a hierarchy of meanings. In the context of associative memory, structuredness means that associative transitions occur not according to randomness, but according to the principle of existential significance. Associativity preserves the structure of space from disintegration. Phenomenological space is organised around such important value nodes as love, meaning, and responsibility. V. Frankl (2023) demonstrates how love becomes a fundamental principle of phenomenological space: "I understood, I accepted the truth – that only love is the ultimate and highest that justifies our existence here, that

can elevate and strengthen us... I now know that a person who has nothing left in this world may still, if only for a moment, possess spiritually the most precious thing: the image of the one he loves".

Personal meaning is the centre that participates in the structuring of phenomenological space. V. Frankl (2023) writes of the necessity of taking a stance towards suffering and violence – "to take a position with regard to this form of extreme coercive limitation of one's existence". And further: "A person always and everywhere stands against fate, and this resistance makes it possible to transform suffering into an inner achievement". This refers to the meanings that shape suffering in the here and now. But there are meanings that determine the necessity of living through the future, meanings that look ahead. V. Frankl describes the horror of suffering in the camp, when the body is filled with unbearable pain and everyday concerns are tied to survival: "And it is here that I employ my method: in the next moment I see myself standing at a lectern in a large, brightly lit, beautiful, warm hall. I am giving a lecture – and the audience sitting before me in comfortable, soft chairs listens with interest. And I speak about the psychology of the concentration camp. And everything that oppresses and torments me now somehow becomes objectified for me, is seen from the height of scientific analysis". When associative structuredness is disrupted, memory loses its hierarchy of meaning: images and experiences cease to be connected with values. In such a case, a person loses responsibility for their actions, participates in violence, and justifies cruelty and moral relativism.

The text of V. Frankl (2023) allows to speak of the three-dimensionality of phenomenological space. The first axis is bodily-present: cold, fatigue, pain. The second is the past as lived experience, filled with relationships and values. The third is the future as direction, expectation, and task. Associative memory moves freely between these dimensions without destroying their distinction. Moreover, it is precisely memory that allows the depth of space to be maintained, preventing its reduction to the plane of the "here and now". For example, when V. Frankl turns to the image of his wife and enters into communication with her, or when he sees himself at the lectern delivering a lecture, this is movement within phenomenological space that reflects its depth. V. Frankl writes that the loss of the future leads to behavioural degradation. A person develops repetitive traumatic scenarios, loses life values, and abandons socially significant roles.

In V. Frankl (2023), associative memory reveals the experience of the infinity of phenomenological space even under conditions of external limitation. The camp is a confined space: fences, barracks, regime, death. Yet the inner space does not close. Associations have no final point: the image of a loved one, the meaning of life, responsibility for the future are inexhaustible. For this reason, V. Frankl emphasises that a person cannot be deprived of the freedom of attitude: "The spiritual freedom of a person, which cannot be taken away from them until their final breath, allows

them until their last moment to fill their life with meaning.” Thus, the analysis of the text makes it possible to conclude

that associative memory can be considered in terms of the topological indicators of phenomenological space (Table 1).

Table 1. The relationship between the topology of space, memory associativity, and possible forms of deviant behaviour

Topological characteristic of space	Manifestation in the text	Nature of memory associativity	Disturbance of associativity	Possible forms of deviant behaviour
Continuity	A free transition from camp reality to the image of the wife and back; a “withdrawal into oneself” without a rupture with the external world	Coherence of associative transitions; absence of gaps between inner and outer reality; preservation of the flow of meaning	Break in the flow of experience; interruption of associations; apathy, “stupor”	Mental passivity; loss of interest in life; mechanical existence; behavioural degradation
Extent (temporal and existential)	Extended chains of memories (past – wife; future – lecture hall and presentation); internal dialogue	Long associative chains; movement into the past and the future; broad existential scope	Narrowing of the associative range to bodily survival; reduction to the “here and now”	Behaviour oriented exclusively towards biological survival; loss of perspective; regression
Structuredness	Centring of space around love, meaning, and responsibility; a hierarchy of values	Associations organised according to existential significance; presence of semantic nodes	Loss of hierarchy of meanings; chaotic associations; devaluation of values	Moral relativism; participation in violence; loss of responsibility
Three-dimensionality (present – past – future)	Simultaneous holding of bodily pain, the image of the wife, and the image of a future speech	Free movement of memory across dimensions; preservation of depth of experience	Loss of the future dimension; fixation on a traumatic present	Behavioural degradation; recurring traumatic scenarios; rejection of social roles
Infinity	Inner freedom of attitude towards fate; inexhaustibility of meaning even within the camp	Openness of associative connections; absence of a final point to the horizon of meaning	Closure of inner space; a sense of ultimate hopelessness	Existential capitulation; refusal of meaning-making; destruction of one’s life stance

Source: compiled by the authors based on V. Frankl (2023)

The analysis of the text makes it possible to elaborate the functioning of associative memory and, at the same time, to relate spatial characteristics to possible forms of behaviour, particularly, in cases of disturbances in memory associativity, to deviant forms of behaviour. The problem lies in the need to move from phenomenological interpretations to clear, formalised results. There arises a need to operationalise memory associativity in such a way that, on its basis, it becomes possible to describe the spatial phenomenological characteristics and, subsequently, to provide a grounded analysis of forms of deviant behaviour. To address this issue, it is appropriate to employ the Word Association Test as a tool for recording and quantitatively analysing associative connections.

The transition from Word Association Test indicators to spatial characteristics and forms of deviant behaviour can thus be established. For the study of memory associativity, it is effective to make use of the Word Association Test. From the test results obtained, it is possible to analytically proceed to the properties of the associative field, and from these, the spatial characteristics – continuity, extent, structuredness, three-dimensionality, and infinity. Table 2 presents a synthesis of five parameters that describe the phenomenological associative space: continuity as the temporal coherence of the flow; extent as the scope of the unfolding of experience; structuredness as hierarchical organisation; three-dimensionality as the multidimensionality of association; and infinity as structural openness and non-cyclicity.

Table 2. Transition from Word Association Test indicators to topological characteristics of phenomenological space

Spatial parameter	Operationalisation (formulae)	Empirical indicators	Theoretical meaning	Interpretation
Continuity	$KR = R/N$; $\bar{L} = (1/n)\sum L_i$; $CV = SD(L)/\bar{L}$; $LS = 1/(1+CV)$; $IC = KR \times LS$	N – number of stimuli; R – number of responses; L_i – latencies	Degree of preservation of the associative flow over time; a combination of completeness of responding and uniformity of tempo	$IC > 0.8$ – high continuity; 0.6–0.8 – moderate; 0.4–0.6 – strained; <0.4 – fragmentation
Extent	$P_{total} = P_{long} + P_{hor} + P_{vert}$ (each axis scored 1–5 points; total 3–15)	Mean reaction time (M); number of semantic fields; levels of generalisation of responses	Distance of mental unfolding: temporal, thematic, and abstract-hierarchical	3–6 – reduced; 7–10 – moderately developed; 11–13 – developed; 14–15 – highly developed space
Structuredness	$Kc = Nc/N$; $Ir = \sum (n_i \text{ where } n_i \geq 2)/N$	Nc – responses in stable clusters; n_i – category frequencies	Degree of ordering and centralisation of the associative field; presence of stable semantic cores	Low values – fragmentation; medium – moderate organisation; high – pronounced centralisation

Table 2. Continued

Spatial parameter	Operationalisation (formulae)	Empirical indicators	Theoretical meaning	Interpretation
Three-dimensionality	$R_i = (D_i, M_i, G_i)$	D – semantic distance; M – affective modality; G – depth of personal involvement	Spatial model of association as a multidimensional point; integration of cognitive, emotional, and existential dimensions	Even distribution across three axes – pronounced three-dimensionality; reduction to one axis – flattening of space
Infinity	$O = N_{\text{clusters}} / N_{\text{total}};$ $C = \sum(p_i)^2;$ $R_i = \sum(n_i - 1) / N_{\text{total}};$ $II = O \times (1 - C) \times (1 - R_i)$	N_{total} – total number of responses; N_{clusters} – number of clusters; p_i – probabilities of clusters	Structural openness of the field: diversity of directions, low concentration, and low cyclicity	$II \rightarrow 0$ – closure, predictability, cyclicity; $II \rightarrow 1$ – structural openness, distribution, non-cyclicity

Source: compiled by the authors

All parameters are based on classical statistical operations (frequency, mean, variance, standardisation, concentration index), integrated into a phenomenological interpretation of cognitive space. The analytically obtained results, which describe the topological characteristics of

phenomenological space, allow to proceed analytically to the forms of deviant behaviour corresponding to each characteristic of the space. Table 3 summarises the parameters of phenomenological space and possible forms of deviant behaviour.

Table 3. Transition from the topological characteristics of phenomenological space to possible forms of deviant behaviour

Parameter	Level	Behavioural correlate	Probable form of deviation
Continuity (IC)	High (>0.8)	Stable self-regulation	Minimal risk
	Moderate	Local tension	Situational affective reactions
	Low	Breaks in associations	Impulsivity
	Very low	Fragmentation of consciousness	Disorganised, aggressive behaviour
Temporal length (M)	Low	Reactivity	Impulsive forms
	Medium	Balance between reaction and reflection	Deviation unlikely
	High	Deep processing of experience	Anxious-ruminative forms
Horizontal extent	Low	Narrowness of meaning	Rigidity, stereotypy
	High	Thematic variability	Eccentricity
Vertical extent	Concrete level	Literalness	Primitive forms of response
	Symbolic level	Sensitivity to meaning	Ideological fixation, crisis-proneness
Structuredness (Kc, Ir)	Low	Inconsistency	Chaotic behaviour
	Moderate	Flexible organisation	Deviation unlikely
	High	Rigid value system	Dogmatism, scenario-based behaviour
Three-dimensionality (X – Y – Z)	Semantic compression (X ↓)	Normativity	Conformism
	Semantic expansion (X ↑)	Non-standardness	Eccentricity
	Affective amplitude (Y ↑)	Emotional polarity	Affective outbursts
	Depth of meaning (Z ↑)	Meaning-centredness	Existential crises
Infinity (II)	Low (closure)	Cyclicity	Recurring conflicts
	Medium	Moderate openness	Situational forms
	High (openness)	Expansiveness	Identity instability

Source: compiled by the authors

The analytical transition from the parameters of phenomenological space to forms of deviant behaviour is based on the assumption of the regulatory function of the spatial organisation of consciousness. Changes in the structural parameters of space lead to specific deficits in integration, temporal perspective, affective modulation, or semantic centralisation, which manifest in typologically distinct forms of deviant response. The results of the empirical study of the relationship between memory associativity, the topology of space, and forms of deviant behaviour are presented. The analytically derived topological reconstruction of phenomenological space and its connection with possible forms of deviant behaviour make it possible to turn to the Word Association Test

and, at this stage, obtain practical results both for individual cases and for groups. Taking into account the interpretations provided in Table 2, the results of the calculations of the distribution of psychometric indicators for the entire group (44 participants) are presented as percentages (Table 4). Calculation of the group distribution shows that, according to the data, the majority of participants demonstrate average values. Continuity (IC): mean ≈ 0.70 -0.73, indicating moderate continuity. Extent: 13-15, indicating a high level. Kc/Ir: 0.52-0.56, indicating moderate structuredness. Three-dimensionality: $\bar{D}/\bar{M}/\bar{G}$: 3.2-3.7, predominantly average, with some higher values. Infinity (II): 0.38-0.41, indicating a medium to low level.

Table 4. Distribution in % (44 participants)

Indicator	High	%	Medium	%	Low	%
Continuity (IC)	2	5	40	91	2	5
Extent	35	80	9	20	0	0
Structuredness (Kc/Ir)	0	0	44	100	0	0
Three-dimensionality $\bar{D}$	10	23	34	77	0	0
Three-dimensionality $\bar{M}$	20	45	24	55	0	0
Three-dimensionality $\bar{G}$	12	27	32	73	0	0
Infinity (II)	0	0	44	100	0	0

Source: compiled by the authors

From Table 4 it can be seen that continuity shows that almost the entire group has moderate values (IC 0.6-0.8), indicating a stable associative flow, but with latent “jumps”; extent shows that the overwhelming majority are highly developed, with associations covering broad temporal, thematic, and level-based ranges; structuredness indicates that all participants have moderately expressed centres of meaning, with no instances of low-structured space; three-dimensionality shows that the $\bar{M}$ (45%) and $\bar{G}$ (27%) axes demonstrate high involvement and emotionality among participants, while the remainder have average values, whereas $\bar{D}$ (77%) is predominantly average, indicating a moderately varied semantic distance; infinity (II) shows that the entire group falls within the medium range (0.38-0.41), reflecting partial openness with recursion present.

Based on the calculations of the participants’ phenomenological space and the logic of transitioning from spatial characteristics to possible forms of deviant behaviour, a table of percentage distribution of potential deviations can be constructed (Table 5). The table identifies four main types of deviation. Situational/impulsive deviation refers to local emotional surges and short-term departures from the norm. Value/existential deviation involves norm violations motivated by values, principles, or symbolic meanings.

Cyclical/repetitive deviation refers to habitual patterns of deviation and recurring events within familiar domains. Intellectual-symbolic/creative deviation refers to philosophical, creative, or idealised forms of deviation. Table 5 shows that situational deviation rarely manifests to a high degree; consequently, most participants are not prone to impulsive behaviour, though some exhibit moderate, short-term deviations. Value/existential deviation is the most pronounced, meaning that many participants are inclined towards actions motivated by principles or inner convictions. Cyclical/repetitive deviation is observed to a moderate extent, so habitual patterns are possible but do not dominate. Intellectual-symbolic deviation is evident in a third of the group; consequently, there is a possibility of non-standard, creative or philosophical violations of norms. Thus, the group is characterised by high cognitive and existential engagement, moderate continuity and moderate structural openness. Deviance manifests not impulsively, but more often through value-based, symbolic and repetitive patterns. Members are capable of creative and philosophical deviance, which may manifest as non-conventional thinking, idealisation or creative norm-breaking. Group dynamics reveal a balance between structure and openness, indicating a relatively stable yet potentially flexible associative field.

Table 5. Percentage distribution of possible forms of deviation (44 participants)

Type of deviation	High probability, %	Medium, %	Low, %
Situational/impulsive	9	84	7
Value/existential	32	61	7
Cyclical/repetitive	14	75	11
Intellectual-symbolic/creative	27	66	7

Source: compiled by the authors

Comparing existing relevant research on the topic with the results obtained whilst working on the trichotomous spatial-mnemonic model, it should be noted that the authors of the studies proceed from the spatial metaphysics of consciousness: they understand memory and thinking as processes unfolding within a structured phenomenological or cognitive space. In J. Colelli (2025), the topology of the phenomenal field (length, continuity, structure) enables associativity. B. Marome *et al.* (2025) note that memory is navigation within an internal space. In S. Shinan-Altman (2024) and T. Solodovnyk *et al.* (2026), impaired behavioural adaptation is explained by a disconnect between

internal and external space. In R. Heinen *et al.* (2025), “cognitive maps” describe the topological organisation of representations. In L. Marku (2025), the topology of the neural network determines stable patterns of associations. In all cases, space acts as a regulatory principle of memory and behaviour. On the other hand, the idea that behaviour depends on the structure of the associative field is evident in all the works. Distortions in topology – stress, trauma, distraction or phase fixation of neural dynamics – lead to maladaptive forms of response. This establishes a general thesis: deviation is a consequence of a structural disruption in the space of experience.

Nevertheless, and this is very important, the present study combines phenomenological (experience), cognitive (associations), psychometric (indices) and behavioural (deviation) levels of analysis into a single model, unlike, for example, M. Merleau-Ponty (1981), whose focus is on phenomenological and bodily experience, and intersubjective orientation. For most authors, these levels remain disconnected. E. Husserl (1952) defines the phenomenological field of consciousness in which objects are situated within subjective perception. He describes the qualitative properties of experience (duration, direction, context), but does not introduce formal quantitative parameters. This is purely descriptive phenomenology, as D. Moran (2000) agrees. The spatial-mnemonic model differs in the systematic nature of its topological description: in most works, analysis is limited to two or three characteristics (most often continuity and structuredness). The spatial-mnemonic model introduces a complete system of five topological parameters: continuity, length, structure, three-dimensionality, and infinity – as presented in the work of N. Reichenbach (1958). This allows a transition from particular observations to the broader architecture of phenomenological space. Unlike K. Lewin (1939), the concept of “psychological space” is general and heuristic. It describes psychological forces, directions of motivation and behavioural barriers. Researchers K. Danziger (2000) and B. Burnes & B. Cooke (2013) argue that K. Lewin does not propose specific topological parameters and does not formalise space into numerical or qualitative characteristics, which complicates the direct prediction of behaviour based on his model.

In recent, thematically related studies, deviance is mentioned as a consequence of distortion (addiction, aggression, maladaptation), but no formalised model of the relationship between “spatial parameter and type of deviation” has been developed. The study proposes an analytical transition from each topological indicator to a specific regulatory deficit and further to typologically distinct forms of deviant behaviour (situational, value-based, cyclical, intellectual-symbolic). This creates a diagnostic matrix. Unlike purely theoretical or neurobiological models, the proposed study formulates a concrete tool for the empirical reconstruction of phenomenological space via the Word Association Test. In doing so, it bridges the gap between phenomenology, psychometrics and behavioural analysis.

It should be noted that the proposed study forms part of a broader programme (previously on memory selectivity), gradually forming a coherent spatial-mnemonic concept. This scientific novelty is cumulative rather than fragmentary in nature. Studies on veterans and trauma describe the phenomenon of dislocation, but do not propose a universal topological diagnostic algorithm. The spatial-mnemonic model allows not only for the post-hoc description of spatial deformation, but also for the prediction of the type of deviation based on the

parameters of the associative field, making it applicable in counselling and rehabilitation practice, particularly in wartime conditions.

◆ Conclusions

Memory associativity may be considered as a spatially organised process functioning within a phenomenological space characterised by topological properties: continuity, extent, structuredness, three-dimensionality, and infinity. Each of these characteristics performs a regulatory function: continuity ensures the coherence of experience; extent provides temporal and existential unfolding; structuredness establishes a hierarchy of meanings; three-dimensionality preserves depth (past-present-future); and infinity ensures openness and the non-cyclical nature of the associative field. Disturbances in individual topological parameters lead to specific deformations of memory associativity and manifest in different forms of deviant behaviour: fragmentation and impulsivity (with reduced continuity), narrowing of life perspective (with reduced extent), loss of value hierarchy (with deformation of structuredness), fixation on the present or traumatic experience (with flattening of three-dimensionality), and entrapment in repetitive patterns (with restricted infinity). A phenomenological analysis of an artistic image and the text of V. Frankl confirmed that the preservation of the topological integrity of space ensures behavioural stability even under extreme conditions. The application of the Word Association Test made it possible to operationalise phenomenological characteristics and to transition from associative indicators to a topological reconstruction of individual space. Empirical data (44 participants) demonstrated a predominance of moderate continuity and structuredness alongside high extent and moderate openness of space, corresponding primarily to value-existential and intellectual-symbolic forms of potential deviation, rather than impulsive deviations.

A systemic consideration of the issue directly leads to scientific novelty, and for this reason the construction of a trichotomous spatial-mnemonic model of deviant behaviour within the context of memory associativity is particularly relevant. Such a model may serve as a foundation for further research. Moreover, the developed trichotomous spatial-mnemonic model, possessing diagnostic value, prognostic potential, and the capacity for integration into psychotherapeutic practice, is especially significant in periods of war and social upheaval, when psychology seeks effective means of supporting the adaptation of military personnel and civilians in combat zones.

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None.

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Просторово-мнестична модель девіантної поведінки: топологія феноменологічного простору і асоціативність пам'яті в контексті девіантної поведінки

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♦ **Анотація.** Стаття присвячена розробці трихотомічної просторово-мнестичної моделі девіантної поведінки в контексті асоціативності пам'яті. Теоретичною основою дослідження виступило уявлення про феноменологічний простір як первинну матрицю свідомості, в якій мислення, пам'ять і поведінка організовуються топологічно. Простір розглядався не як фізична даність, а як структуроване поле переживання, що формується у взаємодії сприйняття і психічних функцій. Особлива увага приділялася асоціативності пам'яті як здатності здійснювати переходи між елементами досвіду, забезпечуючи смислову зв'язність свідомості. Актуальність дослідження обумовлена зростанням інтересу до проблеми когнітивних карт і просторової організації пам'яті в сучасній науці. Мета дослідження – теоретично та емпірично обґрунтувати існування кореляції між асоціативністю пам'яті, топологічними характеристиками феноменологічного простору та формами девіантної поведінки. Методологія включала феноменологічний аналіз, теоретичне моделювання та емпіричне дослідження. Емпіричний етап реалізовано із застосуванням Word Association Test. Розроблено процедуру операціоналізації топологічних характеристик простору на основі асоціативних показників (індекси безперервності, протяжності, структурованості, тривимірності та нескінченності). Результати дослідження показали, що у більшості респондентів домінують помірні значення безперервності та структурованості феноменологічного простору при відносно високій протяжності та середньому рівні його відкритості. Виявлено, що варіативність асоціативних переходів відображає ступінь організованості ментального простору і може бути пов'язана з регуляторними механізмами поведінки. На основі аналізу топологічних параметрів і характеру асоціативних зв'язків запропоновано типологію потенційних девіантних проявів. Виділено чотири типи девіації: ситуативну, що пов'язана з локальними порушеннями безперервності; ціннісно-екзистенційну, зумовлену зниженням структурованості смислового простору; циклічну, що виникає внаслідок повторюваних асоціативних траєкторій; та інтелектуально-символічну, яка проявляється у надмірній абстрактності та розширенні асоціативного простору. Отримані результати свідчать про можливість використання топологічних характеристик феноменологічного простору як індикаторів когнітивних передумов девіантної поведінки. Практична цінність роботи полягає в можливості використання запропонованої моделі для діагностики та прогнозування девіантних форм поведінки у психологічній практиці, а також у дослідженнях когнітивної психології, психотерапії та поведінкових наук

♦ **Ключові слова:** системний підхід; структура феноменологічного досвіду; когнітивно-просторова організація; патерни поведінкової регуляції; психологічна ригідність



Psychological consequences of combat stress in military personnel: The relationship with self-efficacy

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◆ **Abstract.** The relevance of this study stems from the need to analyse post-traumatic disorders and their relationship with self-efficacy, given the conflicting approaches in scientific research and the limited amount of data available on military personnel carrying out combat missions. The aim of the study was to determine the level of psychological consequences of war-related stress in military personnel, to establish relationships between various symptoms and the consequences of stress, and to analyse their link with self-efficacy indicators. Psychodiagnostic methods were used to conduct the study, which enabled the assessment of the intensity of symptoms of acute stress disorder: the National Stressful Events Survey Acute Stress Disorder Short Scale (NSESSS); post-traumatic stress disorder: the Primary Care PTSD Screen for DSM-5 (PC-PTSD-5), The Short Screening Scale for DSM-IV PTSD; fatigue: Fatigue Assessment Scale – FAS; and psychosomatic disorders: Patient Health Questionnaire-15 – PHQ-15, Giessen Complaint List – GBB-24, specifically cardiac and gastric complaints, pain in various parts of the body, and psychosomatic exhaustion. Self-efficacy was assessed using the following scales: General Self-Efficacy Scale – GSEF and Allgemeine Selbstwirksamkeit Kurzskala – ASKU. The study results indicated the simultaneous presence of moderate acute stress, a significant proportion of positive screening for

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post-traumatic stress disorder, increased fatigue, and a noticeable somatic burden (particularly regarding the “pain” and “exhaustion” components). The level of self-efficacy for the vast majority of participants remained at moderate to high levels. Regression analysis demonstrated that somatic manifestations are determined by a combination of age and stress-traumatic load, whilst fatigue is predominantly caused by stress-traumatic factors and is partially mitigated by behavioural self-efficacy. The practical value of the results lies in the possibility of their implementation for timely monitoring to identify military personnel with critical indicators of psychological trauma and to provide them with the necessary timely assistance; the development of psychological recovery and rehabilitation programmes for military personnel, where the priority is to address the consequences of traumatic stress as a key factor in somatisation, whilst the development of behavioural self-efficacy serves as an additional resource for strengthening their psychophysiological resilience

◆ **Keywords:** exhaustion; fatigue; post-traumatic manifestations; self-efficacy; somatic symptoms

◆ Introduction

Since 24 February 2022, servicemen of the Defence Forces of Ukraine have been actively repelling and containing the Russian Federation’s full-scale armed aggression amid intense combat operations. The inability to rest and recover properly, problems with the unit rotation system, and constant exposure to combat stressors increasingly threaten to exhaust personnel and reduce the effectiveness of service personnel, as well as their ability to perform professional tasks on the front line accurately and without error. During their participation in combat operations, the vast majority of service personnel gain unique combat experience, which undoubtedly contributes to their professional growth and the acquisition of a high level of combat proficiency, allowing to assess in practice their ability to cope with stress and remain effective in challenging operational conditions. At the same time, prolonged exposure to the stressors of a combat environment and limited access to timely psychological support can lead to the development of acute stress disorder (ASD) and more serious consequences, such as post-traumatic stress disorder (PTSD), somatic disorders and others. Furthermore, there is an accumulation of overload and the body “transitions” into a state of exhaustion. At the same time, there remains some uncertainty as to the role played by self-efficacy under such conditions as an important psychological resource for individuals; whether it acts as a “buffer” between traumatic events and the mental health of military personnel; or whether its level is linked to the development of destructive psychological changes and psychosomatic disorders. This issue remains a matter of debate, particularly regarding military personnel who continue to carry out combat missions in conditions of high-intensity combat operations. An analysis of recent publications on this topic has revealed the ambiguity of scientific approaches to interpreting the relationship between self-efficacy indicators and post-traumatic symptoms. Y. Jian *et al.* (2022) confirmed the existence of a negative correlation between self-efficacy and the intensity of post-traumatic symptoms. The researchers confirmed that individuals with higher levels of self-efficacy were characterised by a lower susceptibility to depressive states, anxiety and PTSD symptoms. G. Zerach (2024), investigating the relationship between post-traumatic stress symptoms, self-efficacy and positive post-traumatic changes among Israeli female combat veterans, demonstrated the

significance of self-efficacy in mitigating post-traumatic symptoms. Self-efficacy, according to the author, acts as an important mediator between symptoms, resources and post-traumatic growth. It modulates the extent to which a service member perceives themselves as capable of influencing the situation, applying self-regulation skills, seeking help, and realising life projects following trauma, as noted by G. Zerach (2024) and V.V. Turban *et al.* (2025).

The results of the logistic regression analysis by B. Ghafoori *et al.* (2024), conducted on a sample of health-care workers, revealed a significant inverse relationship between self-efficacy levels and the risk of developing PTSD. The models constructed demonstrated that high levels of self-efficacy may prevent the development of post-traumatic disorders in this category of staff. Drawing on a neurophysiological approach based on self-regulation of the autonomic nervous system, K. Blase *et al.* (2021) demonstrated that self-regulation skills enable the restoration of cognitive functions and emotional stability, thereby reducing post-traumatic symptoms. Given that cognitive resources and emotional resilience are integral components of self-efficacy, it is reasonable to assume that it may act as a mediator in overcoming the consequences of experienced stress. In contrast, when assessing self-efficacy as a mechanism for overcoming PTSD during the implementation of an intensive treatment programme in a group of military personnel and veterans, J.W. Murphy *et al.* (2025) confirmed that changes in the participants’ self-efficacy did not precede changes in PTSD symptoms during treatment. It was found that the levels of these two indicators changed simultaneously, refuting the notion that self-efficacy is a mechanism for changes in the disorder’s symptoms. In wartime, the development of self-efficacy takes on particular significance. On the one hand, self-efficacy levels in certain population groups decline somewhat; on the other hand, self-efficacy plays a key role in responses to stress, the ability to cope with threatening situations, and traumatic events.

Furthermore, self-efficacy is a significant factor in post-war personal recovery and can be developed through psychological interventions (Kredentser, 2023). The results of a study by O.R. Bereziuk (2024) showed that reduced self-efficacy has a statistically significant direct proportional effect on the emergence of depressive symptoms, and

also significantly triggers the development of anxiety in male combatants who have suffered combat-related psychological trauma. S.O. Hanaba & V.A. Pavlenko (2024) noted that high self-efficacy among military personnel with combat experience enables them to transform adversity into potential for positive change. However, the relationship between general self-efficacy and post-traumatic disorders, particularly somatic manifestations, remains insufficiently studied among military personnel who remain active combatants and continue to carry out combat missions on the front line for extended periods. The issue of the relationship between operational self-efficacy and manifestations of post-traumatic stress in this category of individuals also remains under-researched. The aim of the study was to determine the level of psychological consequences of war-related stress among military personnel, to establish relationships between various symptoms and consequences of stress, and to analyse their connection with indicators of self-efficacy.

◆ Materials and Methods

The psychological study was conducted during October-November 2025 among military personnel from combat units and combat support units performing operational tasks in the Donetsk direction. A total of 90 servicemen and servicewomen participated in the study; the vast majority were active combatants in the ongoing war (87% of participants), while a smaller proportion (13%) were members of a reserve unit without prior combat experience. The sample consisted of 89 men and 1 woman, aged between 22 and 58 years. The mean age of the group was $M = 40.92$, $SD = 9.15$, $Me = 42.5$. The study was conducted using eight research instruments (Ukrainian adaptations in their published formats): National Stressful Events Survey Acute Stress Disorder Short Scale (NSESSS) (Gilbar, 2025); Primary Care PTSD Screen for DSM-5 (PC-PTSD-5) (Prins et al., 2016); The Short Screening Scale for DSM-IV PTSD (Breslau et al., 1999); Fatigue Assessment Scale (FAS) (Michielsen et al., 2003); Patient Health Questionnaire-15 (PHQ-15) (Kroenke et al., 2002); Giessen Complaint List (GGB-24) (Kokun et al., 2025), which includes scales of psychosomatic exhaustion, gastric complaints, pain in various parts of the body, cardiac complaints, and overall somatic burden; Allgemeine Selbstwirksamkeit Kurzskala (ASKU) (Beierlein et al., 2013); and the Generalised Self-Efficacy Scale (GSEF) (Schwarzer & Jerusalem, 1995).

The assessment was carried out under conditions of confidentiality regarding locations (taking into account security requirements and restricted access to information about unit deployment). At the time of the study, personnel were located either at temporary base sites (following

return from combat missions) or directly at operational locations, provided that the security situation allowed the survey to be conducted without risk to participants. The study was conducted offline using paper-based versions of the instruments, in groups of two to five individuals. The approximate time required to complete the questionnaires was 35-45 minutes. The order of completion corresponded to the sequence of the instruments listed above. All diagnostic procedures complied with the principles of the Declaration of Helsinki of the World Medical Association (2024). Participation was voluntary, without pressure from command. Each participant received full information about the study and provided informed consent. Anonymity and confidentiality were ensured through the complete absence of identifying information and restricted access to the dataset.

The selection of diagnostic instruments was justified by their international standardisation, high relevance, and empirical validation. A key criterion for assembling the battery of methods was their suitability for rapid assessment. This is critically important when studying military personnel in combat conditions, as it allows for the collection of a maximum amount of relevant information on post-stress symptomatology within a limited time, without overburdening participants with prolonged testing. Mathematical and statistical processing of quantitative results was carried out using descriptive statistics (M , SD , Me , Min - Max , %), Pearson's correlation coefficient (r), and hierarchical regression analysis. Verification of the data using the Shapiro-Wilk test indicated normal distribution across the studied variables ($p > 0.05$), which justified the use of parametric statistical methods. Hierarchical multiple linear regression analysis was performed in IBM SPSS Statistics 22.0.0.0, with predictors entered in blocks defined a priori according to the theoretical model (control variables $\rightarrow$ stress/PTSD symptomatology $\rightarrow$ resource indicators), with evaluation of R^2 , ΔR^2 , and standardised β coefficients. Prior to interpretation, regression assumptions were checked, including linearity (scatterplots and residuals versus predicted values), absence of multicollinearity (Tolerance, VIF), and normality of residual distribution (Q-Q plot and assessment of standardised residuals).

◆ Results and Discussion

Among the traumatic events they had experienced, the respondents cited the following: loss of loved ones/comrades – 26 (28.9%); trauma/injury – 18 (20.0%); combat exposure/shelling – 10 (11.1%); other – 7 (7.8%) (divorce, loss of one's own health, illness among relatives); did not specify – 29 (32.2%). Descriptive statistics for the main diagnostic indicators obtained from the military personnel studied are presented in Table 1.

Table 1. Descriptive statistics for the main indicators of the test methods

Indicators/Range of mean values	M	SD	Me	Min	Max
Acute stress disorder (ASD) (NSESSS)/(0-4)	1.34	0.73	1.29	0.00	3.57
PTSD (PC-PTSD-5)/(0-5)	2.34	1.50	2.00	0.00	5.00

Table 1. Continued

Indicators/Range of mean values	M	SD	Me	Min	Max
PTSD (The Short Screening Scale for DSM-IV PTSD, Breslau)/(0-7)	2.74	1.84	2.00	0.00	7.00
Self-efficacy (ASKU)/(1-5)	3.72	0.95	3.67	0.00	5.00
Self-efficacy (GSEF)/(10-40)	29.73	5.38	30.00	14.00	40.00
Fatigue (FAS)/(10-50)	23.91	6.09	23.00	14.00	39.00
Somatic symptoms (PHQ-15)/(0-30)	10.23	4.78	9.00	0.00	26.00
Somatic symptoms (GBB-24), exhaustion/(0-24)	8.65	5.83	7.00	0.00	24.00
Somatic symptoms (GBB-24), gastric complaints/(0-24)	4.81	4.37	3.00	0.00	17.00
Somatic symptoms (GBB-24), pain/(0-24)	11.22	6.07	10.00	0.00	24.00
Somatic symptoms (GBB-24), cardiac complaints/(0-24)	5.03	4.72	4.00	0.00	19.00
Somatic symptoms (GBB-24), intensity of somatic complaints/(0-96)	29.70	18.75	25.50	1.00	77.00

Source: compiled by the authors

Analysis of the data presented in Table 1 allows to conclude that, at the level of mean values in this sample of military personnel, there is a combination of: moderate severity of acute stress, a substantial proportion of positive PTSD screening, elevated fatigue, and a noticeable somatic burden (particularly in the components of “pain” and “exhaustion”). For the practical interpretation of the

intensity of ASD manifestations, the following gradation of symptom severity was applied: < 1.00 – minimal/absent; 1.00-1.99 – mild; 2.00-2.99 – moderate; 3.00-4.00 – severe (Jensen & Simpson, 2014). Table 2 presents the distribution of the examined military personnel according to the level of ASD severity, in line with the above gradation of symptom intensity.

Table 2. Levels of ASD (mean score 0-4)

Level of ASD	n	%
<1.00 – minimal/absent	31	34.4
1.00-1.99 – mild	42	46.7
2.00-2.99 – moderate	15	16.7
≥3.00 – severe	2	2.2

Source: compiled by the authors

Minimal or absent severity of acute stress disorder (ASD < 1.00; 34.4%) characterises military personnel who exhibit only isolated stress reactions that are not persistent in nature and generally do not disrupt everyday functioning. The ability for self-control, adequate planning, and task performance is usually preserved; sleep disturbances are either absent or episodic. In practical terms, this corresponds to a state of relative adaptation under conditions of stable workload and sufficient recovery. The main risk lies in potential deterioration under repeated traumatising, cumulative sleep deficit, or increasing physical exhaustion. Mild intensity of acute stress disorder (ASD 1.00-1.99; 46.7%) is typical of a group of military personnel who display more regular manifestations of stress reactions, including heightened vigilance, irritability, episodic difficulties in falling asleep, reduced tolerance to overload, and a tendency to avoid reminders of traumatic events. Overall functioning is preserved; however, vulnerability to conflicts, errors under fatigue, and reduced concentration towards the end of the work cycle increases. Moderate intensity (ASD 2.00-2.99; 16.7%) reflects persistent manifestations of acute stress:

markedly pronounced hyperactivation (internal tension, startle reactions), frequent intrusive memories/images, emotional instability, increased avoidance of triggers, and more systematic sleep disturbances. Typically, attention and concentration deteriorate, cognitive fatigue increases, and decision-making efficiency in complex situations declines. In a military context, such a state is associated with an increased risk of dangerous errors, conflict, growth of somatic symptoms, and further progression into chronic stress-related disorders. Severe intensity (ASD ≥ 3.00; 2.2%) corresponds to a high likelihood of acute maladaptation: possible panic or dissociative episodes, sharp deterioration in sleep, abrupt mood fluctuations, significant reduction in work capacity, and dangerous behavioural reactions (impulsivity, lapses in attention, risky decision-making). For the primary interpretation of post-traumatic stress disorder (PTSD) indicators using PC-PTSD-5, a practical threshold was applied: 0-2 – negative screening; ≥ 3 – positive screening (increased likelihood of a PTSD profile). Table 3 presents the distribution of military personnel according to this interpretation based on PC-PTSD-5 scores.

Table 3. Results for PTSD (PC-PTSD-5) (mean score 0-5)

Category	n	%
0-2 (negative screening)	43	50.6
≥3 (positive screening)	42	49.4

Source: compiled by the authors

In practical terms, a positive screening result on the PC-PTSD-5 indicates the presence of persistent symptoms of traumatic stress, which are typically manifested in sleep disturbances, emotional tension, avoidance of reminders of the event, heightened vigilance, and related features. In the sample of military personnel, a positive PC-PTSD-5 result is associated with higher levels of acute stress, somatic complaints, and fatigue, as will be discussed below based

on the results of the correlation analysis (Table 10). This highlights the complexity of the issue and the need for a multidisciplinary approach to its resolution. For the primary interpretation of DSM-IV PTSD indicators, the following threshold was applied: 0-3 – negative; ≥ 4 – positive (high likelihood of a PTSD profile). Table 4 presents the distribution of military personnel according to this interpretation based on DSM-IV PTSD scores.

Table 4. Results for PTSD (DSM-IV PTSD) (mean score 0-7)

Category	n	%
0-3 (negative screening)	57	64.0
≥ 4 (positive screening)	32	36.0

Source: compiled by the authors

A key finding is that a positive screening result for DSM-IV PTSD in this sample of military personnel is associated with a more pronounced “functional impact” (with greater increases in fatigue and somatic symptoms (Table 10). In practical terms, this means that DSM-IV PTSD can be used as a more “stringent” criterion for prioritising

support when service resources are limited and it is necessary to identify the highest-risk groups. To interpret the indicators characterising the degree of fatigue according to the FAS, the thresholds specified in Table 5 were used (the study participants were categorised according to these thresholds).

Table 5. Fatigue levels according to the FAS (average score 10-50)

Level	n	%
<22 (normal)	36	40.4
22-34 (fatigue)	47	52.8
≥ 35 (severe fatigue)	6	6.7

Source: compiled by the authors

Based on the obtained results, each level of fatigue among military personnel can be characterised as follows. Normal (FAS < 22; 40.4%). This condition is characterised by a relatively adequate level of energy resources and recovery. Presence of fatigue (FAS 22-34; 52.8%). This level indicates a significant reduction in endurance and recovery capacity. Typical manifestations include increased cognitive fatigue, reduced concentration, irritability, an increase in somatic symptoms, sleep disturbances, and heightened

sensitivity to stressors. In a military context, this may present as a gradual decline in effectiveness during the second half of the workload cycle, an increase in minor errors, and a rise in interpersonal conflicts. Severe fatigue (FAS ≥ 35 ; 6.7%). High risk to safety and operational effectiveness: slowed reactions, reduced decision-making quality, emotional breakdowns, exacerbation of pain/somatic complaints, and pronounced sleep disturbances. For somatic symptoms according to the PHQ-15, four threshold values were used (Table 6).

Table 6. Levels of somatic symptoms according to the PHQ-15 (average score 0-30)

Level	n	%
0-4 – minimal	9	10.0
5-9 – low	38	42.2
10-14 – moderate	25	27.8
≥ 15 – high	18	20.0

Source: compiled by the authors

A substantive interpretation of the severity levels of somatic symptoms in military personnel according to the PHQ-15 can be presented as follows:

- ✦ PHQ-15 0-4 (10.0%) – minimal symptoms: somatic manifestations are either absent or situational;
- ✦ PHQ-15 5-9 (42.2%) – mild symptoms: somatic manifestations are present but do not usually significantly impair functioning;
- ✦ PHQ-15 10-14 (27.8%) – moderate symptoms: somatic symptoms become regular, affecting sleep/work performance;

- ✦ PHQ-15 ≥ 15 (20.0%) – severe symptoms: high somatic burden, often with a complex stress profile.

Analysis of the severity of somatic complaints in military personnel using the GBB-24 showed that the most pronounced subscales are “pain” ($M = 11.22$) and “exhaustion” ($M = 8.65$), followed by cardiac and gastric complaints. For the operational practical interpretation of the overall GBB-24 level (intensity of complaints), empirically derived quartiles (based on the distribution of this sample) were used: low

intensity: ≤ 16 (25%); moderate: 17-41 (50%); high: ≥ 42 (25%). The empirical GBB-24 total scores (intensity of complaints) for the military personnel studied are presented in Table 7.

Table 7. Empirical levels of GBB-24 total (intensity of complaints; mean score 0-96)

Level (by quartiles)	Range	Sample proportion (%)
Low	≤ 16	25
Moderate	17-41	50
High	≥ 42	25

Source: compiled by the authors

Thus, the results obtained using the GBB-24 indicate a predominance of “pain” and “exhaustion”, which is characteristic of a combination of stress and a lack of recovery. In practical terms, a GBB-24 total ≥ 42 (upper quartile) is recommended as a criterion for “high somatic burden”, particularly if there is concurrent PTSD-positive screening or a FAS ≥ 22 . Clinical “red flags” requiring medical clarification regardless of psychological interpretation include: progressive pain of unknown origin, pronounced cardiac symptoms, sudden weight loss, loss of consciousness, neurological deficits, bleeding, prolonged fever, other signs requiring immediate medical assessment. Before analysing the results of the self-efficacy assessment of military personnel using the GSEF and ASKU methods, it should be noted that, due to the specific wording of its statements, the GSEF is designed to identify a person’s basic belief in their ability to cope with life’s difficulties, which allows for the assessment

of general self-efficacy as a stable personality trait (Schwarzer & Jerusalem, 1995). ASKU, despite retaining the term “general” in its title, essentially operates as operational self-efficacy. It allows for the determination of the specific confidence of participants in their ability to successfully perform a complex task under adverse circumstances. That is, a person is confident that they know how to act at a specific moment. In the scientific psychological literature, when studying self-efficacy using the ASKU methodology, researchers employ such concepts as “operational”, “situational”, “specific”, “functional” and “behavioural” self-efficacy. Within the scope of this study, the term “operational/behavioural” self-efficacy is used, as it is defined as most accurately reflecting the readiness of military personnel to function effectively in high-stress situations. The results for the military personnel studied using two self-efficacy assessment methods (GSEF and ASKU) are presented in Tables 8 and 9.

Table 8. Levels of self-efficacy according to GSEF

Level	n	%
≤ 26 – low	23	25.5
27-31 – medium	45	50
32-40 – high	22	24.5

Source: compiled by the authors

Table 9. Levels of self-efficacy according to GSEF

Level	n	%
< 3 – low	8	9.1
3-3.99 – medium	43	48.9
≥ 4 – high	37	42.0

Source: compiled by the authors

The obtained data indicate that, overall, self-efficacy within the sample is relatively preserved; however, 25.5% of military personnel demonstrate a low level (resource vulnerability). Given the degree of danger, the real threat to life, and the unpredictability of the combat environment, this result can be explained by the objective complexity of combat tasks. When assessing the situation, military personnel understand that it may at times be “stronger” than they are, and that their personal control over events is often limited. Importantly, in the regression models, general self-efficacy (GSEF) does not offset the impact of stress on somatic symptoms and fatigue. At the same time, behavioural self-efficacy (ASKU)

demonstrated a buffering effect on fatigue: higher ASKU is associated with lower FAS scores when controlling for ASD and DSM-IV PTSD. This suggests that, in practice, it is advisable to strengthen behavioural mechanisms of “operational” self-efficacy, including skills of state regulation, recovery planning, implementation of small achievable steps, and restoration of a sense of control. To determine the relationships between symptoms and the consequences of stress exposure, as well as their potential association with self-efficacy indicators, a correlation analysis was conducted. The most informative correlations between the applied diagnostic measures are presented in Table 10.

Table 10. Key correlations (most informative relationships)

Pair of indicators	R	p
PHQ-15 – GBB-24 total	0.83	<0.001
FAS – PHQ-15	0.64	<0.001
FAS – GBB-24 total	0.67	<0.001
ASD – DSM-IV PTSD	0.62	<0.001
ASD – PC-PTSD-5	0.58	<0.001
ASD – FAS	0.53	<0.001
ASD – PHQ-15	0.48	<0.001
DSM-IV PTSD – PHQ-15	0.54	<0.001
DSM-IV PTSD – FAS	0.51	<0.001
ASKU – GSEF	0.46	<0.001
Age – PHQ-15	0.29	0.006
Age – GBB-24 total	0.30	0.005

Source: compiled by the authors

The content and practical significance of the key correlations shown in Table 10 between the diagnostic indicators used in the study involving military personnel are interpreted as follows:

1. PHQ-15 – GBB-24 total ($r = 0.83$) – “a unified core of somatic burden”. The very strong association between PHQ-15 and the total GBB-24 score indicates that both instruments essentially reflect a common latent construct – the overall severity of somatic burden/somatisation (albeit with different emphases). In practical terms, this is important for two reasons: first, the results are robust and not dependent on the specificity of a single scale; second, for screening purposes, a shorter or more convenient instrument may be selected without losing the overall picture of somatic complaints (with due consideration of goals and regulations). At the same time, it should be emphasised that high somatic scores do not imply a “purely psychological” origin of complaints; they require parallel medical evaluation where indicated (i.e. in the presence of “red flags”).

2. FAS – PHQ-15 ($r = 0.64$) and FAS – GBB-24 total ($r = 0.67$) – “fatigue as an amplifier of somatic symptoms and functional impairment”. Strong positive correlations indicate that fatigue in this sample is not an isolated phenomenon but rather a systemic component of overall distress. The practical logic is as follows: when recovery is insufficient (sleep, routine, rotations, cumulative overload), the body “shifts” into a state of exhaustion, against which somatic symptoms (pain, cardiac/gastric manifestations, general weakness) increase. Accordingly, addressing only “psychological symptoms” without correcting fatigue/recovery may produce limited effects. Similar findings were reported by R. Eglinton & M.C. Chung (2011), who examined the relationship between fatigue and somatisation, demonstrating that fatigue is significantly positively correlated with somatic manifestations, which they interpret as a maladaptive protective mechanism. N. Afari *et al.* (2014), based on a meta-analysis, argue that fatigue is a key component of psychosomatisation, showing that traumatic experience increases the risk of chronic fatigue syndrome by 2.7 times; fatigue thus appears not as an isolated symptom but as part of a broader spectrum of functional somatic complaints with a shared neurobiological basis.

3. ASD – DSM-IV PTSD ($r = 0.62$) and ASD – PC-PTSD-5 ($r = 0.58$): “transition from acute reaction to a traumatic profile”. Moderately strong correlations between the ASD index and PTSD screening measures indicate that acute stress manifestations and the traumatic symptom complex exist along a continuum: as acute symptom severity increases, the likelihood of a more persistent PTSD profile also rises. In practical terms, this confirms the value of ASD as a marker of urgency – when $ASD \geq 2$, prompt intervention is advisable rather than waiting for spontaneous recovery, especially if a positive PTSD screening is already present. These findings are consistent with the longitudinal study by R.A. Bryant *et al.* (2012), which demonstrated a stable positive correlation between ASD and PTSD indicators, pointing to a universal pattern of psychological response to trauma.

4. ASD – FAS ($r = 0.53$) and ASD – PHQ-15 ($r = 0.48$): “stress → exhaustion → somatic symptoms”. These correlations align with a functional model in which excessive strain is accompanied by hyperactivation and sleep disturbance, leading to the accumulation of fatigue; against this background, somatic symptoms increase. The practical implication is that interventions targeting sleep, reduction of hyperactivation, and tension are aimed not only at restoring a “comfortable state” but also at preventing somatic burden and reducing the risk of functional disorganisation.

5. DSM-IV PTSD – PHQ-15 ($r = 0.54$) and DSM-IV PTSD – FAS ($r = 0.51$): “traumatic stress has a pronounced functional footprint”. Traumatic screening is associated not only with psychological manifestations but also with somatic symptoms and fatigue. Thus, PTSD symptomatology in this sample of military personnel serves as a marker of comprehensive functional deterioration. The presence of a statistically significant relationship between post-traumatic manifestations and somatic symptoms in individuals who have experienced trauma has also been established in other studies, including those by L. Astill Wright *et al.* (2020) and M. Stanisławska-Kubiak *et al.* (2023).

6. Age – PHQ-15 ($r = 0.29$) and age – GBB-24 total ($r = 0.30$): “age-related somatic contribution”. These moderate correlations indicate that somatic burden partially increases with age. This may reflect the accumulation of

chronic conditions, consequences of prolonged load and injuries, as well as changes in bodily sensitivity. Practically, this implies the need for age-adapted recovery strategies: more careful monitoring of pain, blood pressure, cardiac symptoms, recovery windows, and sleep patterns.

7. ASKU – GSEF ($r = 0.46$): “a shared resource core, but different applied sensitivity”. This moderate association indicates that both scales reflect a common resource domain (self-efficacy). However, as shown in subsequent regression analyses, ASKU appears to be closer to “operational/behavioural” self-efficacy, which is sensitive to fatigue, whereas GSEF is more general and does not always offset the effects of traumatic stress.

Thus, the results of the conducted study did not find significant correlations between indicators of general self-efficacy and post-stress consequences among military personnel who continue to perform their assigned duties.

By contrast, among other categories studied by C.C. Benight *et al.* (2018) and A. Goreis *et al.* (2020), reliable relationships between these indicators were identified, leading to the conclusion that a higher level of self-efficacy is associated with a reduction in post-stress manifestations. Predictive analysis was conducted using hierarchical regression to identify predictors determining levels of somatisation (PHQ-15, GBB-24 total) (Tables 11-12) and fatigue (FAS) (Table 13). The overall logic involved constructing hierarchical models (steps) in which variables were entered sequentially:

- 1) age;
- 2) ASD + DSM-IV PTSD;
- 3) self-efficacy (GSEF).

The results presented in Tables 11-13 are shown in the following format: R^2 , ΔR^2 , standardised β and significance level.

Table 11. Hierarchical regression for PHQ-15

Step	Predictors	R^2	ΔR^2	β (std)	p
1	Age	0.082	-	0.286	0.006
2	+ ASD	0.381	0.300	0.239	0.030
	+ DSM-IV PTSD			0.369	0.001
	(Age in the mode)			0.232	0.008
3	+ GSEF	0.381	0.000	insignificant	>0.05

Source: compiled by the authors

The above model demonstrates that somatic symptoms (PHQ-15) among the examined military personnel are largely determined by three components:

1. Age ($R^2 = 0.082$ at step one; $\beta = 0.29$). This reflects a “baseline” somatic background: with increasing age, the likelihood of chronic conditions, pain, and cardio- and gastrointestinal symptoms rises, thereby amplifying overall somatic symptomatology.

2. ASD and DSM-IV PTSD (together adding 30% of explained variance). ASD reflects the current intensity of the acute stress response, which directly affects sleep, tension, and bodily sensations. DSM-IV PTSD represents a more structured traumatic profile associated with more persistent regulatory disturbances (hyperactivation, avoidance, intrusions). Together, they explain why somatic symptoms intensify not only due to “age-related factors” but also as a result of stress-traumatic load.

3. GSEF does not add explanatory power at step three. This does not mean that self-efficacy is “unimportant”; rather, it indicates that at the observed levels of stress, the primary contribution to PHQ-15 is made by symptom domains (ASD/PTSD) and the age-related somatic background. In practical terms, reducing PHQ-15 requires prioritising interventions that normalise sleep, reduce tension, manage pain, and stabilise traumatic symptoms. Strengthening self-efficacy may serve as a supportive, but not primary, mechanism. Thus, PHQ-15 is best explained by a combination of traumatic stress (DSM-IV PTSD), acute stress (ASD), and age. The inclusion of GSEF does not increase the explanatory capacity of the model. Table 12 presents the regression results showing the contribution of acute stress reaction indicators and DSM-IV PTSD in explaining the variance of the total GBB-24 score.

Table 12. Hierarchical regression for GBB-24 total

Step	Predictors	R^2	ΔR^2	β (std)	p
1	Age	0.088	-	0.296	0.005
2	+ ASD	0.370	0.283	0.258	0.022
	+ DSM-IV PTSD			0.336	0.003
	(Age in the mode)			0.236	0.009
3	+ GSEF	0.379	0.009	insignificant	>0.05

Source: compiled by the authors

The model for GBB-24 total reflects the following logic: age explains part of the variance, but the main increase in explanatory power is contributed by ASD and DSM-IV

PTSD. This indicates that somatic complaints among the military personnel in the studied sample are not merely a “medical background”, but to a considerable extent a

stress-induced functional consequence. Thus, the intensity of somatic complaints (GBB-24) is largely determined by stress-traumatic load and age, while the contribution of GSEF is also not statistically significant. Similar results were obtained in a large-scale epidemiological study by C.W. Hoge *et al.* (2007) among regular U.S. military personnel one year after returning from combat operations in Iraq (sample size: 2,863 infantry brigade soldiers). Using regression analysis, the researchers identified PTSD as a

powerful predictor of somatisation among military personnel. However, a distinguishing feature of that study is that the analysis was conducted independently of the participants' age. The key role of post-traumatic manifestations in intensifying somatic complaints was also confirmed by B. Eslami *et al.* (2019), who studied civilian adults across various European countries ($n = 4,467$). Table 13 presents the results of assessing the contribution of the examined predictors in explaining the variance of the FAS indicator.

Table 13. Hierarchical regression for FAS

Step	Predictors	R ²	ΔR^2	β (std)	p
1	Age	0.088	-	0.296	0.005
2	+ ASD	0.370	0.283	0.258	0.022
	+ DSM-IV PTSD			0.336	0.003
	(Age in the mode)			0.236	0.009
3	+ GSEF	0.379	0.009	insignificant	>0.05

Source: compiled by the authors

The above model of fatigue allows for a conclusion of particular practical importance: age is not a significant predictor of fatigue ($R^2 = 0.014$; not significant). This indicates that fatigue in this sample of military personnel is largely a product of current states (stress, sleep, workload), rather than age-related factors. Since ASD and DSM-IV PTSD together explain 33-34% of the variance in FAS, fatigue emerges as a key functional consequence of acute and traumatic strain, logically linking the following symptom chain: hyperactivation → sleep disturbance → exhaustion → somatic complaints. For comparison, it should be noted that the results of a study by R. Eglinton & M.C. Chung (2011), conducted on a sample of patients with chronic fatigue syndrome using hierarchical regression analysis, showed that PTSD is not a significant predictor of fatigue but affects it indirectly. In the present model, GSEF does not provide a significant contribution, whereas ASKU does and is a significant predictor ($\beta = -0.21$; $p = 0.024$). This suggests that “operational/behavioural” self-efficacy (short-term, action-oriented, and linked to actual control) is more relevant for reducing fatigue. In practical terms, even under conditions of substantial stress load, interventions aimed at developing specific skills (such as recovery planning, state regulation, and achievable control steps) may serve as an effective lever for reducing fatigue. In the study by E. Nygaard *et al.* (2016), general self-efficacy was identified as a significant predictor of reduced post-traumatic stress symptoms. In another study, E. Nygaard *et al.* (2017) found that, over time, post-stress symptoms themselves become a factor that reduces general self-efficacy, gradually depleting the individual. Regarding coping self-efficacy, it is important to highlight the results of a four-wave study conducted by M.W.G. Bosmans & P.G. van der Velden (2015), the aim of which was to investigate the interaction between coping self-efficacy and post-traumatic symptoms. The researchers demonstrated that self-efficacy for coping is

a predictor of a reduction in disorder symptoms – a higher level of self-efficacy reliably predicts a reduction in PTSD symptoms. At the same time, the results confirmed the absence of an effect of post-stress manifestations on coping self-efficacy.

◆ Conclusions

The results of the study showed that the vast majority of military personnel have moderate to high levels of both general self-efficacy (74.5%) and operational self-efficacy (90.9%), indicating that they retain the ability to self-regulate and adapt in extremely challenging operational conditions. At the same time, 49.4% of the study group screened positive for post-traumatic stress disorder (PTSD) according to the PC-PTSD-5 scale and 36% according to the DSM-IV PTSD criteria, indicating the prevalence of traumatic consequences among the study population. The results of the FAS scale assessment indicate a significant problem of fatigue among military personnel: more than half of those surveyed (52.8%) experience a significant decline in stamina and the ability to recover. This is accompanied by cognitive manifestations (reduced concentration), irritability, somatic symptoms, sleep disorders and increased vulnerability to stressors. Particular attention should be paid to those with severe fatigue (6.7%), as this condition is associated with serious risks to safety and the quality of task performance. An analysis of somatisation indicators among the participants revealed that almost half of the participants (47.8% (PHQ-15)) have moderate to high levels of somatic symptoms, which regularly affect their sleep and work performance. This is confirmed by data from the GBB-24 questionnaire, where 75% of the subjects are characterised by a moderate or high level of somatic complaints, indicating a close interconnection between psychological and somatic aspects of health. The results showed that a coherent system of interrelated manifestations has developed in the sample of military personnel studied: traumatic/acute stress is

associated with increased fatigue and somatic burden. Somatic manifestations (PHQ-15 and GBB-24) reflect a common core of somatisation/somatic complaints, whilst fatigue acts as a systemic amplifier of functional impairment. Regression models have shown that somatic burden is determined by a combination of age and stress-traumatic load (ASD + DSM-IV PTSD), whilst fatigue is predominantly caused by stress-traumatic factors and is partially buffered by behavioural self-efficacy (ASKU). In practical terms, this justifies the need for integrated medical and psychological support, where the priority targets are sleep and recovery, reducing hyperarousal, managing pain/somatic complaints, and developing "operational" self-efficacy as a resource for maintaining work capacity. Future research may expand understanding of the

effectiveness of combined interventions that integrate psychological approaches (for example, cognitive behavioural therapy aimed at enhancing self-efficacy) with medical treatments (such as the prescription of antidepressants) to reduce post-traumatic symptoms and psychosomatic disorders among military personnel.

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◆ References

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Психологічні наслідки бойового стресу у військовослужбовців: зв'язок із самоефективністю

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♦ **Анотація.** Актуальність дослідження визначена необхідністю аналізу посттравматичних порушень та їх взаємозв'язку з самоефективністю, враховуючи суперечливі підходи у наукових дослідженнях і обмежену кількість даних серед військовослужбовців, які виконують бойові завдання. Метою дослідження було визначення рівня психологічних наслідків стресу війни у військовослужбовців, встановлення взаємозв'язків між різними симптомами та наслідками стресового впливу, а також аналіз їх зв'язку з показниками самоефективності. Для проведення дослідження було застосовано психодіагностичні методики, які дозволили оцінити інтенсивність прояву симптомів гострого стресового розладу: National Stressful Events Survey Acute Stress Disorder Short Scale – NSESSS; посттравматичного стресового розладу: Primary Care PTSD Screen for DSM-5 – PC-PTSD-5, The Short Screening Scale for DSM – IV PTSD; втомі: Fatigue Assessment Scale – FAS; психосоматичних порушень: Patient Health Questionnaire-15 – PHQ-15, Giessen Complaint List – GBB-24, зокрема серцевих та шлункових скарг, болю у різних частинах тіла та психосоматичного виснаження. Дослідження самоефективності здійснювалося за допомогою методик: General Self-Efficacy scale – GSEF і Allgemeine Selbstwirksamkeit Kurzskala – ASKU. Результати дослідження засвідчили наявність одночасно помірної вираженості гострого стресу, суттєвої частки позитивного скринінгу посттравматичного стресового розладу, підвищеної втомі і помітного соматичного тягаря (особливо за компонентами «біль» та «виснаження»). У більшості вибірки зафіксовано середні та високі значення за шкалою самоефективності. Регресійний аналіз довів, що соматичні прояви визначаються поєднанням віку та стрес-травматичного навантаження, тоді як втома переважно зумовлена саме стрес-травматичними чинниками та частково пом'якшується поведінковою самоефективністю. Практична цінність результатів полягає у можливості їх впровадження для своєчасного моніторингу щодо виявлення військовослужбовців з критичними показниками психотравматизації і надання їм необхідної своєчасної допомоги; розробки програм психологічного відновлення і реабілітації військовослужбовців, де пріоритетним напрямом є корекція наслідків травматичного стресу як ключового чинника соматизації, а розвиток поведінкової самоефективності виступає додатковим ресурсом зміцнення їхньої психофізіологічної стійкості

♦ **Ключові слова:** виснаження; втома; посттравматичні прояви; самоефективність; соматичні симптоми



Religiosity and coping strategies as determinants of the psychological resilience of combatants: A comparative model of adaptation

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◆ **Abstract.** The article presents the results of an empirical study on the role of religiosity and coping strategies in shaping the psychological resilience of military personnel who are participants in combat operations. The relevance of this study stems from the need to identify effective psychological resources for the adaptation of personnel under conditions of prolonged combat stress. The aim of the study was to investigate the structure of predictors of psychological resilience among military personnel with different types of worldview identification and to determine the role of religiosity and coping strategies in the process of adaptation to extreme conditions. The study involved 106 military personnel of the Armed Forces of Ukraine who had participated in combat operations; they were divided into two groups according to their type of worldview orientation: religiously centred and non-religious combatants. To collect empirical data, the Individual Religiosity Test by Yu.V. Shcherbatykh, the Combat Stress Questionnaire by O.A. Blinov, and the COPE inventory were used. The results were processed using correlation and multiple regression analysis. The data obtained demonstrated the stability of the worldview attitudes of the military personnel and the absence of statistically significant differences in levels of combat stress between religious and non-religious combatants. At the same time, significant differences were identified in the structure of coping strategies. Among non-religious military personnel, rational-instrumental mechanisms of coping with stress play a leading role, primarily “active coping” and “planning”. Among religiously centred combatants, the dominant strategies are “positive reappraisal”, “acceptance” of the situation, and “seeking emotional and social support”. The results of the study indicate the existence of two different structures of psychological resilience in combatants, which are formed depending on their worldview orientation. Non-religious combatants are characterised by a rational-instrumental model of coping with combat stress, whereas religiously centred individuals demonstrate an existential-social model of psychological adaptation. It was established that religiosity does not act as a direct factor in reducing combat stress, but indirectly influences the choice of adaptive coping strategies and the ways of interpreting traumatic experience. The practical significance of the study lies in the possibility of using the obtained results to develop differentiated approaches to the psychological support of military personnel with different worldview orientations and to improve the interaction between military psychologists and chaplains within the system of supporting the psychological resilience of personnel

◆ **Keywords:** positive reappraisal; acceptance; moral injury; social support; chaplaincy; combat stress

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♦ Introduction

The Russian Federation's full-scale armed aggression against Ukraine has fundamentally transformed the operating conditions of the national security system and presented military personnel with unprecedented psychological challenges. In the modern combat environment, prolonged exposure to life-threatening conditions, high-intensity combat operations and uncertainty about the future is accompanied by significant psycho-emotional stress. In this context, the issue of maintaining the mental health and psychological resilience of military personnel takes on strategic importance for sustaining the combat readiness of personnel. This highlights the need to identify the key determinants of combatants' adaptation to combat stress, in particular the role of worldview beliefs and coping mechanisms in the process of overcoming traumatic experiences. The effectiveness of combatants' performance in extreme conditions depends to a large extent on their capacity for psychological adaptation, regulation of emotional states, and the use of effective stress-coping strategies. In the scientific literature, the concept of psychological resilience is viewed as an integral personality trait reflecting a person's ability to maintain effective functioning under conditions of intense stress, to recover quickly from traumatic events, and to preserve psychological balance (Tytarenko, 2025). In a military context, psychological resilience is directly linked to the combat effectiveness of personnel, as it determines a service member's ability to make decisions, control emotions, and act effectively in high-risk situations. One of the key mechanisms for ensuring psychological resilience is coping behaviour. According to Y.-A. Ra & K. Shin (2025), within the transactional model of stress and coping, coping is viewed as a set of cognitive and behavioural strategies that a person uses to overcome internal or external demands that exceed their adaptive resources. Coping strategies may be directed both at changing the situation itself (problem-focused coping) and at regulating emotional reactions (emotion-focused coping).

In combat conditions, problem-oriented coping strategies are the most adaptive, in particular "active coping", "planning", and "seeking social support". It is these mechanisms that enable combatants to maintain a sense of control over the situation and respond effectively to threats. O.M. Kokun *et al.* (2022) analysed the psychological resilience resources of military personnel in the Armed Forces of Ukraine, emphasising the importance of individual coping strategies for maintaining the effectiveness of military units. The authors noted that the ability to employ problem-focused coping strategies is one of the key factors in preserving psychological stability under combat load. An important factor influencing the choice of coping strategies is the system of an individual's worldview beliefs. In this regard, the role of religiosity in stress-coping processes is of particular interest. The study by S.L. Kravchuk (2023) examined psychological factors of post-traumatic growth among volunteer veterans. It was empirically demonstrated that positive religious coping, in combination with

resilience and social support, serves as a significant predictor of personal recovery following participation in combat operations. Religious beliefs contribute to the formation of new life meanings, spiritual development, and the re-evaluation of life priorities after traumatic experience. The work by T. Kyrylenko & I. Horbyk (2024) examines the role of military chaplaincy as a vital element of the psychological support system for military personnel. The researchers emphasised that the chaplain's work helps to strengthen the moral and psychological state of personnel, foster spiritual support, and overcome existential crises arising during combat operations. H.G. Koenig & F.N. Al-Zaben (2020) demonstrated that spirituality and religiosity can serve as important psychological resources that help reduce levels of anxiety, depressive symptoms and post-traumatic symptoms in military personnel experiencing extreme stress.

The issue of moral injury among military personnel and the role of worldview beliefs in its resolution was examined by J.M. Currier (2021). The author demonstrated that combat experience is often accompanied by the experience of moral dilemmas related to responsibility, guilt, and value conflicts. In such situations, religious and spiritual beliefs may serve an existential support function, helping military personnel to make sense of traumatic experiences and restore internal psychological balance. In the study by I. Niewiadomska *et al.* (2021), it was established that turning to religion may function as one of the coping strategies among participants in military operations in Ukraine. In this context, religious faith facilitates a deeper interpretation of traumatic events and is accompanied by spiritual transformations of the individual that ease adaptation to combat experience. At the same time, contemporary research indicates that effective psychological adaptation to extreme conditions may be based not only on religious beliefs. Thus, C.L. Park (2022) notes that both religious and non-religious belief systems can fulfil a meaning-making function in the process of coping with traumatic experience, contributing to the cognitive integration of complex life events and the maintenance of psychological resilience. Thus, contemporary research demonstrates that the process of psychological adaptation of military personnel to combat experience is shaped by a complex interaction of individual psychological resources, social support, and worldview beliefs. In this context, a comparative analysis of different worldview models of psychological adaptation becomes particularly important, as the system of beliefs determines the nature of the interpretation of traumatic experience and the selection of coping strategies in extreme situations. At the same time, the issue of a direct comparison of the predictor structure of psychological resilience among religious and non-religious combatants, particularly in the context of the full-scale war in Ukraine, remains insufficiently explored. In this regard, there is a clear need for research aimed at identifying differences in the structure of psychological resilience among combatants depending on their worldview orientation and the coping strategies they employ.

The aim of the study was to identify predictors of psychological resilience in military personnel depending on the type of worldview identification and to determine the role of religiosity and coping strategies in their adaptation to extreme conditions. In accordance with this aim, the following research objectives were formulated: (1) to conduct a comparative analysis of the structure of individual religiosity, levels of combat stress, and characteristics of coping strategies in groups of religious and non-religious combatants; (2) to identify relationships between indicators of individual religiosity, stress-coping mechanisms, and predictors of psychological resilience among representatives of different worldview groups; (3) on the basis of the obtained results, to develop regression models of the predictor structure of psychological resilience and to formulate practical recommendations for military psychologists and chaplains.

◆ Materials and Methods

To achieve the aim and address the research objectives, a set of interrelated methods was employed, ensuring a comprehensive approach to the study of the psychological resilience of military personnel in the context of combat stress and religious coping. General theoretical methods included the analysis of scientific literature, as well as the generalisation and systematisation of data on combat stress and religious coping, alongside comparison and interpretation of findings. The use of these methods made it possible to outline the theoretical framework of the study and to establish a conceptual basis for the development of the empirical model. Among the sources consulted, particular importance was attached to works focusing on coping strategies and the role of religious faith as a psychological resource, including studies by K.I. Pargament (2011), S.M. Southwick & D.S. Charney (2012), and F. Dolcos *et al.* (2021).

The empirical study was conducted between 2023 and 2025 and involved military personnel who had participated in combat operations ($n = 106$). The inclusion criterion for the sample was experience of direct participation in combat operations lasting more than 4 months. The choice of the lower threshold for combat participation (4 months) was dictated by the need to study stable psychological constructs that form after the initial phase of combat adaptation. During this period, initial emotional reactions to extreme events gradually stabilise, whilst coping strategies and worldview attitudes transform from situational reactions into relatively stable adaptive mechanisms that counteract cumulative combat stress. Exclusion criteria were: the presence of acute mental disorders preventing the adequate completion of psychodiagnostic procedures; a service member's refusal to participate in the study. The sample consisted predominantly of men (93.4%) and women (6.6%) aged between 21 and 62 years ($M = 35.2$; $SD = 8.1$). The duration of the respondents' direct participation in combat operations ranged from 0.4 to 3.2 years. At the time of

the survey, some respondents were serving in line units, while others were undergoing professional training. In terms of service status, 70.8% of the sample consisted of personnel mobilised for service, whereas 29.2% were contract military personnel.

For the purposes of comparative analysis, respondents were divided into two contrasting groups according to their type of worldview orientation, based on self-identification. Participants independently defined their religious identity by responding to a corresponding item in the questionnaire. On this basis, two groups were formed:

1. Religiously centred combatants (50% of the sample) – individuals who identified themselves as deeply religious (100% Christians).
2. Non-religious combatants (50% of the sample) – individuals who identified themselves as atheists, agnostics, or religiously indifferent.

The equal distribution of respondents between the groups ensured the validity of statistical comparisons and increased the reliability of the results when applying both parametric and non-parametric methods of analysis. To simplify the presentation of results, the terms “religious” and “non-religious” will be used throughout the text to refer to these groups. Socio-psychological characteristics of the respondents (gender, age, religious identity, and combat experience) were recorded using an author-designed demographic questionnaire consisting of basic structured questions without complex psychometric scales. This made it possible to obtain the necessary information for describing the sample and conducting subsequent comparative analyses. The study was conducted offline under two conditions:

- ◆ at a department of the Military Institute of Taras Shevchenko National University of Kyiv (the name of the unit is withheld for security reasons). Testing was conducted in a group format, which ensured standardised conditions for the study;
- ◆ in line units of the Armed Forces of Ukraine, where testing was carried out in both group and individual formats depending on access conditions and unit schedules.

The average duration of one assessment session across all methods was approximately one hour. All respondents participated voluntarily after receiving full information about the purpose of the study. The research adhered to principles of confidentiality and ethical standards of psychological research in accordance with the provisions of the World Medical Association's Declaration of Helsinki (2024). A set of psychodiagnostic instruments was employed:

1. The Individual Religiosity Test Questionnaire by Yu.V. Shcherbatykh. This method allows for the assessment of the degree of an individual's involvement in a religious system and differentiates between external (formal) and internal (intrinsic) religiosity. The test scales cover: epistemological roots of religiosity; attitude towards magic; interest in pseudosciences; need for psychological support; external manifestations of religiosity; level of religious self-awareness; and perception of religion as a source of moral norms. This methodology was chosen because of its

ability to provide a comprehensive assessment of religiosity as both a worldview and a psychological resource that may influence the formation of coping strategies and indirectly determine the characteristics of psychological resilience in military personnel.

2. The Combat Stress Questionnaire by O.A. Blinov is designed to assess the intensity of combat-related psychological stress in military personnel operating under extreme conditions. The method makes it possible to determine the individual level of combat stress and to evaluate characteristic psycho-emotional responses to combat load. As the level of combat stress reflects the degree of a serviceman's adaptation to an extreme environment, these indicators may be considered an important measure of the psychological resilience of combatants.

3. The COPE inventory adapted by Yu.V. Kovalenko (2020) was used to identify dominant coping strategies. The questionnaire allows for the assessment of a wide range of stress responses, including the strategy of turning to religion as a means of coping with difficult life situations. The choice of this methodology is due to the fact that coping strategies are regarded in modern psychology as one of the key mechanisms of psychological resilience, since it is through them that the individual regulates emotional reactions and adapts to extreme stressful conditions.

The use of a set of complementary methods enabled a comprehensive analysis of the psychological resilience of combatants, combining an assessment of the level of combat stress as an indicator of adaptation to extreme conditions, the structure of individual religiosity as a worldview resource, and dominant coping strategies as behavioural mechanisms for overcoming stress. The following statistical methods were applied for data analysis:

1) Student's t-test and the Mann-Whitney U test – to compare indicators of individual religiosity and coping strategies between groups of combatants. The choice of parametric or non-parametric test was based on the assessment of distribution normality using skewness and kurtosis indices. The level of statistical significance was set at $p \leq 0.05$;

2) Pearson's χ^2 test – to determine the significance of differences in the frequency distribution of levels of combat stress. The formula for the test is: $\chi^2 = \sum (O_i - E_i)^2 / E_i$, where O_i represents observed frequencies and E_i expected frequencies;

3) Correlation analysis (Pearson's r) – to identify relationships between levels of individual religiosity, indicators of combat stress, and coping strategies;

4) Multiple regression analysis – to determine the influence of religious attitudes and coping strategies on the level of psychological resilience. The dependent variable was the level of combat-related psychological stress as an indicator of psychological resilience in military personnel, while the independent variables included indicators of individual religiosity and coping strategies.

For the group of religious combatants, a hierarchical approach was employed in constructing the regression model. Predictors were entered in successive blocks using the Enter method: at the first stage, constructive coping strategies ("active coping", "positive reappraisal", "acceptance") were included; at the second stage, additional variables were introduced, namely less adaptive coping strategies (in particular "denial" and "behavioural disengagement") and the "perception of religion as a source of moral norms". This approach made it possible to assess the contribution of the main adaptive mechanisms of psychological resilience in explaining the variance in combat stress and to examine the additional influence of other variables. For the group of non-religious combatants, all potential predictors were entered simultaneously using the Enter method, which allows for the identification of the strongest factors without prior categorisation of variables. The statistical parameters of the models for the non-religious group were $R = 0.62$; $R^2 = 0.39$; $F(2,50) = 10.45$; $p \leq 0.001$. For the religious group, the parameters were $R = 0.57$; $R^2 = 0.32$; $F(3,49) = 6.72$; $p \leq 0.05$. For each predictor, t-statistics and levels of statistical significance (p) were determined. Thus, the applied set of psychodiagnostic methods and mathematical-statistical techniques made it possible to conduct a comparative study of the psychological resilience of religious and non-religious combatants and to identify the structure of its predictors.

◆ Results and Discussion

In the first stage of the study, the validity of the common saying "there are no atheists in the trenches" was examined, and the specific features of religiosity among military personnel who are participants in combat operations were identified. For this purpose, the Individual Religiosity Test by Yu.V. Shcherbatykh was used, which allows for the assessment of both qualitative and quantitative characteristics of an individual's religious attitude. The results of the study of the structure of individual religiosity among combatants with different worldview orientations are presented in Table 1.

Table 1. Determining the structure of individual religiosity of military personnel – participants in combat operations with different worldview orientations

	Non-religious, %			Religious, %		
	High level	Medium level	Low level	High level	Medium level	Low level
1. Attitude towards religion as a philosophical concept	-	56.6	43.4	58.5	41.5	-
2. Attitude towards magic	-	16.9	83.1	18.9	62.2	18.9
3. Seeking support in religion	-	9.4	90.6	41.5	51	7.5
4. External religiosity	-	11.3	88.7	32.1	43.4	24.5
5. Interest in "pseudosciences"	-	13.2	86.8	30.2	62.3	7.5

Table 1. Continued

	Non-religious, %			Religious, %		
	High level	Medium level	Low level	High level	Medium level	Low level
6. Belief in a Creator and higher powers	-	11.3	88.7	16.9	49.5	33.6
7. Religious self-awareness	-	16.9	83.1	43.4	51	5.6
8. Perception of religion as a source of moral norms	-	15.1	84.9	73.6	26.4	-

Source: compiled by the authors

The results obtained indicate that a philosophical interpretation of religion is characteristic of representatives of both groups under study. For the majority of respondents, the concept of “sin” is viewed primarily as an ethical category, “salvation” as an existential idea, and “heaven” and “hell” as symbolic models of being. At the same time, the degree of such interpretation differs significantly between the groups. In the group of religious participants, high (58.5%) and medium (41.5%) levels of understanding of religious canons and religious explanations of the world predominate. In contrast, the non-religious group is characterised mainly by medium (56.6%) and low (43.4%) levels, indicating the presence of an intellectual interest in religious concepts even in the absence of personal belief. However, across other test scales, non-religious military personnel demonstrate predominantly low levels of individual religiosity. Testing the statistical significance of differences between the groups using Student’s t-test and the non-parametric Mann-Whitney U test confirmed a high level of significance ($p \leq 0.001$). The results allow the conclusion that combat experience does not lead to the automatic disappearance of atheistic beliefs; thus, the widespread sociocultural assumption of “total religiosity under combat conditions” is not empirically supported.

The analysis of the structure of religiosity also made it possible to identify specific features of combatants’ attitudes towards irrational phenomena. As magic is considered in the scientific tradition to be a historical precursor of religious beliefs, the findings confirm that religious individuals are somewhat more inclined to show interest in mysterious phenomena, in the perception of which faith plays a more significant role than rational or scientific explanation. In particular, belief in mystical phenomena and symbolic rituals is characteristic of 81.1% of religious participants in combat operations, predominantly at a medium level (62.2%). In contrast, non-religious military personnel demonstrate a predominantly sceptical attitude towards such phenomena: 83.1% of respondents in this group show low levels on the “attitude towards magic” scale. A similar pattern is observed for the “interest in pseudosciences” scale. As parascientific concepts are largely based on belief rather than scientific knowledge, they may also be considered a form of quasi-religious belief. Interest in ideas such as the “subtle energies” of the universe is reported by 92.5% of religious combatants, again predominantly at a medium level. At the same time, military personnel who are indifferent to religion display a much more critical attitude towards such concepts, as evidenced by low scores in 86.8% of representatives of this group.

Of particular interest is the scale “seeking support in religion”, which reflects the use of religious resources as a psychological mechanism for coping with difficult life situations. In the group of religious combatants, this orientation is represented predominantly at medium (51%) and high (41.5%) levels. At the same time, an important finding is the presence of a small proportion of religious individuals (7.5%) who do not use religious consolation in their personal coping experience. This indicates that even in the presence of a religious identity, turning to religion is not an automatic response in stressful situations. Among non-religious respondents, 9.4% demonstrated a medium level on this scale, which may indicate situational recourse to religious categories under conditions of extreme psycho-emotional strain. The analysis of external religiosity indicators showed that the performance of public religious rituals and the wearing of religious symbols are not dominant characteristics among the majority of religious combatants. In particular, low (24.5%) and medium (43.4%) levels on this scale were recorded in 67.9% of religious military personnel. This suggests that, for most participants in combat operations, intrinsic religiosity predominates, manifesting in a personal relationship with God rather than in demonstrative forms of religious behaviour (Allport & Ross, 1967).

A high level of external ritual expression is characteristic of only 32.1% of religious individuals. This distribution corresponds with Christian ethical principles, in which demonstrative use of religious symbols may be perceived as self-aggrandisement, contradicting the ideal of humility. By contrast, among non-religious military personnel, the overwhelming majority (88.7%) display low levels of external religiosity, confirming their distance from religious practice. The analysis of the scale “belief in a Creator and higher powers” revealed a certain paradox: 33.6% of religious respondents showed a low level on this indicator. A likely explanation lies in the wording of the scale. Within the Christian tradition, the concept of “higher powers” is often perceived as abstract or pantheistic, whereas believers typically adhere to the idea of a personal God. It is therefore unsurprising that 88.7% of non-religious respondents demonstrate low levels on this scale. The final test scales confirmed that religious self-awareness, understood as an internal need to find meaning in life through faith, is formed in 94.4% of religious respondents. At the same time, the commandments of God as a moral standard are recognised by 100% of this group (73.6% at a high level and 26.4% at a medium level). In contrast, the majority of non-religious combatants (84.9%) rely on autonomous secular ethical norms.

In summary, religious combatants tend to define their religiosity primarily as an internal theistic belief, clearly distinguishing it from magical or demonstrative forms of religiosity. At the same time, the presence of a substantial proportion of non-religious military personnel with low levels of individual religiosity confirms that combat experience does not lead to an automatic shift towards a theistic worldview. The next stage of the study involved examining the characteristics of combat stress experienced by military personnel participating in combat operations and identifying differences between the groups using the Combat Stress Questionnaire by O.A. Blinov. The integral indicator of combat stress in the groups of religious and non-religious combatants is presented in Figure 1.

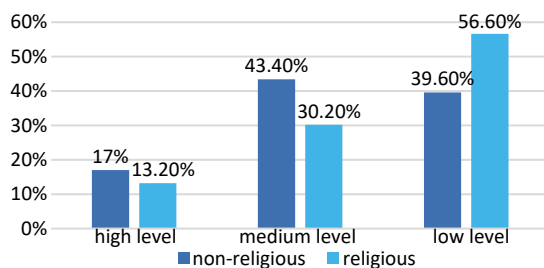


Figure 1. Assessment of combat stress levels among combatants who have taken part in combat operations with different worldview orientations

Source: compiled by the authors

According to the results of the assessment of the integral indicator of combat stress, a tendency towards a more stable psycho-emotional state was observed among religiously centred combatants. In particular, the group of religious participants showed a lower proportion of individuals with a high level of combat stress (13.2%) compared to non-religious military personnel (17%), as well as a significantly higher proportion with a low level of combat stress (56.6% versus 39.6% among non-religious individuals). As the distribution of values across the scales did not meet the criteria of normality, Pearson's χ^2 test was used to examine the statistical significance of differences between the groups. Despite noticeable differences in the distribution of raw indicators in favour of religious military personnel, the statistical analysis did not confirm significant differences between the groups in terms of combat stress levels ($p > 0.05$). This result is of fundamental importance for the interpretation of the psychological

resilience of combatants. It indicates that worldview identity in itself is not a direct factor in reducing the intensity of combat stress. At the same time, it may influence the structure of psychological resources through which a serviceman copes with extreme demands. To clarify this pattern, a correlation analysis of the relationships between the level of combat stress and indicators of individual religiosity was conducted. In the group of religious combatants, no statistically significant correlations between these variables were identified. This suggests that, for this group, religious faith functions as a relatively stable existential position that does not change situationally under the influence of combat events. A similar pattern was observed in the group of non-religious military personnel. The absence of significant correlations between combat stress levels and religiosity indicators confirms the autonomy of their psychological adaptation, which is based on secular mechanisms of coping with stress.

Thus, the results of the correlation analysis allow the conclusion that religiosity is not a direct determinant of psychological resilience; rather, its influence is manifested indirectly through the system of coping strategies and personal adaptive resources. To test this assumption, a multiple regression analysis was conducted in which the integral indicator of combat stress served as the dependent variable, and the scales of individual religiosity as independent variables. The results showed that, in the group of religious combatants, none of the individual religiosity scales acted as direct predictors of the level of combat stress. Thus, the comparatively lower stress levels observed among religious military personnel cannot be explained by the direct influence of religious consciousness. This leads to an important conclusion: religiosity does not function as a direct instrument for reducing combat stress, but may serve as a worldview resource that indirectly supports psychological resilience through other adaptive mechanisms. Such mechanisms may include coping strategies, personal characteristics, and social support resources. For this reason, the next stage of the study focused on examining differences in the selection of coping strategies for dealing with combat stress between religiously centred and non-religious combatants. For this purpose, the COPE inventory, adapted by Yu.V. Kovalenko (2020), was used; it allows for the assessment of a wide range of behavioural and cognitive strategies for coping with stressful situations, including religious coping. The results of the comparative analysis of coping strategies are presented in Table 2.

Table 2. Coping strategies of military personnel participating in combat operations with different worldview orientations

	Non-religious		Religious		t	p
	M	SD	M	SD		
Emotion-focused coping						
1. Positive reappraisal and personal growth	11.71	3.49	12.40	2.95	-1.10	0.274
2. Acceptance	11.19	3.52	12.82	2.74	-2.66	0.009**
3. Humour	11.08	3.14	10.17	3.44	1.42	0.158
4. Restraint	11.28	2.57	11.89	2.19	-1.31	0.193
Problem-focused coping						
5. Active coping	12.02	1.98	11.87	2.24	0.36	0.719

Table 2. Continued

	Non-religious		Religious		Table 2. Continued	
	M	SD	M	SD	t	p
Problem-focused coping						
6. Suppression of competing activities	11.70	2.49	12.73	2.76	-2.01	0.047*
7. Planning	12.39	3.16	11.33	3.58	1.62	0.108
Coping focused on social support						
8. Seeking emotional social support	10.65	3.67	12.04	3.63	-1.96	0.053
9. Use of instrumental social support	11.03	2.62	11.83	1.92	-1.79	0.076
10. Focus on emotions and emotional discharge	10.02	2.08	10.37	3.81	-0.59	0.556
Coping focused on avoidance						
11. Denial	7.41	2.02	8.26	2.70	-1.83	0.070
12. Behavioural disengagement	8.53	3.43	8.31	2.25	0.39	0.697
13. Use of "soothing" substances (alcohol, drugs)	4.75	2.28	5.31	2.14	-1.30	0.196
14. Mental disengagement from the problem	7.75	2.73	8.33	3.08	-1.02	0.310
Religious coping						
15. Religious coping	4.50	1.16	11.16	3.51	m13.12	<0.001**

Note: M – mean; SD – standard deviation

Source: compiled by the authors

The analysis of mean values showed that in both groups under study, coping strategies aimed at active problem-solving and regulation of emotional states predominate in stressful situations. Avoidance coping strategies were the least utilised, indicating an overall high level of professional adaptability among respondents and their orientation towards constructive ways of overcoming combat-related difficulties. To identify statistically significant differences between the groups, Student's t-test and the Mann-Whitney U test were applied. The analysis revealed significant differences across several coping strategies. First, statistically significant differences were found on the "religious coping" scale ($t = -13.12$; $p \leq 0.01$). Among non-religious military personnel, turning to God is one of the least frequently used strategies ($M = 4.57 \pm 1.16$) and is likely to be situational in nature. This is consistent with the findings of S.M. Horning *et al.* (2011), according to which, unlike convinced atheists, individuals with an agnostic position may turn to religious practices only under conditions of peak psycho-emotional strain. In contrast, for religious combatants, religious coping represents a much more integrated component of the behavioural repertoire ($M = 11.16 \pm 3.51$). High scores on this scale indicate that religious faith functions as a stable internal resource of psychological support, which can be used for meaning-making and emotional stabilisation. The second strategy showing statistically significant differences is "acceptance" ($t = -2.66$; $p \leq 0.01$). Religious military personnel demonstrate higher scores on this scale ($M = 12.82 \pm 2.74$) compared to non-religious individuals ($M = 11.19 \pm 3.52$). In this case, religious belief may act as a factor contributing to a more balanced attitude towards difficult life circumstances. Acceptance of a situation according to the principle "it is what it is" helps to reduce anxiety and allows psychological resources to be directed towards constructive action, rather than being expended on ineffective resistance to unchangeable conditions. At the same time, acceptance does not imply passivity or indifference but rather constitutes a

conscious acknowledgement of objective circumstances, as noted by M.M. Linehan (2014) and F. Dolcos *et al.* (2021).

Statistically significant differences were also identified on the "suppression of competing activities" scale ($t = -2.01$; $p \leq 0.05$). Religious combatants use this strategy more frequently ($M = 12.73 \pm 2.76$) than non-religious individuals ($M = 11.70 \pm 2.49$). This coping strategy involves the ability to temporarily ignore distractions in order to concentrate on the execution of an important task. It may be assumed that this skill is partly associated with experience of religious practices, particularly prayer and liturgical rituals, which require a high level of attentional focus. Studies by H. Adams *et al.* (2017) and S. Pazer (2024) have shown that regular spiritual practices may contribute to the development of attentional focus and cognitive control. Overall, the analysis of coping strategy indicators makes it possible to outline the specific features of psychological resilience in each of the groups studied. The most frequently used strategies among religious participants are "acceptance" ($M = 12.82$), "suppression of competing activities" ($M = 12.73$), and "positive reappraisal and personal growth" ($M = 12.40 \pm 2.95$). These strategies constitute an important component of the psychological resilience of religiously centred military personnel.

The capacity for positive reappraisal of difficulties is likely facilitated by a specific worldview orientation towards finding meaning in suffering. In this context, difficult life events may be interpreted not merely as random occurrences, but as part of a broader life experience or a form of spiritual trial. This position is consistent with the principles of logotherapy proposed by V.E. Frankl (1969), according to which the experience of suffering may be transformed into a resource for personal growth if it acquires meaning. In addition, religious combatants actively employ the strategy of "seeking emotional and social support" ($M = 12.04 \pm 3.63$). This may be related to the specific nature of religious communities (gatherings for worship, prayer, religious practices, and general interaction),

where shared values and practices of mutual assistance foster an atmosphere of trust and support. Religious doctrines often conceptualise mutual aid as a moral norm; thus, seeking support is not perceived as a sign of weakness but as a natural element of “spiritual solidarity” (Jablonska, 2022; VanderWeele, 2025; Prati, 2025). At the same time, the findings revealed an important feature: although, according to the methodology of Yu.V. Shcherbatykh, religion serves as a significant worldview orientation for the majority of religious combatants (41.5% – high level of seeking support in religion; 51% – medium), within the structure of actual behaviour measured by the COPE inventory, religious coping does not occupy a leading position. Under real combat conditions, greater priority is given to strategies such as “acceptance”, “positive reappraisal”, “suppression of competing activities”, “restraint”, and “active coping”. This indicates that religiosity among religious combatants functions rather as a background existential resource supporting the overall system of adaptation, whereas the immediate management of acute combat stress is carried out through instrumental and social coping strategies.

The coping behaviour of non-religious combatants is characterised by the predominance of rational strategies, particularly “planning” ($M = 12.39 \pm 3.16$) and “active coping” ($M = 12.02 \pm 3.16$). This reflects an orientation towards rational analysis of situations and an effort to modify circumstances through one’s own actions and professional skills. Comparative analysis showed that the strategy of “humour” is used more frequently by non-religious combatants ($M = 11.08 \pm 3.14$) than by representatives of the religiously centred group

($M = 10.17 \pm 3.44$). This difference can be explained by variations in the structure of psychological resilience resources: whereas the adaptive potential of religious individuals is reinforced by specific forms of religious coping (such as prayer or interpreting events as “the will of God”), non-religious military personnel rely more heavily on secular mechanisms of emotional regulation, including humour. Although both groups use humour as a means of reducing anxiety and protecting psychological well-being, its use in extreme situations among religious individuals may be constrained by internalised norms of seriousness and humility derived from religious-ethical principles (Horning, 2011; Dolcos, 2021; Prieto, 2021). In contrast, for non-religious military personnel, humour may function as a form of emotional buffering, enabling temporary distancing from traumatic experience. An important characteristic of both groups is that the least frequently used strategy was the “use of soothing substances” (religious: $M = 5.31 \pm 2.14$; non-religious: $M = 4.75 \pm 2.28$). The low level of reliance on addictive forms of emotional regulation may be interpreted as an indicator of a relatively high level of psychological adaptation among respondents, regardless of their worldview orientation. The next stage of the study involved identifying predictors of psychological resilience among military personnel with different worldview orientations. The use of multiple regression analysis made it possible not only to establish differences between the groups but also to determine the structure of factors that shape psychological resilience within each worldview model. The results of the analysis are presented in Table 3.

Table 3. Predictors of the psychological resilience of military personnel participating in combat operations with different worldview orientations (results of multiple regression analysis)

Model	Unstandardised coefficients		Standardised coefficients	t	Sig.
	B	Standard error	Beta (β)		
Non-religious*					
(Constant)	12.457	2.159		5.797	0.353
Active coping	-0.650	0.129	-0.443	-4.211	0.002
Denial	0.484	0.149	0.367	2.893	0.039
Religious**					
(Constant)	18.647	3.849		4.951	0.149
Use of emotional social support	-0.849	0.272	-0.480	-3.126	0.003
Positive reappraisal	-0.314	0.128	-0.349	-2.453	0.026
Perception of religion as a source of moral norms	-0.268	0.127	-0.271	-2.118	0.039

Note: B – unstandardised regression coefficient; Beta (β) – standardised regression coefficient

Source: compiled by the authors

The obtained regression models allow psychological resilience in combatants to be interpreted as a system of diverse adaptive mechanisms that form distinct structures for coping with combat stress. The results of the multiple regression analysis in the group of non-religious combatants made it possible to construct a statistically significant model ($R = 0.62$; $R^2 = 0.39$; $F(2,50) = 10.45$; $p \leq 0.001$), which explains 39% of the variance in the integral indicator of combat stress. The predictor structure included two coping strategies: “active coping” ($\beta = -0.443$; $p = 0.002$)

and “denial” ($\beta = 0.367$; $p = 0.039$). The negative coefficient for “active coping” indicates its adaptive function: the more actively a service member employs this strategy, the lower their level of experienced combat stress. Thus, “active coping” functions as a key psychological resource of resilience among non-religious combatants. At the same time, the identified positive relationship between combat stress and “denial” suggests that, when rational resources of control and action are depleted, non-religious combatants tend to resort to defensive avoidance of reality. This

strategy reveals a “vulnerable point” in their system of psychological defence: when active action becomes impossible, the psyche shifts towards denial of traumatic events, which may increase the risk of sudden psychological breakdown, the development of post-traumatic stress disorder (PTSD), and loss of operational effectiveness.

The coping strategy of “active coping” is a fundamental professional-adaptive survival strategy for non-religious combatants. During direct task performance (such as engineering fortifications, maintaining weapons, or executing tactical operations), the cognitive system shifts from a mode of being a “passive object of circumstances” to that of an “active agent of action”. This significantly reduces subjective anxiety, as attention is redirected from diffuse danger to a concrete course of action. Physical and intellectual activity in this context displaces destructive emotional experiences, implementing a pragmatic orientation: “I am doing everything possible to control the situation.” It is precisely this focus on directly changing circumstances that makes “active coping” the most powerful constructive predictor of psychological resilience in the non-religious group. However, when rational methods of control are exhausted and the situation becomes uncontrollable, “denial” emerges as a compensatory mechanism. The identified direct relationship between this strategy and combat stress in the non-religious group can be explained by several factors. Firstly, cognitive overload. Extreme combat factors (heavy shelling, the death of comrades, widespread destruction) create a flood of overwhelming stimuli that exceeds the mind’s capacity to process trauma. According to O.A. Blinov’s (2020) concept, the brain loses the ability to logically structure the volume of traumatic events. “Denial” becomes an “emergency filter”, blocking the perception of what cannot be processed rationally. Secondly, this is a reaction to a loss of control. For a non-religious combatant, the main source of resilience is confidence in one’s own agency and professionalism. However, in a situation of uncontrolled fire, this control can break down, giving rise to a state of helplessness. The psyche then adopts defensive avoidance of reality, creating an illusion of safety where rational methods of protection are no longer effective. Third, it corresponds to a phase of “shock freezing”, in which denial helps an individual endure loss and grief (Kübler-Ross, 1969). For non-religious fighters, who lack a religious framework for interpreting death as transition or trial, the loss of a comrade may appear as absolute and meaningless. In the absence of mechanisms for existential acceptance of mortality within their worldview, denial (“this could not have happened”, “this is not happening to us”) becomes the only way to temporarily halt emotional shock. According to the theory of S.E. Hobfoll (1998), such a strategy allows the maintenance of operational functioning through distancing from trauma; however, it creates a dangerous “loss spiral” of internal resources, as psychological energy is expended not on processing experience but on sustaining the illusion of its absence, thereby increasing the likelihood of subsequent psychological complications.

Correlation analysis in the group of non-religious service personnel further confirmed this relationship. In addition to a significant correlation between the level of combat stress and the coping strategy of “denial” ($r = 0.61$; $p \leq 0.001$), significant associations were also found with “behavioural disengagement from the problem” ($r = 0.53$; $p \leq 0.001$) and “mental distraction from problems” ($r = 0.38$; $p \leq 0.05$). These results indicate that when the adaptive capacity of the psyche is exceeded, non-religious combatants may shift from active coping strategies to mechanisms of psychological distancing from the problem situation. Such dynamics may be interpreted as an indicator of depletion of adaptive potential and a signal of the need for timely psychological support. A similar regression analysis in the group of religiously centred combatants made it possible to construct a statistically significant model ($R = 0.57$; $R^2 = 0.32$; $F(3,49) = 6.72$; $p \leq 0.05$), which explains 32% of the variance in the integral indicator of combat stress. The predictor structure in this group included: “use of emotional and social support” ($\beta = -0.480$; $p = 0.003$), “positive reappraisal” ($\beta = -0.349$; $p = 0.026$), and the individual religiosity indicator “perception of religion as a source of moral norms” ($\beta = -0.271$; $p = 0.039$). The negative coefficients of all predictors indicate their adaptive function: higher values on these variables are associated with lower levels of experienced combat stress. The strongest predictor in this model is “emotional and social support”, which is also confirmed by the strongest inverse correlation with combat stress ($r = -0.69$; $p \leq 0.001$). This suggests that for religious combatants, the ability to share experiences with others who share their values and worldview constitutes one of the key resources of psychological stabilisation, highlighting the importance of religious community and the institution of chaplaincy within their resilience system.

The religious environment creates a space of “spiritual solidarity”, where seeking help is perceived not as a sign of weakness but as the enactment of a moral imperative of mutual support, functioning as a principal antidote to social isolation in wartime conditions. The second important component of this model is “positive reappraisal”, which enables a transformation in the interpretation of difficult events and represents a dynamic process of reframing extreme experience. While the rational coping strategies of non-religious individuals are directed towards changing external circumstances, religiously centred reframing alters the internal attitude towards threat. This produces an effect of “cognitive immunity”: combat stress is no longer perceived as uncontrollable chaos that destroys the individual, but instead acquires the status of a “manageable trial”. Owing to its close association with the coping strategy of “acceptance” (only in the religious group was a statistically significant relationship found between “positive reappraisal” and “acceptance”: $r = 0.58$; $p \leq 0.05$), positive reappraisal enables the combatant to avoid expending psychological energy on futile resistance to the inevitable. The third component is the “perception of religion as a source of moral

norms”, which forms the value-based foundation of psychological resilience among religious combatants. For such individuals, commandments and ethical doctrines constitute an internal framework that provides moral legitimisation of their presence in war. This mechanism does not function as a “permission to kill”, but rather as a hierarchical structuring of moral principles: the foundational moral absolute “thou shalt not kill” enters into dialogue with a higher

imperative of sacrificial love for one’s neighbour. Within this ethical paradigm, military service is interpreted as a struggle against evil, and weapons are understood as instruments of protecting life. A comparative analysis of the regression models leads to the conclusion that, despite the absence of statistically significant differences in levels of combat stress, the psychological mechanisms of coping differ substantially between religious and non-religious combatants (Fig. 2).

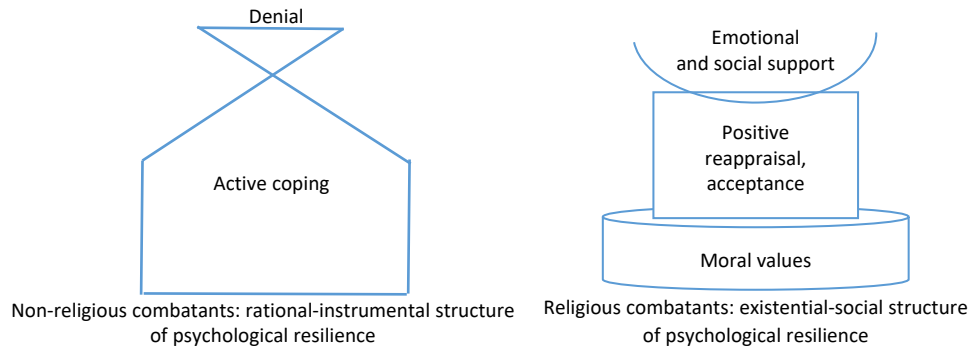


Figure 2. Graphical models of the predictor structure of psychological resilience of military personnel participating in combat operations with different worldview orientations

Source: compiled by the authors

Summarising the results of the study, it can be stated that, despite the absence of statistically significant differences in levels of combat stress between religious and non-religious combatants, the mechanisms underlying their psychological resilience differ substantially. The analysis of coping strategies and regression models demonstrated that the worldview orientation of service personnel determines the structure of psychological resources through which adaptation to combat stress occurs. The findings suggest the existence of two distinct models of psychological resilience among combatants. Among non-religious service personnel, a rational-instrumental structure of coping with combat stress is formed, in which the central resource is the coping strategy of “active coping”. Within this model, psychological resilience is maintained through an orientation towards one’s own actions, professional competence, and the effort to exert direct influence over events. In situations where the capacity for active control diminishes, the coping strategy of “denial” may serve as a compensatory mechanism, temporarily reducing the intensity of emotional experiences. In contrast, religiously centred service personnel are characterised by an existential-social structure of psychological resilience. In this case, value-based and meaning-oriented frameworks associated with religious beliefs play a crucial role, alongside social support and the capacity for positive reappraisal of life events. The combination of these factors creates a system of internal and interpersonal resources that facilitate the integration of traumatic experience into a coherent worldview and reduce the intensity of combat stress.

The results of the present study are consistent with the findings of other researchers who have examined

the determinants of psychological resilience in relation to religiosity and coping strategies among combatants. K.I. Pargament (2011) developed a conceptual framework in which religiosity does not function as a direct, isolated protective factor but rather as “positive religious coping”, which serves the function of meaning-making in response to stress. Faith enables individuals to perceive traumatic events not as chaos but as part of a coherent and meaningful worldview. This fully corresponds with the findings, particularly the absence of a direct linear correlation between levels of combat stress and indicators of religiosity. O.A. Blinov (2020) established that the integral indicator of combat stress is largely determined by objective factors of danger and the level of professional training, while worldview identity functions as an individual precondition for adaptation rather than its direct cause. The absence of statistically significant differences in combat stress levels between religious and non-religious combatants identified in current study (based on Pearson’s χ^2 test) is fully consistent with these conclusions. In the works of I. Prykhodko *et al.* (2019; 2024), it is argued that successful psychological adaptation of service personnel in conditions of modern high-intensity warfare is primarily determined by the individual’s ability to shift from passive or purely emotional reactions to problem-focused coping strategies. The findings of the present study support this proposition: both groups demonstrated low reliance on avoidance strategies and a high significance of instrumental methods of coping with stress. In particular, the mechanism of “active coping” identified among non-religious combatants corresponds to the “active-operational type of adaptation” described by I. Prykhodko *et al.*, in which resilience is grounded in

professional competence and clearly defined action algorithms. At the same time, the prominent role of “social support” and “acceptance” among religious service personnel aligns with the researcher’s conclusions regarding the importance of “socio-psychological cohesion” within military units as a collective survival resource. Thus, the results of this study extend the propositions of the aforementioned authors by demonstrating that, while the professional identity of the combatant constitutes the fundamental vector of resilience, its internal structure varies significantly depending on worldview orientation.

If adaptation in non-religious combatants is grounded in individual rational-instrumental control, then for religious combatants it is realised through engagement with a collective value-based resource (chaplaincy and community). In both cases, this ensures an adequate level of operational effectiveness under extreme conditions. The identified role of the coping strategies “positive reappraisal” and “acceptance” as key stabilisers of the emotional state of religious combatants is consistent with the concept of “active acceptance” described by S.M. Southwick & D.S. Charney (2012). In their study of the factors of psychological resilience, the authors demonstrated that religious faith enables individuals to cognitively reappraise danger: instead of exhausting resistance to unavoidable circumstances, the combatant accepts them as a difficult but meaningful part of existence. This is not passivity, but rather a mechanism for preserving internal resources, preventing emotional decompensation, and enabling the individual to find higher meaning in a combat situation. The complete recognition of divine commandments as an ethical reference point, identified in the study, along with the significance of the regression predictor “moral norms”, provides direct empirical evidence that the moral factor constitutes the foundation of psychological resilience among religious combatants, upon which the entire structure of their coping mechanisms is built. The stability of non-religious identity among 50% of the combatants in the sample, along with their high level of adaptability, is consistent with the concept of “secular resilience” proposed by P. Zuckerman (2016). The author challenged the notion of atheists’ vulnerability in crisis situations, demonstrating that the absence of religious belief may be compensated by “pragmatic realism”. The results of the present study support this theory: the predictor “active coping” ($\beta = -0.443$) indicates that a non-religious worldview provides an autonomous system of resources in which adaptive potential is grounded in rational control and professional competence, and is not inferior in effectiveness to the religious model of psychological adaptation. The obtained results made it possible to formulate a number of practical recommendations for specialists in psychological services and military chaplains regarding the organisation of psychological support for service personnel with different worldview orientations:

1. Differentiated approach to assessment and forecasting. For non-religious combatants, particular attention should be paid to monitoring the coping strategy of

“denial”. The intensification of this mechanism should be interpreted not as an adaptive response, but as an indicator of critical depletion of the rational resource of “active coping”. Statements such as “this could not have happened” or “this is not happening to me” signal a transition to a phase of shock decompensation. Psychological support should focus on the professional facilitation of processing loss-related trauma and on preventing the chronicisation of depressive states and the development of PTSD. For religious combatants, priority should be given to monitoring the level of social integration and the stability of emotional support within the unit, as these factors represent the most powerful resource of their psychological resilience. Signs of social withdrawal, loss of “spiritual solidarity”, or disruption of moral frameworks and the capacity for positive reappraisal (a “crisis of meaning”) indicate critical resource depletion and a potential risk of moral injury. Such cases require coordinated work between a psychologist and a chaplain to restore the socio-existential structure of the servicemember’s psychological resilience.

2. Strengthening the rational-instrumental structure of resilience (for non-religious combatants). Since “active coping” is the primary predictor in this group, interventions should aim to reinforce the subjective sense of control over the situation. This can be achieved through detailed briefing on operational tasks, clear distribution of responsibilities, and continuous development of professional skills according to the principle of “control through competence”. This approach minimises uncertainty and prevents the shift towards maladaptive denial, allowing the combatant to remain an active agent even under critical conditions.

3. Work with the socio-existential structure of resilience (for religious combatants). Given that “emotional-social support” is the strongest predictor of resilience in this group ($\beta = -0.480$; $p = 0.003$), it is necessary to encourage the formation of support groups and involvement in shared religious or value-based practices. This strengthens the sense of “spiritual solidarity”, which serves as a key buffer against combat stress. At the same time, psychological and chaplaincy support should promote the development of coping strategies such as “positive reappraisal” and “acceptance” through the activation of narratives centred on the higher meaning of service. Such a comprehensive approach enables the combatant not only to withstand stress but also to integrate traumatic experiences into a coherent and meaningful life framework.

4. Development of flexible coping skills and communication. For both groups, training in psychological mutual support and unit cohesion is recommended, including mastery of battlefield psychological first aid algorithms (e.g., ICOVER, MARCH-P protocols). This allows religious combatants to effectively utilise their primary resource – social support – through practical assistance to fellow soldiers. For non-religious combatants, these algorithms serve as an additional tool of “active coping”, structuring behaviour under conditions of uncertainty and preventing maladaptive denial in critical situations.

5. Optimisation of psychologist-chaplain interaction. Effective support within a unit should be based on functional cooperation and a clear division of roles: the military psychologist focuses on strengthening the rational-instrumental structure of resilience (active coping, planning, rational adaptation), while the chaplain focuses on reinforcing the existential-social foundation (activation of moral norms, positive reappraisal of traumatic experience, and meaning-oriented acceptance of circumstances). This approach ensures comprehensive psychological support across all levels, regardless of the service-members' worldview orientation.

Thus, the results of the study indicate that the psychological resilience of combatants is shaped not only by individual personal resources, but also by a system of worldview beliefs that determine the nature of coping behaviour and the ways in which traumatic combat experience is interpreted.

◆ Conclusions

The obtained results refuted the widespread sociocultural stereotype that “there are no atheists in the trenches” and the assumption of a total conversion of military personnel to religion during war. It was established that low levels of individual religiosity among non-religious combatants indicated that combat experience in itself did not lead to an automatic shift in worldview identity towards a theistic one. At the same time, religiously centred participants in combat operations demonstrated a predominance of intrinsic religiosity and personal experience of faith over external ritual practices, whereas among non-religious individuals only a small proportion (9.4%) occasionally turned to religious categories in critical psychological situations. Coping behaviour and psychological resilience were analysed. It was found that both groups predominantly employed problem-focused strategies, reflecting a high level of professional adaptability. Among non-religious combatants, “planning” and “active coping” were dominant, whereas among religiously centred individuals the leading strategies included “acceptance”, “positive reappraisal”, “suppression of competing activities”, and “seeking emotional and social support”.

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A fundamental difference in the orientation of adaptive mechanisms was identified: non-religious military personnel were oriented towards rational control and modification of external circumstances, whereas religiously centred individuals focused on meaning-making and the mobilisation of social support. The indirect influence of religiosity was also examined: it did not directly reduce levels of combat stress but operated through the formation of a specific structure of coping resources. For religious combatants, religion functioned as a stable existential resource that supported positive reappraisal, acceptance of circumstances, and the integration of traumatic experience, whereas among non-religious individuals psychological resilience was grounded in rational mechanisms of control and active engagement. A comparative analysis of regression models made it possible to distinguish two structures of psychological resilience: a rational-instrumental structure among non-religious combatants and an existential-social structure among religiously centred combatants. The analysis of individual religiosity demonstrated that religiosity primarily performed a worldview and moral function and did not always translate into direct coping strategies. The findings made it possible to formulate recommendations for military psychologists and chaplains regarding differentiated support for military personnel with different worldview orientations, the strengthening of rational-instrumental and existential-social structures of psychological resilience, and the development of flexible coping skills. Further research may focus on the interaction between psychologists and chaplains in supporting the resilience of military personnel, the role of specific coping strategies among religious combatants, and the development of training programmes that integrate psychological and chaplaincy practices to enhance internal resilience resources.

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Релігійність і копінг-стратегії як детермінанти психологічної стійкості комбатантів: порівняльна модель адаптації

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♦ **Анотація.** У статті представлено результати емпіричного дослідження ролі релігійності та копінг-стратегій у формуванні психологічної стійкості військовослужбовців – учасників бойових дій. Актуальність зумовлена необхідністю пошуку ефективних психологічних ресурсів адаптації особового складу в умовах тривалого бойового стресу. Метою роботи було дослідження структури предикторів психологічної стійкості військовослужбовців із різним типом світоглядної ідентифікації та визначення ролі релігійності й копінг-стратегій у процесі адаптації до екстремальних умов. У дослідженні взяли участь 106 військовослужбовців Збройних Сил України – учасників бойових дій, які були розподілені на дві групи за типом світоглядної орієнтації: релігійно-центровані та позарелігійні комбатанти. Для збору емпіричних даних використано тест індивідуальної релігійності Ю. В. Щербатих, опитувальник бойового стресу О. А. Блінова та методику COPE. Обробка результатів здійснювалася із застосуванням кореляційного та множинного регресійного аналізу. Отримані дані засвідчили стабільність світоглядних установок військовослужбовців та відсутність статистично значущих відмінностей у рівнях бойового стресу між віруючими і позарелігійними комбатантами. Водночас виявлено суттєві відмінності у структурі копінг-стратегій. У позарелігійних військовослужбовців провідну роль відіграють раціонально-інструментальні механізми подолання стресу, насамперед «активне подолання» та «планування». У релігійно-центрованих комбатантів домінують стратегії: «позитивна переоцінка», «прийняття» ситуації та «пошук емоційно-соціальної підтримки». Результати дослідження засвідчили існування двох різних структур психологічної стійкості комбатантів, які формуються залежно від їхньої світоглядної орієнтації. Для позарелігійних комбатантів характерна раціонально-інструментальна модель подолання бойового стресу, тоді як для релігійно-центрованих – екзистенційно-соціальна модель психологічної адаптації. Встановлено, що релігійність не виступає прямим чинником зниження бойового стресу, але опосередковано впливає на вибір адаптивних копінг-стратегій та способи інтерпретації травматичного досвіду. Практична значущість дослідження полягає у можливості використання отриманих результатів для розробки диференційованих підходів до психологічного супроводу військовослужбовців із різною світоглядною орієнтацією та вдосконалення взаємодії військових психологів і капеланів у системі підтримки психологічної стійкості особового складу

♦ **Ключові слова:** позитивна переоцінка; прийняття; моральна травма; соціальна підтримка; капеланство; бойовий стрес



The theoretical and empirical study of the psychological characteristics of self-regulation among military personnel with post-traumatic stress disorder

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◆ **Abstract.** This study was devoted to a comprehensive examination of the psychological mechanisms of self-regulation among military personnel of the Ukrainian Defence Forces in the context of the Russian Federation's prolonged, large-scale armed aggression. The relevance of this work stems from the sharp rise in cases of post-traumatic stress disorder among combatants. In the context of high-intensity conventional warfare, the dynamics of stress reactions are cumulative in nature, necessitating a re-evaluation of classical approaches to rehabilitation and a deeper understanding of the regulatory processes of the psyche. The aim of this article was to conduct a theoretical and empirical study of the psychological structure and patterns of functioning of self-regulation mechanisms in military personnel with post-traumatic stress disorder to identify key regulatory factors of adaptation and provide a scientific basis for new approaches to psychological rehabilitation within the framework of a new state paradigm and military reintegration standards. The methodological framework was based on a combined strategy that integrated quantitative and qualitative methods. A survey was conducted on a representative sample ($n = 1,534$), in which 78.9% of respondents were combatants, and 50 in-depth interviews were carried out to verify qualitative patterns of adaptation. Standardised instruments were used for diagnosis: the PTSD Checklist for DSM-5 (PCL-5) and the Emotion Regulation Questionnaire (ERQ). Statistical analysis was performed using correlation, variance and factor analyses in the IBM SPSS Statistics v.29 software environment. The empirical data revealed a critical state of mental health among personnel: symptoms of post-traumatic stress disorder were verified in 89.2% of respondents. It was found that 45.2% of military personnel have significant deficits in emotional self-regulation, which correlates with the severity of the disorder's symptoms. A high rate of lack of prior professional help (89.3%) was established, which is justified by the representativeness of the primary screening and reintegration stage. The most common self-regulation strategies identified were social support (39.2%) and physical activity (27.6%). Factor analysis enabled the identification of latent factors determining the adaptability of military personnel in stressful conditions. The study scientifically substantiates the need to integrate the author's model for monitoring psycho-emotional state and methods of multi-component support into state rehabilitation protocols. The results can be used to improve the functioning of emergency and primary care units, facilitating the transition to systematic case management in Ukraine's security and defence sector

◆ **Keywords:** psychological support; moral injury; regulatory functions; combatants; biopsychosocial model; case management; emotional self-control

◆ Introduction

Research into the psychological self-regulation of military personnel in the context of modern high-intensity warfare is becoming a strategic issue of national security. A service member's ability to consciously manage their own

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emotions and behaviour is the critical mechanism that determines not only their combat effectiveness but also the success of their subsequent return to civilian life. Thus, studying the characteristics of self-regulation in individuals with symptoms of post-traumatic stress disorder is a necessary step towards creating an effective system of psychological support within the security and defence sector. The issue of self-regulation takes on particular relevance in the context of post-traumatic stress disorder (PTSD) among military personnel. Research in the field of military psychology emphasises that a deficit in emotional self-regulation plays a key role in the onset and persistence of the disorder's symptoms. A review of the current literature indicates that difficulties with emotional regulation are directly linked to clusters of PTSD symptoms and moral trauma. Furthermore, self-efficacy in regulating negative emotions moderates the relationship between symptom severity and functional outcomes.

An important aspect of military personnel's adaptation to stressful conditions is psychological resilience and the ability to plan. In previous works, O. Novikov & E. Balashov (2025) developed and tested a model for monitoring and managing the psycho-emotional state, which involves the systematic tracking of psychological indicators. The effectiveness of an integrated approach, involving the use of standardised diagnostic tools (PC-PTSD-5, CAPS-5 and PCL-5), has also been demonstrated. The specific nature of large-scale warfare requires new psychocorrectional programmes focused on self-regulation under conditions of prolonged combat stress. Current research emphasises that in conditions of high-intensity conventional warfare, the dynamics of stress reactions are cumulative in nature, necessitating a re-evaluation of classical approaches to rehabilitation (Greene *et al.*, 2026).

PTSD in military personnel is a complex mental condition characterised by impaired emotional regulation and heightened reactivity to stressors. Research by R. Kirkham *et al.* (2025) in the field of military psychology highlights that problems with the self-regulation of emotions and behaviour play a key role in both the onset and persistence of PTSD symptoms; however, the number of empirical studies in this context is limited and requires further systematic investigation. A review of the scientific literature shows that difficulties with emotional regulation are directly linked to clusters of PTSD symptoms, in particular to impaired reactivity and moral trauma, as noted in the study by R. Boska *et al.* (2025). A review of empirical studies by R. Kirkham *et al.* (2025) also highlights the link between emotion regulation mechanisms, stress coping and military performance indicators, but identifies significant gaps in knowledge regarding the psychological factors influencing these processes in an active military context. Furthermore, recent empirical research by K. Hall *et al.* (2026) suggests that self-assessed ability to regulate negative emotions moderates the relationship between PTSD symptom severity and functional outcomes, highlighting the importance of self-regulation

as a potential protective factor in psychotherapeutic interventional research by K. Hall *et al.* (2026) suggests that self-assessed ability to regulate negative emotions moderates the relationship between PTSD symptom severity and functional outcomes, highlighting the importance of self-regulation as a potential protective factor in psychotherapeutic interventions.

Ukrainian studies also highlight self-regulation as a key component of adaptive behaviour among military personnel in the stressful conditions of combat. In particular, it has been found that military personnel with high psychological resilience demonstrate better indicators of planning, autonomy and overall self-regulation, which allows to manage their own behaviour and emotions more effectively when adapting to extreme situations (Myloslavska & Bohdanovskyi, 2023). The rapid diagnostic methods for self-regulation in military personnel, as noted by the authors Y. Matsehora *et al.* (2024), have demonstrated a link between professional self-regulation and the ability to recognise and process combat experiences, which is of significant importance for the development of preventive and rehabilitation programmes for PTSD. The issue of self-regulation and PTSD has become particularly relevant in the context of the full-scale war in Ukraine, which is an example of a large-scale conflict where military personnel and volunteers face extreme stressful situations and prolonged combat stress. A large number of military personnel who have experienced combat operations since 24 February 2022 demonstrate a significant prevalence of PTSD and associated mental disorders, necessitating the development of new psychotherapeutic programmes focused on the self-regulation of emotions and behaviour in the context of prolonged war (World Health Organization, n.d.). According to empirical studies, participation in combat operations during the Russian-Ukrainian war is associated with an increased risk of developing stress reactions and traumatic symptoms, including significant psychological strain on servicemen and volunteers of the Armed Forces of Ukraine and Ukraine's territorial defence, which highlights the complexity and scale of the problem in the context of contemporary military psychology, noted A. Shkvarok *et al.* (2025).

However, despite existing theoretical and empirical findings, there is a lack of integrated studies that comprehensively examine the structure of self-regulation specifically in the context of PTSD among military personnel, combining theoretical approaches and psychometric data. The methodological basis of such studies includes psychometric measurements of self-regulation, assessment of emotional regulation, and models of interrelationships between psychological constructs (coping, resilience, emotion regulation), which allows for correlation and factor analyses. The scientific novelty of the study lies in an integrated approach to the study of self-regulation within the context of PTSD among military personnel, including an assessment of emotional and behavioural regulation, which enables the mechanisms of adaptive and dysfunctional

patterns of response to traumatic stress to be revealed and contributes to the development of scientific theory and practical psychodiagnostic models. The aim of this study was to conduct a theoretical and empirical analysis of the psychological structure and functioning of self-regulation mechanisms in military personnel with post-traumatic stress disorder. The main objectives were: to synthesise contemporary theoretical concepts of self-regulation and PTSD; to analyse recent empirical studies on the relationship between self-regulation and PTSD symptoms; and to conduct an empirical study of the structure of self-regulation in military personnel with PTSD.

◆ Materials and Methods

This theoretical and empirical study of the psychological characteristics of self-regulation in military personnel with PTSD employed a combination of theoretical and empirical approaches. The empirical study is consistent with the provisions of Order of the Ministry of Defence of Ukraine No. 1767 (2025), which stipulates the mandatory post-deployment psychological screening for the restoration of the regulatory functions of the psyche of discharged Ukrainian defence personnel. The study complied with international ethical norms and safety standards; the organisation and conduct of the survey were carried out in strict adherence to the principles set out in the American Sociological Association's Code of Ethics (2018). All participants were guaranteed complete confidentiality and anonymity of the data collected, and participation in the testing procedures was strictly voluntary following the provision of written informed consent.

In the first stage of the study, an analysis was conducted of current scientific publications on the topic of PTSD in military personnel. The review of scientific articles enabled the creation of a theoretical framework encompassing the core concepts of PTSD, emotional regulation, and adaptive mechanisms in military personnel. Among the main sources, articles by R. Boska *et al.* (2025) and I. Strøm *et al.* (2025) were examined, which enabled a detailed exploration of contemporary approaches to the psychotherapeutic treatment of PTSD, as well as the role of self-regulation in reducing the symptoms of this disorder in military personnel. An additional component of the study's theoretical framework was an analysis of the provisions of the Ministry of Defence of Ukraine standard (n.d.). This helped justify the choice of psychometric instruments, as the standard requires mandatory initial psychological screening to stabilise emotional state. The standard's requirements regarding the return of military personnel to professional activity and social life directly correlate with the study's objective of examining self-regulation mechanisms as a means of overcoming PTSD symptoms.

The empirical part of the study was based on an analysis of the results of surveys and interviews conducted in 2025 with military personnel who have experience of combat operations in the armed conflict between Ukraine and Russia. The total sample consisted of 1,534 respondents, 78.9% of whom were combatants, including people of

different ages, genders and, accordingly, with varying lengths of service. The age range of respondents spans from 20 to 59 years, with a mean of 39.4 years ($SD = 9.5$). This figure indicates a predominance of middle-aged individuals in the sample, which is relevant for studying established mechanisms of psychological self-regulation. Data collection methods: questionnaire – to study the psychological characteristics of self-regulation, a standardised questionnaire was used, comprising 30 questions aimed at identifying the level of emotional regulation and stress coping, as well as assessing the presence of PTSD symptoms. All questionnaire items were designed with the specific military context and the stressful situations experienced in mind; interviews – in addition to the questionnaire, 50 in-depth interviews were conducted with military personnel, which provided additional qualitative data for analysing individual self-regulation strategies. The interviews aimed to identify how military personnel adapt to extreme stressful situations, as well as what self-help methods they use in their daily lives after returning from combat operations.

To assess the severity of PTSD symptoms, the validated psychometric instrument PTSD Checklist for DSM-5 (PCL-5) was used, which enabled the identification of symptoms of the disorder, the assessment of their intensity, and the determination of their impact on the respondents' daily functioning (National Center for PTSD, n.d.). To assess the respondents' ability to regulate their emotions, the ERQ was used, which enables the identification of how military personnel cope with emotional stressors and what emotional self-regulation strategies they employ in response to stressful stimuli. The use of the PCL-5 allows for the identification of symptoms of the disorder and the assessment of their intensity. Current psychometric assessments confirm that the factor structure of this questionnaire is the most relevant for identifying latent clusters of symptoms in professional military personnel (Blevins *et al.*, 2015). The study was conducted within units of the Ukrainian Defence Forces that provide psychological support to military personnel, and the data obtained through the survey were processed using statistical methods to ensure the reliability of the results. The experimental data set also included interviews with psychologists and medical staff involved in the treatment of PTSD in military personnel.

The empirical dataset was compiled through remote questionnaires using the Google Forms platform, which enabled the inclusion of respondents from various units of the Ukrainian Defence Forces and ensured the anonymity of the survey. Initial verification, structuring and visualisation of descriptive statistics were carried out using Google Sheets. IBM SPSS Statistics (v. 29) software was used to conduct an in-depth statistical analysis, utilising correlation analysis to establish relationships between the severity of PTSD symptoms and emotional control strategies. The mathematical analysis also included the use of factor analysis to identify latent factors of self-regulation and analysis of variance (ANOVA) to compare indicators of emotional resilience across groups of military personnel.

The research methodology involved a combined strategy (quantitative and qualitative methods) and is based on a modular approach to organising pre-hospital care (Order of the Ministry of Defence of Ukraine No. 516, 2025). In particular, psychometric screening using the PCL-5 was integrated into the functional tasks of the emergency and primary care modules to ensure continuity of care. For statistical data analysis, correlation analysis was used to identify links between PTSD severity and the effectiveness of self-regulation, as well as analysis of variance (ANOVA) to examine differences between groups of military personnel with varying degrees of PTSD symptom severity (Field, 2024). Factor analysis was also used to identify latent factors influencing self-regulation in military personnel (Kline, 2023). For an in-depth analysis of qualitative data, thematic analysis of interviews was applied, which allowed for the identification of key patterns of emotional regulation and stress-coping strategies among respondents (Braun & Clarke, 2021).

The sample was formed on the basis of voluntary participation, subject to obtaining written informed consent from the study participants. One of the main limitations of the study was the use of self-report methods, which may be distorted by respondents' subjective perception of their symptoms. Furthermore, social factors, such as support from family and colleagues, may also influence the level of self-regulation, which was not accounted for in this study. The methods used allow for a comprehensive study of the psychological characteristics of self-regulation in military personnel with PTSD. The data obtained through psychometric tests, questionnaires and interviews contribute to

a better understanding of emotional regulation processes and may form the basis for the development of new psychocorrectional programmes for military personnel who have experienced combat stress.

◆ Results and Discussion

An analysis of the socio-demographic characteristics of the sample enabled the establishment of quantitative and qualitative parameters of the research subject. The distribution by age group demonstrates a predominance of early and middle adulthood: the largest proportion consists of military personnel aged 26-35 (33%) and 36-45 (31%). Indicators of total length of military service show considerable variation (ranging from less than 1 year to 58 years), with a median of 4 years. A characteristic feature of the sample is the high concentration of individuals with 2 to 5 years' service (40% of respondents), which allows the majority of respondents to be classified as specialists who have completed the initial phase of professional adaptation. The results of Pearson's correlation analysis revealed a weak positive correlation between age and professional experience ($r = 0.17$). This statistical pattern points to the specific nature of the formation of the current personnel, where a significant number of middle-aged individuals have a relatively short period of service, which raises the issue of transforming their prior life experience into military coping strategies. The author has systematised the empirical data obtained, covering demographic indicators, clinical characteristics and the specifics of regulatory processes, based on the research findings, and presented them in Table 1.

Table 1. Extended profile of the results of the empirical study of military personnel

Category	Indicators (characteristic)	n	%
Demographic profile	Men	1,465	95.5
	Women	69	4.5
	Married	970	63.2
Service history	Combatant	1,210	78.9
	No combat experience	324	21.1
Clinical condition (PTSD)	Presence of a PTSD diagnosis	1,368	89.2
	Absence of professional assistance	1,370	89.3
Emotional regulation	Difficulties with emotional self-control	693	45.2
	High capacity for regulation	660	43.0
	Low capacity for regulation	341	22.2
Functional status	Maintenance of motivation under stress	637	41.5
	State of fatigue and exhaustion	466	30.4

Source: compiled by the author

A high level of internal consistency of the instruments was established: Cronbach's α for the PCL-5 scale was 0.91, and for the ERQ subscales 0.84 (cognitive reappraisal) and 0.79 (expressive suppression), confirming the reliability of the measurements. The mean intensity of PTSD symptoms across the sample was $M = 48.6$ ($SD = 12.4$), which significantly exceeds the diagnostic threshold. A statistically significant inverse relationship was identified between the overall level of PTSD and the capacity for cognitive

reappraisal ($r = -0.48$; $p < 0.001$), indicating the role of deficits in trauma reinterpretation in exacerbating the disorder. At the same time, the strategy of expressive emotional suppression demonstrated a direct correlation with the intensification of symptoms ($r = 0.35$; $p < 0.001$), confirming that attempts to suppress emotional responses further deepen maladaptation among military personnel.

To gain a deeper understanding of the specifics of adaptive processes, a one-way analysis of variance (ANOVA)

was applied, which demonstrated statistically significant differences in emotional resilience depending on the intensity of combat experience ($F(2,1531) = 14.32$; $p < 0.001$). It was found that military personnel who had been in zones of active fire engagement for more than six months exhibited significantly lower levels of adaptive self-regulation compared to reserve groups. Additionally, factor analysis (principal component method) identified three latent factors that together explain 62% of the variance in regulatory processes: cognitive-emotional control (loading 0.78), which determines the capacity to reinterpret traumatic events; socio-behavioural activation (0.65), associated with the mobilisation of external support resources; and psychophysiological reactivity (0.54), reflecting the level of responsiveness to stress stimuli. The identified factor structure indicates a complex architecture of self-regulation among military personnel, in which the cognitive component is decisive in preventing destructive manifestations of PTSD.

The high rate of absence of professional assistance (89.3%) among respondents who were at psychological support centres, established during the study, indicates not a lack of access to services, but the representativeness of the initial screening stage. Most respondents were surveyed either at the time of their initial contact or during primary reintegration, i.e. at the stage preceding a full psychotherapeutic cycle. This confirms the critical role of emergency and primary care modules, as defined by Order of the Ministry of Defence of Ukraine No. 516 (2025), as strategic “entry points” for service personnel into the system of continuous psychosocial support. The data obtained during the study highlight the high prevalence of PTSD among military personnel, as well as significant difficulties in their emotional self-regulation following combat operations. The lack of psychological support for the majority of military personnel creates serious social and psychological problems, necessitating urgent changes in approaches to psychotherapeutic treatment and rehabilitation. Furthermore, the use of various self-regulation strategies, such as talking to loved ones and physical activity, is crucial for maintaining the psychological health of military personnel.

Common findings with other studies. The overall results of this study confirm the conclusions of previous research regarding the high prevalence of PTSD among military personnel who have actively participated in combat operations. The data obtained regarding the demographic profile of the respondents provide the necessary context for interpreting the characteristics of self-regulation in PTSD. The age maturity of the sample potentially acts as a resource for psychological resilience, as individuals in this age group typically possess a more differentiated self-regulation system compared to younger groups. However, a significant proportion of the sample (40%) has military service experience (2-5 years), which, combined with a weak correlation between age and service length ($r = 0.17$), indicates the phenomenon of a “professional gap”. For this category of military personnel, self-regulation processes

under combat stress are largely based on civilian behavioural patterns, which are not always adaptive in extreme situations. The specificity of the sample, in which biological age significantly exceeds specialised military experience, may explain the difficulties in managing negative emotions (such as anger and anxiety) described in the theoretical part of the study. Thus, age maturity in this research acts as a “double-edged” factor: on the one hand, it provides a cognitive resource for analysing situations; on the other, it may intensify internal conflict when encountering traumatic experiences due to the established civilian identity.

Thus, the results of the study showed that 89.2% of respondents have a PTSD diagnosis; however, the sample was specifically formed at entry points to the rehabilitation system, which is consistent with findings reported by other authors, in particular the work of P. Resick *et al.* (2015), who indicate a significant proportion of military personnel with PTSD following participation in combat operations, particularly in the United States. In their study, P. Resick *et al.* also emphasised the importance of examining emotional regulation among military personnel, as it facilitates adaptation to post-traumatic stress and improves the effectiveness of therapeutic interventions. Research by R. Boska *et al.* (2025) also confirms the importance of emotional self-regulation in the context of PTSD among military personnel. The findings, in which 45.2% of respondents reported difficulties with emotional self-control following combat operations, align with the conclusions of this study, which asserts that impairments in emotional regulation are a key factor in the development of PTSD symptoms. According to the study by A. Seligowski *et al.* (2015), military personnel who demonstrate poor emotional regulation are prone to more severe post-traumatic disorders, which also confirms the high significance of self-regulation in maintaining mental health. Furthermore, self-assessment of the ability to regulate negative emotions moderates the relationship between symptom severity and functional outcomes. A transdiagnostic approach to emotional regulation within the biopsychosocial model allows self-regulation to be viewed not only as a psychological but also as a biologically determined adaptive mechanism (Post *et al.*, 2021).

Despite general trends, some differences are also noted in comparison with other studies. In different samples, the level of PTSD symptoms may vary significantly depending on the context of combat operations, respondent selection criteria, and the interpretation thresholds of psychometric scales. This may be linked to differences in the research context: in the present study, the military personnel were involved in a full-scale war, which is likely to cause more serious psychological consequences compared to other types of conflict studied by other researchers. The study's findings also support the theory of N. Kucherenko & I. Prykhodko (2025), who argue that a high level of psychological resilience and the capacity for self-regulation are key factors that help military personnel adapt to combat conditions. According to the study, military personnel with high psychological resilience demonstrate better

results in adaptation and emotional control. This is consistent with the findings of K. Flood & R. Keegan (2022) and S. Panda *et al.* (2024), who emphasise the importance of psychological preparation for military personnel before and after combat operations to ensure better coping mechanisms in stressful situations.

The study paid significant attention to self-regulation strategies, particularly physical activity and social support. 27.6% of respondents indicated that they use physical activity to reduce stress, which aligns with the findings of B. Ford & J. Gross (2018), where physical activity is considered one of the most effective self-regulation strategies among military personnel. This confirms the importance of integrating physical exercise into rehabilitation programmes for military personnel with PTSD. The study's findings have significant practical implications. The results confirm the need to develop new psychotherapeutic programmes focused on the self-regulation of emotions and behaviour, which could form the basis for rehabilitation centres for military personnel with PTSD. Since more than 60% of respondents reported difficulties with emotional control, it is important to promote the development of emotional regulation training methods for military personnel who have experienced combat. Thus, the study's findings are consistent with international and Ukrainian publications, emphasising the importance of self-regulation as a critical mechanism for overcoming PTSD among military personnel. However, there are some differences in the severity of PTSD symptoms, which requires further investigation into the factors influencing military personnel's adaptation in various combat situations.

◆ Conclusions

The results of the conducted theoretical and empirical study have demonstrated that self-regulation is a key system-forming factor in the development, course, and overcoming of post-traumatic stress disorder, particularly under conditions of prolonged combat stress. The empirical data obtained confirm a high prevalence of post-traumatic stress disorder among military personnel who have participated in combat: nearly 89% of respondents have a PTSD diagnosis, which underscores the relevance of considering self-regulation within a biopsychosocial approach as an integrated mechanism. At the same time, the majority of respondents at the stage of initial contact do not receive adequate psychological support, highlighting the importance of improving existing systems of care. Particular attention should be paid to self-regulation as a key mechanism ensuring adaptation to stressful influences. Around 45% of respondents experience difficulties with emotional self-control, highlighting the need to develop new psychotherapeutic programmes aimed at improving emotional

regulation. Physical activity and social support proved to be effective strategies for reducing stress, confirming their importance in rehabilitation programmes. The results of the analysis of variance demonstrated that the level of regulatory mechanisms depended on the intensity of combat experience ($F \approx 14.3$; $p < 0.001$), whilst factor analysis identified three latent components (cognitive-emotional control, socio-behavioural activation, psychophysiological reactivity) that account for the majority of the variability in regulatory mechanisms.

The scientific novelty of the study lies in the quantitative confirmation and structural interpretation of the relationship between emotional regulation and the adaptation of military personnel following participation in combat operations, and the formalisation of the role of the cognitive component as the dominant factor in self-regulation. The development of new rehabilitation methods taking self-regulation into account is a crucial component for supporting the mental health of military personnel. The practical significance of these findings lies in their potential application to the development of psychological training, reintegration and support programmes for military personnel in Ukraine's security and defence sector. The limitations of the study are related to the use of self-report methods, which may be subjective, as well as to the influence of socio-contextual factors and the specific nature of the sample in combat conditions, which were not taken into account during the analysis. Promising areas for further research should focus on improving psychotherapeutic programmes aimed at emotional self-regulation, and on dynamic approaches to determining the effectiveness of various types of psychological support in the rehabilitation of military personnel after combat operations.

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None.

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Теоретико-емпіричне дослідження психологічних особливостей саморегуляції військовослужбовців із посттравматичним стресовим розладом

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♦ **Анотація.** Дослідження присвячене комплексному вивченню психологічних механізмів саморегуляції у військовослужбовців Сил Оборони України в умовах тривалої широкомасштабної збройної агресії Російської Федерації. Актуальність роботи зумовлена різким зростанням випадків посттравматичного стресового розладу серед учасників бойових дій. В умовах конвенційної війни високої інтенсивності динаміка стресових реакцій має кумулятивний характер, що вимагає перегляду класичних підходів до реабілітації та глибшого розуміння регуляторних процесів психіки. Метою статті було проведення теоретико-емпіричного дослідження психологічної структури та закономірностей функціонування механізмів саморегуляції у військовослужбовців із посттравматичним стресовим розладом для виявлення ключових регуляторних чинників адаптації та наукового обґрунтування нових підходів до психологічної реабілітації в межах нової державної парадигми та військових стандартів реінтеграції. Методологічний апарат базувався на комбінованій стратегії, що поєднала кількісні та якісні методи. Проведено анкетування репрезентативної вибірки ($n = 1534$), де 78,9 % респондентів є учасниками бойових дій, а також 50 глибинних інтерв'ю для верифікації якісних патернів адаптації. Для діагностики застосовувалися стандартизовані інструменти: PTSD Checklist for DSM-5 (PCL-5) та Emotion Regulation Questionnaire (ERQ). Математична обробка здійснювалася за допомогою кореляційного, дисперсійного та факторного аналізів у програмному середовищі IBM SPSS Statistics v.29. Емпіричні дані продемонстрували критичний стан психічного здоров'я особового складу: у 89,2 % опитаних верифіковано симптоматику посттравматичного стресового розладу. Виявлено, що 45,2 % військовослужбовців мають суттєві дефіцити емоційної саморегуляції, що корелює з інтенсивністю симптомів розладу. Встановлено високий показник відсутності попередньої фахової допомоги (89,3 %), що обґрунтовано як репрезентативність стадії первинного скринінгу та реінтеграції. Найбільш поширеними стратегіями саморегуляції визначено соціальну підтримку (39,2 %) та фізичну активність (27,6 %). Факторний аналіз дозволив виокремити латентні чинники, що визначають адаптивність військових у стресових умовах. Робота науково обґрунтовує необхідність інтеграції авторської моделі моніторингу психоемоційного стану та методів мультикомпонентної підтримки у державні протоколи реабілітації. Результати можуть бути використані для вдосконалення діяльності модулів невідкладних станів та первинної медичної допомоги, забезпечуючи перехід до системного кейс-менеджменту в секторі безпеки та оборони України

♦ **Ключові слова:** психологічна підтримка; моральна травма; регулятивні функції; учасники бойових дій; біопсихосоціальна модель; кейс-менеджмент; емоційний самоконтроль



The influence of personal resources and coping strategies on students' stress resilience

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◆ **Abstract.** In contemporary conditions of heightened psycho-emotional strain, students are increasingly confronted with difficulties related to academic activities, social adaptation, interpersonal interaction, and uncertainty about the future. Prolonged stress has a negative impact on mental health, academic performance, and quality of life, which underscores the importance of studying the mechanisms of psychological resilience. Personal resources – cognitive, emotional, motivational, and social – play a key role in ensuring stress resilience, determining an individual's ability to respond appropriately to challenges, adapt to change, and effectively solve life tasks. Coping strategies act as a practical mechanism for the implementation of these resources and ensure the regulation of the psycho-emotional state. The aim of the study was to determine the influence of personal resources and coping strategies on students' stress resilience, as well as to identify the interrelationships between psychological resources, coping methods and adaptive capabilities in academic and social environments. A total of 199 students from higher education institutions took part in the study. Of these, 175 were in Ukraine when completing the questionnaires, and 24 were abroad. The study was conducted in 2022-2024 – a period of heightened stress caused by military events. The WIPPF 2.0 questionnaire was used to assess personal resources, and the "Coping Strategies" questionnaire by Richard Lazarus was employed to identify dominant ways of coping with stress. The results showed that students predominantly use a combination of problem-focused and emotion-focused coping strategies, while avoidance is used less frequently but is characterised by significant individual variability. A higher level of development of personal resources (in particular primary and secondary abilities) is associated with more constructive coping with difficulties and a lower tendency towards avoidance. Social support models (family, peers, mentors) contribute to the use of problem-focused strategies, positive reappraisal of situations, and a reduction in avoidant behaviour. The highest level of stress resilience is ensured by the integration of personal and social resources, which is reflected in more adaptive forms of behaviour

◆ **Keywords:** adaptation; psycho-emotional strain; self-regulation; avoidance; mental well-being

◆ Introduction

Contemporary young people studying in higher education institutions are increasingly confronted with psycho-emotional strain associated with academic activity, social adaptation, interpersonal interactions, and uncertainty about the future. Prolonged stress negatively affects mental health, academic performance, and overall quality of life, which necessitates an in-depth study of the mechanisms of psychological resilience. Personal resources are viewed as

a complex of internal personality characteristics – cognitive, emotional, motivational and behavioural – that facilitate adaptation to stressful situations and the overcoming of psychological and emotional difficulties. They are a key component of psychological resilience, as they determine a person's ability to restore stability after stress and effectively mobilise internal reserves. This concept is supported by the research of M. Tyutiunnyk (2025), which analyses the

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relationship between personal resources and stress resilience, particularly in the Ukrainian context. Contemporary approaches interpret stress resilience not as a stable trait, but as a dynamic process of interaction between resources, situations and coping. As noted by L. Mazai (2023), it is formed through the constant renewal of personal resources – self-regulation, meaning in life, social support – rather than merely through their presence. Stress resilience is defined by the ability to maintain functionality and mental equilibrium under conditions of prolonged or repeated stress. Ukrainian psychologists emphasise that effective resilience is formed through a combination of personal resources and behavioural coping strategies. Indicators of psychological resilience are complex in nature and depend both on internal resources – patience, optimism, self-regulation – and on external factors of support, in particular social assistance and the presence of role models. The integration of these components determines the effectiveness of adaptation to stressful conditions. The socio-psychological circumstances in Ukraine, particularly the war, significantly heighten the need to study the mechanisms of resilience among young people. The study by L. Sak & N. Maluk (2025) analyses the psychological resources of the Ukrainian population during the war, including methods of coping with stress, which underscores the relevance of such research for young people in education as well.

The increased focus on the role of personal resources in the development of resilience is driven by contemporary socio-psychological challenges, including the significant impact of military events on the mental health of the population. Stress coping strategies are viewed as a combination of active and passive behavioural approaches that facilitate adaptation to difficult life circumstances. R. Kulakov & L. Kulakova (2024) highlighted their important role in young people's psychological responses to academic and social difficulties. Constructive coping methods – planning, taking responsibility, positive reappraisal – enhance adaptive responses and act as predictors of high stress resilience, whereas passive methods, particularly avoidance or distancing, reduce the effectiveness of coping with stress. In conditions of war and crisis-driven change, the concept of development becomes crucial: effective coping strategies not only facilitate adaptation but can also stimulate personal growth. Young people employ various behavioural models of stress response, yet their choices are not always adaptive. The most common are escape/avoidance, positive reappraisal and self-control, which indicate a desire to reduce emotional tension without a deep analysis of the problem. The least common remains the strategy of taking responsibility, which points to an insufficient readiness to actively resolve difficulties.

Compared to young people in vocational training institutions, those studying at higher education institutions are more likely to employ constructive ways of coping with stress – such as seeking social support and planning solutions to problems. This is linked to a greater awareness of their own resources and well-developed self-regulation

skills. At the same time, among the dominant models for coping with stress, a significant proportion of destructive mechanisms, such as avoidance or escape, are still observed, which reduces the effectiveness of adaptation. The work of S.V. Puchno (2023) demonstrated that very low, low and below-average levels of stress resilience are associated with marked sensitivity to stressors. Such individuals are characterised by an intense emotional reaction to stressful events and prolonged distress over their consequences, which can lead to a state of chronic or prolonged stress. Individuals with an average level of stress resilience demonstrate a moderate reaction to the influence of stressors, and negative emotional experiences are usually shorter in duration and less intense. In contrast, stress resilience levels above the average (above average, high and very high) are characterised by a less pronounced reaction to stressors, as well as a quicker recovery of emotional state. In such cases, the experience of stressful situations is less intense and passes more quickly. Regardless of the chosen coping model, its application helps to reduce psychological and emotional tension. The most effective strategy for reducing stress is emotional expression, whereas avoidance provides only short-term relief. According to Yu.S. Kozlovska (2025), the problem-oriented approach requires more time and resources, but ensures deeper adaptation. An analysis of the relationship between coping strategies and stress levels shows that, at high stress levels, confrontation and seeking social support are more common; at moderate levels, planning, positive reappraisal and taking responsibility; and at low levels, a combination of support and avoidance. It is the moderate level of stress that demonstrates the most adaptive coping model. At the same time, as noted by I. Melnychuk & H. Horska (2023), it is inappropriate to assess any strategy as “effective” or “ineffective” without taking context into account.

Young people often utilise religious support and positive reframing of situations, which highlights the importance of value- and meaning-oriented perspectives and cognitive reappraisal as key mechanisms for adapting to stressful conditions. The choice of coping strategies is largely determined by the socio-cultural context (Ben Fadhel & Adawi, 2020). A study by B.Y. Hatunoglu (2020) found no gender differences in self-confidence or seeking social support. At the same time, the course of study influences the tendency towards problem-focused responses. S.M. Buzhynska *et al.* (2021) noted that the development of the ability to cope with stress in young people is largely determined by the level of state and trait anxiety, as well as the characteristics of the use of various coping strategies. Among these, the following types of coping behaviour stand out: problem-solving orientation, emotionally directed response, avoidance, distraction and social distraction. Personal resources play an important role in the development of psychological resilience; these include a person's material, physical, informational, instrumental and psychological capabilities. Key factors contributing to an increased ability to effectively cope with stressful

situations during student life include the ability to solve problems constructively under pressure, a relatively low level of anxiety, as well as individual psychological characteristics, in particular confidence in one's own abilities and an optimistic attitude towards the future. Satisfaction with one's chosen profession and a positive emotional backdrop to academic activities are also important prerequisites. The development of these qualities can be facilitated by incorporating various forms of psychological and educational support into the educational process, including seminars, practical sessions, training courses and simulation methods. Such approaches promote successful adaptation to the learning environment, boost confidence in one's own abilities and stimulate motivation for further professional development.

Stress factors may have both negative and mobilising effects. Most young people tend to prefer positive response patterns, such as confidence in their own abilities, optimism, and seeking social support. At the same time, higher levels of distress are more often observed among students in earlier years of study, individuals without their own income, those with limited support from the educational environment, and among people with prior mental health disorders (Mozid, 2022). Active coping with difficulties and seeking emotional support contribute to the regulation of psycho-emotional strain, whereas self-blame tends to intensify it. Thus, students' stress resilience is formed through the interaction of personal resources, coping strategies, and social support. This becomes particularly significant in the context of contemporary social challenges and requires further research as well as the development of psychological support programmes for students. The aim of the study was to analyse the role of personal resources and coping strategies in the development of students' stress resilience, as well as to examine the relationships between psychological resources, methods of coping with stress, and their impact on adaptation in academic and social contexts. The objectives of the study were: to determine the mean indicators of personal resources and coping strategies among students; to assess the level of expression of different types of coping strategies among students; to analyse the relationships between personal resources and coping strategies in order to identify correlation patterns.

◆ Materials and Methods

The study was conducted in 2022-2024, during the period of full-scale military actions, which resulted in an increased level of stress load within the sample. The sample was non-random and formed according to the principle of respondent availability. It consisted of 199 students from various higher education institutions, namely: students of the University "Ukraine" – 20.10% (40 respondents); students of Taras Shevchenko National University of Kyiv – 37.19% (74 respondents); students of the Institute of Postgraduate Education (Taras Shevchenko National University of Kyiv) – 34.17% (68 respondents); students of the Academy of Labour, Social Relations and Tourism – 4.02%

(8 respondents); and students of other higher education institutions – 4.52% (9 respondents). In terms of year of study: first year – 7.54%, second year – 8.54%, third year – 5.03%, fourth year – 3.52%, fifth year – 75.37%. By gender: female – 80.40%, male – 19.60%. Place of residence at the time of completing the questionnaire: 24 students were outside Ukraine and 175 were in Ukraine. The survey was conducted in the format of electronic testing using the Google Forms platform. All respondents voluntarily agreed to participate and were informed about the aims of the study, which was conducted in accordance with the principles of the Helsinki Declaration of the World Medical Association (2024). In the questionnaire data, students indicated their gender, age, name of the higher education institution, year of study, and place of residence at the time of completing the questionnaire (Ukraine or abroad). Students were asked to assess their level of stress during the war on a scale from 1 to 3 (where 1 = high level of stress; 2 = neutral level; 3 = low level of stress). High stress was reported by 50.25% of respondents, a neutral level by 39.70%, and a low level by 10.05%.

The Wiesbaden Questionnaire of Positive Psychotherapy and Family Therapy (WIPPF 2.0) was used to assess internal personal resources and identify individuals' actual and potential capacities. The methodology is based on the theoretical principles of Positive Psychotherapy and allows for the evaluation of value systems, resource characteristics, and features of psychological functioning. In addition, the questionnaire made it possible to analyse the functioning of social norms and interpersonal relationships, as well as to identify potential disturbances in the sphere of relational capacities. The Ukrainian adaptation by L. Serdiuk (2022) corresponds to contemporary approaches to the study of positive mental health and can be used in psychological research as a reliable assessment tool. The Ways of Coping Questionnaire (Lazarus & Folkman, 1988) was used to identify dominant coping strategies: problem-focused, emotion-focused, and avoidance strategies.

For statistical processing of the results, methods of descriptive and inferential statistics were applied. Descriptive statistics included the calculation of the mean (Mean), standard deviation (SD), minimum (Min), and maximum (Max) values of the indicators. The Student's t-test was used to compare mean values between groups. Prior to applying parametric methods, the normality of data distribution was tested using the Shapiro-Wilk test, which made it possible to assess the suitability of using the t-test and other parametric statistical procedures. To analyse the structure of the sample, the percentage distribution of levels (high, moderate, low) of personal resources and coping strategies was also determined. To identify relationships between indicators of resilience and individual components of personal resources, correlation analysis using Pearson's coefficient was conducted (* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$). Statistical analysis of the obtained results was carried out using the jamovi software package, version 2.6.19.

◆ Results and Discussion

In contemporary psychology, stress resilience is viewed as a complex, multidimensional phenomenon, the formation of which is associated with the interaction of personal resources, coping strategies, and the social context. Personal resources, encompassing cognitive, emotional, motivational, and social factors, play a key role in shaping an individual's ability to respond effectively to stressful situations, adapt to change, and solve life tasks. At the same time, coping strategies function as a system of behavioural and cognitive methods of dealing with stress through which these resources are realised in practical activity. The classical approach of S. Folkman & R.S. Lazarus (1988) conceptualised coping primarily as a response to a threatening situation. Contemporary research interprets it more broadly – as an active mechanism for regulating mental states and behaviour. As emphasised by R. Schwarzer (2024), under conditions of traumatisa-tion caused by war, key resources include social support and self-efficacy, which determine psychological well-being and resilience. A high level of self-efficacy enables constructive responses to traumatic events, whereas a low level increases the risk of post-traumatic stress disorder and other mental health disturbances. In this context, coping acts not only as a reaction to stress but also as a system of self-regulation capable of preventing the development of distress. Coping strategies are of considerable importance for academic performance, as they influence the ability to overcome learning difficulties and maintain motivation. Problem-focused strategies activate internal resources, promote self-regulation, and facilitate goal-directed problem-solving. In contrast, emotion-focused or avoidant responses may reduce the effectiveness of academic activity. The issue of stress resilience becomes particularly relevant in the context of contemporary socio-psychological challenges. Young people face specific stressors, including academic overload, uncertainty about the future, social instability, and the impact of wartime events. The study by O.D. Kresan *et al.* (2025) showed that creative youth are particularly vulnerable to stress factors and require the development of psychological resources to support mental well-being.

As noted by L. Serdiuk (2021), primary actual abilities play an important role in shaping an individual's emotional attitude towards themselves and others in interpersonal interaction. They function as significant regulators of behaviour, as they are closely linked to the psychodynamic characteristics of the individual, particularly the sense of self-worth and personal significance. The development of these abilities facilitates the realisation of personal

potential, enhances the capacity to effectively withstand stressors, and supports life satisfaction and psychological well-being. In this regard, such internal experiences as awareness of one's identity, a sense of self-continuity, belief in one's own abilities, and trust in others are of particular importance. B. Sayis *et al.* (2024) also emphasised the role of positive psychological resources – optimism, meaning in life, self-efficacy, a positive image of the future, and psychological well-being. In particular, the Best Possible Self intervention contributes to an increase in positive affect and the development of self-regulation resources among students. The study by I. Nadyukova & A.C. Frenzel (2025) demonstrated that even under the challenging conditions of war, teachers employ various coping strategies, including emotional regulation and seeking social support, while positive experiences derived from professional activity act as a protective factor. In this context, the concept of social and collective efficacy is also important – namely, the shared belief of a group or community in its ability to overcome difficulties and restore social connections. Psychological interventions, particularly cognitive-behavioural approaches, are aimed at strengthening belief in one's own capabilities, developing social support, and expanding networks of mutual assistance. At the same time, social support may sometimes be accompanied by the effect of “shared stress experience”, which should be taken into account in psychological practice. The level of stress is directly related to the types of coping strategies an individual employs. At the same time, there is a possibility of post-traumatic growth, whereby overcoming difficult life events contributes to the development of personal resources and new meanings in life (Dubchak, 2018). Despite the considerable number of theoretical models, the scientific literature still lacks sufficiently systematised empirical data on how the combination of personal resources and coping strategies influences the level of stress resilience and adaptive behaviour of young people in academic, social, and inter-personal environments.

Table 1 presents descriptive statistical indicators of the average level of expression of coping strategies in the studied sample. In particular, it includes the maximum and minimum values for each scale, mean scores, and standard deviation, reflecting the degree of variability in responses. This approach makes it possible to assess the predominant ways of coping with stressful situations among students – namely problem-focused, emotion-focused, and avoidance strategies – as well as to determine their relative expression within the structure of respondents' coping behaviour.

Table 1. Average level of coping strategies

Scale	Max	Min	Mean	SD
Problem-focused coping	18	0	12.21	3.30
Emotion-focused coping	21	2	12.26	4.17
Avoidance strategies	24	2	11.88	4.30

Source: compiled by the author

The data obtained indicate that students demonstrate a moderate level of use of coping strategies. Problem-focused and emotion-focused strategies are used at roughly the same level (~12.2-12.3), which indicates a balanced approach to overcoming stressful situations: through active actions and working with the emotional sphere. Avoidance strategies have slightly lower average scores, though the difference from other types of coping is negligible. This suggests that students are less likely to resort to avoiding problems when trying to deal with them. The high variance in avoidance strategies ($SD = 4.30$) indicates significant individual variation: some students actively use avoidance, whilst others hardly employ such strategies at all. Overall,

students' coping strategies are characterised by proactivity, with a predominance of goal-directed problem-solving and emotional regulation. At the same time, individual differences in the use of avoidance strategies are noted, reflecting students' varying readiness to cope with stressful situations. Table 2 presents the percentage distribution of the levels of expression of coping strategies among respondents. In particular, it shows the proportion of students with high, medium and low levels of use of problem-focused, emotion-focused and avoidance strategies. This approach allows to identify the dominant models of stress management, assess their prevalence among study participants and trace general trends in the structure of coping behaviour.

Table 2. Level of severity of coping strategies (%)

Scale	High	Medium	Low
Problem-focused coping	47.24	48.74	4.02
Emotion-focused coping	42.71	54.27	2.51
Avoidance strategies	24.12	66.33	9.55

Source: compiled by the author

Analysis of the data shows that problem-focused coping strategies are used by students at a high level in almost half of cases (47.24%), whilst the majority of respondents (48.74%) use them at a moderate level. Only a small proportion (4.02%) demonstrate a low level of use of these strategies. As for emotion-focused coping strategies, moderate use predominates (54.27%), high use is observed in 42.71% of students, and low use in 2.51%. Avoidance strategies are mostly used at a moderate level (66.33%), a high level is characteristic of 24.12% of students, and a low level of 9.55%. Thus, it can be concluded that students predominantly choose moderate coping

strategies, with problem- and emotion-focused methods being actively utilised. Avoidance strategies are used less frequently and more often at the moderate level, indicating a general tendency towards actively overcoming stressful situations. Table 3 presents descriptive statistical indicators of students' personal resources, assessed using the WIPPF methodology. Such an analysis allows for the assessment of the level of development of primary and secondary relevant abilities, the characteristics of the balance model's spheres, as well as the expression of the 'role model' indicator as components of the system of students' personal resources.

Table 3. Average scores for students' personal resources (WIPPF)

Scale	Max	Min	Mean	SD
Secondary actual abilities	12	3	8.74	1.74
Primary actual abilities	12	3	9.23	1.74
Domains of the balance model	12	3	8.27	1.95
Role model	12	3	7.55	2.65

Source: compiled by the author

The analysis of the obtained data shows that the mean score for primary actual abilities is the highest (9.23), indicating a sufficient level of basic self-regulation and students' ability to effectively solve life tasks. Secondary actual abilities have a slightly lower level (8.74), reflecting a moderate level of more advanced skills related to self-development and adaptation to new conditions. The domains of the balance model (8.27) indicate a moderate development of internal stability and harmonious interaction between the individual and their environment. The lowest mean score is observed on the "role model" scale (7.55), accompanied by a high standard deviation (2.65), which points to considerable variability within the sample and a need to develop social reference points, role-based learning, and leadership models of behaviour. Thus, students are characterised by

a moderate level of personal resources: basic self-regulation skills are more developed, whereas social and role-based orientations are less pronounced. This highlights the relevance of implementing training programmes aimed at developing role models, mentorship, and social support. Table 4 presents the percentage distribution of students according to levels of development of personal resources in accordance with the WIPPF methodology. It indicates the proportion of respondents with high, moderate, and low levels of development of secondary and primary actual abilities, the domains of the balance model, and the "role model" indicator. This approach makes it possible to assess the structure of personal resources within the sample, identify dominant levels of their expression, and outline directions for further psychological support of students.

Table 4. Distribution of students by levels of WIPPF personal resource indicators (%)

Scale	High	Medium	Low
Secondary actual abilities	37.73	55.60	6.67
Primary actual abilities	47.11	49.37	3.52
Domains of the balance model	25.75	66.33	7.92
Role model	25.71	49.92	24.37

Source: compiled by the author

The analysis shows that the majority of students demonstrate a moderate level of development of personal resources across all categories. A high level is most pronounced in primary actual abilities (47.11%) and secondary abilities (37.73%), reflecting the formation of basic skills of independence and adaptive behaviour. A low level in the “role model” indicator (24.37%) suggests that a considerable proportion of students require mentorship, the development of social models, and role-based learning. Thus, in the studied sample, personal resources are characterised by a moderate level of development: basic self-regulatory abilities are better developed than social and

role-based orientations. To enhance students’ stress resilience, it is important to focus on the development of role models and social interaction skills. Table 5 presents the results of the correlation analysis, demonstrating the relationships between indicators of personal resources and coping strategies. In particular, correlations were analysed between the scales of personal resources (secondary and primary actual abilities, domains of the balance model, and the role model indicator) and various coping strategies, such as self-control, confrontational coping, distancing, acceptance of responsibility, planning problem-solving, positive reappraisal, seeking social support, and avoidance.

Table 5. Correlation analysis of variables of personal resources and coping strategies

Scales								
	Self-control	Confrontational coping	Distancing	Acceptance of responsibility	Planning problem-solving	Positive reappraisal	Seeking social support	Avoidance
Secondary actual abilities								
Punctuality	0.157*	0.214**	-0.161*					
Diligence					0.196**	0.196**		
Obedience		-0.218**						
Neatness				0.201**				
Primary actual abilities								
Patience		-0.192**					-0.151*	-0.295***
Contacts	-0.143*			-0.147*		0.168*		-0.290***
Hope		0.160*			0.408***	0.419***		-0.246***
Time								-0.297***
Tenderness/sexuality								-0.147*
Love				-0.197**	0.337***	0.317***		-0.347***
Faith/meaning/religion					0.176*	0.350***		-0.167*
Trust					0.146*			
Balance model								
Body/sensations		0.164*			0.421***	0.340***		-0.158*
Activity		0.153*			0.395***	0.354***		-0.201**
Fantasy/future								-0.228**
Role model								
We				-0.153*	0.265***	0.200***		-0.171*
Father						0.181*		-0.145*
Others					0.176*	0.350***		-0.167*
You								-0.226**

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Source: compiled by the author

Secondary actual abilities:

♦ Punctuality: a weak positive correlation with self-control (0.157*) and confrontational coping (0.214**), and a weak negative correlation with distancing (-0.161*). More organised students are more likely to demonstrate active behaviour in stressful situations and are willing to take responsibility.

♦ Diligence: positively correlates with acceptance of responsibility and planning of actions (0.196**), reflecting the ability to effectively structure behaviour under stress.

♦ Obedience and neatness: obedience negatively correlates with confrontational coping (-0.218**), while neatness facilitates acceptance of responsibility (0.201**).

Primary actual abilities:

- ♦ Patience: negatively correlates with confrontational coping (-0.192**) and seeking social support (-0.151*), indicating a calmer, less conflict-prone response to stress.

- ♦ Contacts: positively associated with positive reappraisal (0.168*), but negatively with self-control, acceptance of responsibility, and avoidance (from -0.143* to -0.290***), suggesting a balance between social interaction and individual regulation.

- ♦ Hope: enhances planning problem-solving (0.408***) and positive reappraisal (0.419***), while reducing avoidance (-0.246***), reflecting active exploratory and cognitive regulation.

- ♦ Time and tenderness/sexuality: negatively correlate with avoidance (-0.297***, -0.147*), thus contributing to more constructive responses to stress.

- ♦ Love and faith/meaning/religion: support planning and positive reappraisal (0.317***-0.337***), while simultaneously reducing avoidance of stressful situations.

Balance model:

- ♦ Body/sensations and activity: positively correlate with confrontational coping (0.153*-0.164*), planning problem-solving (0.395***-0.421***), and positive reappraisal (0.340***-0.354***), while showing weak negative correlations with avoidance (from -0.158* to -0.201**).

- ♦ Fantasy/future: a negative correlation with avoidance (-0.228**) indicates a conscious orientation towards development and the future.

Role model:

- ♦ “We”: positively associated with planning (0.265***) and positive reappraisal (0.200***), and negatively with acceptance of responsibility (-0.153*) and avoidance (-0.171*).

- ♦ “Father” and “Others”: positively correlate with positive reappraisal (0.181*-0.350***) and planning problem-solving, while simultaneously reducing avoidance.

- ♦ “You”: negatively correlates with avoidance (-0.226**), demonstrating the ability to cope with difficulties independently.

The results of the study confirm that students' personal resources and the coping strategies they choose play a decisive role in the development of stress resilience and the ability to adapt to contemporary socio-psychological challenges. The analysis of the obtained data showed that students demonstrate a moderate level of expression of both problem-focused and emotion-focused coping strategies, indicating a balanced approach to dealing with stressful situations. The mean values of these strategies reflect approximately equal activity in the use of behavioural and emotional mechanisms of tension regulation. Avoidance strategies are used somewhat less frequently; however, the high variance indicates significant individual differences among students: some actively avoid stressful situations, while others hardly use such strategies at all. Correlation analysis demonstrated that a high level of personal resources serves as a prerequisite for the effective use of constructive coping strategies.

Students with well-developed secondary and primary actual abilities, as well as a high integration of physical, emotional, and cognitive components, are more likely to use planning problem-solving and positive reappraisal, and less likely to avoid stressful events. This indicates a direct mechanism of influence: internal resources support cognitive and emotional regulation, thereby enhancing the effectiveness of coping with stress. Social resources, particularly role models, function as an additional factor in supporting and shaping adaptive behaviour. The interaction between personal and social resources creates a comprehensive structure of stress resilience: students with more developed internal resources and strong social models demonstrate the highest levels of adaptability in stressful situations.

The obtained results confirm that students' personal resources and their choice of coping strategies act as interrelated components in the development of stress resilience, particularly under conditions of chronic social strain. The analysis revealed a moderate level of use of both problem-focused and emotion-focused strategies, while the level of avoidance was relatively lower. This is consistent with the transactional model of stress by S. Folkman & R.S. Lazarus (1988), according to which effective coping involves a flexible combination of different types of coping depending on the appraisal of the situation. Students do not rely on a single type of response but rather employ combined strategies of action and emotional regulation. The high proportion of students experiencing strong subjective stress (over 50%) corresponds with findings from studies on youth psychological functioning in conditions of prolonged crises. In particular, K. Litwic-Kaminska *et al.* (2023) emphasised the role of resilience as a key buffer between stress and maladjustment. In this sample, the highest indicators were observed in primary actual abilities – basic self-regulatory resources – which confirms the fundamental role of internal control, engagement, and challenge acceptance. Similar trends were identified by C. Wolfner *et al.* (2023), highlighting the importance of developing adaptive coping strategies.

Correlation analysis demonstrated that a high level of personal resources is a prerequisite for the use of constructive coping strategies. Students with well-developed secondary and primary actual abilities, as well as a high level of integration of physical, emotional, and cognitive components, are more likely to employ planning problem-solving and positive reappraisal, while avoidance is used less frequently. This confirms a direct mechanism: internal resources support cognitive and emotional regulation, thereby enhancing the effectiveness of coping with stress. As noted by O. Chykhantsova (2021), the ability to effectively regulate emotional experiences in stressful situations and the development of resilience largely depend on the level of development of primary actual abilities. These include a sense of self-identity and self-continuity, belief in one's own capabilities, and trust

in others. At the same time, among secondary abilities, such qualities as diligence, responsibility, and thrift are associated with resilience. This suggests that the ability to control stressful situations is largely supported by cognitive abilities that reflect successful activity and orientation towards social norms. Thus, personal resources serve as an important factor in the formation and development of resilience. At the same time, an individual's readiness to cope effectively with difficulties is not universal: for some, it is hindered by a lack of experience in dealing with challenging life situations or by limited internal resources.

Of particular importance is the identified relationship between hope, meaning in life, love, and adaptive coping strategies. These findings align with the PERMA model of positive psychology, which emphasises the role of positive emotions, optimism, and meaning orientations in coping with stress (Kovich *et al.*, 2023). The presence of value-meaning resources contributes to a reduction in avoidance and a more active use of constructive strategies. Social models ("role models") demonstrate the lowest mean level and a considerable proportion of low values; however, they show an important relationship with planning and positive reappraisal. This is consistent with the research of G.A. Bonanno (2004) on psychological resilience, where social support and observation of adaptive behavioural models serve as key factors in recovery after traumatic events. Negative correlations between patience and seeking social support indicate that during periods of chronic stress, autonomy may be more functional than dependence on others. A distinctive feature of this study is that it was conducted under conditions of a full-scale war, which increases the level of chronic stress. In such a context, the moderate use of avoidance strategies may perform a protective function for the psyche, which explains certain differences from studies conducted in peacetime. Overall, students' stress resilience is formed as an integrative system, where:

- ♦ internal resources facilitate self-regulation and active problem-solving;
- ♦ value- and meaning-based resources support positive reappraisal;
- ♦ social models promote adaptive behaviour;
- ♦ coping strategies act as a mechanism for utilising these resources.

The obtained data both confirm and extend contemporary theoretical approaches to understanding stress resilience. In conditions of an extreme social context, the most effective approach is not a single type of coping, but rather a balance of internal and social resources combined with flexible adaptation strategies. This opens up prospects for the development of comprehensive psychological support programmes for students, aimed not only at reducing stress but also at enhancing the individual's resource potential.

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♦ Conclusions

As a result of the study, students demonstrated a balanced use of problem-focused and emotion-focused coping strategies. Avoidance strategies were used less frequently; however, high individual variability was observed: some students actively relied on them, while others scarcely resorted to avoidance. Well-developed personal resources, particularly the domains of the balance model and primary and secondary actual abilities, were significantly correlated with the use of constructive coping strategies and a reduction in avoidance. Primary abilities (self-regulation, responsibility, organisation) were associated with active problem-focused strategies, whereas their deficit was linked to increased use of avoidance. Social resources – family, peer groups, and other significant individuals – supported active problem-solving and positive reappraisal of situations, while simultaneously reducing the tendency towards avoidance. Orientation towards significant others ensured more adaptive ways of coping with difficulties, highlighting the importance of the "role model" as an external resource of stress resilience. The highest level of stress resilience and adaptive behaviour was formed through the synergy of internal personal resources and social support, combined with constructive coping strategies. The harmonious development of the domains "body-activity-contacts-future" contributed to effective planning, positive reappraisal, and a reduction in maladaptive forms of coping. Spiritual and value-based resources (faith, meaning, love, hope) strengthened active coping strategies, demonstrating their protective function under conditions of prolonged stress. For the first time, a comprehensive analysis of the relationship between personal resources and coping strategies in the formation of students' stress resilience during the full-scale war in Ukraine was conducted. The study made it possible to conceptualise stress resilience as a multidimensional system encompassing cognitive, emotional, behavioural, and social components. Prospects for further research lie in examining the long-term impact of the development of personal resources, such as emotional awareness, physical state awareness, and cognitive mobility, on students' stress resilience under various stress factors. It is also promising to analyse the influence of social support models, including mentorship, group interactions, and family involvement, on strengthening constructive mechanisms for coping with stress.

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♦ Conflict of Interest

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Вплив особистісних ресурсів та копінг-стратегій на стресостійкість студентів

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✦ **Анотація.** У сучасних умовах підвищеного психоемоційного напруження студенти дедалі частіше стикаються з труднощами, пов'язаними з навчальною діяльністю, соціальною адаптацією, міжособистісною взаємодією та невизначеністю майбутнього. Тривалий стрес негативно позначається на психічному здоров'ї, академічній успішності та якості життя, що актуалізує дослідження механізмів психологічної стійкості. Особистісні ресурси – когнітивні, емоційні, мотиваційні та соціальні – відіграють ключову роль у забезпеченні стресостійкості, визначаючи здатність особистості адекватно реагувати на виклики, адаптуватися до змін і ефективно вирішувати життєві завдання. Стратегії подолання виступають практичним механізмом реалізації цих ресурсів і забезпечують регуляцію психоемоційного стану. Мета дослідження – визначити вплив особистісних ресурсів і копінг-стратегій на рівень стресостійкості студентів, а також з'ясувати взаємозв'язки між психологічними ресурсами, способами подолання стресу та адаптивними можливостями в академічному і соціальному середовищі. У дослідженні взяли участь 199 студентів закладів вищої освіти. Із них 175 осіб перебували на території України під час заповнення опитувальників, 24 – за кордоном. Дослідження проводилося у 2022-2024 роках – період підвищеного стресового навантаження, зумовленого воєнними подіями. Використано опитувальник WIPPF 2.0 для оцінки особистісних ресурсів та опитувальник «Копінг-стратегії» Річарда Лазаруса для визначення домінантних способів подолання стресу. Результати засвідчили, що студенти переважно використовують поєднання проблемно-орієнтованих і емоційно-орієнтованих стратегій подолання, тоді як уникнення застосовується рідше, але характеризується значною індивідуальною варіативністю. Вищий рівень розвитку особистісних ресурсів (зокрема первинних і вторинних здібностей) пов'язаний із більш конструктивним подоланням труднощів і нижчою схильністю до уникнення. Соціальні моделі підтримки (сім'я, однолітки, наставники) сприяють використанню проблемно-орієнтованих стратегій, позитивній переоцінці ситуації та зменшенню унікальної поведінки. Найвищий рівень стресостійкості забезпечує інтеграція особистісних і соціальних ресурсів, що проявляється в більш адаптивних формах поведінки.

✦ **Ключові слова:** адаптація; психоемоційне навантаження; саморегуляція; уникання; психічне благополуччя



Virtual reality technologies in the system of psychological assistance to military personnel after participating in combat operations

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◆ **Abstract.** The purpose of the study was to carry out a theoretical analysis of the possibilities of using virtual reality technologies in the system of psychological assistance to military personnel after participating in combat operations. The psychological consequences of combat experience, in particular post-traumatic stress disorder, anxiety states, violation of emotional regulation, and difficulties of social adaptation, necessitate a search for innovative approaches to psychological support. Contemporary scientific publications devoted to the use of virtual reality therapy (VR therapy) in working with combat psychotraumatization were analysed. The theoretical foundations of using virtual reality as an immersive psychological tool that combines cognitive, emotional, and sensorimotor components of experience were substantiated. The main areas of using VR therapy in the psychological rehabilitation of military personnel were identified, in particular, exposure work with traumatic memories, development of emotional regulation skills, restoration of psychological resources, and social and professional readaptation. Special attention was paid to resource VR environments aimed at restoring the psychoemotional state and developing self-regulation skills. The advantages and limitations of using VR technologies in psychological practice, and prospects for their integration into the system of psychological assistance to the military in Ukraine, were outlined. It was determined that VR therapy can be effectively applied within the framework of exposure work with traumatic memories, development of emotional regulation skills, restoration of psychological resources, and in the process of social and professional readaptation of military personnel. The use of immersive virtual environments allowed creating safe conditions for gradual development of combat experience and reducing the risk of retraumatization. The practical significance of the study is to determine the possibilities of integrating VR technologies into the practice of psychological assistance to military personnel and outline guidelines for the introduction of immersive therapeutic tools in programmes of psychological rehabilitation of combat veterans

◆ **Keywords:** rehabilitation; combatants; post-traumatic stress disorder; immersive technologies; exposure therapy

◆ Introduction

Contemporary military conflicts are accompanied by a significant increase in the number of military personnel exposed to the psychotraumatic impact of military operations. Chronic stress, immediate threat to life, loss of siblings, injuries, and moral dilemmas determine the development of a wide range of psychological disorders, among which a special place is occupied by post-traumatic stress disorder (PTSD), anxiety and depressive states, disorders of sleep and emotional regulation. In this regard, the problem

of effective psychological assistance to military personnel after participating in combat operations becomes particularly relevant. Conventional psychotherapeutic approaches, which rely primarily on verbalising traumatic experiences, are not always sufficiently effective when working with military personnel, who typically struggle with emotional self-disclosure, tend to avoid memories, and exhibit a high degree of psychological control. This leads to the need to introduce innovative methods of psychological

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rehabilitation that can provide safe, controlled and simultaneously effective treatment of combat psychotrauma. One of these promising areas is the use of virtual reality (VR) technologies in the system of psychological assistance.

VR therapy allows simulating realistic or symbolic environments in which military personnel can gradually process traumatic experiences, develop emotional regulation skills, restore cognitive functions, and adapt to the conditions of peaceful life. An important advantage of VR is the ability to individualise therapeutic effects and reduce the risk of retraumatisation by controlling the intensity of stimuli. Despite the active development of VR technologies in psychotherapy and psychological rehabilitation of military personnel in the European Union and the United States of America, where VR exposure therapy is widely used to treat PTSD and other traumatic conditions, in Ukraine the use of these technologies in the system of psychological assistance to combat veterans remains insufficiently systematised at the theoretical and methodological levels (Difede *et al.*, 2022). The study by S. Folke *et al.* (2023) and L. Loucks *et al.* (2025) showed that VR therapy creates a controlled and safe environment for gradual exposure to traumatic memories, which helps to reduce PTSD symptoms and improve psychological adaptation of military personnel after combat experience. This makes it necessary to generalise contemporary scientific approaches, analyse the possibilities and limitations of using VR in working with military personnel after participating in combat operations.

N.V. Pavlyk (2024) analysed the main areas of psychological rehabilitation of military personnel in the context of their professional and social adaptation. N.V. Pavlyk considered psychological rehabilitation as a multi-level process that combines psychotherapy, psychoeducation, and social support. Special attention was paid to the need to individualise rehabilitation programmes, considering the depth of traumatic experience, motivational characteristics, and resources of the serviceman's personality. The results of the study emphasised the relevance of finding such methods of psychological assistance that allow working with trauma in a gentle mode, which makes it advisable to turn to VR technologies as an auxiliary tool for psychological rehabilitation. Ya. Pylypchuk & L. Ponomarenko (2024) conducted a thorough review of scientific approaches to the problem of psychological traumatising as a result of military events. The researchers summarised the achievements of Ukrainian scientists regarding the features of psychotrauma, its coping mechanisms, and the role of interdisciplinary interaction in the rehabilitation process. The paper emphasised the limitations of conventional verbal methods of psychological assistance and the need to introduce new formats of work that combine cognitive, emotional, and sensorimotor components. This approach correlates with the possibilities of VR therapy, which allows integrating physical and emotional experiences into the process of psychological rehabilitation. Z.Ya. Kovalchuk & N.Ye. Zavadska (2025) described the stages of psychological rehabilitation and

restoration of professional activity of law enforcement specialists, such as psychological state assessment, psychotherapeutic intervention and physical recovery, reintegration into professional activity, psychological adaptation, monitoring and correction of the rehabilitation process to avoid relapses of psychological problems. Their findings are of great practical importance and can undoubtedly be used in the process of re-socialisation and rehabilitation of the military. Publications by S.A. Kamkuimo *et al.* (2021) and H. Kim *et al.* (2025) also confirmed the effectiveness of VR exposure therapy in the treatment of PTSD and combat-related traumatic conditions.

Simultaneously, the issue of systematic use of VR technologies remains insufficiently developed, which determines the relevance of further theoretical analysis of the possibilities of their integration into the system of psychological assistance to military personnel after participation in combat operations. The purpose of the study was to assess the possibilities of integrating VR technologies into the process of psychological rehabilitation of military personnel after participating in combat operations. To achieve this goal, the following research objectives were defined: to analyse contemporary scientific publications on the use of VR in the psychological rehabilitation of military personnel; to reveal the theoretical and methodological foundations and main areas of using VR therapy in dealing with the consequences of combat mental trauma; to determine the advantages, limitations and prospects of introducing VR technologies into the system of psychological assistance to military personnel.

◆ Literature Review

The problem of using VR technologies in the psychological rehabilitation of military personnel is actively developed in contemporary scientific research. Special attention is paid to the possibilities of using VR as an innovative tool in working with PTSD, anxiety states, emotional regulation disorders, and cognitive dysfunctions resulting from combat experience. In contemporary scientific discourse, the issue of psychological rehabilitation of military personnel is considered mainly in the context of an integrated approach to overcoming the consequences of combat psychotrauma. Of particular value for this study are the papers by Ukrainian researchers 2024-2025, in which the problem of psychological rehabilitation of military personnel was considered in the context of contemporary military challenges and the search for innovative forms of psychological assistance. The paper by V.H. Panok & V.V. Predko (2024) considered the problem of psychological assistance to military personnel through the prism of the concept of post-crisis development. The researchers stressed that the combat experience experienced is not limited only to traumatic consequences, but can become the basis for personal changes, provided that timely and professional psychological support is provided. The paper emphasised the need to move from an exclusively compensatory model of rehabilitation to approaches focused on restoring psychological resources,

meanings, and life prospects of military personnel. Although the researchers did not directly analyse digital technologies, their concept of post-crisis development created a theoretical basis for the introduction of innovative methods, in particular VR, as tools for safe processing of traumatic experiences and stimulating adaptation processes.

Ye.O. Romanenko *et al.* (2021) emphasised the need to introduce the latest technologies of psychological assistance in wartime conditions. The purpose of psychocorrection should be to normalise the psychoemotional state, aimed at reducing the manifestations of aggression, impulsivity, depressive mood, obsessive-compulsive and vegetative disorders, establishing and restoring social ties, subjective improvement of well-being and mood, increasing psychosocial adaptation. Special psychocorrective exercises aimed at achieving emotional stabilisation, normalising self-esteem, developing adequate and effective strategies for behaviour and interaction with others with mandatory reflection. Such trends in the research environment indicate the development of a holistic scientific vision of psychological rehabilitation of military personnel, focused on post-crisis development, resource recovery, and innovative approaches to psychological assistance. In particular, the findings by L.V. Eshuis *et al.* (2021) showed that the use of VR technologies allows creating controlled therapeutic environments for reproducing traumatic situations, which contributes to gradual exposure to traumatic memories and reduces the intensity of anxiety responses. L.V. Eshuis *et al.* also emphasised that the use of immersive virtual environments helps to reduce avoidant behaviour and increases patients' involvement in the therapeutic process, which positively affects the effectiveness of psychotherapy interventions. Systematic reviews by O.D. Kothgassner *et al.* (2019) and L. Dellazizzo *et al.* (2023) focused on the use of VR technologies in combination with cognitive behavioural therapy in the treatment of anxiety and post-traumatic disorders, in particular those related to combat experience. The results of these studies showed the high effectiveness of VR exposure therapy in the structure of cognitive behavioural interventions. The use of immersive virtual environments has been shown to promote more controlled exposure to traumatic stimuli, reduce avoidant behaviour, and increase the effectiveness of the psychotherapy process in patients with anxiety and post-traumatic disorders.

Additionally, O.D. Kothgassner *et al.* (2019) demonstrated the effectiveness of VR exposure therapy in the treatment of PTSD in military personnel and veterans. In particular, the results of clinical studies and systematic reviews showed that VR exposure demonstrates effectiveness comparable to conventional methods of long-term exposure therapy, while often characterised by higher acceptability for patients and a better level of involvement in the therapeutic process. D. Freeman *et al.* (2017) also highlighted the significant potential of VR technologies in regulating anxiety responses in clinical populations, making this approach promising for use in psychological assistance to military personnel after combat. The potential of

immersive virtual environments in the processes of emotional regulation, development of adaptive coping strategies, and normalisation of psychophysiological reactions in individuals who have experienced traumatic events was revealed. Analysis by L. Dellazizzo *et al.* (2023) reported the active implementation of VR therapy in veterans' psychological support programmes, where it is considered as a promising innovative intervention for dealing with the consequences of combat mental trauma.

A separate area of research was devoted to the use of VR technologies for emotional regulation, reducing anxiety, and restoring cognitive functions in military personnel after experiencing combat traumatic events. J. Difede *et al.* (2022) noted that immersive VR environments can be effectively used to model therapeutic situations aimed at developing emotional self-regulation skills and gradually reducing the intensity of anxiety responses. The researchers also emphasised the importance of sensorimotor and body-oriented components of mental trauma, which makes VR technologies particularly relevant tools in the process of psychological rehabilitation of military personnel and combat veterans. Thus, the use of VR technologies in combination with cognitive behavioural psychotherapy techniques contributes to a significant reduction in anxiety symptoms, the intensity of traumatic experiences and avoidant behaviour (Difede *et al.*, 2022; Dellazizzo *et al.*, 2023). Thus, the analysis of the above-mentioned publications showed a growing interest in the use of VR technologies in psychological assistance to military personnel at the international level and a insufficient systematisation of this area in Ukrainian research. This determined the relevance of further theoretical analysis of the possibilities, advantages and limitations of VR therapy in the system of psychological assistance to military personnel after participation in combat operations.

◆ Materials and Methods

The study was of a theoretical and analytical nature and was aimed at generalising contemporary scientific approaches to the use of VR technologies in the system of psychological assistance and rehabilitation of military personnel after participation in combat operations. The type of research was review and analytical with elements of comparative analysis of scientific sources. The object was a system of psychological assistance and rehabilitation of military personnel who were subjected to the psycho-traumatic impact of military operations. The subject was the possibilities and features of using VR technologies as a tool for psychological support, therapy and restoration of the psychoemotional state of combatants. The design of the study provided for a systematic theoretical analysis of scientific publications devoted to the use of VR technologies in clinical psychology, trauma psychotherapy, and rehabilitation of military personnel. The analysis included scientific papers published in peer-reviewed journals, and materials from interdisciplinary research covering the fields of psychology, medicine, neuroscience, and digital

therapy technologies. The source base of the study included the papers by Ye.O. Romanenko *et al.* (2021), O.D. Kothgassner *et al.* (2019) and V.H. Panok & V.V. Predko (2024), highlighting contemporary approaches to the investigation of these areas and their impact on the development of psychological rehabilitation.

VR therapy was positioned as an innovative tool for psychological rehabilitation of military personnel with combat experience. In particular, the analysis focused on the following areas: VR exposure – for processing traumatic memories; VR emotional regulation – for developing emotional self-control skills; VR resource environments – for restoring positive emotional experiences; VR social and professional readaptation – for preparing for adaptation in peaceful life and professional functioning. A set of methods was used in the course of the study. The first of them was a theoretical analysis of the scientific literature, which helped to determine the main areas of using VR technologies in the psychological rehabilitation of military personnel. A comparative analysis was also applied, which contrasted different approaches to the use of VR in the treatment of post-traumatic conditions, in particular PTSD, anxiety, and depressive manifestations. The generalisation method was used to systematise the results of previous empirical studies and determine the potential therapeutic effects of VR technologies. The latest method was the conceptual synthesis method, which allowed integrating the results of various research approaches into a holistic model of the use of VR in the system of psychological support for combatants. The application of these approaches and methods allowed forming a generalised idea of the therapeutic potential of VR technologies, determining their advantages and limitations, and outlining promising areas for their integration into the practice of psychological rehabilitation of military personnel.

◆ Results and Discussion

Participation in combat operations is one of the most powerful psychotraumatic factors affecting the mental health of military personnel. Combat experience is often accompanied by chronic stress, constant threat to life, loss of fellow soldiers, the need to make morally difficult decisions, which together leads to the development of a wide range of psychological disorders. The most common among them are PTSD, anxiety and depressive states, sleep disorders, emotional numbness, increased irritability, and difficulties in social adaptation. Psychological rehabilitation of military personnel should go beyond an exclusively symptomatic approach and be aimed at restoring personal resources, the ability to self-regulate and professional functioning. In this context, the concept of post-crisis development considers traumatic experience not only as a source of destructive consequences, but also as a potential resource for personal changes with proper psychological support (Pylypchuk & Ponomarenko, 2024; Kovalchuk & Zavadzka, 2025). However, conventional verbal psychotherapy methods are not always effective enough in working with military personnel.

This is conditioned by the specific features of military culture, a high level of psychological control, avoidance traumatic memories, and difficulties in verbalising emotional experiences. These factors necessitate a search for such forms of psychological assistance that allow working with trauma indirectly, through sensorimotor, emotional, and imaginative experiences. In contemporary psychological practice, VR is considered as an immersive computer-modelled environment that creates a sense of presence and interaction with virtual space (Maples-Keller *et al.*, 2017; 2019). From a theoretical standpoint, VR combines the cognitive, emotional, and bodily components of experience, making it an effective tool for psychological impact. As part of the cognitive behavioural approach, VR is primarily used as a means of controlled exposure. Virtual environments allow gradually reproducing traumatic stimuli with the ability to adjust their intensity, which helps to reduce avoidance and develop new adaptive responses. This approach is particularly relevant for dealing with combat trauma, where direct imagination or verbal reconstruction of events can be overly traumatic. From the standpoint of body-oriented and sensorimotor approaches, VR is considered as a means of integrating body responses, emotions, and cognitive assessments. The virtual environment activates sensory perception channels, which allows working with implicit trauma memory, which is often not realised at the verbal level (Kaczurkin *et al.*, 2016). This is especially important in cases where the traumatic experience is “imprinted” in the form of bodily reactions and automatic emotional responses.

It is advisable to identify several key areas of using VR technologies in working with military personnel after participating in combat operations. The first area is VR exposure therapy, aimed at working out traumatic memories. In this case, virtual environments simulate combat-related situations, allowing the client to gradually encounter traumatic stimuli in a safe therapeutic space. The second area is the use of VR to develop emotional regulation skills and reduce anxiety levels. Virtual environments of a relaxation or resource nature help to stabilise the psychoemotional state, restore a sense of control and security. The third area is the use of VR in the process of professional and social readaptation of military personnel. Modelling civilian or professional situations in a virtual space allows practicing social roles, communication skills, and behavioural scenarios necessary to return to peaceful life. However, it is necessary to identify the advantages and limitations of using VR. The main advantages of using VR therapy in the psychological rehabilitation of military personnel include a high level of client involvement, the ability to individualise therapeutic effects, control the intensity of stimuli, and reduce the risk of retraumatisation. In addition, VR can increase motivation for therapy in those military personnel who are sceptical of traditional forms of psychological assistance. Simultaneously, the use of VR has certain limitations. Among them – the need for specialised technical equipment, the need to train specialists, and possible

individual reactions in the form of sensory overload or cyber embarrassment. This makes it important to carefully select clients and gradually introduce VR technologies into

the psychological assistance system. A generalised model of the use of VR in the system of psychological rehabilitation of military personnel is shown in Figure 1.

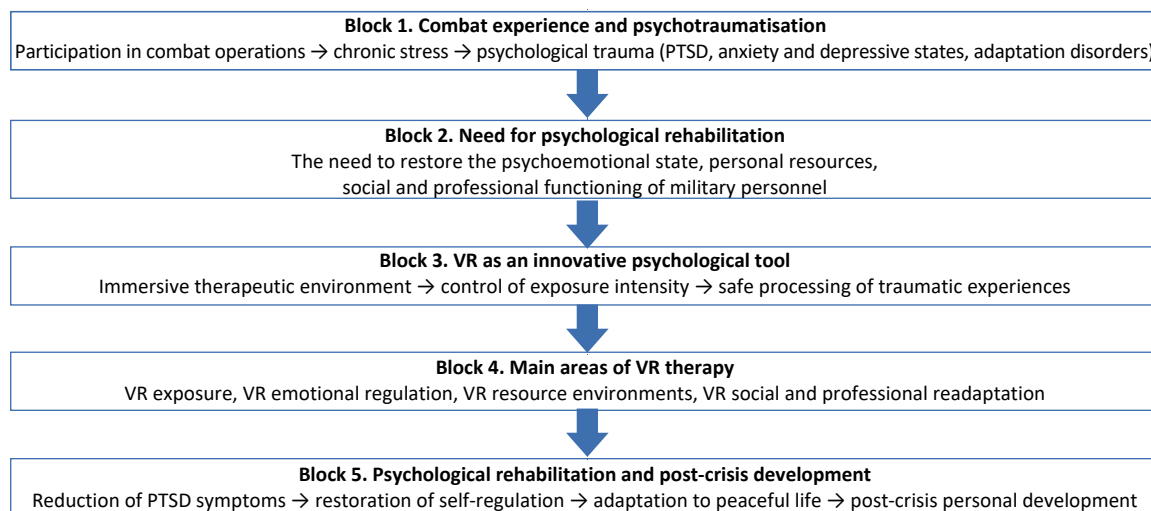


Figure 1. Conceptual model of the use of VR technologies in the system of psychological rehabilitation of military personnel

Source: compiled by the author

The model reflects a consistent process of psychological rehabilitation of military personnel after the combat experience. Participation in combat operations and prolonged exposure to stressful factors can lead to psychotraumatization, which leads to the need for psychological assistance and restoration of the psychoemotional state. In this process, VR technologies act as an innovative therapeutic tool that allows safely processing traumatic experiences in

a controlled immersive environment. The use of various areas of VR therapy (exposure, resource, emotional regulation, and readaptation) helps to reduce the symptoms of PTSD, restore self-regulation and successful adaptation of military personnel to peaceful life, which in the future can contribute to their post-crisis personal development. The main areas of using VR therapy in the psychological rehabilitation of military personnel are summarised in Table 1.

Table 1. Main areas of using VR technologies in psychological rehabilitation of military personnel

Area of application of VR therapy	Purpose of psychological influence	Main psychological effects
VR exposure therapy	Processing of traumatic memories, reduction of the avoidance of traumatic stimuli	Reduction the intensity of PTSD symptoms, reduction of anxiety, and development adaptive responses
VR as a means of emotional regulation	Stabilisation of the psychoemotional state, development of self-regulation skills	Reduction of stress levels, increase of sense of security and control
VR resource environments	Activation of psychological resources, restoration of positive emotional experience	Increase of stress tolerance, restoration of emotional balance
VR in social readaptation	Development of social roles and communication skills	Facilitation of adaptation to peaceful life, reduction of social isolation
VR in professional rehabilitation	Modelling of professional situations and restoration of activity skills	Increase of confidence in own abilities, readiness for professional activity

Source: compiled by the author

As shown in Table 1, VR technologies can be used not only for exposure therapy, but also in the process of emotional regulation, social and professional readaptation of military personnel. Thus, the analysis of the main areas of using VR in the psychological rehabilitation of military personnel shows their significant therapeutic potential and multidimensional psychological impact. The use of VR technologies allows integrating various approaches of psychological assistance – from clinically oriented exposure therapy to restorative and socio-adaptive practices, which is especially important in the context of post-traumatic consequences of combat experience. The most

studied area is VR exposure therapy, which promotes safe processing of traumatic memories, gradually reducing the avoidance of traumatic stimuli and, as a result, reducing the symptoms of PTSD. Moreover, the use of VR as a tool for emotional regulation and creating resource virtual environments demonstrates effectiveness in stabilising the psychoemotional state, restoring a sense of security, developing self-regulation skills, and increasing the stress tolerance of military personnel. VR capabilities in the field of social and professional readaptation are of particular value. Modelling of social and professional situations contributes to a gradual return to peaceful life,

the development of communicative competencies, overcoming social isolation, and restoring confidence in own professional capabilities. This is especially important for comprehensive rehabilitation of veterans, as psychological

recovery is closely linked to social integration and professional self-realisation. Table 2 shows the main psychological, neurophysiological, and social consequences of using this approach.

Table 2. Main consequences of using VR therapy in the rehabilitation of veterans

Category of consequences	Positive effects	Mechanism of influence	Possible risks
Psychological	Reduction of PTSD symptoms (flashbacks, nightmares, avoidance)	Controlled exposure to traumatic memories in a safe environment	Repeated traumatising with excessive intensity
	Reduction of anxiety and depression	VR relaxation scenarios, cognitive behavioural exercises	Emotional exhaustion
	Improvement of emotional regulation	Training of self-control and mindfulness skills	Temporary increase in anxiety
	Restoration of a sense of control	Active interaction with the virtual environment	Frustration in complex scenarios
Neurophysiological	Reduced amygdala hyperactivity	Desensitisation of fear reactions	Nervous system overload
	Improvement of the prefrontal cortex	Increased cognitive control	Temporary cognitive discomfort
	Development of new neural connections	Neuroplasticity through repetitive experiences	Unstable effect without regularity
	Reduction of somatic manifestations of stress	Regulation of the autonomic nervous system	Cyber vertigo
Social	Improvement of communication skills	Modelling of social situations	Avoidance of real interaction
	Reduction of social isolation	Group VR therapy, a sense of support	Over-reliance on the virtual environment
	Facilitation of adaptation to civilian life	Simulation of everyday and professional scenarios	Gap between virtual and real experiences
	Increase of motivation for therapy	Interactivity and originality of the technology	Reduction of interest in long-term use

Source: compiled by the author

Analysis of the psychological, neurophysiological, and social consequences of using VR technologies in the rehabilitation of veterans shows their comprehensive therapeutic potential. VR not only helps to reduce the symptoms of PTSD, anxiety, and depression, but also affects the underlying mechanisms of fear and stress regulation at the neurophysiological level. Through the mechanisms of controlled exposure and neuroplasticity, there is a gradual restructuring of the brain's responses to traumatic triggers. In addition to the individual psychological effect, VR therapy has a significant social dimension: it facilitates the return of veterans to civilian life, reduces social isolation, and increases motivation to participate in rehabilitation programmes. Simultaneously, the effectiveness of this approach directly depends on professional support, individual selection of scenarios, and metered application of the technology. Without proper monitoring, there may be risks of re-injury or emotional overload. Thus, VR technologies are becoming a promising tool for comprehensive psychological rehabilitation of military personnel, combining therapeutic, adaptive, and preventive functions. Further research should be aimed at developing standardised VR rehabilitation programmes, evaluating their long-term effectiveness, and integrating these technologies into the system of psychological assistance to military and veterans.

The results of the theoretical analysis are consistent with the conclusions of a number of other studies on the use of VR technologies in the treatment of PTSD. The first systemic attempts to use VR exposure in combat trauma psychotherapy were presented by D.J. Ready *et al.* (2010) and R.N. McLay *et al.* (2011), who demonstrated the

ability to reproduce combat situations in a controlled therapeutic environment. They showed that a gradual reduction in the intensity of traumatic reactions in veterans is possible due to VR technologies that allow patients to relive traumatic situations in a safe environment, gradually adapting their psyche to the perception of these situations without excessive stress. Further research, in particular by E. Carl *et al.* (2019), W. Deng *et al.* (2019) and S. Heo & J.-H. Park (2022), showed that VR exposure therapy not only demonstrates effectiveness comparable to conventional long-term exposure therapy, but also has advantages, in particular a higher level of patient involvement in the psychotherapy process. In addition, it is characterised by better tolerance of interventions, since patients feel more comfortable in conditions where the controlled intensity of traumatic stimuli allows them to gradually reduce stress responses without overloading the emotional state. These results set the stage for further development of VR technologies in clinical practice.

The current stage of research development is characterised by a significant expansion of the scientific evidence base. In particular, the results of A. Vianez *et al.* (2022) also demonstrated the effectiveness of VR exposure therapy in reducing PTSD symptoms, anxiety, and avoidant behaviour. They noted that VR therapy can be just as effective as conventional methods, but with more flexibility in adapting to the patient's needs. L. Loucks *et al.* (2025) emphasised the importance of using immersive virtual environments to develop emotional regulation skills, restore cognitive functioning, and increase the adaptive potential of military personnel after experiencing

combat traumatic events. They found that VR technologies significantly contribute to restoring the ability to self-regulate and stabilise the psychoemotional state of the military. Thus, VR technologies were gradually transformed from an experimental tool of psychotherapy into a full-fledged component of comprehensive programmes of psychological rehabilitation of military personnel. This helps to effectively integrate the latest technologies into the process of restoring psychoemotional health. In this context, the results of the theoretical analysis confirmed the prospects of using VR technologies in the system of psychological assistance to the military, in particular in combination with cognitive behavioural and exposure psychotherapy approaches.

◆ Conclusions

The conducted theoretical analysis showed that VR technologies are a promising and scientifically based tool for psychological rehabilitation of military personnel after participating in combat operations. The characteristics of combat-related psychological trauma – linked to the intensity of stressful experiences, difficulties in verbalising traumatic experiences, and a tendency to avoid them – make it necessary to employ innovative approaches to psychological support that are capable of integrating the cognitive, emotional and physical components of these experiences. As a result of the analysis, it was found that VR therapy can be effectively applied within the framework of exposure work with traumatic memories, development of emotional regulation skills, restoration of psychological resources, and in the process of social and professional readaptation of military personnel. The use of immersive virtual environments allowed creating safe conditions for gradual development of combat experience and reducing the risk of retraumatisation. It was revealed that VR technologies organically complement existing models of psychological rehabilitation, in particular,

cognitive behavioural, body-oriented, and resource-oriented approaches. Simultaneously, their application requires a clear methodological substantiation, compliance with ethical standards, and training of specialists who can integrate technological tools into psychological practice. The generalised model of using VR technologies demonstrated the importance of integrating various therapeutic approaches for effective rehabilitation of military personnel after combat experience. It also stressed the need for careful selection of clients and phased implementation of VR technologies to ensure the safety and effectiveness of psychological assistance. Prospects for further research are seen in conducting empirical studies of the effectiveness of VR therapy in various groups of military personnel, considering the stages of rehabilitation, individual psychological characteristics, and the nature of combat experience. Comparative studies of VR methods with conventional forms of psychological assistance, in particular, in combination with EMDR therapy and cognitive behavioural interventions, are also relevant. Further study requires the introduction of VR technologies in the system of state psychological assistance to military personnel, the development of standardised application protocols, and the adaptation of virtual environments to the cultural and social context of Ukraine. These areas can become the basis for improving the effectiveness of psychological rehabilitation of military personnel and contribute to their successful adaptation to peaceful life.

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Технології віртуальної реальності у системі психологічної допомоги військовослужбовцям після участі в бойових діях

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♦ **Анотація.** Метою статті було здійснення теоретичного аналізу можливостей застосування технологій віртуальної реальності у системі психологічної допомоги військовослужбовцям після участі в бойових діях. Розглянуто психологічні наслідки бойового досвіду, зокрема посттравматичний стресовий розлад, тривожні стани, порушення емоційної регуляції та труднощі соціальної адаптації, які зумовлюють необхідність пошуку інноваційних підходів психологічної підтримки. Проаналізовано сучасні наукові публікації, присвячені використанню терапії віртуальної реальності (VR-терапії) у роботі з бойовою психотравматизацією. Обґрунтовано теоретичні засади використання віртуальної реальності як імерсивного психологічного інструменту, що поєднує когнітивні, емоційні та сенсомоторні компоненти досвіду. Визначено основні напрями застосування VR-терапії у психологічній реабілітації військовослужбовців, зокрема експозиційну роботу з травматичними спогадами, розвиток навичок емоційної регуляції, відновлення психологічних ресурсів, а також соціальну й професійну реадaptaцію. Окрему увагу приділено ресурсним VR-середовищам, спрямованим на відновлення психоемоційного стану та формування навичок саморегуляції. Окреслено переваги та обмеження використання VR-технологій у психологічній практиці, а також перспективи їх інтеграції у систему психологічної допомоги військовим в Україні. Визначено, що VR-терапія може ефективно застосовуватися у межах експозиційної роботи з травматичними спогадами, розвитку навичок емоційної регуляції, відновлення психологічних ресурсів, а також у процесі соціальної та професійної реадaptaції військовослужбовців. Використання імерсивних віртуальних середовищ дозволяє створювати безпечні умови для поступового опрацювання бойового досвіду та знижувати ризик ретравматизації. Практична цінність дослідження полягає у визначенні можливостей інтеграції VR-технологій у практику психологічної допомоги військовослужбовцям та окресленні орієнтирів для впровадження імерсивних терапевтичних інструментів у програми психологічної реабілітації ветеранів бойових дій

♦ **Ключові слова:** реабілітація; комбатанти; посттравматичний стресовий розлад; імерсивні технології; експозиційна терапія



Comparative analysis of military values and causes of resistance within the Armed Forces of Ukraine to Western standards

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◆ **Abstract.** The article explored the critical issue of the axiological transformation of the Armed Forces of Ukraine amidst an existential confrontation, where the discrepancy between declared Alliance standards and deep-seated post-Soviet management habits acts as a barrier to combat effectiveness. The aim of the study was a comprehensive analysis of the causes of institutional resistance within the Ukrainian military environment toward foreign value models, and a search for an optimal synthesis of Western rationalism with the national combat ethos. To achieve these objectives, the study employed a comparative analysis of the axiological matrices of the U.S. Army, NATO, and the Russian Armed Forces, alongside a content analysis of the regulatory framework and a systematisation of modern scientific approaches to the “human factor” in high-intensity conflicts. The research results indicated that the primary obstacle to reform lies in the rift between the culture of trust, inherent in the Mission Command system, and the domestic “statutory terror”, which paralyses officer initiative through the fear of legal liability. The authors demonstrated that digitalisation of the battlefield, in the absence of ethical transformation, has led to the emergence of “digital micromanagement”, which nullifies the role of the sergeant corps and reproduces totalitarian control models. It was found that the widespread “cargo cult” of NATO, limited to external attributes, is incapable of overcoming the “culture of shame” that compels commanders to distort reporting to preserve their reputation before leadership. Furthermore, it was established that while brotherhood (pobratymstvo) is a unique resource for Ukrainian resilience, it requires formalisation within a meritocratic framework to avoid favouritism and cronyism. The study argued that renewing personnel based solely on age is a risky move; without changing the evaluation system, young leaders tend to mimic the toxic behavioural patterns of the older generation for the sake of career survival. The authors proposed a concept for a modern Ukrainian military culture that integrates Western accountability with Ukrainian adaptability and creativity. The practical significance of the findings lies in their potential application for reforming the military legal system – specifically the legalisation of combat risk – and for developing new psychological support programmes for personnel focused on fostering leader autonomy

◆ **Keywords:** axiological model; values; Mission Command; stability; factors; war experience

◆ Introduction

Contemporary 21st-century military science is dominated by the paradigm that an army is not merely a hierarchical mechanism for accumulating materiel and manpower, but a complex, self-regulating social ecosystem. Its viability is

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determined not only by regulations, but primarily by the conceptual framework, ethos and value matrix – referred to in the sociology of military organisations as the “axiological foundation”. When it comes to the integration of the Armed Forces of Ukraine (AFU) into the Euro-Atlantic security space, public and expert discourse frequently becomes confined within a “technocratic cargo cult”: discussions of ammunition calibre standardisation, the digitalisation of logistics chains, or the introduction of J, G and S-type staff structures. However, the experience of the full-scale Russo-Ukrainian War of 2022-2026 has demonstrated that the most critical, strategically significant and simultaneously least amenable to change is precisely the axiological level – the system of fundamental convictions that determines a warrior’s behaviour under conditions of extreme stress, informational chaos and the “fog of war”, when communications have been severed and the previous order has lost its relevance.

This axiological level is the intersection point of military effectiveness and national identity. The Western military model is a product of rationalism, an ethic of accountability and high interpersonal trust. It is grounded in respect for individual agency. The Western military model is not merely a set of modern weapons or tactical techniques. It is a cohesive philosophical and organisational system that evolved within liberal democratic states (primarily NATO member states). At the core of this model lies the conviction that an army is a reflection of society, and that its strength depends upon the freedom and accountability of each individual (Bundeswehr, n.d.). The Russian (post-Soviet) model, by contrast, is heir to totalitarian coercion, imperial messianism and the deliberate dehumanisation of the individual, where the soldier is nothing more than an anonymous unit in the calculus of “loss mathematics”. Ukraine finds itself at the epicentre of this tectonic axiological fault line. Ukraine is attempting to build a Western-standard army whilst employing the mental tools shaped by centuries of statelessness and decades of Soviet occupation. In seeking to integrate Western values, the AFU encounter powerful systemic resistance. It is important to understand: this resistance is rooted not in deliberate sabotage or a lack of patriotism, but in deep cultural codes. It is a conflict between a “culture of reporting” and a “culture of results”, between the “vertical of fear” and the “horizontal of trust”. At the global level, the question of military values is treated not as an abstract ethical superstructure, but as hard power – a critical component of the “human factor” in high-intensity conflicts. Research from 2021-2025 emphasises that, in the conditions of network-centric warfare, the decentralisation of command (Mission Command) is impossible without a shared value denominator. Without trust, technology only amplifies chaos. The axiology of Ukraine’s military organisation is burdened by a “post-traumatic Soviet syndrome”. This manifests in the phenomenon the authors have termed “legal paralysis of initiative”: when the field manual is used not as an algorithm for victory, but as an instrument of

prosecutorial oversight. The result is a paradox: a young officer trained to NATO standards enters an environment where the principal virtue is not integrity, but loyalty to leadership and the capacity for “eyewash”. This gap between the Alliance’s declared values and the real-world practice of the “paper army” creates internal tension that threatens combat capability no less than enemy missiles.

To gain a thorough understanding of the transformation of military values, a body of scholarly literature was analysed. M. Webber (2017) demonstrates that the success of implementing NATO standards in former Eastern Bloc countries correlates directly with the level of “social capital” within society. He introduces the term “axiological compatibility”, without which the transfer of technology fails to produce the expected effect. In the field of philosophy of science, K.C. Elliott *et al.* (2025) analysed “axiological compatibility” as the influence of values on scientific cognition, emphasising the need for awareness of their interaction in order to ensure objectivity – which is directly related to the concept of compatibility among different types of values. In studies of research communities, E.O. Ayala *et al.* (2025) argue that the effectiveness of collaboration within research groups is determined by the coherence of “axiological networks” – systems of values that govern cooperation, trust and decision-making. Meanwhile, in the field of information systems, P.A. Busch (2026) emphasised the significance of the axiological dimension across different scientific paradigms, drawing attention to the need for alignment of value foundations within the research process. E. Simpson (2024) examined the ethics of contemporary conflicts, arguing that trust within small groups (cohesion) is the sole safeguard against the moral degradation of a unit during prolonged combat. The author emphasised that the moral resilience of a unit is formed through daily interaction, shared experience and mutual accountability among combatants.

P. Scharre (2023) analysed the risk of the “digital panopticon” that emerges in conditions of global digitalisation and technological progress. The author raises the problem of drones and real-time video feeds tempting the senior command into micromanagement, which effectively kills the Western concept of junior commander autonomy. This phenomenon may substantially alter the strategic behaviour of armies, curtailing initiative and individual accountability. L. Freedman (2022) analysed the strategic culture of the AFU, noting that Ukraine’s adaptability in 2022 represented a form of “spontaneous NATO”, which is now entering into conflict with the re-established bureaucratic vertical. Adaptation to new conditions of warfare demands a balance between command flexibility and the necessity of centralised management. M.R. DeVore *et al.* (2022) analysed “institutional mimicry”, whereby transitional-type armies copy external attributes (cargo cult) in order to obtain resources, whilst retaining old corrupt and hierarchical values internally. They also note that institutional mimicry creates the illusion of reform without altering the deep-seated operational practices of the organisation. The

authors emphasise that without the transformation of value orientations, such borrowings remain superficial and fail to enhance the real effectiveness of military structures. They further note that such processes are often supported by political elites with an interest in demonstrating formal progress without substantive change. P.D. Williams (2022), in his work on 21st-century urban warfare, emphasised that personal courage is not merely the capacity to advance under fire, but is above all the courage of a commander to say “no” to an incompetent order from a superior officer. The author further stressed that a commander’s moral courage manifests in accountability to subordinates for the consequences of their decisions. In his view, it is precisely the capacity to critically assess orders and act ethically in challenging conditions that determines the quality of leadership in contemporary combat operations. He also stressed that effective commanders cultivate a culture of open discussion of decisions within the unit, thereby reducing the risk of errors.

The review of the relevant literature established that the phenomenon of the AFU’s “spontaneous adaptability” in 2022 requires institutional consolidation, as without a value-based foundation it is gradually absorbed by the old hierarchical system. The role of “axiological compatibility” as a prerequisite for the effective utilisation of Western technologies remains insufficiently researched. The aim of the article was to conceptualise the transformation of Ukraine’s military culture from the hierarchical Soviet-pattern model to a modern network-centric system founded on the principles of professional ethics and trust. The authors conducted a detailed deconstruction of this axiological fault line, analysed the causes of the Ukrainian military environment’s resistance to “foreign” values and proposed a model of synthesis. The authors argued that Ukraine’s victory depends upon the capacity to transform the archetypal “Cossack brotherhood” into a professional military ethic, in which the right to make mistakes is part of learning, and honesty in reporting takes precedence over career survival. This article represents an attempt to answer the question: how to transform the AFU from a “small Soviet army” into a modern intellectual force, where values are not slogans on posters, but a real mechanism for the management of combat.

◆ Materials and Methods

To achieve the research aim, a comprehensive methodology was employed. The empirical and theoretical base comprised scholarly works, regulatory instruments, analytical reports and statistical data published predominantly in the period 2021-2025, which allowed for the dynamics of change during the full-scale phase of the Russo-Ukrainian War to be taken into account. The study combined general scientific and specialised methods, ensuring the systematic character of the analysis. The method of comparative analysis was employed as the principal instrument for juxtaposing three polar axiological models: the American (pragmatic), the NATO (institutional) and the Russian (totalitarian).

This enabled the identification of points of value conflict (“fault lines”) within the Ukrainian military environment and determination of the depth of discrepancies between declared standards and actual practice.

The systemic-structural method was applied to examine the army as a “social ecosystem”. Through its application, military values were analysed not as abstract ethical categories, but as functional elements of the management system (hard power) that directly affect combat capability. Content analysis was applied in the study of the regulatory framework (field manuals, codes, guidance documents). The method enabled the identification of latent meanings and ideological presuppositions embedded in the official documents of the armed forces of the United States, Great Britain, Germany, France, Poland and the Alliance as a whole, and their comparison with the Soviet legacy that continues to dominate Ukrainian legislation. The method of theoretical generalisation was employed at the final stage to formulate the authors’ concept of Ukrainian military culture.

The foundational works of leading military theorists and sociologists were analysed, including R. McAdams (2025). The regulatory and legal basis of the study comprised documents and standards including Ministry of Defence, Centre for Army Leadership (2018) and North Atlantic Treaty Organization (2020), amongst others, the review of which enabled an assessment of the alignment between existing practice and the current requirements of the AFU, as well as the identification of gaps and inconsistencies in the operative regulatory and methodological framework that affect the level of the moral and psychological condition of service personnel. Data from the official web resources of the US Department of Defense (Army values, n.d.) were utilised for the verification of the LDRSHIP value system. The methodology employed allowed not only the documentation of the problem’s existence, but also the elucidation of its causal relationships, which lie within the domain of socio-cultural anthropology and history.

◆ Results and Discussion

To understand the nature of the aforementioned resistance within the Ukrainian military environment to the values of the armed forces of developed nations, the authors examined in detail three polar systems: the American (pragmatic), the NATO (institutional) and the Russian (authoritarian), which directly bear upon the Ukrainian context. The US model (Army values, n.d.) is grounded in a pragmatic ethic of character and meritocracy. The military ethic of the US Army, expressed in the acronym LDRSHIP (Loyalty, Duty, Respect, Selfless Service, Honour, Integrity, Personal Courage), not only facilitates easy memorisation of seven key principles, but also symbolises the word “leadership”, making it one of the most functional value systems in the world (Borrowing with Pride, 2025). This ethic transforms abstract virtues into concrete instruments for the management of personnel and combat. Integrity is the cornerstone, signifying absolute correspondence between

words and actions and truthfulness in reporting. Should an officer submit a false report to conceal casualties or his own error, his professional career ends immediately. Integrity serves as the system's safeguard against strategic blindness, as the command must know the bitter truth in order to make sound decisions. In American culture, acknowledging a mistake is a sign of strength and a path to improvement, rather than grounds for "criminal prosecution for taking initiative". Mission Command is not merely a tactical technique, but a value of trust, whereby the commander articulates an "intent" (commander's intent) and grants subordinates full autonomy in the means of its realisation. This requires the officer to be an intellectual leader rather than a technical dispatcher, which allows the US Army to remain combat-capable even when centralised communication nodes are destroyed (Ministry of Defence, Centre for Army Leadership, 2018). Selfless Service means prioritising the mission and the welfare of subordinates over personal careerism, where the principle "officers eat last" is not merely a metaphor, but a practical realisation of a value that creates the monolithic vertical trust so lacking in post-Soviet armies.

The NATO model represents institutional interoperability and the rule of law, and the NATO value system constitutes a legal and professional standard that provides an "ethical common language" among nations. It is grounded in a Code of Conduct (North Atlantic Treaty Organization, 2020), which emphasises such key principles as accountability, professionalism and civilian oversight. Accountability is the central value, presupposing that every service member bears responsibility for their decisions, use of resources and treatment of personnel. This principle rejects the Soviet concept of "collective irresponsibility" or "blind execution of any order" (North Atlantic Treaty Organization, 1957). Professionalism within NATO means that a soldier is a highly qualified specialist rather than "cheap labour" for menial tasks. Respect for the professional competence of a sergeant is often higher than formal respect for the rank of a junior officer (British Army, n.d.). Civilian oversight presupposes unconditional subordination to democratically elected civilian authority, which serves as a safeguard against the militarisation of society and the transformation of the army into a closed caste standing above the law (Aberrane, 2023).

The model of the Russian Federation is a system of fear, deception and dehumanisation (Romanyshyn, 2025). The Russian army is heir to the Stalinist model of the "army-as-mechanism", in which the human being is merely expendable material. Its axiology rests upon three destructive pillars. The first is a culture of deception: the distortion of reality is a survival mechanism within the hierarchy. Commanders at all levels report what higher command wishes to hear. This creates a strategic illusion of success amid actual catastrophe. The second is a tolerance for death: through the absence of any value placed on human life, the command calmly employs the tactic of "meat assaults". A soldier's life is a biological resource

for identifying enemy firing positions or seizing a few metres of tree line. The third pillar is the criminalisation of ethos: the introduction of prison subculture into the army ("thieves' code", *dedovshchina*, executions by sledgehammer and so forth) has definitively destroyed the concept of officer honour, replacing it with gangland loyalty. Despite substantial Western military and financial assistance and the genuine desire of many young officers to change the system, foreign military organisational values within the AFU encounter fierce resistance. This resistance is conditioned by deep-seated traditions of Soviet military culture and the inertia of old management practices, which are difficult to change even in the presence of external support (Romanyshyn, 2025). The fundamental causes of this phenomenon are set out below.

The conflict between initiative and "statutory terror". Ukrainian military culture remains, to a significant degree, a hostage to the Soviet approach to regulations, which are perceived as an instrument of punishment rather than guidance. Whereas the Western system values personal courage – the moral bravery to take responsibility (TVP Bydgoszcz, 2023) – in the Ukrainian reality, any independent decision that departs even marginally from an outdated regulation is perceived as a threat to an officer's career and liberty. For example, if an initiative-driven decision resulted in the loss of equipment (even in order to save lives), the commander may become the subject of prosecution by the State Bureau of Investigations. Moreover, state bodies frequently evaluate the actions of a combat commander according to the norms of peacetime administrative law. In such conditions, the highest value becomes not victory or the soldier's life, but a "correctly completed asset write-off certificate". This fear of the prosecutor kills the Western concept of Mission Command at the planning stage.

The archetype of "Cossack freemen" versus Western "regularity". Historically, the Ukrainian martial spirit was forged in irregular formations, where Ukraine demonstrates phenomenal effectiveness in self-organisation from below – as seen in the Maidans, the volunteer movement, the volunteer battalions of 2014 and the Territorial Defence forces of 2022. However, this strength has a reverse side. A Ukrainian traditionally places trust in a specific individual – an *otaman* or a "father-figure" – rather than in an institution or structure. The Western model, including NATO, proposes trusting the system. When the AFU attempts to introduce Western impersonal discipline, it comes into conflict with the Ukrainian warrior's need for an emotional bond and personal loyalty. This creates a situation in which the army disintegrates into a collection of "feudal fiefdoms" belonging to individual authoritative commanders, which complicates strategic management to Alliance standards. Furthermore, Ukrainians are most effective in coordination via messaging applications and personal connections, whereas the Western model demands a transparent, formalised command vertical (Bundeswehr, n.d.). This discrepancy produces a situation in which the AFU has a "NATO structure" on paper, while in reality there exists a

chaotic network of connections that functions in spite of the system rather than because of it.

The Ukrainian army is pervaded by an ethos of *pobratymstvo* – deep emotional loyalty. This is its greatest advantage in defence, but simultaneously a systemic weakness in the professional management of large organisations. The Western model demands objectivity and a degree of emotional distance from a commander, yet a commander who is a “brother” to his subordinates is often incapable of making tough disciplinary decisions or issuing orders that may result in casualties. *Pobratymstvo*, as a familial type of relationship, is very difficult to scale to the level of the modern professional army-as-corporation, as exemplified by the armies of the United States or Great Britain. In addition, *pobratymstvo* may give rise to the risk of favouritism, whereby a system of personal patronage becomes dominant – which directly contradicts the Western value of integrity. The rewarding and promotion of “one’s own” for loyalty rather than competence creates a mental trap that retards the development of meritocracy within the Armed Forces of Ukraine.

The sergeant gap and officer snobbery. In NATO, the sergeant is the backbone of the army – a technical expert and moral authority (McAdams, 2025). In the AFU, the officer corps (particularly the older generation) often unconsciously regards the sergeant as merely a “senior soldier-executor” rather than an autonomous leader. Western leadership models rest on the delegation of authority. The Ukrainian mentality, shaped by the Soviet fear of making mistakes, is predisposed towards total micromanagement – “if you want something done properly, do it yourself”. This exhausts officers who, instead of managing the unit, attempt to control every individual soldier. This is indicative of a profound crisis of trust in the lower echelon.

The experience of war as a detector of value problems. The full-scale Russian aggression of 2022 served as a litmus test that revealed the true depth of the axiological rift between the declared and the real. At the outset of the full-scale Russian invasion, the AFU held their ground precisely thanks to the spontaneous application of Western values: the initiative of small groups, trust in local commanders and the absence of micromanagement amid the chaos. Company and platoon commanders acted autonomously, realising the “intent to win”. This was a triumph of Mission Command without formal training. However, once the front stabilised and the war entered its positional phase, the “paper vertical” of Soviet pattern began to reassert itself. Endless photo-reports, ledgers for checking ledgers, and meetings for the sake of meetings returned. This demonstrates that the institutional memory of the system proved stronger than combat experience. Officers are once again compelled to choose between “real results” and “a polished report”. Ukraine received the most advanced Western weapons, yet often employs them within the framework of the old axiological matrix. When a brigade commander, via a real-time drone feed, instructs a soldier in a trench where to shoot – this is the “killing” of initiative and the

degradation of the sergeant echelon. It is the technological version of Soviet centralism. The AFU possesses NATO’s digital tools, yet uses them to implement a “Stalinist” model of total control. This demonstrates that the tools have changed whilst the value matrix of management has not. The superior wishes to see everything not in order to assist, but in order to control every step of a subordinate through an absence of trust. The Soviet habit of “appearing perfect” before superiors directly conflicts with the Western value of integrity. In conditions of war, this leads to fatal consequences: commanders report “control of the situation” and “positions held” when the enemy has already breached the front. In Western culture, the After Action Review (AAR) – where mistakes are acknowledged and analysed publicly – is an instrument of evolution (Krin, 2025). In the Ukrainian mentality, however, a commander’s acknowledgement of a mistake before subordinates or superiors is still frequently perceived as weakness or as a ticket to the dock.

Why the NATO “cargo cult” does not work. The problem with the introduction of foreign values lies in the fact that Ukraine frequently copies the form (brand books, acronyms, berets and so forth) without changing the “firmware” – the social architecture of relationships. Formalism in training is one of the principal problems: many officers undergo training abroad, learn acronyms such as LDRSHIP, but return to units where the system of evaluation and promotion is still grounded in “loyalty to the commander” rather than professional integrity. In such conditions, NATO values become mere window-dressing for foreign instructors, who are unable to influence actual practice. Another problem is the legal defencelessness of Western values: these values are not enshrined in Ukraine’s Criminal or Administrative Code as legal protection. A commander who acts on his own initiative in accordance with the commander’s intent but loses equipment has no legal protection against charges of “negligence”. There is also an absence of an ethical filter: in Western armies, promotion depends directly on reputation and integrity, whereas in Ukraine the “convenient and compliant” officer is frequently advanced. So long as the “convenient officer” – one who does not dispute orders – is valued above the “honest professional” – one who points out flaws in the plan – Western axiology will fail to take root. The Ukrainian cultural code of personal loyalty stands in opposition to Western rationalism, which places professionalism and ethics first.

The deep cause of resistance to the introduction of Western values in the AFU lies in the distinction between the “culture of guilt” (the West) and the “culture of shame” (the post-Soviet space). In Western armies, the culture of guilt means that a service member feels bad internally if he has violated an internal ethical standard – such as integrity. He acknowledges the mistake in order to correct it and clear his conscience – a rational approach. In Ukraine and Russia, by contrast, the culture of shame dominates, where what matters is not “how you actually acted” but how it appears from the outside and whether you have disgraced yourself before others. To acknowledge a mistake in

such a culture means “losing face”; therefore, problems are suppressed or concealed until the very last moment, when they become catastrophic. Such a culture undermines the effectiveness of an army, particularly in a high-technology war, where the speed of acknowledging a mistake directly determines the speed of survival.

The Ukrainian mentality is also burdened by the trauma of centuries of statelessness. For centuries, the state was the enemy – the occupier – and so the Ukrainian grew accustomed to unconsciously deceiving the system in order to survive. When such a person joins the army of their own state, they continue by inertia to “game the system” (filing false reports on held positions or the condition of equipment), failing to realise that this system is now themselves – and that they are lying not to an enemy intelligence officer, but to their *pobratym* in the neighbouring trench. The AFU’s resistance to foreign military values is not a consequence of sabotage, but the result of a profound axiological rift between two civilisational types. The Western model demands a radical abandonment of the cult of total control in favour of a culture of trust. For a nation engaged in an existential war against an enemy that holds the advantage in mass and fear, such a transition is painful and risky, yet simultaneously vital (Romanyshyn, 2025). So long as initiative remains legally punishable and “eye-wash” remains a mechanism of career survival, any NATO values will remain a “cargo cult” – a blind copying of external attributes. Genuine transformation requires not the translation of field manuals into Ukrainian, but a radical change in the “social contract” within the military. The AFU needs legislation that protects the right to accept combat risk, an appraisal system that penalises deception more severely than defeat, and a culture in which the dignity of every soldier and the professional integrity of the commander take precedence over the ambitions of the senior command or the comfort of the rear-area auditor. Victory requires not only Western munitions, but Western ethics. Without the latter, the AFU risk remaining forever a “small Soviet army”, destined for defeat in a war against the “large Soviet army”. Only by overcoming this internal axiological rift can the AFU transform into a truly modern intellectual force, capable of prevailing not through mass, but through trust and intellect.

For the values of Alliance member states to become a working instrument rather than a formality, action must be taken on three planes. Legal transformation entails the legalisation of combat risk, requiring amendments to the Criminal and Administrative Codes so that a commander does not bear liability for the loss of equipment or property if the decision was taken within the bounds of the commander’s intent in execution of a combat mission. Debureaucratisation is also essential, encompassing the transition from “paper terror” to digital accountability. Institutional reform consists in the introduction of an AAR system, which must make the public review of mistakes mandatory and – crucially – non-punishable. The acknowledgement of a mistake must become a hallmark of

professionalism, and the concealment of mistakes a cause for dismissal. Meritocratic appraisal demands that the promotion system be grounded in integrity, with the introduction of “ethical filters”: should an officer be found guilty of systematic distortion of information, his career must be terminated regardless of his loyalty to leadership. Genuine delegation must prohibit “micromanagement”, as commanders of a superior echelon must serve as a resource for subordinates rather than as a controller of every shot fired. The agency of the sergeant requires a transition from the model of “sergeant as senior soldier” to that of “sergeant as the backbone of the army”, where officers must learn to entrust the technical and moral preparation of the unit to the sergeant corps. Moreover, any attempt to simply copy the Western model without accounting for the Ukrainian mental code will result in rejection. What is needed is a synthesis, in which Western rationality reinforces Ukrainian passionarity.

The Ukrainian values that should serve as the foundation include *pobratymstvo* as networked trust, where the Western model is often too “corporate” and “cold”, whilst Ukrainian *pobratymstvo* is an extraordinarily powerful resource of resilience. It should not be destroyed, but rather formalised, so that *pobratymstvo* is transformed into a high degree of horizontal trust, where units interact with one another without direction from above. The adaptability of the “Cossack freemen” means not attempting to turn Ukrainians into “ideal bureaucrats”, but legalising their capacity for self-organisation. The value of Ukrainians lies in their creativity, so NATO standards must serve only as a “framework” within which Ukrainian ingenuity is given freedom of action. Dignity (*volia*) must prevail over the discipline of fear: for a Ukrainian, motivation “through shame before one’s *pobratym*” and “through one’s own dignity” functions more effectively than “through fear of regulations”. One’s own axiology must be built upon the conscious discipline of a free individual.

Ukraine needs not a “small copy of the US Army” but a modern Ukrainian military culture, from which NATO contributes such values as integrity, accountability and Mission Command, whilst Ukraine contributes *pobratymstvo* (emotional unity), *volia* (initiative) and the audacity to break the mould. The introduction of values is not the translation of regulations, but a change in the attitude towards the human being. When the soldier is transformed from a “resource” into a “person”, and the officer from a “controller” into a “leader”, NATO standards will function automatically. The introduction of values during intensive combat operations must occur not through “lectures in the unit’s club”, but through pragmatic changes in management. Should the AFU wait until “after the war”, they risk: the burnout of the best – the most initiative-driven officers die or leave the army as a result of the errors of centralised management; and transformation into a “mirror of the Russian Federation” – in a war between two Soviet armies, the larger one always wins. The sole chance is to be more intellectually capable and more flexible. Changing values during a war is not about humanism;

it is about effectiveness. It is a means of preserving people and equipment where previously they were simply “burnt up” through poor management and false reporting.

It is important to remember that values do not exist in a vacuum – they are carried by people. The analysis conducted demonstrates that the walls of the Soviet system cannot be demolished by new regulations alone, since they are upheld by an “old” personnel foundation. In seeking a way out of this axiological impasse, military leadership is turning with increasing frequency to the radical renewal of blood – the mass appointment of young officers to strategic positions. The question nevertheless arises: is age an automatic guarantee of a change in values, and do the AFU not risk destroying the institutional resilience of the army in the pursuit of rapid leadership renewal? The authors consider that the mass appointment of young commanders to senior positions is a “double-edged sword”. It is neither an unambiguous good nor an evil; it is a strategic risk that may either save the system or bring it down, depending on whether such appointments are underpinned by a change in approach. Young senior and superior officers (aged 30–35), who frequently already possess experience of full-scale warfare at company-to-battalion level, have natural advantages – among them the absence of the “Soviet virus”: they did not serve in the Soviet Army, bear no nostalgia for the “Red” order, and often have a better command of English and technology. Their horizontal culture allows young commanders to more readily adopt an informal footing with subordinates in the best sense, building trust on authority rather than intimidation. Furthermore, they are receptive to change: for them, AAR or Mission Command are logical tools of survival rather than “foreign didactics”.

The problem arises when the social lift moves faster than the individual is able to acquire institutional maturity. This may lead to the skipping of levels of competence, since commanding a brigade demands not only courage, but also deep knowledge of logistics, administration and combined arms coordination. A young “tactical genius” may prove weak in strategic planning. Another risk is psychological burnout: responsibility for thousands of lives at the age of 28–32 generates colossal stress, which frequently leads to impulsive decision-making or, conversely, to apathy following the first heavy casualties. In addition, the “young lieutenant syndrome” in a senior position may emerge when youth becomes synonymous with overconfidence. A refusal to listen to experienced subordinates – even “Soviet” ones – may lead to elementary errors in the conduct of combat operations.

The principal danger is that of the “young Soviet” commander. The worst-case scenario is that of a young officer who, in pursuit of rapid career advancement, begins to mimic the worst traits of the “old school” – wilfulness, the concealment of mistakes, contempt for the soldier and so forth – in order to ingratiate himself with higher leadership. Age does not guarantee the possession of the requisite values. If the system rewards the “convenient”, then a young careerist may prove significantly more toxic than an old

“Soviet” colonel. The mass appointment of young officers will work to the benefit of quality only when the sergeant corps is strengthened – a young brigade commander must have a “battle-hardened” experienced senior sergeant who maintains discipline; the right to make mistakes is enshrined – youth is inclined towards risk, and this risk must be managed rather than criminalised; and mentorship is introduced – instead of simply replacing the old with the young, pairs must be created in which an experienced staff officer assists the young combat leader with bureaucracy and logistics. Thus, the success of the transformation of the AFU depends not on the formal change of generations or the blind copying of Western acronyms, but on the creation of a new military culture in which the combination of NATO accountability and Ukrainian *pobratymstvo* is protected by law – transforming the army from a punitive post-Soviet machine into an intellectual ecosystem of free and accountable leaders.

The data obtained regarding the system’s resistance to NATO values correlate with a number of contemporary studies, which enables the authors’ conclusions to be verified through comparison with the work of other scholars. In particular, the problem of “legal paralysis”, which the authors identified as the key cause of resistance to the concept of Mission Command, is the subject of active debate within the legal community. As noted by authors of legal publications, despite the adoption of legislation on “combat immunity”, the real-world practice of holding commanders liable for the loss of property during combat remains a “sword of Damocles”. This creates a situation in which the officer unconsciously chooses passivity in order to avoid prosecution by the State Bureau of Investigations. This confirms the authors’ conclusion: the Western model of delegation of authority cannot function within the framework of the peacetime administrative law that prevails in the Ukrainian system.

The transformation of Ukrainian soldiery through the prism of national identity is examined in depth in the work of M.M. Rozumnyi (2016). The author regards the formation of a new identity as a process of “large-scale internal conflict”. This explains the AFU’s resistance not as sabotage, but as a painful change in the mental code. M.M. Rozumnyi (2016) indicates that the democratisation and modernisation of institutions – such as the transition to NATO standards – requires an “innovative approach from the elites”, which is frequently lacking in the senior officer corps raised within the paradigm of the “army-as-mechanism”. The results of the analysis of the axiological rift in the AFU find direct confirmation in the empirical data obtained by the analytical department of the “Come Back Alive” Foundation (Initiative Center CBA, 2020). The report “Why are servicemen leaving the Armed Forces?” clearly identifies the third most significant factor in military degradation as “dissatisfaction with army processes and procedures”. Respondents directly cited “bureaucracy and showmanship” as the principal barriers to professional development. This is fully consonant with the authors’ conclusion that the Soviet habit of “appearing perfect” directly

conflicts with the Western value of integrity. Moreover, the report confirms the thesis regarding the “condescending attitude of commanders”, which is indicative of a deficit of leadership according to the American LDRSHIP model.

The question of sergeant leadership and officer snobbery, which the authors identified as one of the causes of resistance, resonates with the work of R. McAdams (2025). The author, analysing the experience of Eastern European countries, argues that in post-Soviet armies the officer corps frequently perceives the autonomy of the sergeant as a threat to their own status. This fully concurs with the authors’ conclusions on the “lack of delegation”. The distinction lies in the fact that the authors added to this analysis the factor of *pobratymstvo*, which in Ukraine frequently substitutes for the formal sergeant vertical, creating a chaotic yet functional network that simultaneously impedes regular management. The study by A. Romanyshyn (2025) on the “culture of deception” in the Russian Federation serves as a negative benchmark for the analysis. The author demonstrates that dehumanisation in the Russian army is systemic. The author holds that any copying of Soviet management methods in the AFU – for example, the concealment of casualties for the sake of a “polished report” – automatically brings the Ukrainian army closer to the Russian model, in which the human being is merely a resource. This underscores the authors’ thesis regarding the existential necessity of the transition to integrity. The problem of generational change and the risks of rejuvenation, which the authors described as a “double-edged sword”, finds reflection in the works of L. Wong & S.J. Gerrass (2015). The authors analysed leadership in conditions of high-intensity combat operations and concluded that the psychological burnout of young commanders is the principal risk of “rapid lift”. In distinction from L. Wong & S.J. Gerrass (2015), who focused on individual resilience, the authors examined this as a systemic threat – the emergence of “young Soviet” officers who integrate into the old hierarchy by copying its toxic traits.

Thus, the comparative analysis confirms that resistance to Western values in the AFU is not technical in character, but fundamentally cultural. The research results indicate that the way out of the “axiological impasse” is possible only through the synthesis of Western rationality and Ukrainian passionarity, which requires radical changes in legislation and the personnel appraisal system. Furthermore, an important condition for the successful introduction of this synthesis is the deep transformation of military education and training, oriented towards the development of professional standards and ethical principles commensurate with contemporary requirements.

◆ Conclusions

In the course of the study, it was established that the AFU’s resistance to the introduction of Western military values and NATO standards is not a consequence of deliberate sabotage, but is conditioned by a profound axiological rift between the Soviet institutional legacy and the liberal-democratic model of military governance. The process

of contemporary transformation confronts a number of deep structural and mental obstacles, the first of which is a sharp conflict of management paradigms. The contradiction arises between the Western concept of Mission Command, grounded in the delegation of authority and mutual trust, and the entrenched post-Soviet “statutory terror”. The latter model suppresses any initiative, as the fear of legal prosecution for a justified combat risk takes precedence over the expedience of taking autonomous decisions. The situation is compounded by socio-cultural characteristics, wherein the historical archetype of the “Cossack freemen” provides brilliant adaptability at the grassroots level, whilst simultaneously coming into direct conflict with the need for a rigidly formalised hierarchy and systemic accountability. In parallel, a profound crisis of trust is observed – one paradoxically fuelled by modern technology. Excessive micromanagement, amplified by digital control mechanisms, effectively nullifies the role of the sergeant corps and transforms officers into technical controllers, depriving them of their function as strategic leaders. This vicious circle is completed by the ethical dissonance engendered by the “culture of shame”. The post-Soviet habit of concealing mistakes to avoid punishment directly contradicts the fundamental Western value of integrity. This creates an insurmountable barrier to the introduction of effective after-action review, without which learning from mistakes and the further development of the system are impossible.

It has been demonstrated that the simple copying of NATO’s external attributes – the “cargo cult” – without changing the social architecture of relationships within the military does not ensure genuine interoperability. True reform requires not only personnel renewal, since “youth” is not an automatic guarantee of a change in values, but the creation of a new Ukrainian military culture. It must be grounded in a synthesis of Western rationality (integrity, accountability) and Ukrainian identity (*pobratymstvo*, *volia*, creativity). Only the transition from the model of the “army-as-mechanism” to the “army-as-ecosystem” – in which the human being is a person rather than a resource – will allow Ukraine to attain an asymmetric advantage in the war. Promising directions for further research include the development of mechanisms for the legal protection of command initiative in conditions of combat operations, the development of a methodology for introducing the After Action Review system within Ukrainian realities, and the study of the influence of the psychological resilience of young commanders on the effectiveness of unit management in high-intensity conflicts.

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Порівняльний аналіз військових цінностей та причини резистентності Збройних Сил України до західних стандартів

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♦ **Анотація.** У статті досліджена критична проблема аксіологічної трансформації Збройних Сил України в умовах екзистенційного протистояння, де невідповідність між декларованими стандартами Альянсу та вкоріненими пострадянськими управлінськими звичками стає бар'єром для бойової ефективності. Метою роботи був комплексний аналіз причин інституційної резистентності українського мілітарного середовища до впровадження іноземних ціннісних моделей та пошук оптимального синтезу західного раціоналізму з національним бойовим етосом. Для досягнення поставлених завдань було застосовано компаративний аналіз аксіологічних матриць армій США, НАТО та РФ, а також контент-аналіз нормативної бази та систематизацію сучасних наукових підходів до «людського чинника» в конфліктах високої інтенсивності. Результати дослідження засвідчили, що головна перешкода реформ полягає у розриві між культурою довіри, притаманною системі Mission Command (Цільове командування), та вітчизняним «статутним терором», який через страх юридичної відповідальності паралізує ініціативу офіцерів ЗС України. Автори довели, що цифровізація поля бою за відсутності етичної трансформації призвела до появи «цифрового мікроменеджменту», який нівелює роль сержантського корпусу та відтворює тоталітарні моделі контролю. Виявлено, що поширений «карго-культ» НАТО, що обмежується зовнішньою атрибутикою, не здатен подолати «культуру сорому», яка змушує командирів викривляти звітність задля збереження репутації перед керівництвом. Встановлено, що хоча побратимство є унікальним ресурсом української стійкості, воно потребує формалізації в межах меритократії, щоб уникнути фаворитизму та кумівства. Обґрунтовано, що оновлення кадрового складу за віковим принципом є ризикованим кроком, оскільки без зміни системи оцінювання молоді лідери схильні копіювати токсичні патерни поведінки старшого покоління задля кар'єрного виживання. Запропоновано концепцію сучасної Української мілітарної культури, яка поєднує західну підзвітність з українською адаптивністю та креативністю. Практичне значення отриманих результатів полягає в можливості їх використання для реформування системи військового права, зокрема легалізації бойового ризику, та розробки нових програм психологічної підтримки персоналу, орієнтованих на розвиток автономності лідера

♦ **Ключові слова:** аксіологічна модель; цінності; Mission Command; стійкість; чинники; досвід війни



The core of resilience as a concept of personal integrity under conditions of external pressure

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◆ **Abstract.** In the context of war and forced isolation, there is a growing need to conceptualise personal resilience as the capacity to preserve psychological and existential integrity and to remain oneself under conditions of extreme traumatic pressure. The aim of the article was to provide a theoretical substantiation of the author's concept of the core of resilience as a deep integrative structure of personality that ensures self-preservation under conditions of moral, physical, and existential threat. Within the study, a generalisation of empirical observations obtained through work with individuals who have experienced captivity, isolation, and repression was carried out. The research also employed the method of phenomenological analysis, elements of logotherapeutic and existential approaches, a cognitive-ethical paradigm, and an interdisciplinary interpretation of psychological mechanisms for maintaining integrity. As a result of the theoretical analysis, a structure of the core of resilience was proposed, comprising four key components: psychophysiological (bodily integration and regulation), cognitive (reflectivity and the capacity to think under crisis conditions), moral (internal ethical boundaries and principles), and spiritual (the ability to rely on meaning that transcends physical survival). It was emphasised that the presence of such a structure enables an individual not only to maintain functional activity but also to preserve dignity, value orientations, and a meaningful trajectory of existence even in the most difficult circumstances. The distinction between the core of resilience and other psychological constructs lies in the fact that it performs not only an adaptive but also an ontological function – it protects identity in boundary situations. The core of resilience emerges as a mechanism of existential self-defence grounded in integrity, dignity, and indestructible meaning. The practical value of the study lies in the application of the concept of the core of resilience as a diagnostic and intervention tool for the rehabilitation of former captives, veterans, and victims of extreme violence, as well as for the training of military personnel and specialists through the development of bodily, cognitive, moral, and spiritual resilience

◆ **Keywords:** existential identity; continuity of meaning; subjectivity; ethical-value vertical; spiritually oriented model; ontological system; forced isolation

◆ Introduction

The issue of maintaining psychological resilience and personal integrity in the face of external pressure is one of the central concerns in contemporary humanities. In the context of military conflict, captivity, prolonged isolation, significant loss and profound traumatic experiences, psychology faces the task not only of describing the mechanisms of adaptation to stress, but also of identifying the

deep-seated internal structures that ensure a person's moral, spiritual and existential self-preservation. The growing scientific interest in the phenomenon of resilience stems from the need to understand how a person is able to remain true to themselves – to preserve their identity, sense of purpose and dignity – even in situations of extreme vulnerability (Slezackova *et al.*, 2024). Contemporary science has

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significantly expanded the understanding of resilience, moving beyond the classical adaptive approach. In particular, G.A. Bonanno *et al.* (2024) interpreted resilience as a complex system of a person's internal organisation, integrating biological, cognitive, ethical and spiritual dimensions. The concept of post-traumatic growth, developed by T. Brus (2025), demonstrated that the consequence of a traumatic experience may not be the destruction of the personality, but rather the formation of a new depth of self-understanding, a re-evaluation of life priorities and the discovery of a deeper meaning of existence.

Humanistic and existential traditions view resilience as a manifestation of personal maturity. Humanistic psychology describes a self-actualised person as one who maintains inner balance through an awareness of their own worth and responsibility for their life, and psychological integrity as the result of unconditional acceptance of one's own experience in all its fullness. Existential psychology, in turn, links true resilience to an honest and courageous confrontation with the inevitability of death and the absurdity of existence. M.V. Khyzhniak's (2025) study emphasised that at the heart of these concepts lies the human being as a unity of values, meaning and potential. This is precisely why, in this study, resilience was considered not merely as a psychological trait or a set of adaptive skills, but as a form of ontological presence grounded in freedom, meaning and authenticity. Empirical data confirmed this theoretical and conceptual perspective. S. Kimhi *et al.* (2023) demonstrated that during the war in Ukraine, the resilience of the population was largely determined by internal beliefs – a sense of control over the situation, hope, and faith in justice. A.S. Troy *et al.* (2023) and S. Shorer *et al.* (2024) emphasised the role of moral meaning and social responsibility in shaping the resilience of volunteers and military personnel. P. Russo-Netzer *et al.* (2025) demonstrated that humanistic values within educational communities during military operations contribute to the preservation of personal integrity. I. Kozlovskyi (2024) identified dignity as the spiritual core of resilience: truthfulness and self-loyalty create an inner freedom that cannot be destroyed by any external coercion. Similar conclusions are found in the work of M.U. Slahi (2024), where it was shown that survival in conditions of isolation depends primarily on the ability to preserve humanity and a sense of purpose. N. Yavorska (2024) noted that emotional self-regulation, control over one's inner state and a steadfast sense of duty ensure the preservation of soldiers' agency even in captivity.

Thus, an analysis of contemporary academic discourse has revealed a shift from understanding resilience as a purely adaptive response to interpreting it as an internal integrative process. This process organically combines cognitive orderliness, moral steadfastness, spiritual orientation and psychophysiological self-regulation. Resilience determines not only how a person withstands extreme circumstances, but also who they remain in those circumstances. In situations of captivity, isolation or prolonged external pressure, the core of resilience functions not as a set of

instrumental skills, but as a fundamental internal support that allows one to maintain subjectivity, retain the capacity for free choice and sustain a sense of inner integrity even amidst external disorganisation and chaos. Thus, the study of the core of resilience opens up the prospect of moving from a description of reactions to stress to a deep understanding of the mechanisms of self-preservation of the personality as a unified, holistic system. The aim of this article was to conceptualise and theoretically substantiate a model of the core of resilience, viewed as a fundamental integrative component of the personality that ensures its preservation and stability in the face of multi-level threatening influences. To achieve this aim, the following objectives were set: to analyse contemporary theoretical approaches to understanding resilience; to identify the structural components of the core of resilience; to compare it with existing models of resilience, stress resistance and coping; to explore the moral, ethical and spiritual aspects of resilience as the foundation of personality integrity.

◆ Materials and Methods

The study was conducted as a theoretical and conceptual analysis aimed at constructing a systemic model of the core of resilience as an integrative mechanism for preserving personal integrity under conditions of intense external pressure. The methodological framework was based on phenomenological, existential, logotherapeutic and cognitive-ethical approaches. Their combination enabled the phenomenon of resilience to be examined in the context of psychophysiological, cognitive, moral and spiritual components. Qualitative content analysis of textual data was employed for the empirical verification of theoretical propositions.

The empirical material comprised public interviews with individuals released from Russian captivity between 2022 and 2025, published in the media and on open information resources. The sample included interviews containing detailed personal accounts of the experience of captivity, the experience of isolation and internal processes of self-preservation. Materials were selected based on the criteria of authenticity of statements (direct speech of respondents), richness of content (presence of descriptions of internal experiences, decisions and meanings) and relevance to the research topic. The analysis was conducted in accordance with the principles of qualitative content analysis with elements of thematic coding. In the first stage, open coding of the texts was carried out, identifying units of meaning that reflected methods of self-regulation, cognitive organisation of experience, moral stance and spiritual support. In the second stage, the codes were grouped into thematic categories corresponding to the structural components of the theoretical model of the core of resilience: psychophysiological, cognitive, moral-ethical and spiritual. In the third stage, the data obtained were interpreted from the perspective of a phenomenological approach, with an emphasis on the meanings that respondents attributed to their own experiences. To enhance the reliability of the

analysis, a comparison of recurring patterns of meaning across different interviews was employed, which enabled the identification of typical manifestations of resilience under conditions of forced isolation. The results obtained do not claim statistical representativeness, but they have significant heuristic value as an empirical illustration of the proposed theoretical model and for revealing the underlying mechanisms of preserving personal integrity in extreme conditions. The theoretical part of the study comprised three consecutive stages:

1. During the first (analytical) stage, a critical review was conducted of contemporary academic literature on psychological resilience, post-traumatic growth, logotherapy and the existential approach, including the works of V. Frankl (2020), R.G. Tedeschi *et al.* (2025) and O.O. Belov *et al.* (2025). At this stage, the conceptual limitations of traditional models of resilience and coping were identified, primarily their predominant focus on behavioural and emotional-regulatory aspects.

2. The second (synthetic) stage involved a comparative analysis of humanistic and phenomenological approaches to understanding personal integrity (Maslow, 1968; Rogers, 1995; May, 2025). Based on this analysis, four key levels of inner resilience – psychophysiological, cognitive, moral and spiritual – were identified, and the need to consider them as a single integrative system was substantiated.

3. At the third (conceptual-generalising) stage, based on a synthesis of theoretical sources and the results of interdisciplinary research, a model of the core of resilience was developed, which describes the mechanisms of moral and meaningful self-preservation under conditions of extreme stress.

L. Binswanger's (1963) phenomenological approach was used to describe the subjective dimension of the crisis experience and to analyse the inner experiences of a person facing an existential threat. This approach made it possible to avoid reducing human experience to behavioural reactions and to reveal it as a unique way of "being-in-the-world". Existential psychology, in particular the approaches of I. Yalom (2009) and R. May (2025), enabled to analyse resilience as a manifestation of spiritual maturity, freedom of choice and responsibility for one's own existence, as well as to describe the mechanisms of internal resistance to dehumanisation and loss of meaning. The logotherapeutic approach of V. Frankl (2025) and S.M. Southwick *et al.* (2014) was applied to explain the meaning-creating function of resilience. Logotherapy views the experience of trauma not only as a source of destruction, but also as an opportunity to rethink life and form a higher level of spiritual integrity, thereby providing a basis for understanding the moral and meaningful core of the personality. The cognitive-ethical approach was used to analyse the processes of self-reflection, moral choice and the meaningful integration of experience. It allowed resilience to be viewed not merely as a psychological trait, but as an ethical structure in which knowledge, values and action are organically integrated.

The theoretical conclusions were based on an interdisciplinary analysis of over 30 academic sources – monographs, articles, reports and memoir-psychological texts. Key works utilised include those on positive psychology by M. Seligman (2022), biopsychosocial theory by G. Fava & N. Sonino (2017), existential analysis by L. Binswanger (1963), as well as contemporary Ukrainian military psychology, notably V. Koval *et al.* (2024), and I. Kozlovskyi's concept of spiritual dignity (2024). The methodological strategy was based on the principles of integrity, integrativity and meaning-making. These principles made it possible to combine various scientific dimensions – from psychophysiological to moral and spiritual – within a single analytical model. The logic of the analysis involved a progression from describing individual forms of resilience (endurance, resilience, coping) to developing a generalised concept of the core of resilience as a multi-level system of internal self-regulation and moral steadfastness. Thus, the methods employed provided a comprehensive theoretical foundation for the phenomenon of the core of resilience and enabled its exploration as an ontological component of personal integrity – a structure that defines the boundaries of the human "self" in the process of encountering the destructive forces of the external environment.

◆ Results and Discussion

As a result of theoretical and conceptual analysis, a model of the "core of resilience" has been developed as an integrative system of internal mechanisms that ensure the preservation of personal integrity in the face of external pressure. The findings of A.S. Masten (2024) confirmed that resilience is not merely an adaptive trait, but a form of ontological self-preservation in which cognitive, moral, spiritual and psychophysiological regulation are combined. The concept of the "core of resilience" represents not only the individual's capacity for functional recovery following exposure to stressors, but above all their internal, value-driven existential steadfastness. This phenomenon goes beyond adaptive models, as it is not reducible to automatic adaptation to the environment. On the contrary, in a number of extreme situations, it is precisely the deliberate refusal to adapt in order to preserve moral identity that is a sign of mature resilience. The core of resilience is neither an isolated character trait nor a set of situational coping strategies. It is an integrative system of interrelated qualities, including:

1. Psychophysiological foundations: the neurophysiological capacity to withstand stress, the autonomy of the nervous system in response to challenges, somatic resilience, and homeostatic recovery (Grossman & Christensen, 2023; Poludonna & Tymoshenko, 2025).

2. Cognitive capacities: self-awareness, reflection, ethical judgement, critical thinking, the capacity for conscious choice and sustained focus on existential goals (Main *et al.*, 2023).

3. Moral and value-based guidelines (moral resilience): stability of beliefs, fidelity to ideals, an internal moral

compass, and the capacity for ethical resistance to destruction (Kharytonova, 2023; Kozlovskiy, 2024).

4. Spiritual integration: reliance on meanings transcending utilitarian needs; the capacity for prayer/meditation/service as forms of meaning-making.

Taken together, these levels form a deep structure of subjectivity, realised as a strategy of “holding oneself together” in dehumanising conditions. Unlike situational adaptive responses, the core of resilience has the character of an ontological constant, rooted in fundamental values and meanings. External pressure does not destroy this core as long as the subject does not renounce themselves in the meaningful, moral or spiritual dimension. The core of resilience functions as an internal subjective centre that structures experience under destructive influences (physical, informational, moral-psychological). Fear, pain and doubt are not eliminated, yet they do not lead to internal disintegration; what occurs is not passive defence, but an active ethical stance. The concept also includes a temporal dimension: it concerns the long-term ability to maintain a connection with meaning and value orientations, rather than a one-off act of will. It is important that the core of resilience is not a static or purely innate formation. It is formed gradually – through the experience of moral choice, overcoming losses and trials, the development of bodily self-awareness, and reflection on one’s own limits and vulnerabilities (Belov *et al.*, 2025). This construct is most fully revealed in borderline situations, when the familiar order is disrupted and responsibility for “being oneself” cannot be delegated. Thus, the essence of the core of resilience lies in the existence within the subject of a deep integrative structure that ensures meaningful continuity and moral constancy in the face of a rupture with basic forms of external support. The core allows not only for survival, but also for the preservation of subjectivity where its existence is called into question.

At the physiological level, resilience is grounded in the capacity of the neural and endocrine systems to adapt to stress without tipping into distress. Somatic stability provides a platform for maintaining psychological integration. This concerns the body’s ability to “hold” a meaningful identity, not merely to reduce arousal. The body emerges as a subject of regulation, sustaining the stability of the personal structure through the subtle functioning of interoception, breathing, sleep-wake rhythms, and muscle tone. Central to this is bodily competence – the capacity to engage with the body as an active participant in self-preservation. Practices such as mindful breathing, sensorimotor techniques, and simple rhythmic movements support the integrity of experience (“being present in the body”), reduce the risk of dissociative breakdowns, and help preserve conscious ethical behaviour despite pain or fear. Testimonies of former captives indicate that simple bodily rituals (counting steps, regulating breathing) served as tools for maintaining presence and will. Thus, the psychophysiological foundation is not an autonomous function but an element of a holistic integrative system in which the

body, psyche, and moral dispositions operate as a unified field of inner resistance. The cognitive component constitutes the structural framework of the core of resilience: it ensures orientation in reality, reflective comprehension of events, the meaningful organisation of experience, and moral judgement. This component includes several inter-related aspects:

- ✦ reflexivity – the capacity to comprehend not only external events but also one’s own modes of experiencing them (inner speech “names” experience and thereby significantly limits its destructive potential);
- ✦ metacognition – awareness of one’s own cognitive strategies and their conscious modification in accordance with value-based criteria;
- ✦ the transition from impulsive reaction to ethically grounded choice;
- ✦ cognitive flexibility – the ability to sustain multiple perspectives without losing a coherent picture of the world, reducing the risk of catastrophisation and enabling the search for meaning even within a fragmented reality;
- ✦ moral judgement – a cognitive function of evaluating situations from the standpoint of internal principles rather than fear or expediency, serving as an important indicator of preserved subjectivity and responsible choice;
- ✦ stability of the self-image – the ability to maintain a sense of a continuous “self” despite the loss of social roles, status, bodily integrity, or public recognition (Klymenko, 2024; Belov *et al.*, 2025).

Thus, cognitive capacities are not merely auxiliary tools but active mechanisms for preserving the value vector and the continuity of meaning. The central component of the core of resilience is the inner moral structure, which defines the boundaries of what is permissible, preserves dignity in inhumane conditions, and ensures ontological fidelity to oneself. This does not refer to external, conformist morality, but to existential responsibility towards oneself, others, and a higher meaning. A marker of moral resilience is steadfastness in fundamental matters – not as dogmatism, but as a form of integrity: a willingness to pay the price for fidelity to one’s principles (Zerach *et al.*, 2017). This includes an awareness of inviolable boundaries even in extreme situations; ethical tension and the capacity to endure conflict; resistance to “rational” compromise that preserves functionality but destroys the person. Moral principles function as a compass when all other reference points disappear, sustaining subjectivity even in the loss of voice or bodily freedom. The spiritual component is not reducible to religiosity; rather, it is an orientation towards transcendent meaning and a higher moral order that goes beyond utilitarian survival. It is here that an inner vertical is formed, enabling a person to endure when everything else collapses (Eger, 2020; Frankl, 2020). This involves faith (in God, truth, love, or an idea), dignity as the foundation of subjectivity, fidelity, self-sacrifice as a form of love, and the rejection of betrayal. Spiritual values are indestructible because they do not depend on external conditions; they determine the quality of inner life and

become the crystalline lattice of the psychological structure. If morality delineates boundaries, the spiritual dimension answers the question “for the sake of what”. In this way, cognitive activity does not turn into a rationalisation of capitulation, and somatic endurance does not become a “blind instinct”.

Unlike functional approaches to identity (roles, narratives, social markers), within an existential perspective identity is understood as a mode of being-in-the-world. It is precisely here that the core of resilience ensures the continuity of the “self” when external attributes disappear. In boundary states (captivity, illness, disasters), functional identity collapses, yet ontological identity remains – an inner testimony that “I am I”, despite loss. The core of resilience sustains the temporal unity of the subject between a traumatised past, an uncertain present, and an obscure future. It also counteracts depersonalisation, allowing one to maintain contact with emotional reality without losing control (Yalom, 2009; May, 2025). Thus, the core of resilience constitutes the existential substratum of personality – the precondition for any adaptation or therapy; without it, neither agency nor responsibility is possible. The concept of the core of resilience has been formulated in response to the limitations of traditional approaches to psychological

endurance under conditions of stress. It may be compared with related, yet distinct, categories:

1. Stress resistance. In applied fields, this is interpreted as the ability to maintain emotional balance and productivity under pressure; the criterion is functional effectiveness. Under prolonged dehumanising influences, this criterion is insufficient: the core of resilience expands the horizon from “I can act” to “I remain myself, even when action is impossible”.

2. Resilience. Contemporary models describe it as dynamic adaptation through the integration of internal and external resources (O’Leary & Ickovics, 1995). The core of resilience does not require successful adaptation: its essence lies in ontological presence and the preservation of dignity, even in the absence of “success”.

3. Coping strategies focus on behavioural and cognitive techniques for reducing tension (Folkman, 2013). The core of resilience does not prescribe forms of action; rather, it constrains them within ethically permissible boundaries.

Psychological flexibility emphasises acting in accordance with values despite pain or fear. This is close to the concept of the core of resilience; however, the core of resilience may function as a “silent centre”, sustaining value-based identity even in the absence of the possibility to act. Table 1 provides a brief description of the main concepts.

Table 1. Comparison of key concepts

Concept	Main focus	Effectiveness criterion	Role of functionality
Stress resistance	Psychophysiological functioning	Maintenance of control	Central
Resilience	Adaptation	Return to equilibrium	Important
Coping strategies	Behavioural regulation	Reduction of tension	Key
Psychological flexibility	Conscious orientation	Fidelity to values in action	Secondary to values
Core of resilience	Continuity of meaning	Preservation of identity	Independent of functionality

Source: compiled by the author based on V.E. O’Leary & J.R. Ickovics (1995), S. Folkman (2013), V. Frankl (2020)

Table 1 demonstrates the evolution of approaches to coping with stress – from physiological control and behavioural regulation to deeper meaning-based and value-oriented frameworks, reflecting a shift in emphasis from reacting to stress towards integrating experience into the structure of personality. At the same time, varying degrees of dependence on functionality can be observed: while in applied models functionality plays a leading role, in existential approaches it yields to the significance of identity and inner values. Within the study, an analysis of other concepts of preserving personal integrity in crisis was also conducted, particularly in terms of their capacity to interact with the concept of the “core of resilience”. According to the logotherapy of V. Frankl (2020), the primary motivational force of a person is the search for meaning, including the ability to sustain it under conditions of loss and humiliation. This idea is close to the core of resilience; however, it does not presuppose a multi-level integrative structure combining cognitive, affective, and bodily dimensions.

Humanistic and existential psychology emphasise authenticity, self-actualisation, and responsibility as conditions of personal integrity (Maslow, 1968; Rogers, 1995; Yalom, 2009). However, these approaches focus primarily

on development, whereas the core of resilience emphasises the preservation of already established meaning and dignity under conditions of degradation. The theory of post-traumatic growth, represented by R.G. Tedeschi *et al.* (2025) and O.O. Belov *et al.* (2025), considers trauma as a catalyst for changes in values and spiritual development. It explains processes that occur “after” trauma, whereas the core of resilience describes ethical steadfastness precisely “during” the crisis, which precedes any transformations. Theories of moral development explain the motivation of ethical behaviour, yet often insufficiently account for the bodily-affective dimension in boundary states. The core of resilience integrates moral judgement with the bodily and emotional endurance necessary for the enactment of decisions in extreme conditions. Spiritually oriented models associate resilience with dignity and connection to a higher order, often in dogmatic categories. The core of resilience is understood as an existential fact that may include a spiritual dimension but is not reducible to it (Eger, 2022). Thus, the core of resilience synthesises individual ideas from these approaches, adding an emphasis on the preservation of inner integrity and an ethical stance precisely at the moment of active degradation. Existing approaches illuminate

important aspects – meaning, growth, authenticity, spirituality, and morality. However, none of them individually encompasses the bodily, cognitive, moral, and spiritual levels simultaneously as a unified ontological structure. For this reason, the core of resilience may be regarded as a metaconcept that integrates the deeper elements of various schools into a holistic explanation of the preservation of subjectivity under external pressure.

To verify the theoretical conclusions, a content analysis of public interviews with individuals released from Russian captivity between 2022 and 2024 was conducted. The materials obtained made it possible to identify empirical manifestations of the key components of the core of resilience. Most respondents emphasised the importance of psychophysiological regulation. They noted the necessity of controlling bodily reactions – “keeping one’s head together”, breathing calmly, and not allowing oneself to break. This indicates that even under extreme conditions, bodily discipline remains a fundamental form of self-preservation (Klimyk, 2024; Sampan & Svyanchuk, 2025). No less significant was cognitive capacity. Captives frequently resorted to internal monologue, keeping a diary, counting days, or mentally reproducing texts and poems. Such self-organisation helped to maintain a connection with reality under conditions of sensory isolation. In particular, L. Huseinova noted that writing down her thoughts was a way “not to lose her mind” (Tkachyk, 2025). Respondents repeatedly spoke of refusing humiliation, remaining faithful to personal principles, and preserving dignity even under the harshest circumstances. M. Butkevych expressed this as follows: “One can lose everything except oneself” (Khotyn, 2025). This position corresponds to V. Frankl’s (2020) idea of the residual freedom to choose one’s attitude towards circumstances. Spiritual support was also an important component. Many of those released identified prayer, faith, thoughts of loved ones, and of Ukraine as their main sources of life force (Yatskiv, 2025). I. Kozlovskiy (2024), who himself endured captivity, described spiritual resilience as a form of inner freedom that “cannot be taken away by any chains”. All these testimonies confirm that resilience in captivity is not merely psychological in nature, but fundamentally moral and existential. Those who survived describe not so much behavioural strategies as an inner act – a refusal to allow oneself to be destroyed. The empirical confirmation allows the proposed concept to be regarded as a universal framework for analysing human behaviour under conditions of the breakdown of social structures.

The results of this study expand upon the ideas of post-traumatic growth of M. Jukić (2023), demonstrating that inner transformation following extreme experience is possible not only through overcoming trauma, but also through sustaining meaning directly within it. Unlike the resilience models of S.R. Maddi (2006) or the coping frameworks of R. Lazarus & S. Folkman (1984), the “core of resilience” reflects not strategies of action, but a fundamental structure of being – an integrative wholeness of personality preserved under conditions of active degradation.

In the Ukrainian scholarly tradition, the issue of resilience acquires particular significance in connection with wartime experience and mass trauma. N.I. Pohorilska *et al.* (2024) describe post-traumatic growth as a process of identity reconstruction, particularly through the re-evaluation of values. H. Lazos (2016) outlines theoretical models of post-traumatic development associated with the activation of moral responsibility and meaning-making. V.O. Horych (2023) emphasises that post-traumatic growth emerges when the psyche is capable of withstanding tension and engaging in the process of making sense of experience.

Restoring a sense of control and meaning is a fundamental condition for stabilisation after captivity. I. Zoshii (2024) and P. Galanis *et al.* (2025) also note that psychological resilience is a key resource for adapting to wartime conditions and is determined by the interaction of stress-related, cognitive, biological, and personal factors. The proposed model has significant potential for practical application in psychological rehabilitation, psychotherapy, and the training of professionals working with veterans, former captives, and their families. Its use makes it possible to develop programmes for spiritual and moral stabilisation, to refine logotherapeutic methods of support, and to create educational modules aimed at fostering inner resilience among military personnel and civilian specialists. Thus, the findings of the study demonstrate that the “core of resilience” is a universal integrative system that determines a person’s capacity to preserve themselves under the most extreme circumstances. The theoretical model is supported both by scholarly sources and by empirical testimonies of individuals who have endured captivity, which lends it a high degree of validity and practical significance.

◆ Conclusions

In the proposed theoretical and conceptual study, the notion of the core of resilience is substantiated as a deep integrative structure of personality that ensures ontological self-preservation under the impact of external pressure. Unlike adaptive interpretations of stress resistance, resilience, and coping, the core of resilience is defined as an inner subjective centre that maintains the integrity of the “self” in situations where functional action is either impossible or ethically unacceptable. This centre integrates four interrelated levels: psychophysiological (bodily stabilisation and regulation), cognitive (reflection, metacognition, cognitive flexibility, and moral judgement), moral (inner boundaries and steadfastness in fundamental principles), and spiritual (orientation towards transcendent meaning, which establishes a vertical hierarchy of values). Within this configuration, psychophysiological processes support clarity of consciousness, cognitive organisation ensures the quality of ethical decisions, and spiritual orientation provides meaningful direction to the entire system.

The findings obtained are consistent, on the one hand, with the logotherapeutic thesis regarding the key role of meaning in survival and the preservation of dignity, and, on the other hand, they extend contemporary models of

post-traumatic growth by illuminating not only transformations “after” trauma, but also the mechanisms of value-based self-preservation during extreme experience. The inclusion of testimonies from individuals who have endured captivity demonstrates the empirical validity of the four-level model: the bodily rituals they describe, the tracking of time, inner monologue or prayer, and the refusal of humiliation or betrayal of personal convictions concretise the functioning of each level as elements of a unified system of inner resistance. Unlike models that focus on the restoration of functionality, the proposed framework describes the condition of possibility for both adaptation and post-traumatic growth: without a core of resilience, there is no subject capable of meaningful recovery. At the same time, it avoids reductionism – it does not reduce resilience to physiology, cognition, or spirituality alone, but emphasises their systemic interdependence.

The proposed concept is suitable both for the theoretical explanation of endurance in captivity and other boundary states, and for the practical design of interdisciplinary support programmes that integrate bodily regulation, cognitive organisation, moral steadfastness, and a spiritual value orientation.

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Ядро стійкості як концепція цілісності особистості в умовах зовнішнього тиску

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♦ **Анотація.** У контексті війни та примусової ізоляції зростає потреба в осмисленні стійкості особистості як здатності зберігати психологічну та екзистенційну цілісність і залишатися собою в умовах граничного травматичного тиску. Метою статті було теоретичне обґрунтування авторської концепції ядра стійкості як глибинної інтегративної структури особистості, що забезпечує її самозбереження в умовах морального, фізичного та екзистенційного загрозливого впливу. У межах дослідження здійснено узагальнення емпіричних спостережень, отриманих у роботі з особами, що пережили досвід полону, ізоляції, репресій, а також використано метод феноменологічного аналізу, елементи логотерапевтичного й екзистенційного підходів, когнітивно-етичної парадигми та міждисциплінарну інтерпретацію психологічних механізмів збереження цілісності. У результаті теоретичного аналізу запропоновано структуру ядра стійкості, що включає чотири ключові компоненти: психофізіологічний (тілесна інтеграція і регуляція), когнітивний (рефлексивність, здатність до мислення в умовах кризи), моральний (внутрішні етичні межі та принципи), духовний (здатність спиратися на сенс, що виходить за межі фізичного виживання). Підкреслено, що наявність такої структури дозволяє особистості не лише зберігати функціональну активність, а й утримувати власну гідність, ціннісні орієнтири, сенсову лінію існування навіть у найважчих обставинах. Відмінність ядра стійкості від інших психологічних конструкцій полягає в тому, що воно виконує не лише адаптаційну, а й онтологічну функцію – захищає ідентичність у межових ситуаціях. Ядро стійкості постало як механізм екзистенційного самозахисту, в основі якого – цілісність, гідність і незнищений смисл. Практична цінність дослідження полягає в застосуванні концепції ядра стійкості як діагностичного та інтервенційного інструменту для реабілітації звільнених з полону, ветеранів і жертв крайнього насильства, а також для підготовки військових і фахівців через розвиток тілесної, когнітивної, моральної та духовної стійкості

♦ **Ключові слова:** екзистенційна ідентичність; сенсова неперервність; суб'єктність; етико-ціннісна вертикаль; духовно-орієнтована модель; онтологічна система; примусова ізоляція



News content as an environment of triggers for maladaptive daydreaming

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◆ **Abstract.** In the context of the Russian-Ukrainian war, news content shapes emotions and behaviour, making it especially important to study the psychological mechanisms of influence, in particular maladaptive daydreaming, which increases audience vulnerability through immersion in imagined scenarios, detachment from reality, and functional impairment. The aim of the study was to analyse the relationship between the state of maladaptive daydreaming and informational and psychological influence through news content, as well as to test the hypothesis regarding the presence of triggers in news content capable of activating or intensifying this state. The methodological basis of the study comprised an interdisciplinary approach, doctrinal analysis of informational and psychological operations, content analysis, narrative analysis, and descriptive statistical processing of the results of coding maladaptive daydreaming triggers in news content. The empirical basis consisted of two blocks of internet materials, ten of which belonged to the Russian segment of the information space and ten to the Ukrainian segment. Each item was coded according to five parameters: the title of the material, the core narrative, the identified maladaptive daydreaming trigger, the probable psychological mechanism of influence, and the expected impact on the target audience. The characteristics of maladaptive daydreaming triggers in news content were identified, namely: narrative incompleteness and “serialisation”, oversaturation with emotional evaluations, intrusive modelling of future scenarios, personalisation of the war, hyperbolisation of threats or victories, as well as the use of multimodal amplifiers (clickbait headlines, audiovisual materials). The results of the study indicate that in the Russian block, counterfactual, catastrophic, fatalistic, and compensatory narratives predominate, modelling alternative realities, scenarios of rapid rescue, inevitable defeat, or final ending. Such semantic constructions potentially contribute to escapism, rumination, imagined restoration of control, and a reduction in audience agency. In the Ukrainian block, trigger potential was also identified; however, it is largely associated not with deliberate influence, but with the thematisation of trauma, loss, deferred life, exhaustion, and counterfactual scenarios – for example, “if not for the war...”. It was established that the vulnerability of target audiences to such messages may increase under conditions of prolonged stress, psychological fatigue, and mass traumatisation, which correspond to the conditions of the Russian-Ukrainian war

◆ **Keywords:** target audience; information operation; psychological operation; escapism; rumination; cognitive influence

◆ Introduction

The Russian-Ukrainian war has radically transformed the role of the information environment. It has become a fully-fledged, continuous and often decisive arena of confrontation. Online news, social media platforms, messaging apps and digital aggregators no longer function as neutral channels for transmitting objective data, but increasingly serve as a medium for emotionally “priming” target audiences, constructing visions of the future and

shaping behavioural patterns. Accordingly, for successful defence and effective counteraction in the context of information warfare, it is necessary to have a deep understanding not only of the technological algorithms used to deliver destructive messages, but also of the specific, hidden vulnerabilities of the human psyche that these messages skilfully exploit. Modern information warfare is increasingly shifting towards the cognitive dimension.

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F. Ibrahim *et al.* (2023), in their study of cognitive and psychological warfare, emphasised that contemporary influence practices are primarily directed at human mental processes and the exploitation of cognitive vulnerabilities. A. Flood & R.J. Keegan (2022), summarising data on military personnel's cognitive resilience to psychological stress, demonstrated that a decline in cognitive performance under pressure affects the ability to perform complex tasks; consequently, a state of overload and exhaustion increases sensitivity to external stimuli. T.-A. Tran *et al.* (2024) further emphasised that cognitive resilience is shaped by the interaction of environmental stressors, the nature of the activity, and the characteristics of the individual themselves. In this context, news content should be viewed not only as a channel of information but also as a factor of cognitive load, which under certain conditions may exacerbate the psychological vulnerabilities of the target audience.

At the same time, psychology is actively investigating states in which a person loses touch with reality and favours imaginary scenarios as a way of coping with stress, anxiety or helplessness, one of which is maladaptive daydreaming. S. Rana & M. Vyas (2022) described it as a persistent, compulsive and emotionally intense immersion in alternative imaginary realities, accompanied by distress and impaired social and occupational functioning. Unlike ordinary daydreaming, maladaptive daydreaming is characterised by a pronounced narrative nature, repetitiveness, high emotional involvement and a tendency towards compulsive continuation of the imaginary plot. The findings of N. Soffer-Dudek *et al.* (2025) demonstrated that maladaptive daydreaming is a common phenomenon, most frequently observed among younger age groups and individuals experiencing chronic stress. Researchers are increasingly linking maladaptive daydreaming to trauma, dissociative processes, emotional dysregulation, and self-regulation difficulties. Thus, P. Thomson & V.S. Jaque (2023) highlighted the link between maladaptive daydreaming, emotional hyperarousal and difficulties in regulating emotions. I.J. Pietkiewicz *et al.* (2023) pointed to the connection between this phenomenon and certain personality traits. Meanwhile, J.I. Burrell *et al.* (2025) drew attention to intense imagery as a factor sustaining maladaptive daydreaming. On the one hand, maladaptive daydreaming is associated with daily fluctuations in psychopathological symptoms and negative affect, which may heighten vulnerability to informational stimuli. On the other hand, in the information environment of the Russia-Ukrainian war, narratives and trends may be deliberately amplified by information networks and the algorithms of social platforms. This creates structural conditions for repeated exposure to the same narrative, which is an important prerequisite for the formation of "serial" perception (Pezzi *et al.*, 2024).

Despite the growing body of research on the phenomenon of maladaptive daydreaming, its connection with news content as a tool for informational and psychological influence remains insufficiently explored. This gap is

particularly acute in the context of the Russia-Ukraine war, where news serves not merely as information but also as a medium for destructive influences. Consequently, there is a pressing need to investigate the capacity of specific narrative and multimodal characteristics of news content to act as targeted triggers that activate or intensify manifestations of maladaptive daydreaming in the target audience. In view of the above, the study puts forward the hypothesis that news content may contain triggers capable of activating or intensifying manifestations of maladaptive daydreaming in vulnerable target audiences. It was anticipated that such triggers would manifest through counterfactual, catastrophic, compensatory and emotionally overloaded semantic constructs, which facilitate escapist immersion, rumination, imaginative modelling of an alternative reality and temporary distancing from current traumatic experiences. Accordingly, testing this hypothesis required an analysis of news materials for the presence of such triggers, the nature of their manifestation, and their likely psychological impact on the target audience. The aim of the study was to test the hypothesis regarding the informational and psychological impact on the cognitive abilities of specific target audiences through the targeted or algorithmic use of content triggers. The research objectives were defined as follows: to outline the criteria for coding triggers of maladaptive daydreaming in news content; to compile a corresponding matrix and conduct a comprehensive analysis of triggers of maladaptive daydreaming in news content; to compare the results obtained with current research.

◆ Materials and Methods

The empirical basis of the study consisted of two blocks of internet materials. The first block comprised ten publications from the Russian segment, and the second block comprised ten publications from the Ukrainian segment of the internet. The empirical data blocks were collected using the capabilities of the advanced analytical platform Osavul (n.d.), which specialises in in-depth assessment of the information environment, detection of coordinated inauthentic behaviour on social media, internet monitoring, and analysis of narrative dynamics. Data selection was carried out using specially developed clusters of keywords related to the most traumatic and contentious themes of the Russia-Ukrainian war: the course of the war, human and economic losses, the demographic crisis, the contours of the post-war future, and the conditions of peace negotiations. The sampling approach was based on purposive selection. News content was selected according to the following criteria: (1) direct thematic relevance to issues of the war or its delayed socio-economic and psychological consequences; (2) availability of open and complete access to the full text of the material; (3) the presence of a clearly expressed narrative component (defined actors, a traceable cause-and-effect structure, and emotional framing of the anticipated outcome); (4) representativeness across different digital channels of content distribution (official news websites, author blogs, and news aggregators).

The chronological scope of the selection corresponded to the most intense phases of the information struggle in the Russian-Ukrainian war (2015-2025). The procedure for the comprehensive analysis of news blocks was systematised and divided into four sequential stages. In the first stage, a conceptual review was conducted of current doctrinal approaches to the objectives of information (psychological) operations and research into the phenomenon of maladaptive wishful thinking, with a view to utilising modern conceptual frameworks and cutting-edge research data. A search, collection and segmentation of news content by language were carried out. In the second stage, a standardised record was created for each news item, comprising the following sub-sections: language segment, publication title, publication date, link to the publication, and publication content. In the third stage, narrative and content analysis were applied. The unit of analysis was an individual news publication, including the headline, main text and, where available, accompanying multimodal components (images, audio and video materials). The core narrative, value positions, emotional states that the material sought to evoke in the target audience, and the proposed behavioural models (action or inaction) were also identified. This approach made it possible to treat the news material simultaneously as a communication product and as a potential carrier of psychological triggers capable of influencing the cognitive and emotional state of the target audience. In the fourth stage, the identified triggers of maladaptive daydreaming in the news content were coded. In this study, the term “trigger of maladaptive daydreaming” referred to a specific content-related, stylistic or formal-structural element of a media message that objectively facilitates the process of dissociative immersion in an alternative (imaginary) reality or supports counterfactual thinking, emotional avoidance or compensatory fantasising. These psychological indicators of maladaptive daydreaming are documented in the study by N. Soffer-Dudek & N. Theodor-Katz (2022) and are not the subject of this study.

The coding of news content was carried out according to five parameters: article title, narrative, trigger of maladaptive daydreaming, probable psychological mechanism of influence, and expected impact on the target audience (though as a hypothesis rather than a diagnostic conclusion). For example, increased rumination, reduced motivation for real-world action, detachment from reality, and so on. The rationale was based on data regarding the link between the intensity of maladaptive daydreaming and psychopathological symptoms and negative emotions in the daily measurements by J.R. Andrews-Hanna *et al.* (2014). To improve the reproducibility of the study results, several key indicators of triggers for maladaptive daydreaming were identified.

At the same time, the study's findings should be interpreted within the context of its limitations. These limitations include: a small, purpose-selected sample of content; the qualitative nature of the main phase of

the analysis; and the absence of direct measurement of reactions among the target audiences. The sample of news content does not claim to be statistically representative of the entire internet. As the sample was purpose-selected rather than random, quantitative analysis was limited to descriptive analytics. Furthermore, the study is not aimed at the clinical diagnosis of maladaptive daydreaming in the target audience and does not claim that the presence of a particular narrative automatically induces the corresponding state in every content consumer. The aim was to identify triggers in informational materials that could potentially activate or intensify relevant mechanisms in psychologically vulnerable audiences. This is precisely why the parameter “expected impact on the target audience” was treated as an analytical hypothesis rather than a directly measured clinical outcome.

◆ Results and Discussion

Maladaptive daydreaming is described as a syndrome characterised by excessive, vivid fantasising involving immersion in alternative realities, which is compulsive in nature and has a detrimental effect on professional and social functioning. Research by J. Bigelsen & C. Schupak (2011) showed that immersion can be intensified by stimuli that support an “emotional soundtrack”, imagery and narrative (in particular music, visual images and speech). In news content, such stimuli can be reproduced in the form of multimodal blocks (clickbait headlines, narrative introductions, and the reinforcement of material through audiovisual content). The Allied Joint Doctrine for Information Operations (2023) established the principle of “narrativity” (the coherence of actions, images and words) and a focus on behavioural change as the objective of influence. Following this logic, it is reasonable to assume that the widespread intensification of states associated with detachment from reality, impaired attention and emotional dysregulation potentially reduces social cohesion, productivity and the capacity for rational perception of events. Within the scope of this study, the following characteristics of triggers for maladaptive daydreaming in news content are proposed:

1. Plot incompleteness and repetition (“seriality”), which creates a need to “finish” the plot internally to a logical or desired emotional conclusion.

2. Emotional overload (fear, anger), which strengthens the emotional connection with the imagined scene. The systematic use of language conveying extreme, paralysing fear, unconditional triumph or destructive anger. Such framing strengthens the target audience's emotional “connection” to the imagined scenario, blocking their ability to engage in rational, critical analysis of the information.

3. The personification of global processes and role-playing scenarios, which facilitate the formation of idealised or catastrophic alternative realities. The artificial reduction of complex, multi-layered macroeconomic or geopolitical phenomena to primitive archetypal interactions involving a “strong hero”, a “traitor” or a “saviour”. This facilitates

the formation of idealised or, conversely, catastrophic alternative realities in the target audience's consciousness.

4. Intrusive modelling of the future ("what will happen next", "how this will end"), which may develop into cyclical "replaying" of fantasies. Among psychologically vulnerable audiences, this may trigger a mechanism of compulsive rehearsal of worst-case or best-case scenarios, depleting cognitive resources.

5. Multimodal amplifiers (audiovisual materials in publications), which function as external "anchors" for deeper immersion. They sustain attention and accelerate immersion, operating similarly to kinaesthetic stereotypes

(rocking, rhythmic movements) that often accompany maladaptive daydreaming.

News content may contain triggers capable of activating or intensifying maladaptive daydreaming, and thus act as one of the factors of informational and psychological influence on target audiences. The coding of ten Russian online materials confirmed that their content systematically reproduces counterfactual, catastrophic, fatalistic and compensatory narratives, which may act as triggers for maladaptive daydreaming through mechanisms of escapism, rumination, dissociative immersion and the imagined restoration of control over the situation (Table 1).

Table 1. Comprehensive analysis of news content in the Russian segment of the internet

Title of the material	Narrative	Maladaptive daydreaming trigger	Probable psychological mechanism of influence	Expected impact on the target audience
"Peace at any cost": what do Ukrainians think about continuing the conflict?	Peace through concessions to the aggressor (Russia)	Fantasy of a rapid end to suffering (the war)	Escapist avoidance of traumatic experiences	Passivisation, reduced readiness to resist the adversary
Will Russians and Ukrainians be able to live together?	Coexistence is only possible after Ukraine has been forcibly "reformed"	An imagined "purified" future	A compensatory fantasy of order and control in the future	Normalisation of coercion and violence against Ukrainians
Without being left with nothing. What Ukraine will be like after the end of the JFO	Once the war is over, Ukraine is supposedly doomed to ruin	A catastrophic image of the future	Anxious immersion with a search for external rescue	Acceptance of hopelessness and helplessness
"Let's be elves." Ishchenko on what would have happened to Ukraine if there had been neither Russia nor Donbas	Ukraine is supposedly unviable without Russia	A counterfactual scenario of an "alternative" Ukraine	Orientation towards an alternative history	Undermining belief in Ukrainian agency
What would have happened to Ukraine and Russia if the Maidan had been defeated	Maidan is supposedly the source of all subsequent losses	Nostalgia for a "lost" past	Ruminative re-experiencing of an alternative scenario	Shifting blame from the aggressor onto Ukraine
In the USA, they explained what would have happened to Ukraine without Washington's military assistance	Ukraine is incapable of resisting the Russian Federation without external support	An alternative scenario of inevitable defeat	Premature psychological capitulation	Demoralisation, reduction of Ukraine's agency
Those same record sanctions, lack of allies, and the threat of collapse: what Russia would be like if it had not launched the "SVO"	The Russian Federation's aggression is presented as pre-emptive self-defence	A heroised fantasy of a "decisive saving strike" by the Russian Federation	Rationalisation of violence through imagined necessity	Legitimation of the war, mobilisation of loyalty to the actions of the Russian Federation
Could the war in Ukraine have been avoided?	The war was allegedly historically almost inevitable	A fatalistic narrative	Removal of moral responsibility through fatalism	Reconciliation with the war as an "inevitability"
Ukraine's independence: it would have been better if there had already been a war	Ukraine's independence is presented as a historical mistake	A dystopian image of Ukrainian statehood	Destructive imagined "correction" of reality	Devaluation of Ukrainian statehood and identity
This war could have been avoided. Ukrainian and Russian experts believe that Ukraine will no longer exist	Ukraine has allegedly lost its chance of survival	A scenario of the final end of statehood	Traumatic fixation on hopelessness	Anxious rumination, a tendency towards external dependence

Note: JFO – Joint Forces Operation; USA – United States of America; "SVO" – a Russian euphemism referring to military aggression against Ukraine

Source: compiled by the author

According to the results of the coding, counterfactual or alternative-historical triggers were identified in 5 out of 10 materials, catastrophic or finalised images of the future also in 5 out of 10, compensatory models of "rapid rescue" in 3 out of 10, and fatalistic constructions that removed moral responsibility through the idea of the inevitability of war in 2 out of 10 materials. At the same time, it should be noted that these categories partially overlapped across different materials. In particular, materials such as "peace at any cost" directly appeal to mechanisms of escapist avoidance of pain. A target audience exhausted by daily stress and anxiety, when encountering such material, effectively

receives a psychological "permission" to immerse itself in a fantasy of the immediate cessation of suffering. Thus, the comprehensive analysis of the Russian block of news content demonstrated the dominance of semantic constructions that model alternative reality, emotionally simplified solutions to complex events, and images of inevitable destruction. In most materials, the key element was not information as such, but the construction of an imagined scenario in which the target audience was offered an emotionally complete framework for explaining the war, the future of Ukraine, or the supposed expediency of coercing Ukrainians into certain actions. Taken together, this

provides grounds to assert that in the analysed Russian sample of news content, triggers of maladaptive daydreaming perform not an auxiliary but a structural function. They do not merely amplify publications emotionally, but create an alternative reality in which the target audience withdraws from a complex reality into a simpler scenario shaped by emotional and ideological framing.

At the same time, the study of this issue cannot be limited solely to the Russian information segment. In the

context of the Russian-Ukrainian war, triggers compatible with the phenomenon of maladaptive daydreaming may also be present in Ukrainian news content, even in the absence of adversarial intent. This is because the very themes of loss, trauma, exhaustion, a “lost future”, or “rapid peace” are capable of activating escapist and ruminative psychological mechanisms. For this reason, the next step is a comprehensive analysis of the Ukrainian block of news content (Table 2).

Table 2. Comprehensive analysis of news content in the Ukrainian segment of the internet

Title of the material	Narrative	Maladaptive daydreaming trigger	Probable psychological mechanism of influence	Expected impact on the target audience
“If not for the war”. A reflection on how the 2022 grain harvest had been forecast and what the Ukrainian agricultural sector has lost	The war has disrupted the trajectory of stable economic development	A counterfactual image of a “lost normal life”	Nostalgic rumination	Sadness, fixation on losses
Constantly preparing for war: what life in post-war Ukraine will be like and the risks posed by an ageing population	The post-war future will be prolongedly strained and marked by demographic crisis	An image of an exhausting future	Catastrophisation of the future	Anxiety, emotional exhaustion, a sense of hopelessness
Among Ukrainians abroad, 17% do not plan to return after the war	A portion of citizens may be lost for the country's post-war recovery	A probable narrative of the breakdown of social ties	Traumatic fixation on the loss of societal cohesion	Demoralisation, weakening of belief in national recovery
Before the war, ageism was widespread in Ukraine; now employers are “hunting” for pensioners, – Libanova	The war has radically distorted the labour market and demographic balance in the country	An image of social deformation and a deficit of human resources	Social anxiety projection	A sense of systemic crisis and instability of economic development
AI-generated videos with the narrative of “peace at any cost” are being spread on TikTok	Exposure of information and psychological influence with a demobilising narrative	The formula of rapid peace as an imagined removal of traumatic thoughts	Escapist fantasy as a means of alleviating moral and psychological strain	Among vulnerable audiences: a tendency towards capitulatory attitudes; among resilient audiences: heightened vigilance
Half of Ukrainians support peace “at any cost” – a survey by the Democratic Initiatives Foundation	War fatigue increases the demand for its rapid conclusion	The perception of peace as an immediate escape from suffering	Emotional avoidance of pain	Passivisation, reduced resilience to informational and psychological influence
“If not for the war, I would hardly have linked my life with the army”, – combat medic of the Kalush Battalion	The war has radically altered personal biographies and professional paths	A counterfactual scenario of an “alternative life”	Personalised nostalgic rumination	Sadness, emotional immersion, increased empathy
How Ukrainians’ lives would have changed if there had been no war	An alternative history of Ukraine without the large-scale invasion by the Russian Federation	An extended scenario of a “parallel reality”	Imagined re-experiencing of an alternative past	Shift into counterfactual thinking, reduced focus on reality
What Ukraine’s development might have been like without the war	The war has interrupted economic growth and the trajectory of prosperity	An idealised image of unrealised national development	A compensatory fantasy of lost prosperity	Frustration, intensified sense of historical loss
“If there had been no war...”	The war has postponed personal dreams, careers, and the private lives of volunteers	An image of deferred peaceful life	Emotional immersion in unrealised scenarios	Melancholisation, empathy, psychological exhaustion

Note: AI – artificial intelligence

Source: created by the author

The coding revealed that counterfactual narratives of a “lost life” were present in 5 out of 10 materials, distress-based narratives in 3 out of 10, and the formula of rapid peace as an imagined relief in 2 out of 10 publications. The fundamental difference between this block and the Russian one lies in the intentions of the content creators themselves. While in the Russian segment the embedded triggers function as a carefully calibrated instrument of

targeted influence, in Ukrainian news content they tend to emerge as a secondary, largely uncontrolled psychological effect. This is likely a result of journalists covering a national tragedy, reflecting on collective trauma, objective social exhaustion, and unrealised peaceful life. However, the paradox lies in the fact that, for a human psyche already in a state of prolonged nervous exhaustion, the source of the trigger is not of primary importance. The mechanism of

maladaptive daydreaming activation responds exclusively to the form, semantics, and emotional content of the trigger, rather than to the political position of the media outlet. Nostalgic rumination triggered by an article about the “deferred dreams of volunteers” may produce the same detachment from reality as propaganda from the Russian Federation. For this reason, such content may be utilised by an adversary as a secondary resource for informational and psychological influence.

Research by J. Prier (2017) and Z. Haig & V. Ha-jdu (2017) indicates that social media function as instruments of modern information warfare. The effective dissemination of propaganda occurs through integration into an existing narrative, its subsequent amplification by bot networks, and its transformation into a trend. Contemporary information operations are aimed at altering beliefs, influencing behaviour, and undermining trust. Accordingly, even content of Ukrainian origin – if it contains strong motifs of loss, hopelessness, or “easy relief” from suffering – may be extracted from its original context, scaled, and incorporated into information operations conducted by the Russian Federation. A comparison of the two blocks of news content demonstrates that both segments contain triggers compatible with the phenomenon of maladaptive daydreaming; however, their function differs. In the Russian block, such triggers more frequently operate as elements of deliberate informational and psychological influence aimed at demoralisation, the normalisation of coercion, the rationalisation of capitulatory attitudes, and the reduction of target audience agency. In the Ukrainian block, the same mechanisms more often arise as a by-product of traumatic experience, counterfactual thinking, and emotional exhaustion. Thus, the study’s hypothesis is confirmed: news content does contain triggers capable of activating or intensifying mechanisms related to maladaptive daydreaming. At the same time, the Russian block demonstrates a higher likelihood of the deliberate use of news content as an instrument of informational and psychological influence.

Overall, the findings are consistent with contemporary research on maladaptive daydreaming syndrome. In particular, F. Ricci *et al.* (2025) conceptualise this syndrome as a dysfunctional coping strategy associated with excessive fantasising, impairment in everyday functioning, and accompanying psychological distress. In this context, the identified triggers in news content may be interpreted as external semantic stimuli that potentially reinforce an existing predisposition towards emotionally intense and maladaptive fantasising. The results also align with findings on the relationship between maladaptive daydreaming and stressful life experiences. The study by C. Colpo (2024) demonstrates that adverse experiences in both childhood and adulthood are positively associated with maladaptive daydreaming during the processing of emotionally charged stimuli. This suggests that prolonged exposure to stress is linked not only to increased escapist fantasising but also to changes in the perception of emotional messages, including news content.

An important aspect for interpreting the obtained results is the psychological mechanism that sustains maladaptive daydreaming. A. Lucas & A. Bone (2025) describe this syndrome as a cycle of dissociative immersion in vivid fantasy, which provides short-term emotional relief while simultaneously maintaining long-term adaptive difficulties. Their study also highlights the role of vivid imagery, music, and repetitive behavioural stimuli as factors that deepen immersion. Although the present study did not aim to assess psychomotor patterns, it confirms the importance of the multimodal environment of news content: headlines, emotionally charged introductions, and audiovisual sequences may function as analogues of external “anchors” of audience engagement. Equally significant are the conclusions of A. Nowacki & A. Pyszkowska (2024), who found that maladaptive daydreaming is relatively stable over time and may act as a risk factor for further increases in psychological distress. This suggests that emotionally saturated, counterfactual, and catastrophic news constructions should be considered not merely as a background to the experience of stress, but also as potential factors sustaining a maladaptive cycle in which escapist immersion and psychological exhaustion reinforce one another. Contemporary news media, particularly in the context of prolonged war, function as effective generators of this complex of emotions. They produce heightened anxiety, a persistent expectation of catastrophe, and a pervasive sense of loss of individual control over one’s life. When a civilian or a member of the armed forces is repeatedly exposed to content such as “Ukraine will cease to exist” or to detailed visualisations of irreversible loss and destruction, an overwhelmed psyche may respond through an available defensive mechanism – withdrawal into constructed fantasy.

At the same time, for an accurate interpretation of the results, it is essential not to equate all forms of daydreaming with pathological states. S. Kajimura *et al.* (2022) note that not all forms of maladaptive daydreaming are equally maladaptive. Certain types of self-generated thought may serve neutral or even adaptive functions, depending on their content, context, and direction. It follows that the risk identified in this study is not associated with the human capacity for imaginative modelling per se, but with specific configurations of news content that, in vulnerable audiences, may shift this process towards escapism, rumination, and disengagement from present reality. From the perspective of information (psychological) operations, these identified vulnerabilities of the human psyche constitute an ideal target for influence. Drawing on the Allied Joint Doctrine for Psychological Operations (2014) and the Allied Joint Doctrine for Information Operations (2023), it can be reasonably argued that Russian information operations, which skilfully employ triggers of maladaptive daydreaming, function as a form of negative informational and psychological influence. They do not primarily seek to rationally persuade Ukrainians of the legitimacy of the Russian Federation’s armed aggression. Rather, their objective is to induce as broad a target audience as possible into a

state of prolonged cognitive paralysis, continuous rumination, and dissociative escapism. In such a state, any rational, organised resistance loses its coherence, and instead the audience is offered an appealing illusion of immediate relief through capitulatory attitudes (such as “peace at any cost”). The danger also lies in the fact that even entirely organic, patriotic Ukrainian content – containing objective and socially significant reflections on human losses, economic exhaustion, or demographic crisis – may be easily and rapidly appropriated by the adversary. Through automated systems for monitoring the information environment (such as Osavul), such content may be identified, amplified by coordinated bot networks, and transformed into a resource for the demoralisation of the population. When a society begins to shift en masse towards counterfactual and escapist thinking, it risks losing the capacity to act effectively in the present and to construct a real, rather than imagined, future.

◆ Conclusions

The article presents the phenomenon of maladaptive daydreaming – which, in recent years, has traditionally been viewed by the scientific community solely as a clinical-psychological disorder characterised by an individual’s compulsive immersion in fantasies to avoid personal distress – as a specific, structural vulnerability within the target audience. The study emphasises that, by inducing or intensifying the state of maladaptive daydreaming, news content undermines an individual’s capacity for rational, critical decision-making. The negative impact of maladaptive daydreaming is not limited to the level of the individual. At the societal level, the dissemination of content that reinforces escape into compensatory or counterfactual scenarios may contribute to increased hopelessness, fatigue, passivisation, and a weakening of societal resilience. This corresponds to the doctrinal objectives of information (psychological) operations, which seek to change not only what the adversary thinks about, but fundamentally how they think, effectively transforming their own traumatised psyche into a tool of self-destruction. Thus, for the state, this creates additional risks to information security, as vulnerable target audiences become more susceptible to narratives that replace rational interpretation of events with emotional immersion in simplified models of “rescue”, a “lost past”, or an “inevitable end”.

A matrix for identifying maladaptive daydreaming triggers in news content has been developed and empirically

tested. The hypothesis has been confirmed that the conscious or unconscious use of constructions such as narrative incompleteness, total catastrophisation of the future, rigid personalisation of conflict, and counterfactual modelling (“if there had been no...”) forms an information environment conducive to the activation of maladaptive daydreaming mechanisms. A comprehensive analysis of two blocks of news content demonstrated that, in the Russian information segment, these specific triggers are generated deliberately and systematically. They function as instruments of informational and psychological influence, the primary aim of which is the demoralisation of the population, large-scale passivisation of will, rationalisation of aggression, and legitimisation of external coercion. In the Ukrainian block, maladaptive daydreaming triggers were also identified; however, their nature proved to be different. They were largely formed not as a result of adversarial intent, but as a by-product of covering trauma, loss, exhaustion, deferred life, and counterfactual scenarios such as “if not for the war...”. This made it possible to draw a fundamental distinction between deliberately constructed trigger-based content and content that may produce a similar psychological effect unintentionally. However, despite the absence of malicious intent, such materials carry an essentially identical risk of destabilising the cognitive resilience of the target audience, since the psyche responds to the emotional substance of the message rather than its source. The study does not claim that every consumer of news content will exhibit signs of maladaptive daydreaming syndrome. Nevertheless, it establishes the presence in news content of objective communicative features (triggers) that have the potential to contribute to the development or exacerbation of this state in vulnerable target audiences. Further research should focus on analysing the long-term consequences of maladaptive daydreaming, developing strategies to mitigate its impact, and strengthening critical thinking within society.

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Новинний контент як середовище тригерів дезадаптивної мрійливості

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♦ **Анотація.** В умовах російсько-української війни новинний контент формує емоції та поведінку, тому особливо важливим є вивчення психологічних механізмів впливу, зокрема дезадаптивної мрійливості, яка посилює вразливість аудиторій через занурення в уявні сценарії, відрив від реальності та функціональні втрати. Мета дослідження полягала в аналізі зв'язку між станом дезадаптивної мрійливості та інформаційно-психологічним впливом через новинний контент; перевірку гіпотези щодо наявності в новинному контенті тригерів, здатних активувати або посилювати цей стан. Методологічну основу дослідження становили міждисциплінарний підхід, доктринальний аналіз інформаційних і психологічних операцій, контент-аналіз, наративний аналіз та описова статистична обробка результатів кодування тригерів дезадаптивної мрійливості в новинному контенті. Емпіричну базу сформували два блоки інтернет-матеріалів, з яких десять належали до російського сегмента інформаційного простору та десять – до українського. Для кожного матеріалу здійснювалося кодування за п'ятьма параметрами: назва матеріалу, базовий наратив, виявлений тригер дезадаптивної мрійливості, ймовірний психологічний механізм впливу та очікуваний вплив на цільову аудиторію. Визначено ознаки тригерів дезадаптивної мрійливості в новинному контенті, а саме: сюжетна незавершеність і «серіальність», перенасичення емоційними оцінками, нав'язливе моделювання майбутніх сценаріїв, персоніфікація війни, гіперболізація загроз або перемог, а також використання мультимодальних підсилювачів (клікбейтні заголовки, аудіовізуальні матеріали). В результаті дослідження встановлено, що в російському блоці домінують контрфактичні, катастрофічні, фаталістичні та компенсаторні сюжети, які моделюють альтернативні реальності, сценарії швидкого порятунку, неминучої поразки або остаточного кінця. Такі смислові конструкції потенційно сприяють ескапізму, румінації, уявному відновленню контролю та зниженню суб'єктності аудиторії. В українському блоці також зафіксовано тригерний потенціал, однак він здебільшого пов'язаний не з навмисним впливом, а з тематизацією травм, втрат, відкладеного життя, виснаження та контрфактичних сценаріїв – наприклад, «якби не війна...». Встановлено, що вразливість цільових аудиторій до таких повідомлень може зростати за умов тривалого стресу, психологічної втоми та масової травматизації, що відповідає умовам російсько-української війни

♦ **Ключові слова:** цільова аудиторія; інформаційна операція; психологічна операція; ескапізм; румінація; когнітивний вплив



Inclusion of LGBT persons in the context of military service in Ukraine: A psycholinguistic approach

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◆ **Abstract.** The aim of this empirical study was to identify the socio-psychological attitudes of future Ukrainian officers towards sexual diversity and to determine the latent factors that influence the potential for inclusion of lesbian, gay, bisexual and transgender (LGBT) persons in the Armed Forces of Ukraine. The empirical basis was provided by data from a psycholinguistic associative experiment conducted among 78 senior cadets of a military institute aged 20 to 28, with an average age of 24.6 years. Respondents provided free associations to the stimuli "a person's private life and the right to be oneself" and "traditional family norms and traditions," which were then processed using a reflective thematic analysis procedure. The results showed that ideas about privacy and family norms are key conceptual frameworks through which sexual diversity is understood in the Ukrainian military environment. The male group is dominated by an orientation towards discipline, social order and heteronormative family models, combined with an expectation of limited public visibility of LGBT people. This configuration of attitudes corresponds to a model of conditional inclusion, where the right to diversity is recognised mainly in the private sphere. In the women's group, associations related to acceptance, emotional support, respect for individual choice, and variability of family forms are more frequently recorded, indicating the psychological potential to recognise the right to independence, control, and inviolability of personal choice in the sexual sphere. The study found that the inclusion of LGBT people in the Armed Forces of Ukraine largely depends on the informal cultural perceptions of Ukrainians, and not only on official non-discrimination policies. Tolerance for sexual diversity in the minds of Ukrainian cadets is fragmented and manifests itself mainly at the level of individual rights, but is significantly narrowed in the sphere of socially significant norms. At the same time, the presence of an orientation towards respect, mutual understanding and psychological support indicates resources for the development of an inclusive climate. The practical value of the work lies in the fact that the development of a culture of respect for diversity and inclusion of LGBT people strengthens trust, cohesion and effective interaction in military units

◆ **Keywords:** sexual diversity; associative experiment; gender differences; armed forces; personal autonomy; privacy

◆ Introduction

The full-scale Russian-Ukrainian war has significantly altered not only the security situation in the state but also the socio-psychological conditions of the functioning of the Armed Forces of Ukraine. In conditions of prolonged

war, the military appears not only as an instrument of defence, but also as a complex social system, the effectiveness of which depends on the level of cohesion, interpersonal trust and psychological stability of its personnel. In such

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circumstances, it is particularly important to analyse the socio-psychological processes within military collectives, in particular attitudes towards different social groups and the nature of intergroup relations. Scientific literature on military psychology repeatedly emphasises that unit cohesion is one of the key factors in combat effectiveness, stress adaptation and the preservation of mental health among military personnel. As noted by A. Naweed *et al.* (2021), it includes not only a focus on a common task, but also a sense of mutual support, fair treatment and recognition of each member of the group as important to the team. At the same time, violations of these conditions – through social exclusion, stigmatisation, or tense intergroup relations – can significantly undermine both the psychological climate in the unit and the individual resilience of military personnel. According to J. Azevedo & H. Pereira (2023), it is impossible to consider these processes without taking into account the specifics of military culture, which has historically been shaped by a rigid hierarchy, normativity and the dominance of militarised masculinity ideals. According to the Ukrainian LGBT Military Association (n.d.), such cultural frameworks define the concept of professional “normality” in the military, while at the same time labelling certain identities as deviations from it. In this sense, the military environment may unconsciously reproduce mechanisms of symbolic inclusion and exclusion that affect the position of certain social groups.

In this regard, it is appropriate to refer to the analysis of the social situation of lesbian, gay, bisexual and transgender (LGBT) people, which in many societies, particularly in military institutions, has historically developed in conditions of limited social acceptance. It is these conditions that largely determine the reproduction of negative socio-psychological attitudes towards LGBT people in the military environment, leading to increased levels of social stress and deteriorating mental health among LGBT military personnel. At the same time, the formation of a supportive social climate and positive intergroup relations is associated with higher organisational commitment and psychological resilience among military personnel regardless of their sexual orientation, as emphasised in a publication by V.K. Dixon (2025). These patterns are particularly important in wartime, when intergroup boundaries can be both exacerbated and redefined under the influence of shared experiences of risk and loss. Military units in combat conditions are forced to quickly build trust and mutual support, which makes the issue of social integration and acceptance not an abstract ethical problem, but a factor of practical effectiveness (Naweed *et al.*, 2021). It is in such conditions that the extent to which socio-psychological attitudes towards “others” are consistent with the requirements of combat and special tasks and collective responsibility becomes apparent. The Ukrainian context has its own specific features, which further reinforce the relevance of this issue. The long-standing influence of traditionalist views on gender and sexuality is combined with the processes of transformation of the Armed Forces of Ukraine associated

with the European integration course and the implementation of gender equality and non-discrimination policies in the security and defence sector (Arnautova *et al.*, 2020). At the same time, full-scale war has accelerated these changes and made internal social tensions more visible, particularly regarding the acceptance of sexual diversity by military personnel. Research by D.W.B. Lomas (2025) and A.K. Osborne & G. McGill (2024) has shown that limited training of commanders on diversity issues and the lack of clear procedures for responding to discrimination significantly reduce the effectiveness of inclusive initiatives. Without systemic changes in military culture, the psychological risks for LGBT military personnel remain high. Thus, the analysis of the socio-psychological aspects of attitudes towards LGBT people in the Armed Forces of Ukraine is important and timely in the context of the Russian-Ukrainian war. It allows for a deeper understanding of how intergroup attitudes and identities interact with the demands of military service under extreme conditions and highlights the importance of the human dimension in ensuring the resilience and effectiveness of the state’s defence. The aim of this article was to study the attitudes of future Ukrainian officers towards sexual diversity and to investigate the factors that influence the formation of an inclusive culture in military communities.

◆ Literature Review

Scholarly research devoted to the experiences of LGBT service members in the military environment intensified significantly after the repeal of the “Don’t Ask, Don’t Tell” (DADT) policy, which for a long time defined the limits of permissible disclosure of non-heterosexual identity within the armed forces (Aford & Lee, 2016). Most of the work in this field has been carried out in the context of social work, social and clinical psychology, and its analytical focus is on the psychological consequences of stigmatisation, characteristics of the organisational climate and features of interpersonal relationships in military communities. A review of the current literature reveals a consistent logic in the research, according to which formal institutional changes aimed at inclusion are not automatically accompanied by a transformation of everyday socio-psychological practices. As a result, the military environment for LGBT servicemembers often remains a space of social tension, limited interpersonal security, and conditional belonging. A significant portion of empirical research demonstrates the persistence of psychological risks even under conditions of declared equality. Thus, K.A. McNamara *et al.* (2021) demonstrated that perceptions of safety, acceptance, and belonging in a military unit are closely related to job satisfaction, mental health indicators, and organisational commitment. The authors argued that formal guarantees of equality, not backed up by interpersonal acceptance, are associated with psychological distress and reduced organisational engagement, including weaker identification with the unit, lower job satisfaction and less willingness to serve long-term. For LGBT military personnel, social isolation,

exclusion from informal interactions, and a lack of support from colleagues remain significant sources of psychological stress. Further empirical studies confirm these findings. I.W. Holloway *et al.* (2021) reported poorer mental health outcomes and higher prevalence of risky behaviour among LGBT military personnel compared to their heterosexual colleagues. These results are interpreted as a consequence of prolonged exposure to a socially unfavourable environment that requires constant adaptation and self-regulation. F.R. Carey *et al.* (2022), analysing large samples of active military personnel and veterans, showed that LGBT individuals are more likely to report negative perceptions of leadership effectiveness, lack of support, and reduced sense of group belonging, which in turn is associated with an increased risk of unplanned or early discharge from service. Research by J. Baumann *et al.* (2022) and M.N. Turluc & A.-D. Balcan (2023) focused on the persistence of heteronormative assumptions and hypermasculine norms embedded in military culture. Despite the existence of formal equality policies, these cultural patterns continue to structure interpersonal relationships and create additional barriers to the psychological well-being of LGBT military personnel. L.R. Godier-McBard *et al.* (2022) complemented this approach by showing that the consequences of social stigmatisation manifest themselves not only at the individual level, but also in group dynamics, reducing trust, unit cohesion and creating latent conflicts.

At the same time, a related line of research has emerged in the literature, focusing on the interpersonal and partnership dimensions of military service. These works go beyond the analysis of individual experiences and focus on the specific challenges faced by LGBT military personnel and their romantic partners in the context of military organisations. C. Balderrama-Durbin *et al.* (2025) found that military institutions have historically relied on heteronormative models of family and partnership, limiting the visibility and recognition of same-sex relationships. Current procedures and policies often fail to address the needs of such couples, resulting in unequal access to information, social support, and mental health services. The inability to openly acknowledge partnerships increases psychological stress, as service members are forced to balance professional responsibilities with constantly assessing the risks associated with disclosing personal information. This pressure extends to partners who are not in the military. An analysis of the impact of DADT on intimate relationships, presented in the work of B. Aford & S.J. Lee (2016), showed that the requirement to conceal sexual orientation effectively means concealing partnerships, which limits access to emotional and social support. The experience of prolonged “invisibility” has long-term consequences for the quality of relationships, contributing to emotional distance and chronic tension. Particular attention was paid to the analysis of socially conditioned psychological tensions that arise in everyday interactions in military communities. Unlike studies that focus on individual discriminatory events, these studies view tension as the result of the long-term

interaction of organisational culture, informal norms and social expectations. The results of A. LeBlanc *et al.* (2015) and C. Balderrama-Durbin *et al.* (2025) showed that the repeated exposure to stigmatising signals and practices of social exclusion, manifested in marginalisation within units, limited access to informal support networks, and reduced opportunities for full participation in collective life, creates cumulative psychological pressure that determines the nature of social participation and interpersonal behaviour of LGBT military personnel. Increased social visibility associated with same-sex partnerships or family relationships plays a key role in this process. Openness can promote a sense of authenticity, but at the same time increases vulnerability to negative social reactions within units. In this context, interpersonal conflicts and social pressure appear as structurally determined phenomena rather than individual difficulties. Strategies of selective disclosure or concealment of certain aspects of private life, while reducing the short-term risks associated with negative evaluation, are associated with emotional exhaustion, reduced trust, and limited access to informal support (LeBlanc *et al.*, 2015; Balderrama-Durbin *et al.*, 2025). Studies also record internal differentiation in the experiences of LGBT military personnel. E.E. Doan Van *et al.* (2019) and E.H. Mereish *et al.* (2017) showed that bisexual military personnel experience increased social uncertainty due to ambivalent attitudes from both heterosexual and monosexual groups. This complicates the formation of stable interpersonal relationships and exacerbates feelings of isolation. F.R. Carey *et al.* (2022) further demonstrated that sexual identity is a significant predictor of the assessment of the social climate in units, with these effects being particularly pronounced among bisexual women and men. Taken together, the results of recent studies allow to consider socially conditioned conditions of psychological vulnerability as a structurally embedded component of the military experience of LGBT individuals, formed at the intersection of organisational culture, leadership practices, and everyday interpersonal dynamics. This dimension is important not only for individual well-being, but also for unit cohesion and the stability of military organisations. However, despite significant progress in the study of mental health, organisational climate, and the effects of inclusive policies, existing empirical research on the socio-psychological aspects of LGBT military service is mainly based on data from the armed forces of North Atlantic Treaty Organization countries and do not take into account the specifics of armed forces operating in conditions of full-scale war.

◆ Materials and Methods

Given the specifics of the military environment, the study uses the psycholinguistic method of free association presented in the work of T. Khraban (2022), which has proven to be an effective tool for identifying conscious and latent components of social perceptions and psychological attitudes. In psychological research, this method allows recording spontaneous cognitive and emotional reactions

that reflect deep meanings not always accessible to direct verbalisation. The choice of an associative experiment instead of standardised questionnaires is due to a number of methodological considerations. First, attitudes towards LGBT people in a military context are socially sensitive and potentially stigmatised topics, which significantly increases the likelihood of socially desirable responses when using direct self-reporting techniques. Second, the hierarchical organisation of the military environment, normative pressure and the dominance of collectivist values may limit the psychological readiness of respondents to openly express their attitudes, even under conditions of anonymity. The free association method minimises conscious control of responses and allows for the recording of primary verbal reactions that reflect the emotional and value components of psychological attitudes.

The associative experiment was conducted in 2025 in compliance with the provisions of the Code of Ethics for Scientists of Ukraine (2009). Participation in the study was voluntary; all respondents were informed of the possibility of withdrawing from the study at any stage. The empirical sample consisted of fourth- and fifth-year cadets of the Zhytomyr Military Institute named after S.P. Korolyov. The age of the respondents ranged from 20 to 28 years, with an average age of 24.6 years. The total sample size was 78 people, of whom 15 were women and 63 were men. Among the women, five were in their fourth year and ten were in their fifth year; among the men, there were 32 and 31, respectively. The choice of senior cadets as respondents is of fundamental methodological importance. At this stage of their training, cadets have already undergone a long period of psychological and social adaptation to the military environment and have assimilated its normative system, values and informal rules of interaction. Unlike cadets in the initial courses, their ideas and attitudes reflect civilian views to a lesser extent and the integrated experience of functioning in a military organisation to a greater extent. This allows to consider the recorded associations as reflecting the psychological orientations of future officers, which are relevant for analysing the socio-psychological climate in the military environment. During the experiment, respondents were given the following instruction: "Look at the suggested stimulus words and quickly, without thinking, write down any word that first comes to mind; the task must be completed in two minutes". In order to reduce the excessive abstractness of the stimuli, the verbal instructions additionally focused on the sphere of personal relationships and self-expression, which directed the associative process in a psychologically relevant direction. A pair of stimulus words was selected for the study: "a person's private life and the right to be oneself" and "traditional family norms and traditions". This choice has a clear psychological rationale. The first stimulus is socially and culturally neutral and does not contain a direct reference to sexual orientation, while activating ideas related to autonomy, intimacy, and personal identity. This creates conditions for the spontaneous actualisation of associations, particularly those

related to same-sex relationships, without direct stimulation and with minimal defensive reactions. The second stimulus activates a normative-social and traditionalist frame associated with ideas about socially acceptable relationship models and collective expectations.

Reflective thematic analysis based on the six-phase model by V. Braun & V. Clarke (2023) was used to process the associative data obtained. The use of an associative experiment in combination with reflective thematic analysis made it possible to explore not only declarative positions, but also latent psychological meanings that shape the attitudes of future officers towards issues of personal life, social norms and acceptance of diversity in the military environment. The first stage involved immersion in the data through repeated rereading of associations and recording of initial analytical observations. The second stage involved systematic coding of lexical units with a focus on their semantic and emotional-evaluative characteristics. At the third stage, related codes were combined into preliminary themes that reflected recurring semantic patterns. The fourth stage was aimed at reviewing and refining the themes in terms of their internal consistency and relevance to the research objective. The fifth stage involved the final definition of the semantic boundaries of the themes and giving them analytically accurate names. The sixth stage consisted of constructing a comprehensive interpretative model of social perceptions and psychological attitudes reflecting the results of the study. At the initial stage of analysis, artificial intelligence (AI) tools, in particular the ChatGPT platform, were used for preliminary systematisation of associative material and identification of recurring lexical-semantic patterns. The use of AI was auxiliary in nature and was aimed at the initial grouping of associations and the formation of preliminary thematic clusters. Further coding, refinement of topic boundaries, and interpretation were carried out through manual reflective analysis in accordance with the methodology of V. Braun & V. Clarke (2023), which ensured analytical consistency and theoretical sensitivity of the results. Thus, the use of AI was combined with expert research analysis and did not replace the interpretative role of the researcher.

The results of this study should be interpreted with a number of methodological limitations in mind. First, the sample is relatively small and consists exclusively of cadets from a single military educational institution, which limits the possibility of generalising the conclusions to a broader population of military personnel. Second, the sample did not include active military personnel with combat experience, individuals of different age groups and hierarchical levels, which narrows the range of socio-psychological perspectives. The lack of diversity in these parameters does not allow for the full consideration of the influence of the organisational context and life experience on the formation of attitudes towards the acceptance of sexual diversity. Thirdly, the use of a psycholinguistic associative experiment records spontaneous verbal reactions but does not allow for a direct assessment of

behavioural manifestations of attitudes in real interpersonal interactions. In addition, reflective thematic analysis, despite its analytical flexibility and sensitivity to context, involves the interpretive role of the researcher, which may influence the formation of thematic boundaries. These limitations outline directions for further research with broader and more diverse samples and a combination of qualitative and quantitative methods.

◆ Results and Discussion

The results of the associative experiment on the stimulus “a person’s private life and the right to be oneself” reflect the peculiarities of cadets’ understanding of the categories of privacy and personal autonomy. Tables 1 and 2 present the generalised results of coding the associative reactions of men and women, which allows to trace latent ideas about the limits of self-expression and the acceptability of otherness.

Table 1. Results of coding men’s associations with the stimulus “a person’s private life and the right to be oneself”

Thematic group	Semantic content	Examples of associations obtained
Autonomy and personal boundaries	Privacy as protection from external interference	“Personal boundaries”; “do not interfere in my life”; “absence of interference”; “one’s own choice”
Freedom as a fundamental value	The right to live by one’s own rules	“Freedom of action”; “doing what one wants”; “the right to live in one’s own way”
Conflict with social control	Experiencing pressure, distrust of institutions	“Everything is imposed by society”; “nothing is possible”; “we do not have this here”
Legal and normative dimension	Appeal to rights and guarantees	“The right of every person”; “protection by the state”; “the right to confidentiality”
Ironisation/devaluation	Downplaying the importance of the issue through humour	“Toilet”; “eating after 22:00”; “I want...”

Source: developed by the authors

Table 2. Results of coding women’s associations with the stimulus “a person’s private life and the right to be oneself”

Thematic group	Semantic content	Examples of associations obtained
Self-identity and self-expression	Being oneself as a psychological need	“Self-expression”; “not being ashamed to be oneself”; “style”; “one’s own opinion”
Emotional security and acceptance	Privacy as a condition of psychological comfort	“Comfort”; “cosiness”; “being accepted as one is”; “mutual understanding”
Privacy in relationships	Boundaries of intimacy and personal space	“Personal space in relationships”; “time together; trust”
Social recognition	Expectation of acceptance by society	“Should not be subject to judgement”; “should be accepted by society”
Personal development	The right to be oneself as a resource for self-realisation	“Self-realisation”; “one’s own goals”; “individuality”

Source: developed by the authors

Analysis of the results of coding cadets’ associative responses to the stimulus “a person’s private life and the right to be oneself” reveals latent socio-psychological attitudes towards personal autonomy and self-expression, which are directly relevant to understanding attitudes towards sexual diversity, particularly towards LGBT people, in the military environment. Although LGBT is not directly mentioned in the formulation of the stimulus, the associative material reflects deep-seated ideas about the limits of acceptable self-expression and the willingness to accept otherness. In general, for both gender groups, the right to be oneself is conceptualised as a socially significant value, but the ways in which it is interpreted differ significantly, which is of fundamental importance for analysing potential tolerance towards LGBT people. In male associations, private life is most often seen as a space that needs to be protected from external interference. The emphasis on personal boundaries, non-interference and individual choice shapes the idea of independence and the inviolability of personal choice in the sexual sphere as a guarantee of human rights and freedoms. When projected onto the LGBT context, this concept of accepting sexual diversity

can be interpreted as conditional tolerance, whereby the right to a different identity is recognised only on condition that it remains invisible and private. In other words, sexual diversity is recognised only as long as it remains within the private sphere and does not contradict established social norms. In addition, male associations report a clear experience of normative pressure and distrust of the possibility of real personal choice in the sexual sphere. Statements about the “imposed” nature of rules and the lack of real freedom point to an internal conflict between the declared value of freedom and the acceptance of a strictly regulated social order. In the context of LGBT, this may mean that one’s own sense of limited freedom is projected onto others, reducing the willingness to recognise the right to open self-expression of groups that are already in a position of social vulnerability. The rationalised, legally oriented understanding of privacy inherent in men further reinforces this tendency. Appealing to formal rights and norms creates a framework in which tolerance for sexual privacy is determined not by empathy or the principle of equality, but by conformity to dominant notions of “normality”. Consequently, LGBT identity in such a coordinate

system is potentially perceived as acceptable only formally or abstractly, but not as a socially visible reality.

In contrast, women's associations demonstrate a different vector of understanding the right to be oneself, which is directly related to tolerance towards LGBT people. For women, private life is closely linked to self-expression, emotional authenticity and acceptance of one's own identity. The emphasis on the right to be oneself and inner comfort forms a broader understanding of autonomy that is not limited to the concept of sexual privacy. It is particularly noteworthy that women's associations often include expectations of social acceptance and non-judgment. Projected onto the LGBT context, this indicates a willingness to recognise the right to diversity not only as a formal norm, but as a social practice. Privacy in this case does not mean hiding one's identity, but rather the right to safe self-expression within social interactions. In addition, the relational nature of women's associations – a focus on mutual understanding, trust, and respect for personal boundaries – creates a psychological foundation for inclusive attitudes. The right to be oneself extends to

others and is not limited to one's own experience, which is an important indicator of potential tolerance towards LGBT people in a community. Thus, projecting the results of the associative experiment onto the LGBT context allows to conclude that latent attitudes towards sexual diversity are gender-differentiated. Men more often represent a model of conditional tolerance based on the privatisation of otherness and adherence to strict normative boundaries. Women, on the other hand, demonstrate a greater orientation towards acceptance, emotional security and social recognition, which indicates a higher inclusive potential. The results of the associative experiment on the stimulus "traditional family norms and traditions" reflect the cadets' ideas about normative family models, the limits of social acceptability, and the nature of traditions as a regulator of interpersonal relationships. Tables 3 and 4 present the summarised results of the coding of the associative responses of men and women, which allows to identify the underlying semantic structures associated with the interpretation of family norms and attitudes towards the variability of partnership forms.

Table 3. Results of coding men's associations with the stimulus "traditional family norms and traditions"

Thematic group	Semantic content	Examples of associations obtained
Heteronormative model of the family	The family as a union of a man and a woman	"Man-woman-child"; "mother and father"; "the norm of a family is a boy and a girl"
Strong rejection of alternatives	Openly negative evaluation of LGBT people	"No LGBT"; "LGBT and feminism ruin everything"
Tradition as stability	Traditions as a source of support and order	"Basic minimum"; "stability"; "generations"
Family hierarchy and roles	Clear division of functions	"Roles in the family"; "marriage"; "division of roles"
Normative pressure	Perceptions of "correctness"	"That is how it should be"; "the norm"; "a complete family"

Source: developed by the authors

Table 4. Results of coding women's associations with the stimulus "traditional family norms and traditions"

Thematic group	Semantic content	Examples of associations obtained
Family as an emotional community	Family as a space of support	"Warmth"; "care"; "love"; "cosiness"
Rituals and shared time	Traditions as a practice of unity	"Family dinner"; "holidays together"; "gathering as a family"
Flexibility of norms	Recognition of the variability of traditions	"Every family has its own traditions"; "norms should not be an obstacle"
Mutual respect and dialogue	The value of equality in relationships	"Mutual understanding"; "respect for decisions"; "the opportunity to speak"
Cultural continuity	Transmission of values between generations	"That which has been there since childhood"; "something familiar"; "family traditions"

Source: developed by the authors

Analysis of the results of coding cadets' associative responses to the stimulus "traditional family norms and traditions" reveals deep-seated ideas about family norms, acceptable models of intimate relationships, and the limits of social acceptance. In the context of the research objective, these perceptions are particularly significant, since it is through family norms in the mass consciousness that the concept of sexual diversity is most often symbolically accepted or rejected. In general, the responses of both gender groups show high semantic saturation, which indicates the central place of family norms in the cadets'

value system. At the same time, a comparative analysis demonstrates significant gender differences in the ways traditions are interpreted, their conservatism or openness to variation. Male associations are dominated by a normatively regulated image of the family, which is clearly structured around a heteronormative model. Frequent associations such as "mother-father," "man-woman-child," and "complete family" indicate the perception of traditional family norms as the only correct and socially legitimate form of family relations. In this case, tradition performs not only a cultural but also a controlling function,

defining the limits of what is acceptable. Particularly indicative is the presence of openly negative and polarised associations in which alternative family models are directly opposed to the “norm”. References to the rejection of LGBT people in the context of family traditions indicate that sexual diversity is perceived not as a private matter of identity but as a threat to the established social order. In the LGBT context, this means that the family norm acts as a key mechanism of symbolic exclusion, where the right to be oneself, declared at the level of privacy, loses its legitimacy in the sphere of family and publicly significant relationships. In addition, male associations tend to view tradition as a source of stability, order, and intergenerational continuity. This interpretation reinforces the rigidity of normative boundaries and reduces the willingness to revise them. Consequently, tolerance for sexual diversity among the male group of respondents is limited and, as a rule, does not extend to the recognition of alternative family forms.

In contrast, women’s associations demonstrate a more flexible and inclusive understanding of family traditions. Although for women the family is also associated with values of support, love and spending time together, these characteristics are not always rigidly tied to a specific structural model. A significant proportion of associations emphasise the emotional function of the family rather than its formal parameters. It is telling that women more often emphasise the variability of traditions and their ability to change. Associations such as “every family has its own traditions” or “norms should not be an obstacle” indicate that family norms are perceived as a social construct rather than an immutable prescription. When projected onto the LGBT context, this creates a basis for recognising alternative forms of family relationships, even if they do not fully correspond to the classical model. In addition, women’s associations are characterised by a clear focus on mutual respect, dialogue and support, shifting the focus from normative control to the quality of interpersonal relationships. In such a coordinate system, family tradition rejects the function of control and can be seen as a space open to sexual diversity. Thus, the projection of the results of the associative experiment on the stimulus “traditional family norms and traditions” in the LGBT context indicates a clear gender differentiation of latent attitudes. Men mostly represent a rigid heteronormative model, within which sexual diversity is excluded from ideas about the family. Women, on the other hand, demonstrate a greater willingness to rethink traditions and a higher potential for inclusiveness, focusing on the emotional and value-based aspects of family relationships rather than exclusively on their structural aspects. Thus, the data obtained confirm that it is in the sphere of family norms that the deepest normative tension regarding sexual diversity manifests itself, which is of fundamental importance for understanding the limits of tolerance in the military environment. Overall, the results show that cadets’ tolerance towards sexual diversity and LGBT

people is fragmented: it manifests itself mainly in the sphere of personal rights and individual interaction, while in the context of family and socially significant norms, its manifestations remain significantly limited.

The results of the associative experiment obtained within this study make it possible to deepen the understanding of the socio-psychological mechanisms underlying perceptions of privacy, identity and normativity within the military environment, while also conceptually resonating with a number of contemporary empirical and theoretical studies devoted to the inclusion of LGBT individuals in the armed forces. The analysis of associations in response to the stimulus “a person’s private life and the right to be oneself” indicates that, in the consciousness of male cadets, the right to autonomy, control and the inviolability of personal choice in the sexual sphere is perceived primarily as something personal that should be realised within the boundaries of norms established by the military institution. This tendency is consistent with the findings of the study by A. Blasyak (2024), which demonstrated that the sense of belonging of LGBT service members to the military community in the post-DADT period is often determined by the need to maintain a clear distinction between the professional role and sexual identity. In this context, the regulation of the visibility of sexual identity becomes a decisive factor in its perception and acceptability within the institution. This trend is consistent with the results of a study by A. Blasyak (2024), which showed that the sense of belonging of LGBT military personnel to the military community in the post-DADT period is often determined by the need for a clear distinction between professional role and sexual identity. In this context, regulating the visibility of sexual identity is a determining factor in its perception and acceptability within the institution. Similar logic can be traced in comparison with the review by P.N. Oblea & L.A. Siaki (2023), which focuses on health issues and access to care for gender- and sexually diverse military personnel. Although the authors do not directly analyse cultural attitudes, their description of the avoidance of mentioning one’s sexual orientation even in a medical context can be interpreted as a consequence of the same normative ideas that are recorded in the associative experiment: sexual orientation and sexual identity are perceived as something that must remain “outside the system” in order to avoid the risk of stigmatisation.

Associations with the stimulus “traditional family norms and traditions” revealed an even stricter normative framework, especially in the male group, where the heteronormative family model functions as a marker of social “normality” and moral order. This result is consistent with the findings of A. Blasyak (2024) and W.E. O’Connell (2021) regarding selective inclusion, which occurs through an appeal to homonormative forms of identity and conformity to militarised notions of masculinity, family and discipline. The associations indicate that acceptance of sexual diversity is conceivable only on condition of its symbolic invisibility and non-violation of

dominant social models. At the same time, gender differences in associations are of fundamental analytical importance. Women's responses more often contain elements of acceptance, emotional autonomy, and individual choice, while men's responses are oriented toward normative ideas of masculinity and social acceptability. These differences correlate with the findings of B.C. Thoma *et al.* (2021), which show that gender non-conformity is associated with higher levels of stress related to sexual identity, especially among gay and bisexual men. Thus, associative structures reflect the cultural context in which deviation from the masculine norm becomes socially visible and potentially vulnerable. The theoretical positions of D.R. Koslosky (2008) allow to understand these results in the broader perspective of citizenship and public personality. The reduction of sexual identity to the private sphere, as reflected in associations, corresponds to the logic of "permissible inclusion", where the formal expansion of rights is not accompanied by a change in perceptions of normative expectations and standards within military service. Similarly, the dominance of traditional family models supports the symbolic identification of social acceptability with conformity to heteronormative and binary notions of gender and sexuality. The associative perceptions of future officers can be seen as an indicator of the cultural level of inclusion, which is shaped by everyday perceptions and practices, rather than just formal political norms. The tendency to control the visibility of sexual diversity and to frame it within the context of discipline and efficiency has deep historical roots and continues to structure the contemporary experience of military service. Overall, the results of the associative experiment suggest that the declared inclusion of LGBT individuals in the military environment coexists with the persistence of stable normative structures. The acceptance of sexual and gender diversity appears conceivable primarily on the condition that it conforms to dominant models of family, masculinity and the privatisation of identity. This confirms the tensions and contradictions inherent in liberal projects of inclusion which, while expanding formal access, do not necessarily transform the cultural foundations of the military institution.

◆ Conclusions

The associative study revealed latent socio-psychological perceptions of Ukrainian cadets regarding independence, control, and inviolability of personal choice in the sexual sphere. The results showed that acceptance of sexual diversity is formed within a clearly defined normative framework that determines the conditions of social acceptability and symbolic "normality". An analysis of associations with the stimulus "a person's private life and the right to be oneself" showed that the right to self-expression in the context of LGBT identity is mostly perceived as personal and should be exercised within the private sphere, without affecting professional activity or public behaviour. This trend is particularly pronounced in

the male group: an emphasis on discipline, control and conformity to norms is combined with an expectation of symbolic invisibility of differences in sexual orientation and gender expression. In the female group, associations more often reflected a focus on emotional autonomy, acceptance of diversity, and individual choice in the sphere of sexual and gender identity. The results of the analysis of the stimulus "traditional family norms and traditions" showed the dominance of heteronormative and binary family models, which serve as markers of social stability and moral order. The male group demonstrates more rigid ideas about the family and is less open to alternative forms of partnership, while female associations show greater variability and potential openness to rethinking traditions, particularly in the context of accepting LGBT models of family relationships. Summarising the results of the study, it can be argued that the associative structures of cadets' consciousness reproduce a model of conditional inclusion, in which the acceptance of LGBT identity is possible mainly on condition that it is limited to the private sphere and corresponds to dominant ideas about family, masculinity and military role. This demonstrates the persistence of deep cultural barriers and highlights the need for further research and educational interventions aimed at transforming not only formal policies but also everyday social perceptions in the military and semi-military environment of Ukraine. Further research should focus on combining associative methods with qualitative interviews and experimental approaches for a deeper analysis of the mechanisms of normative perceptions of sexual diversity in the military environment. A promising avenue is to compare the pre-institutional attitudes of cadets with the experiences of active military personnel from different branches of the armed forces and levels of the hierarchy. Separate attention should be paid to analysing the intersections of sexuality, gender and ethnicity, as well as the impact of educational and inclusive programmes on the transformation of latent social perceptions.

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Інклюзія ЛГБТ-осіб у контексті військової служби в Україні: психолінгвістичний підхід

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♦ **Анотація.** Метою цього емпіричного дослідження було виявлення соціально-психологічних установок майбутніх українських офіцерів щодо сексуальної різноманітності та визначення латентних чинників, які впливають на потенціал інклюзії лесбійок, геїв, бісексуальних та трансгендерних осіб (ЛГБТ) у Збройних силах України. Емпіричну основу становили дані психолінгвістичного асоціативного експерименту, проведеного серед 78 курсантів старших курсів військового інституту віком від 20 до 28 років, середній вік 24,6 роки. Респонденти надавали вільні асоціації на стимули «приватне життя людини та право бути собою» і «традиційні сімейні норми та традиції», а їх опрацювання здійснювалося за процедурою рефлексивного тематичного аналізу. Результати показали, що уявлення про приватність і сімейні норми є ключовими смисловими рамками, через які в українському військовому середовищі осмислюється сексуальна різноманітність. У чоловічій групі домінує орієнтація на дисципліну, соціальний порядок і гетеронормативні моделі сім'ї, що поєднується з очікуванням обмеженої публічної видимості ЛГБТ-осіб. Така конфігурація установок відповідає моделі умовної інклюзії, коли право на різноманітність визнається переважно у приватній сфері. У жіночій групі частіше фіксуються асоціації, пов'язані з прийняттям, емоційною підтримкою, повагою до індивідуального вибору та варіативністю сімейних форм, що вказує на психологічний потенціал визнавати право на самостійність, контроль і недоторканність особистого вибору у сексуальній сфері. У дослідженні встановлено, що інклюзія ЛГБТ-осіб у Збройні сили України значною мірою залежить від неформальних культурних уявлень українців, а не лише від офіційних політик недискримінації. Толерантність до сексуальної різноманітності у свідомості українських курсантів має фрагментарний характер і проявляється переважно на рівні індивідуальних прав, але суттєво звужується у сфері соціально значущих норм. Водночас наявність орієнтації на повагу, взаєморозуміння та психологічну підтримку свідчить про ресурси для розвитку інклюзивного клімату. Практична цінність роботи полягає в тому, що розвиток культури поваги до різноманітності та інклюзії ЛГБТ-осіб зміцнює довіру, згуртованість і ефективну взаємодію у військових підрозділах

♦ **Ключові слова:** сексуальна різноманітність; асоціативний експеримент; гендерні відмінності; збройні сили; особиста автономія; приватність



A model for the development and enhancement of psychological resilience in Marine Corps service personnel of the Armed Forces of Ukraine through coping strategies

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◆ **Abstract.** The relevance of this study is conditioned by the need to revise classical paradigms of combat mental health preservation in the context of the radical transformation of the combat stress ecology brought about by Russia's full-scale aggression, the mass employment of advanced weaponry, and chronic allostatic load. The aim of the study was to empirically investigate the transformation of the structural and level characteristics of psychological resilience and the coping strategy repertoire of Marine Corps service personnel of the Armed Forces of Ukraine under conditions of high-intensity combat operations, and to develop and theoretically and mathematically substantiate a comprehensive structural-functional model for the optimisation of coping behaviour. The study was based on a rigorous methodological design comprising a series of sequential cross-sectional surveys conducted between 2020 and 2024. The empirical base consisted of Marine Corps service personnel of the Armed Forces of Ukraine: a baseline survey conducted under conditions of positional warfare (2020-2021, $n = 115$) and an extended survey from the period of full-scale invasion (2023-2024, $n = 120$). The study employed a battery of contemporary psychodiagnostic instruments in their Ukrainian adaptations: the Behavioural Self-Regulation Style Questionnaire (SRQ), the Big Five Locator, the coping strategy diagnostic tools of E. Heim and R.S. Lazarus & S. Folkman, the S.R. Maddi Hardiness Survey, the CD-RISC-10 resilience scale, and the Spiritual Health Assessment Scale (SHAS). Statistical processing (IBM SPSS Statistics) included analysis of variance, the Kruskal-Wallis H-test, Spearman's correlation analysis, and multiple linear regression. On the basis of the baseline survey data (2020-2021), it was mathematically demonstrated that the coping strategy repertoire – in particular, autonomous planning and positive reappraisal – acts as a powerful predictor accounting for 54% of the variance in the overall level of an individual's psychological resilience. By contrast, the comparative analysis of the extended survey revealed a decline in the Integral Psychological Resilience Index (IPRI) under the impact of full-scale warfare. Increases in neuroticism were recorded, along with the emergence of a “cognitive narrowing” phenomenon characterised by a reduced capacity for long-term autonomous planning, and a substantial compensatory shift towards strategies of emotional distancing and social support-seeking (collective resilience). On the basis of the identified empirical deficits, an original four-block (target, diagnostic, content-formative, and outcome-criterion) structural-functional model for resilience development has been elaborated

◆ **Keywords:** hardiness; psychological readiness; combat stress; mental health; full-scale warfare

◆ Introduction

Russia's full-scale armed aggression against Ukraine has fundamentally transformed the operational-tactical, existential, and psychological reality in which units of the Armed Forces of Ukraine (AFU) function. The ecology of

contemporary combat stress is characterised by an extreme level of vital threat generated by the mass employment of innovative multi-domain weaponry – strike unmanned aerial systems (FPV drones), precision-guided aerial

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bombs, heavy artillery, and other high-precision armaments. The specific nature of the combat trajectory of modern infantry imposes massive and continuous pressure on the cognitive and emotional resources of service personnel, demanding innovative approaches to sustaining their mental readiness. Under these unprecedented conditions, service personnel of elite units, including Marine Corps units, face extreme allostatic load. Chronic deprivation of basic physiological needs (sleep disruption, thermal discomfort, irregular nutrition) and the sustained accumulation of blast and concussive injuries accelerate the permanent depletion of the adaptive resources of the central nervous system, the physiological cost of maintaining which is extraordinarily high. As O. Hukovskyy *et al.* (2024) noted, the combat path of the contemporary Ukrainian warrior is accompanied by the continuous erosion of mental readiness, necessitating a systematic revision of approaches to mental health preservation at all stages of service. A. Karachevskyy (2023) has likewise emphasised that the provision of psychological and psychiatric care to service personnel in conditions of active combat operations faces a shortage of unified protocols capable of effectively mitigating the consequences of accumulated traumatic experience.

Contemporary scientific discourse regards psychological resilience not merely as a static personality trait or innate capacity to withstand stress, but as a dynamic integrative phenomenon encompassing neurological-cognitive, emotional, and existential levels of adaptation. The study by M. Bocharov *et al.* (2023) demonstrated that the physiological cost of performance by officers of the Defence Forces of Ukraine under conditions of hyperstress is directly correlated with the development of cardiovascular and psychosomatic disorders, making the problem of allostatic load a central target for psychological interventions. Of particular relevance are the findings of V.V. Stasiuk & R. Seheida (2025), who investigated the specific effects of combat stress factors on the psychological readiness of assault units. These researchers emphasised that massive sensory depletion and prolonged exposure to enemy artillery fire destroy classical patterns of stress resistance, necessitating the formation of new compensatory survival mechanisms. Investigating these mechanisms, L. Oviedo *et al.* (2022) and J. Kovalenko (2024), in their empirical studies, found that constructive coping strategies serve as critical predictors of the preservation of personal integrity both among combatants and among civilians affected by the brutality of the Russo-Ukrainian war. Of considerable significance within the context of military psychology is the contribution of O. Kokun *et al.* (2022) and O. Kokun (2023), whose large-scale longitudinal studies of service personnel's stress reactivity prior to rotation into the combat zone, and of personal growth resources, formed the conceptual foundation for the validation of psychodiagnostic instruments within the AFU context. A separate line of research is represented by the work of O. Chykhantsova & A. Denchyk (2024), who demonstrated a close relationship between the resilience of Ukrainian military personnel and their actual

personal capacities, highlighting the significance of the dispositional factor in the adaptation process. Concurrently, N. Makarchuk *et al.* (2024) pointed to the objective need for the development of specialised psychological support programmes that would account for the unique, non-standardised combat experience of different units. An important complement to this body of work is provided by the research of N.V. Rodina *et al.* (2022) on scales for assessing coping behaviour in situations of existential danger, as well as the study by R. Zueger *et al.* (2023), which empirically confirmed the effectiveness of implementing mentoring programmes and resilience training at the early stages of military personnel preparation.

Despite the methodological refinement of Ukrainian scholarly developments, the dynamics and character of full-scale warfare demand the creation of a narrowly specialised integrative model specifically tailored to Marine Corps units, whose distinctive profile involves conducting high-intensity assault and amphibious operations. Contemporary service personnel preparation confronts the empirically documented phenomenon of "cognitive narrowing" in combatants, which precludes the use of complex cognitive constructs during acute stress. Given the multidimensional, polysemantic nature of the phenomenon of psychological resilience, there is an urgent need to develop an original structural-functional model that is initiated through automated somatic stabilisation skills before progressing to deep cognitive reframing and existential meaning-making. The aim of this study was to examine the dynamics of psychological resilience and coping strategies amongst Marine Corps service personnel of the AFU under conditions of high-intensity combat operations, and to develop a comprehensive model for the optimisation of coping behaviour. To achieve this aim, a number of research objectives were formulated. First, to conduct a theoretical and methodological analysis of contemporary scientific discourse on the formation of psychological resilience in combatants and to systematise approaches to the assessment of coping behaviour under conditions of permanent existential threat. Second, to develop and implement an empirical research programme to obtain reliable data on the structural and level characteristics of resilience and the dominant coping strategies of personnel during different periods of combat operations. Third, using methods of multivariate statistical analysis, to identify the determinational and causal relationships between coping strategy selection and the overall level of an individual's adaptive potential and hardiness.

◆ Materials and Methods

The process of conceptualising and empirically verifying the psychological mechanisms underlying the development of psychological resilience in service personnel under conditions of high-intensity combat operations requires the application of a rigorous, mathematically and theoretically validated methodological design. Such a design was developed with the aim of ensuring a high level of ecological validity, reliability, and representativeness of the

scientific findings obtained. The research programme was implemented through a series of sequential cross-sectional surveys conducted between 2020 and 2024, enabling coverage of both a baseline survey under conditions of positional warfare (the Joint Forces Operation, JFO) and an extended survey from the period of full-scale armed invasion. The criteria for inclusion in the sample were: membership of Marine Corps units of the AFU, whose activities involve the performance of tasks under extreme multi-domain conditions. The first, baseline phase (2020-2021) encompassed 115 service personnel with varying levels of experience at the line of contact. The second, extended phase (2023-2024) involved 120 service personnel, 100% of whom had direct experience of high-intensity combat. To preclude the distorting effects of acute sympatho-adrenal hyperactivation on paper-based testing, the procedure was conducted exclusively during periods of temporary withdrawal of units from the combat zone to recovery stages. The study was conducted in strict accordance with international ethical standards for scientific research. All stages of the psychological and psychometric examination of service personnel complied with the ethical principles of the World Medical Association Declaration of Helsinki (WMA, 2024). Each participating service member was guaranteed absolute confidentiality of personal information, as well as respect for their dignity, inviolability, and autonomy. The testing procedure was entirely voluntary, conducted following the receipt of participants' informed consent, and the results obtained were used by the organisers exclusively in an aggregated, anonymised form for scientific research and psychoprophylactic purposes. Additionally, paper-based testing was conducted solely during periods of temporary withdrawal of units from the combat zone to recovery or combat consolidation stages. From a psychophysiological standpoint, this made it possible to avoid the distortion of results by acute sympatho-adrenal hyperactivation and to preserve the ecological validity of the measurements.

The study employed a battery of psychodiagnostic instruments and international scales in their Ukrainian adaptations. The operationalisation of the resilience phenomenon was achieved through its decomposition into five core components. The investigation of the regulatory component – which determines the capacity for autonomous behavioural management – was carried out using the Behavioural Self-Regulation Style Questionnaire (SRQ) in the Ukrainian adaptation of M.V. Yatsiuk (2023). Assessment of personality dispositions was based on the use of the Big Five Locator express questionnaire, validated in the context of contemporary psychological assessment by D.K. Korolyov (2019). For the multidimensional diagnostic assessment of the coping behaviour repertoire, classical coping strategy measurement instruments were employed: specifically, the transactional behavioural effort assessment tool of R.S. Lazarus & S. Folkman (1984) in a standardised translation, as well as the adapted Coping Strategy Diagnostic Inventory of E. Heim (1988).

The most extensive block of the study – concerned with the spiritual-existential dimension of psychological resilience in combatants – comprised a combination of several scales. The individual's basic capacity for adaptive recovery was measured using the CD-RISC-10 resilience scale of K.M. Connor & J.R. Davidson (2003), supplemented by the S.R. Maddi (2002) Hardiness Survey. To provide a holistic picture of value-meaning integration in the individual during intensive combat operations, the Spiritual Health Assessment Scale (SHAS) was employed in the Ukrainian-language adaptation of O. Lazorko (2021). IBM SPSS Statistics 20.00 specialist software was used to process the empirical data arrays. Normality of distribution was assessed using the Shapiro-Wilk test, and homogeneity of variance was evaluated using Levene's test. For comparison of mean values across independent samples, parametric one-way analysis of variance with Tukey's post-hoc test and the non-parametric Kruskal-Wallis H-test with the Mann-Whitney U-test were applied. Causal relationships were established using Spearman's correlation analysis and multiple linear regression analysis. To minimise the probability of a Type I error and to confirm the high reliability of the results, the threshold level of statistical significance for key regression models and correlations was set at $p \leq 0.001$. To reduce the results of all five differently scaled dimensions (regulatory, personal, emotional-cognitive, behavioural, and spiritual-existential) to a single mathematical denominator, an intermediate procedure of mathematical standardisation of raw scores was implemented. The standardised scores thus obtained were then proportionally transformed into a single, readily interpretable 3-point scale. This permitted the calculation of a valid Integral Psychological Resilience Index (IPRI), in which values are interpreted along a continuum from 1 (critical deficit) to 3 (optimal level of resilience).

◆ Results and Discussion

The study encompassed two significant chronological surveys, allowing the influence of the combat stress ecology on the development of resilience to be traced. Within the first, baseline survey (2020-2021), the aim of which was to obtain an initial array of empirical data on the structural and level characteristics of psychological resilience and the dominant coping strategies of personnel under conditions of low-intensity positional warfare (JFO), 115 Marine Corps service personnel were examined. Differentiation of the sample by status and rank category ensured the necessary representativeness: 28 individuals (24.34%) were officers, 32 individuals (27.82%) were contract service personnel, and 55 individuals (47.82%) were conscript service personnel. The conscript category was treated as a scientifically valid analogue group for contemporary recruits aged 18-25 undergoing basic general military training. At this stage, 28.57% of officers, 12.50% of contract personnel, and 100.00% of conscripts had no direct combat experience at the line of contact. Given the fundamental transformation of the operational-tactical, social, and existential reality brought about by the onset of the full-scale invasion, there

arose an objective necessity to expand the methodological scope of the study. In 2023-2024, an additional, extended empirical survey was organised and conducted, directed at analysing the mechanisms of individual survival under conditions of extreme allostatic load. The survey involved 120 service personnel from a separate Marine Corps unit: 50 officers (41.67%) and 70 other ranks and non-commissioned officers (58.33%). A critically important methodological condition was that 100% of the current study sample had direct experience of high-intensity combat, with the absolute majority (84.00% of officers and 82.86% of other ranks) having continuous combat experience exceeding 12

months. The testing procedure was conducted exclusively during periods of temporary withdrawal of units from the combat zone to recovery stages. This made it possible to avoid the distortion of results by acute sympatho-adrenal hyperactivation and to record the deep, genuine changes in the structure of psychological dispositions and the prodromal symptoms of cumulative combat fatigue. With the aim of identifying the key causal relationships between a combatant's specific coping behaviour repertoire and their overall resilience level, correlation analysis and multiple linear regression were applied to the baseline survey data (JFO period, $n = 115$) (Table 1).

Table 1. Intercorrelation matrix of key components of psychological resilience (based on data from the 2020-2021 survey)

Predictor variable 1	Target variable 2	Spearman's coefficient (r_s)	Significance level (p)
Planning (SRQ subscale)	Overall resilience (CD-RISC-10)	0.62	≤ 0.001
Positive reappraisal	Self-actualisation (SHAS)	0.55	≤ 0.001
Escape-avoidance	Overall resilience (CD-RISC-10)	-0.59	≤ 0.001
Escape-avoidance	Neuroticism (Big Five Locator)	0.61	≤ 0.001
Confrontative coping	Self-realisation (SHAS)	-0.48	≤ 0.05

Source: developed by the author

The highly significant correlational relationships established demonstrate the coherence of the adaptation mechanisms. A high level of internal cognitive structuring – “Planning” as per M.V. Yatsiuk (2023) – positively determines the capacity for adaptive recovery (CD-RISC-10) ($r = 0.62$). The synergy between “Positive reappraisal” and existential “Self-actualisation” confirms the unity of cognitive reframing and meaning-making processes ($r_s = 0.55$).

Concurrently, a strong negative relationship was identified between the avoidance strategy and overall resilience ($r_s = -0.59$), which mathematically illustrates the mechanism of psychological maladaptation. To mathematically demonstrate the predictive weight of each strategy in the formation of overall resilience, multiple linear regression analysis (stepwise method) was applied. The overall resilience index served as the dependent variable (Table 2).

Table 2. Results of multiple linear regression of predictors of psychological resilience (based on data from the 2020-2021 survey)

Independent variables (predictors)	Standardised β -coefficient	t-statistic value	Significance level (p)
Planning (self-regulation style)	0.41	4.85	≤ 0.001
Positive reappraisal	0.35	4.12	≤ 0.001
Distancing and escape-avoidance	-0.38	-4.56	≤ 0.001

Source: developed by the author

The resulting regression model proved highly significant: $R^2 = 0.54$ (Adjusted $R^2 = 0.52$; $F = 43.43$; $p \leq 0.001$). It corroborates the research hypothesis: 54% of the variance in the integral resilience level within the Marine Corps sample is accounted for exclusively by the specific coping strategy repertoire employed. The greatest constructive contribution is made by the capacity for autonomous planning ($\beta = 0.41$) and positive reappraisal of traumatic experience ($\beta = 0.35$). A thorough theoretical and mathematical analysis of the baseline survey data confirmed the presence of significant structural differences in the psychological architecture of resilience as a function of service personnel's status and age. Investigation of the personality component using the Big Five Locator subscales revealed a phenomenally high level of “Conscientiousness” among the officer corps: 96.4% demonstrated the highest level of development of this factor. From the perspective of military stress psychology, this indicator determines the

capacity for continuous cognitive structuring of combat activity algorithms and strict adherence to safety protocols. In synergistic combination with low and moderate levels of “Neuroticism” (only 7.1% of officers exhibited a high level of anxiety), this dispositional matrix guaranteed a high degree of composure and rationality in command decisions. Conversely, the presence of elevated neuroticism among conscript personnel (16.4%) was attributed to the cumulative effect of primary neurotic sensitisation resulting from exposure to the harsh stressors of the military environment.

Analysis of the regulatory component confirmed the direct causal relationship between dispositional conscientiousness and autonomous behavioural management skills. On the “Planning” subscale, 64.3% of officers demonstrated a high level of goal-setting maturity, whilst the scores of conscripts were markedly lower (36.4% at the high level). A gap was also recorded on the “Results evaluation” subscale: 60.7% of officers attained a high level, compared

with only 21.8% among conscripts, with 32.7% of the latter falling at a critically low level. This empirical dataset statistically corroborates the neurobiological hypothesis concerning the incomplete structural maturation and myelination of the prefrontal cortex in the 18-25 age group (early adulthood). Accordingly, the limited capacity for reflection and affect inhibition in recruits gives rise to their objective need for external management and detailed algorithms during basic training. Investigation of the emotional, cognitive, and behavioural components of coping behaviour revealed that in all three groups, “relatively productive” coping strategies predominated (50.0% in officers, 68.7% in contract personnel, 69.1% in conscripts). This indicates that within the military environment, ideal “productive” models are frequently unattainable in energetic terms, and individuals resort to compensatory mechanisms. Based on the R.S. Lazarus & S. Folkman (1984) model, 25.0% of officers and 40.6% of contract personnel demonstrated high engagement with the problem-focused strategy of “Planful problem-solving”. Conscripts, by contrast, were oriented towards the strategy of “Seeking social support” (80.0% at the moderate

level) and defensive “Distancing” (76.4% at the moderate level) as an attempt at derealisation from traumatic circumstances. Investigation of the existential dimension using the CD-RISC-10 “Resilience” scale showed that 64.3% of officers and 50.0% of contract service personnel confidently demonstrated a high level of overall adaptive recovery capacity. On the S.R. Maddi (2002) Hardiness Survey, a high level of “Commitment” (82.1% in officers) served as a catalyst for the transition to an active, subjective position of “author of one’s own life”. On the SHAS, 50.0% of officers attained a high level of “Self-realisation”, which functioned as the most powerful internal safeguard against personal disintegration. Given that the regression analysis had confirmed the critical significance of planning and reappraisal strategies for the preservation of combat effectiveness, the next task was to investigate the state of these mechanisms under conditions of the extreme allostatic load of full-scale warfare. The extended empirical survey (2023-2024, $n = 120$) revealed a systemic, mathematically confirmed tendency towards a decline in higher executive functions and extreme entropy in multi-domain combat (Fig. 1).

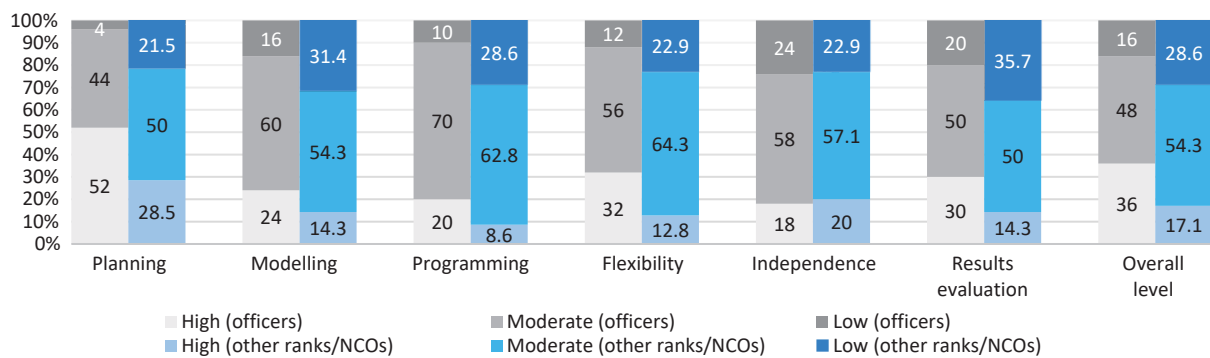


Figure 1. Distribution of service personnel by levels of development of the regulatory component (2023-2024 survey)

Source: developed by the author

Analysis of variance confirms a decline in autonomous cognitive structuring of activity. On the “Planning” sub-scale, the percentage of officers with a high level decreased from 64.3% (during the JFO period) to 52.0%. Among other ranks, the decline was to 28.5% at the high level, with a rise to 21.5% at the low level. This empirical finding substantiates the phenomenon of “cognitive narrowing”: under conditions of unpredictable artillery bombardment, the service member’s brain abandons macro-level planning, reducing the horizon of anticipation to the nearest hours in order to conserve physiological resources. Figure 2 illustrates how various aspects of personal and spiritual resilience change under conditions of extreme stress.

Analysis of the personality component revealed a surge in “Neuroticism” scale scores. Whereas in peacetime only 7.1% of officers exhibited high emotional instability, under conditions of full-scale warfare this figure rose to 28.0% among officers and 40.0% among other ranks. In accordance with the allostatic load concept,

this represents a biologically appropriate response of a traumatised nervous system to chronic sympatho-adrenal hyperactivation, rather than evidence of personal deterioration. At the same time, officers manage to maintain a high level of “Conscientiousness” (82.0%), which functions as a disciplinary exoskeleton sustaining unit command. The existential profile demonstrates substantial transformation. A decline is observed in the “Control” scale of the S.R. Maddi (2002) test (to 28.6% at the high level among other ranks), which is a rational reflection of the uncontrollability of macro-level threats. However, a high level of “Commitment” (76.0% in officers) and spiritual “Self-realisation” (44.0%) compensates for this loss. The presence of a higher existential meaning to the struggle acts as a defence against moral injury and enables the pain of loss to be integrated into a heroic narrative. Figure 3 illustrates the intensity of behavioural coping strategies as assessed by the R.S. Lazarus & S. Folkman (1984) instrument.

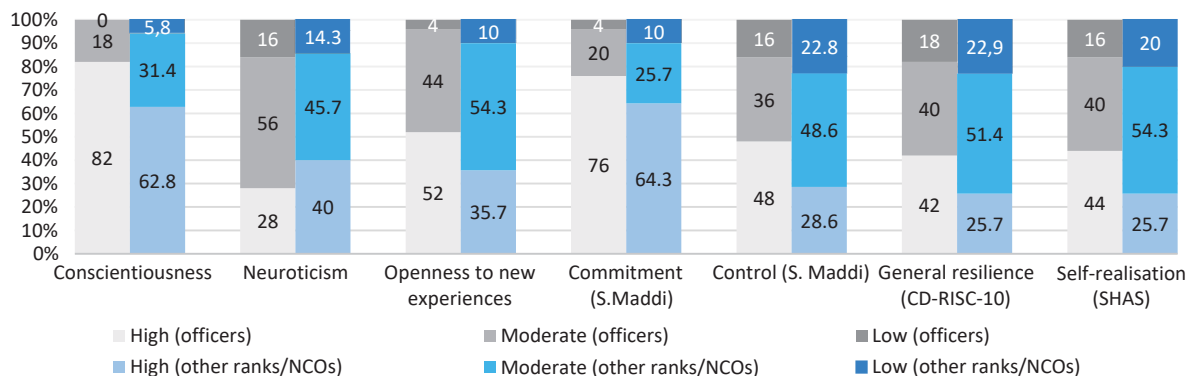


Figure 2. Distribution of service personnel by levels of development of the personality and spiritual-existential components (2023-2024 survey)

Source: developed by the author

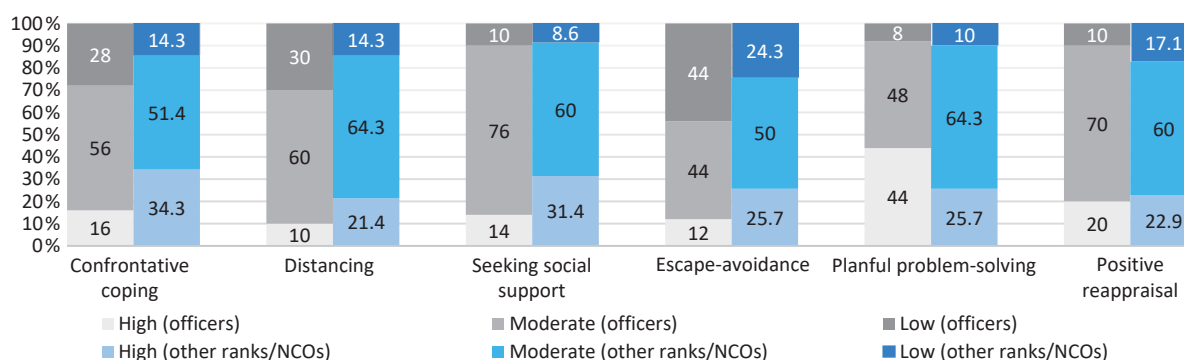


Figure 3. Levels of intensity of behavioural coping strategies (2023-2024 survey)

Source: developed by the author based on the R.S. Lazarus & S. Folkman (1984) instrument

Analysis of the transactional model of R.S. Lazarus & S. Folkman (1984) confirms the objective decline in the use of the problem-focused strategy of “Planful problem-solving”. In lieu of instrumental control over objectively uncontrollable stressors, other ranks resort to an ambivalent combination: a rise in “Confrontative coping” (34.3% at the high level) alongside the macro-strategy of “Seeking social support” (31.4% at the high level, 60.0% at the

moderate level). The increase in social support-seeking demonstrates an evolutionary transition from individual survival to collective resilience (combat fellowship). The E. Heim (1988) instrument records a concerning rise in non-productive emotional coping strategies (up to 35.7% among other ranks), such as emotional suppression or dissociation, which serve as a temporary but destructive shield against traumatic reality (Fig. 4).

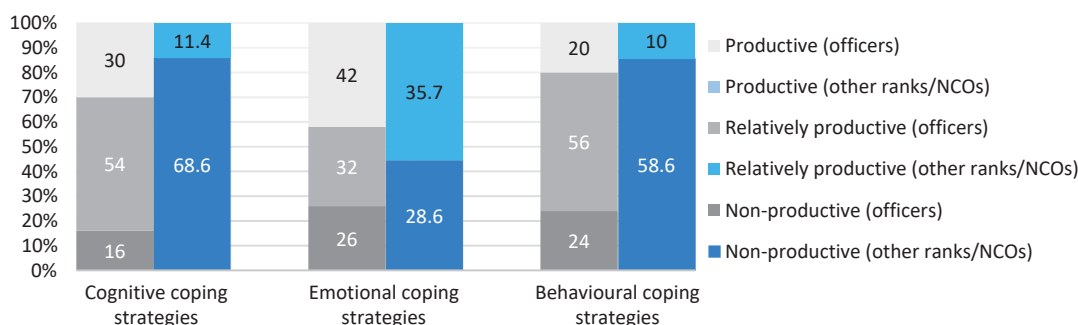


Figure 4. Level of adaptiveness of coping strategies (2023-2024 survey)

Source: developed by the author based on the E. Heim (1988) instrument

For an objective assessment of the “Overall resilience” of combatants, the standardised results obtained were proportionally represented on a 3-point scale, where values

are interpreted along a continuum from 1 (critical deficit) to 3 (optimal level of resilience). This permitted the calculation of a valid IPRI (Table 3).

Table 3. IPRI of Marine Corps service personnel

Structural component	Officers (2020-2021)	Officers (2023-2024)	Other ranks/NCOs (2020-2021)	Other ranks/NCOs (2023-2024)
Regulatory (SRQ)	2.54	2.15	2.13	1.95
Personality (Big Five Locator)	2.61	2.25	2.33	2.05
Emotional-cognitive (E. Heim)	2.38	2.10	2.36	2.01
Behavioural (R.S. Lazarus & S. Folkman)	2.25	2.05	2.06	1.98
Spiritual (CD-RISC, SHAS)	2.58	2.58	2.25	2.25
IPRI	2.47	2.22	2.22	2.04

Note: to ensure the statistical correctness of the comparative analysis, the baseline scores for other ranks/NCOs for the JFO period were calculated as the weighted mean value of the aggregated sample of contract service personnel

Source: developed by the author

Mathematical analysis of the IPRI reliably establishes a systemic decline in psychological resilience as a consequence of the extreme intensification of combat operations. The integral index for officers declined from an optimal level of 2.47 to 2.22. The index for other ranks declined to 2.04, approaching a high level of maladaptation. At the same time, the spiritual-existential component among officers remained at a consistently high level (2.58), which corroborates the thesis concerning the inexhaustible nature of the value-meaning resource even in conditions where the organism's biological capacities are approaching their absolute limit. The empirical data on the profound transformation of coping behaviour in combatants, obtained through the sequential cross-sectional surveys of 2020-2024, require extensive existential and theoretical revision in the context of comparison with classical paradigms of stress psychology. The fundamental theoretical basis for analysing coping mechanisms has traditionally been the transactional multicomponent model of R.S. Lazarus & S. Folkman (1984), which dichotomously divided behavioural efforts into problem-focused (directed at the instrumental elimination of the stressor) and emotion-focused (directed at the regulation of internal distress). According to classical views, actively supported in the works of C.S. Carver *et al.* (1989) and J.D.A. Parker & N.S. Endler (1992), active, direct problem-solving is regarded as the most adaptive, "mature" approach. However, the results of this empirical study demonstrate that the direct, uncritical extrapolation of the transactional model to the specific context of Marine Corps combat activity in conditions of full-scale war of attrition is methodologically limited. Under conditions of prolonged artillery bombardment or mass drone attacks, the external macro-stressor is objectively and absolutely uncontrollable by an isolated infantryman. Accordingly, the deployment of the "Planful problem-solving" strategy proves physically and tactically impossible. This explains the empirically recorded significant decline in scores on this cognitive scale.

In this context, those strategies commonly stigmatised as maladaptive – such as rigid emotional distancing, temporary suppression of affect, or episodic derealisation – acquire, directly within the epicentre of combat, a critically important compensatory function. They serve as the only physiologically accessible protective mechanisms capable

of preventing the irreversible psychotic disintegration of the individual under colossal vital pressure. This observation finds conceptual support in the findings of A.G. Billings & R.H. Moos (1984), who demonstrated that emotion-focused coping and behavioural avoidance can serve as effective life-preserving mechanisms in the context of massive, subject-uncontrollable trauma. The adaptiveness of a coping strategy in contemporary combat is measured not by the ability to achieve emotional catharsis, but exclusively by the ability to conserve residual energy for the purpose of basic biological survival and functional combat effectiveness. This energetic survival paradigm is most fully explained through the lens of the resource-salutogenic paradigm and S.E. Hobfoll's (1989) Conservation of Resources theory. According to this conceptual framework, under conditions of intense, permanent distress, individuals instinctively seek to minimise resource losses. The study empirically demonstrated that exposure of combatants to conditions of vital threat for over 12 consecutive months without deep rotation inevitably triggers a "loss spiral". The adaptive resources of the central nervous system are depleted many times faster than they can be replenished during the brief intervals between active combat operations. This is directly manifested in the recorded rise in neuroticism. Comparing the findings with the resilience reintegration model of G.E. Richardson *et al.* (1990), which described the process of staged response to unexpected "life disruptions" and subsequent post-traumatic growth, it is necessary to note its limitations within the military context. The G.E. Richardson *et al.* model conceptualises stress predominantly as a singular, episodic event. However, the harsh conditions of multi-domain warfare represent a state of chronic allostatic load in which basic physiological homeostasis is practically unattainable over many months. In this situation, the salutogenic approach of A. Antonovsky (1979) proves more apposite, with its emphasis on the identification of sources of health and the individual's capacity for a sense of coherence in their own existence even within an extreme, lethal, pathogenic environment. This is directly corroborated by the findings of the present study: the high scores for "Commitment" and existential "Self-realisation" among experienced officers function as the most powerful internal antidote against the development of moral injury. The results obtained closely

correlate with the longitudinal research of P.T. Bartone (1999), who demonstrated the exceptional protective role of dispositional hardiness in military units, which prevents the onset of combat psychoses.

Examining the comprehensive neurobiological and psychosocial resilience model of S.M. Southwick & D.S. Charney (2018), the present study is consistent with the identification of 10 key resilience predictors (such as realistic optimism, the presence of a moral compass, and strong social support). However, the aforementioned model is predominantly descriptive in character, ideally representing the psychological profile of an already formed, mature veteran personality. Given the current manning conditions of the AFU, where mass conscription predominates, there exists an acute and objective need for procedural, didactic tools – step-by-step algorithms for cultivating these qualities within the constrained timeframes of basic training.

The professional activity of a Marine Corps service member is accompanied by the macro-factor of “active hostile intention” – the presence of an intellectually and technologically capable adversary whose sole objective is the physical elimination of the subject. The psychological readiness model of V.V. Stasiuk & R. Seheida (2025), encompassing the capacity for volitional effort and military fellowship, has demonstrated its high effectiveness for career officers, but requires urgent adaptation and the operationalisation of specific behavioural indicators for mobilised other ranks in wartime conditions. The analysis conducted regarding the applicability of classical theories to the harsh realities of full-scale warfare substantiated the acute necessity of developing innovative instruments. Drawing on this analysis and the research findings, a four-block “Model for the development and enhancement of resilience in Marine Corps service personnel” was developed (Fig. 5).

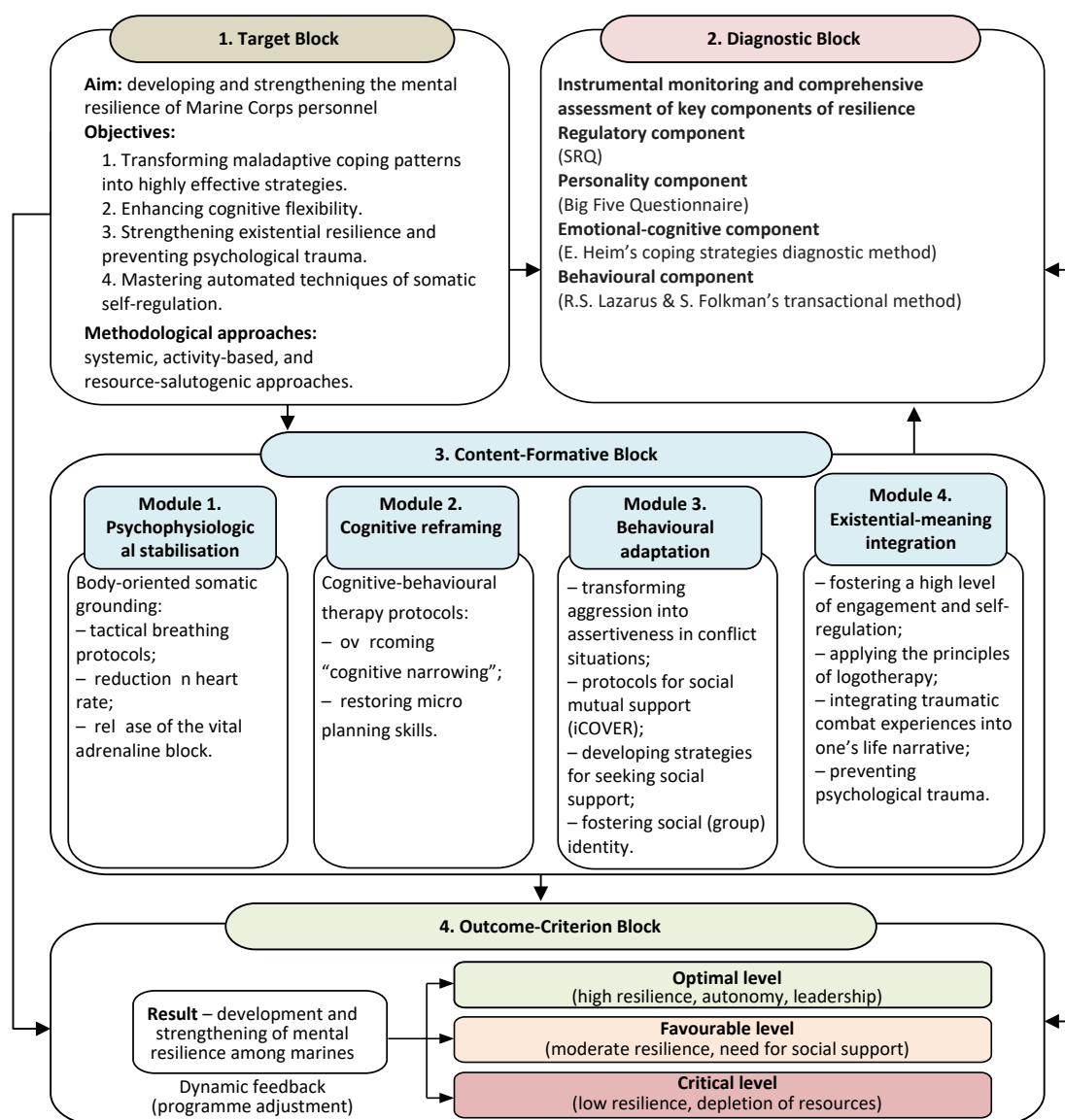


Figure 5. A model for the development and enhancement of psychological resilience in Marine Corps service personnel of the AFU through coping strategies

Source: developed by the author

The proposed original structural-functional resilience model is conceptualised in the form of four inter-related blocks:

1. The Target Block constitutes the key vector of the system, defining the purposeful transformation of maladaptive responses to multi-domain stress into a stable resilient profile on the basis of a resource-salutogenic approach. It shifts the focus away from the pathologisation of trauma towards the stimulation of post-traumatic growth mechanisms.

2. The Diagnostic Block provides instrumental monitoring through the integration of five dimensions (regulatory, personality, emotional-cognitive, behavioural, and spiritual-existential) by means of psychometric instruments and an algorithm for calculating the Integral Psychological Resilience Index.

3. The Content-Formative Block constitutes the therapeutic core of the model and has a multilevel structure comprising four modules. Module 1 (Psychophysiological stabilisation): building upon amygdala hyperactivation, interventions are initiated exclusively through body-oriented somatic grounding (tactical breathing protocols, heart rate reduction) to remove the vital adrenal block. Module 2 (Cognitive reframing): following regulation of the sympatho-adrenal response, cognitive-behavioural therapy protocols are applied to address “cognitive narrowing” and to restore micro-planning skills. Module 3 (Behavioural adaptation): diffuse aggression is transformed into combat assertiveness, and social mutual-support protocols (iCOVER) are implemented to crystallise combat cohesion. Module 4 (Existential-meaning integration): drawing on the logotherapy of V. Frankl (2020), this module provides deep-level sense-making of losses and the prevention of moral injury through the formation of a narrative of the conscious warrior-subject.

4. The Outcome-Criterion Block defines a comprehensive system of criteria and stratifies individuals into three levels of resilience formation: optimal, favourable (requiring social support), and critical (requiring medical-psychological evacuation and rehabilitation). An embedded dynamic feedback mechanism ensures continuous programme adjustment.

The advantage and specific relevance of this four-block model for the Marine Corps context lies in the fact that it does not disregard the physiological reality of combat trauma. It does not attempt cognitive or rational interventions prior to the restoration of basic neurobiological stability (via Module 1), which critically distinguishes it from existing general-theoretical analogues and ensures high implementation effectiveness within the constrained timeframes of basic general military training.

◆ Conclusions

The findings of the study confirmed the importance of developing psychological resilience among service personnel in the context of combat stress and its influence on coping strategies. In particular, the results demonstrated that

the capacity for planning and positive reappraisal of traumatic experience are the primary factors contributing to individual resilience in wartime. Through the application of multiple regression analysis to the baseline survey data (2020-2021), it was mathematically established that an individual's repertoire of productive coping strategies (planning, positive reappraisal) constitutes a powerful predictor accounting for 54% of the variance in the overall level of psychological resilience among Marine Corps service personnel. Multivariate comparative analysis of the datasets from the positional warfare baseline survey and the extended survey from the period of full-scale armed aggression (2023-2024) demonstrated a fundamental transformation in the ecology of combat stress. As a consequence of chronic allostatic load, a systemic decline in the IPRI of Marine Corps personnel was recorded, reaching a level of 2.04 among other rank combatants. The phenomenology of adaptation to hyperstress was identified: the emergence of the “cognitive narrowing” phenomenon, an exponential rise in dispositional neuroticism, and a compelled, biologically determined shift towards strategies of rigid emotional distancing and the pursuit of macro-social support (military fellowship) as a compensatory survival mechanism in response to the loss of instrumental control under conditions of mass employment of artillery, precision-guided aerial bombs, and other high-precision weaponry. On the basis of the identified empirical deficits and neurobiological regularities, an original four-block (target, diagnostic, content-formative, outcome-criterion) structural-functional “Model for the development and enhancement of psychological resilience in Marine Corps service personnel of the AFU through coping strategies” was elaborated. Its specific relevance and advantage lies in its non-linear architecture: psychological intervention is initiated with the restoration of somatic stabilisation of the autonomic nervous system, followed by a staged progression to cognitive reframing, the formation of combat cohesion, and existential-meaning logotherapy. Further research may focus on the development of methods for sustaining and restoring psychological resilience under conditions of high-intensity combat operations, including the expansion of social and psychological strategies to assist in the preservation of collective resilience.

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◆ Conflict of Interest

None.

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Модель розвитку та зміцнення резильєнтності особистості військовослужбовця морської піхоти Збройних Сил України за допомогою копінг-стратегій

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♦ **Анотація.** Актуальність роботи обумовлена необхідністю перегляду класичних парадигм збереження психічного здоров'я комбатантів у контексті радикальних змін екології бойового стресу, викликаних повномасштабною агресією Росії, масованим використанням новітніх засобів ураження та хронічним алостатичним навантаженням. Мета дослідження – емпірично дослідити трансформацію структурно-рівневих характеристик психічної резильєнтності та репертуару копінг-стратегій військовослужбовців морської піхоти Збройних Сил України під впливом високоінтенсивних бойових дій, а також розробити й теоретично та математично обґрунтувати комплексну структурно-функціональну модель оптимізації долаючої поведінки. Дослідження базувалося на чіткому методологічному дизайні і серії послідовних крос-секційних (поперечних) зрізів (2020-2024 роки). Емпіричну базу склали військовослужбовці підрозділів морської піхоти Збройних Сил України: констатувальний зріз умов позиційної війни (2020-2021, $n = 115$) та розширений зріз періоду повномасштабного вторгнення (2023-2024, $n = 120$). У дослідженні застосовано комплекс сучасних психодіагностичних методик в українських адаптаціях: «Опитувальник стилю саморегуляції поведінки» (SRQ), «Локатор Великої п'ятірки», методики діагностики копінг-стратегій E. Heim та R.S. Lazarus & S. Folkman, тест життєстійкості S.R. Maddi, шкалу резильєнтності CD-RISC-10 та шкалу оцінки духовного здоров'я SHAS. Статистична обробка (IBM SPSS Statistics) включала дисперсійний аналіз, Н-критерій Краскала-Волліса, кореляційний аналіз Спірмена та множинну лінійну регресію. На матеріалі первинного зрізу (2020-2021) математично доведено, що репертуар копінг-стратегій (насамперед автономне планування та позитивна переоцінка) виступає потужним предиктором, який пояснює 54 % дисперсії загального рівня психічної резильєнтності індивіда. Натомість, порівняльний аналіз розширеного зрізу виявив зниження Інтегрального показника психічної резильєнтності під впливом повномасштабної війни. Зафіксовано зростання рівня нейротизму, виникнення феномену «когнітивного звуження» зі зниженням здатності до довгострокового автономного планування та масивний компенсаторний перехід до стратегій емоційного дистанціювання і пошуку соціальної підтримки (колективної резильєнтності). На основі ідентифікованих емпіричних дефіцитів розроблено авторську 4-блокову (цільовий, діагностичний, змістово-формульовальний, результативно-критеріальний) структурно-функціональну модель розвитку резильєнтності

♦ **Ключові слова:** життєстійкість; психологічна готовність; бойовий стрес; психічне здоров'я; повномасштабна війна



Moral injury in journalists during armed conflict: Content and mechanisms

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◆ **Abstract.** Within the scope of this study, moral injury is defined as a concept describing psychological suffering caused not by fear for one's own life, but by the violation of fundamental moral beliefs and expectations. For journalists, moral injury is of particular significance, as their work is consistently bound up with ethical dilemmas that admit no clear-cut resolution: whether to document suffering or render assistance, whether to publish disturbing content or prevent audience retraumatisation, whether to expose sources or safeguard their safety. For Ukrainian journalists working in conditions of full-scale war, these dilemmas take on an existential character: the dual identity of professional observer and citizen of a country under armed attack creates an additional layer of moral conflict. The aim of the article was to conduct a theoretical analysis of the phenomenon of moral injury as a construct distinct from post-traumatic stress disorder, and to establish its relevance to journalism, particularly within the context of Ukrainian wartime experience. The study employed a theoretical design grounded in systematic analysis and synthesis of peer-reviewed scholarly sources from the Web of Science and Scopus databases. The classical moral injury model of B. Litz and the Toronto Moral Injury Scale for Journalists were analysed, along with empirical studies of moral injury among media professionals and longitudinal survey data from the Institute of Mass Information (2022-2025). It was established that moral injury differs fundamentally from post-traumatic stress disorder in terms of aetiology (violation of moral beliefs rather than life threat), emotional profile (guilt, shame, and anger rather than fear and hyperarousal), and formative mechanisms. Three categories of potentially morally injurious events specific to journalism were identified: the witness-helper dilemma, the truth-versus-protection conflict, and organisational betrayal. The validated Toronto Moral Injury Scale for Journalists provides the first standardised diagnostic instrument. The data demonstrated that access to psychological support is associated with lower moral injury scores

◆ **Keywords:** media activity; anxiety; adaptation; post-traumatic stress disorder; mental health

◆ Introduction

The conditions of protracted armed conflict substantially transform journalists' professional activity, intensifying psychological pressures and complicating ethical decision-making. Against this backdrop, the study of moral injury as a specific form of psychological suffering – one that remains insufficiently examined within the media environment – becomes particularly pressing. The psychological vulnerability of journalists engaged in covering armed conflicts is a subject of growing scholarly attention. I. Mohammed (2025), in a systematic review of 52 studies conducted between 2000 and 2024, confirmed the high prevalence

of post-traumatic stress disorder (PTSD), depression, and anxiety among conflict reporters, whilst also documenting critical methodological heterogeneity in the existing data. In particular, differences in sampling, measurement instruments, and research time horizons complicate the comparability of findings and limit the scope for generalisation. G. Tyson & J. Wild (2021), having examined 120 British media professionals during the COVID-19 pandemic, found that 30% of journalists who systematically covered the pandemic exceeded the clinical threshold for PTSD as measured by the PTSD Checklist for Diagnostic and

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Statistical Manual of Mental Disorders, Fifth Edition (PCL-5) – three times the rate among colleagues not engaged with this subject matter. S. Williams & T. Cartwright (2021), in a sample of 69 British journalists, identified a paradoxical coexistence of PTSD and post-traumatic growth: war correspondents demonstrated simultaneously the highest stress scores and the highest levels of personal growth.

Yet even within the negative dimension, there remains a substantial gap. The overwhelming majority of studies concentrate on fear-conditioned responses, whilst a growing body of evidence indicates that journalists encounter a qualitatively distinct type of psychological suffering – moral injury. N.A. Hall *et al.* (2022), having systematised data on moral injury across various professional contexts, confirmed that moral injury has independent pathways of influence on mental health, cannot be subsumed under PTSD, and requires separate diagnostic and therapeutic approaches. In adjacent fields – most notably military psychology – the phenomenon of moral injury has been studied considerably more thoroughly, yielding theoretical models, measurement instruments, and intervention approaches that have so far only been partially adapted for civilian professional groups. B.T. Litz & H.E. Walker (2025), in a summary review of the state of the science, documented a growth of over 4,000% in publications on this subject, with research since 2021 actively expanding to civilian professional groups: healthcare workers, police officers, emergency responders, and journalists. S.A. Houle *et al.* (2024), having conducted a systematic review and content analysis of existing moral injury scales, identified 13 different instruments across 104 studies, underscoring the critical need for population-specific measurement tools. Further development led to the creation of the Toronto Moral Injury Scale for Journalists (TMIS-J) – the first standardised instrument for identifying moral injury specifically within the media context (Osman *et al.*, 2024).

In Ukraine, these issues take on particular urgency. At the same time, data from IMI's annual survey... (2025) reveal a parallel process: many media professionals report the gradual development of adaptive strategies without any loss of professional capacity, whilst close social networks (the family, above all) increasingly function as a psychological anchor. For Ukrainian journalists, moral tensions are compounded by a dual role: they must simultaneously maintain professional impartiality whilst remaining citizens of a state resisting armed aggression. L. Zasiukina *et al.* (2023), having studied 1,249 Ukrainian civilians, recorded an extremely high prevalence of severe PTSD and moral injury, thereby establishing the context in which media professionals operate – a context in which they are at once researchers and those personally affected by the events of war.

Despite the growing scholarly interest in the psychological condition of media professionals, systematic analysis of moral injury as a construct distinct from PTSD in the journalistic context remains fragmented. Most reviews conflate moral injury with other negative outcomes, failing to

differentiate its unique aetiology and clinical presentation. This creates a risk of misdiagnosis and ineffective interventions, given that standard PTSD treatment protocols (notably prolonged exposure) may prove counterproductive in the case of moral injury, where the central problem is not fear but guilt and shame. The article aimed to provide a theoretical conceptualisation of moral injury as an independent construct distinct from PTSD, and to determine its significance for media activity, particularly within the context of Ukrainian wartime experience.

◆ Materials and Methods

The study employed a theoretical design and was conducted in the form of a critical literature review aimed at a comprehensive examination of the phenomenon of moral injury in journalism. The source base comprised peer-reviewed scholarly publications indexed in the international databases Web of Science, Scopus, and PubMed, as well as academic monographs, institutional analytical reports, and validated psychometric instruments. Among the key works that formed the theoretical foundation were the studies of I.L. McCann & L.A. Pearlman (1990), C.L.M. Keyes (2002), and N. Seely (2019). A systematic literature search was conducted using the keywords “moral injury in journalists”, “moral distress in media professionals”, “trauma associated with ethical dilemmas in journalism”, and “potentially morally injurious events in journalism”, covering the period from 2009 to 2026. The lower chronological boundary was determined by the seminal publication of B.T. Litz *et al.* (2009), which first formalised the construct of moral injury as an independent phenomenon. Additionally, foundational sources from adjacent disciplines were analysed: military psychology (moral injury in combatants), the psychology of helping professions (secondary traumatic stress, vicarious traumatisation), and media psychology (reflexive processing of traumatic content).

The inclusion criteria for sources were clearly defined: (a) the presence of empirical data or a developed theoretical model of moral injury; (b) direct or indirect relevance to the journalistic profession or related professions; (c) publication in a peer-reviewed outlet or a recognised institutional body; (d) availability of the text in English or Ukrainian. Sources in Russian were excluded owing to their potential ideological bias and limited relevance in the context of contemporary Ukrainian media practices. Additionally, non-academic materials (blogs, social media posts) were not considered, with the exception of official reports from authoritative monitoring organisations, specifically IMI survey: 58% of Ukrainian journalists... (2024) and IMI's annual survey... (2025). The analytical procedure comprised three sequential stages. The first stage entailed a comparative analysis of moral injury and post-traumatic stress disorder as distinct constructs, along the criteria of aetiology, emotional profile, formative mechanisms, and diagnostic features. The second stage involved the systematisation of empirical data on moral injury in journalists: the typology of potentially morally injurious events (PMIEs),

their prevalence, their relationship with other psychological outcomes, and existing measurement instruments. The third stage was devoted to an analysis of the Ukrainian context through the lens of the moral injury framework, drawing on the work of L.A. Naidonova (2013) and S. Arefnia (2025). This methodology allowed for a comprehensive examination of the specific characteristics of moral injury within the journalistic environment, the identification of conceptual gaps in existing research, and the establishment of a theoretical foundation for further empirical inquiry within the Ukrainian media landscape.

◆ Results and Discussion

Moral injury and PTSD are distinct, albeit correlationally related, constructs. B.T. Litz *et al.* (2009) defined moral injury as persistent suffering arising from perpetrating, failing to prevent, or witnessing acts that transgress deeply held moral beliefs and expectations. The key distinction lies in the trigger: PTSD develops in response to a threat to life or physical integrity (Criterion A per American

Psychiatric Association (1994)), whereas moral injury develops in response to the violation of moral standards. The emotional picture also differs substantially. PTSD is characterised by fear, hyperarousal, intrusive recollections, and avoidance behaviour – the classical manifestations of a stress response. Moral injury, by contrast, presents through experiences of guilt, shame, anger, disgust, and bitter disillusionment – emotions signalling a conflict with the individual's core value system (Griffin *et al.*, 2019). This distinction is clinically decisive precisely in the context of journalism: an examination by A. Feinstein *et al.* (2018) of 80 media professionals engaged in covering the European migration crisis found that classical PTSD indicators were at low levels, whilst markers of moral injury and associated feelings of guilt proved clinically significant. This finding calls into question the sufficiency of standard PTSD screening tools for correctly identifying the primary source of psychological suffering in media workers. A systematised comparison of the two constructs is presented in Table 1.

Table 1. Comparative characteristics of moral injury and PTSD

Comparison parameter	PTSD	Moral injury
Aetiological trigger	Threat to life or physical integrity	Violation of deeply held moral beliefs and expectations
Emotional profile	Fear, hyperarousal, intrusive recollections, avoidance behaviour	Guilt, shame, anger, disgust, disillusionment
Central mechanism	Fear conditioning; disruption of threat processing	Conflict with the individual's core value system; erosion of moral self-perception
Diagnostic instrument	PCL-5, IES-R (general)	TMIS-J (journalism-specific)
Effective interventions	Cognitive-behavioural therapy, EMDR, prolonged exposure	Adaptive Disclosure; moral repair strategy
Role of avoidance	Avoidance is a key predictor of symptoms	Guilt and shame are not amenable to avoidance strategies

Note: IES-R – Impact of Event Scale – Revised; EMDR – Eye Movement Desensitisation and Reprocessing

Source: developed by the author on the basis of data from B.T. Litz *et al.* (2009), R.J. Smith *et al.* (2018), B.J. Griffin *et al.* (2019)

Analysis of Table 1 demonstrates the qualitative dissimilarity of the two constructs: whereas PTSD develops primarily as a response to a threat to physical survival and is characterised by fear and hyperarousal, moral injury arises from a profound disruption of the individual's moral and value sphere, resulting in a predominance of guilt, shame, and erosion of moral self-perception. This distinction determines a different symptom trajectory, resistance to avoidance strategies, and the necessity of applying specialised therapeutic approaches oriented towards moral repair rather than fear desensitisation alone. J. Osmann *et al.* (2024), in developing the TMIS-J, conducted three focus groups with 39 journalists, identifying 15 PMIEs specific to media activity. Subsequent validation on a sample of 159 journalists confirmed the scale's three-factor structure with internal consistency coefficients ranging from satisfactory to excellent (Cronbach's $\alpha = 0.86$). On the basis of the literature analysis, journalistic PMIEs can be systematised into three categories. The first category is the witness-helper dilemma: a journalist witnesses suffering and must choose between documenting the event (professional duty) and providing assistance (moral duty). The study of the migration crisis by A. Feinstein *et al.* (2018) demonstrated

that feelings of guilt over insufficient personal assistance to refugees, and shame regarding observed behaviour of others, were the most prevalent morally injurious responses. The second category is the truth-versus-protection conflict: a journalist is obliged to report the truth, yet is aware that publication may cause harm – to sources, victims, or their own audience. In conditions of wartime Ukraine, this conflict is sharpened by the need to balance the public's right to information against security constraints. The third category is organisational betrayal: a media professional sustains moral injury when their editorial body violates professional standards or withholds support. S. Dubberley *et al.* (2015), having analysed the experiences of 209 specialists in visual content verification, documented the prevalence of a corporate “tough it out or leave” norm – an organisational standard that effectively legitimises managerial emotional indifference.

The TMIS-J, presented by J. Osmann *et al.* (2024), is the first standardised instrument for detecting moral injury specifically within the media context. The initial pool of 15 items was reduced to 9 final items following exploratory factor analysis. These 9 items are rated on a five-point Likert scale (from 0 = “none” to 4 = “severe”), and the

scale has a three-factor structure. Convergent validity was confirmed by significant correlations with measures of depression (BDI-II), anxiety (BAI), and PTSD (PCL-5), demonstrating the relationship of moral injury with other psychological outcomes without the constructs being identical. The Moral Injury Events Scale (MIES) served as the point of departure for the development of the TMIS-J. Discriminant validity was confirmed by the absence of significant correlations with marital status and educational level. Empirical data from the aforementioned J. Osmann *et al.* (2021) confirmed that access to organisational psychological support is associated with lower scores of depression, PTSD, and moral injury. This finding has fundamental practical significance: journalist support programmes must address moral injury as a distinct intervention target.

Within the Ukrainian context, the need for a comprehensive analysis of moral injury through the lens of the full-scale war experience becomes acutely pressing. Monitoring conducted by the Institute of Mass Information over the period 2022-2025 provides grounds for interpreting the Ukrainian situation in terms of moral injury. According to IMI survey: 58% of Ukrainian journalists... (2024), the majority of media workers report a negative trajectory in their own psycho-emotional state under the influence of wartime circumstances. In parallel, a significant proportion of respondents record the development of individual adaptation strategies without loss of professional capacity, with close family networks consistently maintaining their role as the principal stabilising resource (IMI's annual survey..., 2025). For Ukrainian journalists, at least four specific sources of moral injury can be identified that have no analogues in the international literature. First, the dual-loyalty dilemma: as a citizen, the journalist feels a moral obligation to contribute to the country's defence, whilst professional standards require balanced coverage. Second, witnessing the deaths of colleagues and sources – a direct moral blow that far exceeds in intensity the indirect contact with trauma. R.J. Smith *et al.* (2018) demonstrated that avoidance is the key predictor of PTSD among media professionals; however, unlike PTSD, moral injury does not yield to avoidance – guilt and shame persist regardless of contact with the stressor. Third, the necessity of transmitting images of destruction and human casualties to inform the international community – despite an awareness that this very content retraumatizes Ukrainian audiences. The so-called “witness fatigue” – a gradual erosion of the capacity to respond emotionally to human suffering, which the journalist themselves perceives as moral degradation rather than an adaptive protective mechanism – constitutes an additional source of injury. Research by K. Backholm & K. Björkqvist (2010) on a sample of 503 Finnish reporters further demonstrated that a personal history of trauma amplifies vulnerability to professional stressors – a fact of critical weight for Ukrainian media professionals who are themselves among the victims of the war.

Moral injury does not function in isolation, but rather in complex interaction with other psychological consequences

of professional activity. C.L.M. Keyes (2002), drawing on empirical data, substantiated a dual-continuum model of mental health, according to which positive functioning and psychopathology constitute separate, though related, dimensions. In terms of moral injury, this means that a journalist may simultaneously experience a profound value conflict and maintain meaningful professional functioning. T. Idås *et al.* (2019), having studied 375 Norwegian media professionals who worked during the Utøya terrorist attack, empirically confirmed this two-dimensionality: social support simultaneously reduced PTSD symptoms and catalysed post-traumatic growth. The Professional Quality of Life Scale (ProQOL), which B.H. Stamm (2010) developed on the basis of C.R. Figley's (1995) theory of compassion fatigue, complemented this view through the concept of compassion satisfaction – a positive experience generated by a sense of professional participation in a socially significant mission. In the journalistic context, an awareness of the importance of one's own work may serve as a buffer against moral injury, partially neutralising the pain of unavoidable ethical compromises. L.A. Naidonova (2013), having developed a reflexive approach in media psychology, proposed a theoretical foundation for understanding how deliberate engagement with morally laden content can counteract the destructive impact of moral injury. S. Arefnia (2025), in a sample of Ukrainian internally displaced women, confirmed that resilience is the strongest predictor of subjective well-being ($\beta = 0.693$; $R^2 = 0.70$), with the protective effect of this resource intensifying as stress load increases – affording grounds to hypothesise an analogous pattern among media professionals. K.M. Connor & J.R.T. Davidson (2003) developed the resilience scale (CD-RISC), which allows for a quantitative assessment of an individual's capacity to withstand stress – a resource that, in the context of journalists' moral injury, requires separate empirical investigation. On the basis of the theoretical analysis, a number of applied recommendations are formulated, aimed at the prevention and mitigation of the consequences of moral injury among journalists:

- 1) to introduce regular screening for moral injury using the validated TMIS-J instrument as a mandatory element of journalist psychological support programmes. This will enable the early identification of morally injured workers and their timely referral to specialist assistance;

- 2) to clearly differentiate therapeutic interventions for moral injury and PTSD. Standard PTSD treatment protocols, including prolonged exposure therapy, may be ineffective or even counterproductive in addressing moral injury, as they may intensify feelings of guilt and shame. Priority should instead be given to approaches oriented towards moral repair (Adaptive Disclosure and similar methods);

- 3) to foster within editorial offices and media organisations a culture of acknowledgement and open support, which will serve as an important organisational buffer against moral injury. Regular recognition of the ethical dilemmas faced by journalists, and normalisation of discussion

around moral conflicts, substantially reduce feelings of isolation and self-blame.

Access to timely and professional psychological assistance is one of the most significant moderators of the development and severity of moral injury within the journalistic environment. At the same time, it must be emphasised that the available data reveal a substantial discrepancy between the need for such support and its actual availability: most media organisations still lack institutionalised protocols for addressing moral injury, leaving journalists to confront feelings of guilt and shame in isolation. The findings demonstrated that moral injury is a construct distinct from PTSD, with its own aetiology, emotional profile, and formative mechanisms, and holds direct relevance for journalism. This position is consistent with that of B.J. Griffin *et al.* (2019), whose analysis of 116 studies on moral injury confirmed its independent clinical status within the military psychology context, whilst the data of J.M. Currier *et al.* (2015) extended this conclusion to journalism. Comparison of the present study's findings with those of other research teams reveals both significant points of convergence and important conceptual divergences. This analysis develops the finding of N. Seely (2019) regarding the dose-dependent relationship between the intensity of traumatic exposure and psychological outcomes in 254 American media professionals, adding a substantive qualification: in the case of moral injury, what is determinative is not the number of contacts with the stressor, but rather its moral and ethical weight. A. Henderson *et al.* (2025) established a mutually reinforcing effect of personal and professional traumatisation. The present study confirmed that, in the case of moral injury, this interaction may be even more pronounced, given that moral convictions are rooted precisely in biographical experience. S.E. Hobfoll's (1989) conservation of resources theory predicted a cascading depletion of resources under chronic stress. In accordance with the present findings, moral injury may function as a specific trigger for such a cascade, steadily undermining the individual's value foundation.

In turn, the data of T.J. Usset *et al.* (2020) on the TMIS-J demonstrated convergence with PTSD and depression scores, which is consistent with the conclusion that moral injury is correlationally, but not identically, related to other disorders. V. Williamson *et al.* (2018), having conducted a meta-analytic assessment of the relationship between moral injury and mental health in occupational contexts ($k = 13$, $N = 6,373$), also established statistically significant associations with PTSD, depression, and suicidal ideation, with journalists among the populations studied. Comparison with the military context in C. Adams (2018) revealed both common features (guilt and shame as central emotions) and substantial differences: unlike combatants, journalists are not direct participants in violence; however, their injury arises from the inability or impossibility of acting in accordance with moral convictions in the position of witness. Thus, this study expanded the understanding of journalists' moral injury as a psychological construct

distinct from PTSD, systematising the relevant scholarly evidence within the Ukrainian context.

◆ Conclusions

The theoretical analysis conducted demonstrated that moral injury is a construct distinct from PTSD, with an independent aetiology (violation of moral beliefs rather than a threat to life), emotional profile (guilt, shame, and anger rather than fear and hyperarousal), and formative mechanisms. Moral injury holds particular significance for journalism through three categories of PMIEs: the witness-helper dilemma, the truth-versus-protection conflict, and organisational betrayal. It is underscored that the TMIS-J provides the first validated diagnostic instrument, and that the scale's three-factor structure (organisational-managerial, public reaction, and witnessing) directly reflects the specific character of journalistic moral dilemmas. Four additional sources of moral injury, specific to the wartime context and to the dual identity of Ukrainian journalists, were identified: the loyalty dilemma (observer versus citizen), witnessing the deaths of colleagues, the necessity of transmitting traumatic content to international audiences, and "witness fatigue" as a subjective experience of moral degradation. These factors determine a higher risk of moral traumatisation compared with peacetime media contexts. The findings underscored the pressing need to transition from generic PTSD-oriented programmes towards specialised interventions that take account of the moral dimension of journalists' suffering. The introduction of screening using the TMIS-J, the development of an organisational culture of acknowledgement, and the availability of professional psychological assistance are the key practical measures for preserving the mental health of media professionals. Thus, the study expanded the theoretical understanding of moral injury in journalism, confirmed its particular significance in wartime conditions, and proposed a conceptual foundation for the creation of effective psychological support systems in conditions of full-scale war. Future research should provide for the translation and cross-cultural adaptation of the TMIS-J for the Ukrainian media community, as well as its empirical validation on a representative sample of journalists and other media professionals. This will allow for an assessment of the instrument's psychometric characteristics in the national context, verification of its convergent and discriminant validity, and an examination of the specific character of moral injury among professionals working in zones of armed conflict.

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◆ Conflict of Interest

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Моральна травма журналістів в умовах збройного конфлікту: зміст і механізми

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♦ **Анотація.** В межах цього дослідження моральну травму визначено як поняття, що описує психологічне страждання, спричинене не страхом за власне життя, а порушенням базових моральних переконань і очікувань. Для журналістів моральна травма має особливе значення, адже їхня діяльність постійно пов'язана з етичними дилемами без однозначного вибору: фіксувати страждання чи допомагати, публікувати шокуючий контент чи запобігати ретравматизації аудиторії, розкривати джерела чи захищати їхню безпеку. Для українських журналістів, які працюють в умовах повномасштабної війни, ці дилеми набувають екзистенційного характеру: подвійна ідентичність – професійного спостерігача та громадянина країни, що обороняється, – створює додатковий шар морального конфлікту. Метою статті було здійснити теоретичний аналіз феномену моральної травми як окремого від посттравматичного стресового розладу конструкту та обґрунтувати його релевантність для журналістики, зокрема в контексті українського воєнного досвіду. Дослідження мало теоретичний дизайн і ґрунтувалося на систематичному аналізі та синтезі рецензованих наукових джерел із баз даних Web of Science та Scopus. Проаналізовано класичну модель моральної травми Б. Ліца і Торонтську шкалу моральної травми для журналістів, емпіричні дослідження моральної травми серед медійників та дані лонгітюдних опитувань Інституту масової інформації (2022-2025 роки). Встановлено, що моральна травма принципово відрізняється від посттравматичного стресового розладу за етіологією (порушення моральних переконань замість загрози для життя), емоційним профілем (провина, сором, гнів замість страху та гіперзбудження) та механізмами формування. Ідентифіковано три категорії потенційно морально травмуючих подій, специфічних для журналістики: дилеми «свідок – допомагач», конфлікт між правдою та захистом, організаційне зрадництво. Валідована Торонтська шкала моральної травми для журналістів забезпечує перший стандартизований інструмент діагностики. Дані засвідчили, що доступ до психологічної підтримки асоціюється з нижчими показниками моральної травми

♦ **Ключові слова:** медійна діяльність; тривожність; адаптація; посттравматичний стресовий розлад; ментальне здоров'я

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