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Content

V. Barko, V. Barko, P. Makarenko, I. Morozov Mental health characteristics and psychological profiles of National Guard of Ukraine servicemen	5
N. Boiko Social and psychological cohesion as a factor in responsible conduct under crisis conditions and military operations.....	16
Ya. Vasylkevych, H. Ryk, O. Kikinezhdi Psychological characteristics of professional burnout among social workers under martial law.....	23
A. Kuraieva, B. Ivniev, O. Farmahei Phenomenological psychodiagnostics and testology: Advantages and disadvantages of methods in wartime conditions.....	32
D. Matvieieva Resilience of military physicians during wartime: Practical tools for development	42
L. Nikolaiev, H. Khomych Psychological mechanisms underlying the therapeutic impact of support groups on individuals in difficult life circumstances	52
P. Pavlusenko Psychological consequences of war-related displacement among young Ukrainian students	64
N. Prakhovnik, A. Kovtun, O. Ilchuk Patriotic education as a factor in the development of psychological resilience in times of war	75
N. Protsyk, N. Savelyuk Personal determinants of psycho-emotional states in children of combatants: A theoretical analysis.....	87
O. Rybchuk, V. Shevchuk, I. Moskalov, O. Rybchuk Balance of conscientiousness and openness to experience in the training of operational level officers: An empirical study	101
T. Tytarenko Psychological prevention of the negative impact of war on Ukrainian students' attitudes towards health	111
A. Fedyk Metacognitive foundations for designing a programme for the targeted development of professional thinking in future border guard officers.....	119
L. Chernobai Substantiation of a programme for developing mental resilience in Marine Corps service personnel through coping strategies	132



Mental health characteristics and psychological profiles of National Guard of Ukraine servicemen

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◆ **Abstract.** This article examined the study and analysis of the characteristics of mental health and their relationship to the individual psychological typology of servicemen of the National Guard of Ukraine. The aim of the study was to compare the results obtained using adapted Ukrainian-language psychodiagnostic instruments, the “Brief Mental Health Scale” and the “Individual Typological Questionnaire”, and to provide a conclusion regarding an individual’s psychological suitability for service and combat-related activities. The article employed theoretical methods, including the analysis of scientific sources, synthesis, comparison, generalisation, systematisation, and classification of psychological literature, as well as regulatory documents concerning the maintenance of servicemen’s mental health; international and domestic experience in supporting the mental health of personnel within the security and defence sector. Empirical methods included psychodiagnostic assessment, correlation analysis, surveys, expert evaluation, and related approaches. The findings present the level and structure of servicemen’s mental health and various types of individual personality profiles, which are characterised as favourable, less favourable, or unfavourable for service and combat activities within the National Guard of Ukraine. It has been demonstrated that mental health characteristics and the individual typology of servicemen are closely interconnected, and that this relationship may be utilised to address the key objectives of psychological support for the professional activities of National Guard personnel. The study shows that the emergence of signs of maladjustment depends on dominant personality tendencies; thus, typological individual personality traits are prognostically significant factors in predicting potential behavioural disturbances in servicemen and possible forms of maladjustment under the adverse influence of the specific conditions of military service. The practical value of the

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research lies in its contribution to the development of methods for managing servicemen's psychological condition in extreme situations and for modelling conditions aimed at minimising neuropsychological maladjustment

♦ **Keywords:** mental well-being; psychological assessment; personnel of the National Guard of Ukraine; individual typological profiles; adaptation; stress resilience

♦ Introduction

The issue of maintaining, preserving and assessing the mental health of personnel in the security and law enforcement agencies has remained a topical subject for psychological science over the years. It is particularly important to establish the interrelationship and correlation between an individual's level of mental health and their individual psychological traits and manifestations, and to identify groups of individuals who, due to a specific combination of psychological traits and mental health characteristics, possess a greater or lesser degree of psychological suitability for performing operational combat operations in special and extreme conditions.

In contemporary psychological science, mental health is regarded as a multidimensional state of optimal personal functioning, which ensures an individual's ability to think effectively, regulate emotions, maintain social relationships and realise their own potential. It enables individuals to successfully cope with stress, work productively and participate in social life; indeed, E. Jenkins *et al.* (2020) argue that it does not simply mean the absence of psychopathological symptoms, but encompasses a broad spectrum of structural components relating to mental processes, states and traits. Thus, the cognitive component of mental health characterises an individual's ability to adequately perceive, process and interpret information; its main indicators include the characteristics of mental processes: perception, attention, thinking, imagination, etc. The motivational-volitional and emotional components reflect the degree to which life goals have been established, internal motivation, perseverance and the capacity for self-control, and also encompass the mechanisms of emotional regulation: the stability of one's emotional state and the appropriateness of one's emotional responses. M. Iasiello *et al.* (2024) consider that the socio-behavioural component reflects an individual's ability to establish and maintain interpersonal contacts, adhere to social norms and function effectively in a social environment. Furthermore, researchers T. Hill *et al.* (2023) note that impaired social interaction often leads to isolation, interpersonal conflicts and a reduced quality of life. Thus, mental health is a complex systemic construct that combines cognitive, emotional, motivational, personality and socio-behavioural characteristics.

The current state of mental health research is characterised by a significant increase in academic interest in this field, driven both by global security challenges and the impact of prolonged stress on various social groups, particularly military personnel. In scientific research conducted between 2021 and 2025, mental health is regarded as an integral indicator of psychological well-being, resilience and an individual's adaptive potential. Recent

international research by C. Civilotti *et al.* (2022) indicates that psychological resilience is a key factor in maintaining mental health, as it enables an individual to function effectively under conditions of chronic stress and to recover from psychotraumatic experiences. It has been established that a high level of resilience reduces the risk of developing post-traumatic disorders, depressive states and emotional burnout. The study by N. Galbraith *et al.* (2021) emphasises the significance of individual personality characteristics as predictors of psychological resilience. In particular, emotional stability, self-control and social engagement are associated with better mental health outcomes, whilst anxiety and rigidity may contribute to a predisposition to maladaptive states. Studies by T. VanderWeele *et al.* (2020) and S. Koydemir *et al.* (2021) justify the use of a typological approach to analysing the personalities of military personnel. The authors note that individual psychological profiles can serve as an effective tool for predicting behaviour in extreme conditions, as well as being used in the development of psychological support programmes.

An important area of current research is the refinement of psychodiagnostic tools for assessing mental health. To this end, a number of standardised methods have been developed internationally, one of the most widely used being the Mental Health Continuum – Short Form (MHC-SF) questionnaire (Keyes, 2002). This questionnaire demonstrates high psychometric indices of internal consistency, reliability and validity. Indeed, the short form of the MHC-SF has demonstrated high internal consistency (>0.80) and discriminant validity among adolescents (aged 12-18 years) and adults in the USA, the Netherlands and South Africa. The test-retest reliability of the MHC-SF over three consecutive 3-month periods averaged 0.68, whilst that for a 9-month retest was 0.65. The three-factor structure of the long and short forms of the MHC – emotional, psychological and social well-being – was confirmed in representative samples of US adults, university students and a nationally representative sample of adolescents aged 12 to 18. In fact, this questionnaire forms the methodological basis for the conceptualisation of mental health. According to this theory, it is possible to have good mental health whilst also having a mental illness, and conversely, it is possible to have mental health problems without having a mental illness. This dual-continuum model is based on the idea that mental health is more than just the absence of mental illness; these are related but somewhat distinct dimensions. The MHC-SF questionnaire assesses mental health through three key components of well-being: emotional (feelings of happiness and life satisfaction), social (sense of integration into society) and psychological (self-acceptance, autonomy and personal growth). Respondents rate

the frequency with which they experience these states on a six-point scale ranging from 0 (never) to 5 (daily), which enables a quantitative analysis of mental health levels.

Despite the significant body of contemporary research, the issue of the relationship between mental health levels and the individual-typological characteristics of military personnel remains under-explored. The scholarly works of K. Ruggeri *et al.* (2020) and Y. Pylypchuk & L. Ponomarenko (2024) focus on the study of specific mental states or clinical manifestations (in particular, post-traumatic stress disorder), whilst a comprehensive analysis of personality profiles as a factor in mental health has been used only to a limited extent. At the same time, the classic studies by Y. Suarez-Balcazar *et al.* (2020) and H. Marsh *et al.* (2020) laid the scientific foundations for understanding the structure of mental health and confirmed the three-factor model of well-being, which includes emotional, social and psychological components. These findings remain relevant and serve as the theoretical basis for contemporary empirical research. Thus, an analysis of contemporary and classical scientific sources indicates the need for further study of the relationship between the level of mental health and the individual-typological characteristics of military personnel's personalities, which underlines the relevance of this study.

The aim of this article was to highlight and analyse the characteristics of military personnel's mental health based on the use of the MHC-SF questionnaire and the main types of individual personality profiles, in order to enable psychologists in psychological support units and unit commanders to make scientifically grounded predictions regarding an individual's psychological suitability for operational combat duties within the Ukrainian National Guard. The objectives of the article were: to explore the theoretical foundations of contemporary approaches to the study of mental health; to characterise the features of mental health and the main types of individual personality profiles among military personnel; to highlight the relationship between mental health characteristics and psychological profile types, and their impact on an individual's level of psychological fitness for combat duties. The scientific novelty of the study lay in the fact that, for the first time, a study was conducted into the psychological characteristics of mental health and the nature of its relationship with the individual personality profiles of servicemen of the National Guard of Ukraine.

◆ Materials and Methods

The conceptual foundation of this study was the "Mental Health Continuum" model, which views mental well-being not merely as the absence of psychopathology, but as the presence of positive characteristics of personal functioning. This approach allows for a more comprehensive characterisation of mental health and the identification of both its resources and potential risks (Keyes, 2002). In order to address the research objectives, theoretical methods of analysing scientific sources were applied at various stages of the study: synthesis, comparison, generalisation, systematisation

and classification of the results of scientific research in this field, scientific and psychological literature, and regulatory documents governing efforts to ensure the mental health of military personnel; Ukrainian and international experience in maintaining the mental health of military personnel; as well as empirical methods: questionnaires: the "Individual-Typological Questionnaire" (ITQ); the "Short Form Mental Health Continuum Scale" (Keyes, 2002); psychological diagnosis; correlation analysis; questionnaires and surveys; and expert assessment (to determine the level of success in the professional activities of military personnel). The questionnaires were administered in adapted Ukrainian-language versions (Barko *et al.*, 2022).

The empirical part of the study was carried out between February and October 2025; it involved military personnel: 145 second- and third-year cadets at the National Academy of the National Guard of Ukraine, aged between 19 and 30, with military ranks ranging from private to sergeant. There were 15 women (10.3%) among the respondents; all respondents were assessed by experts as high achievers (the experts were study group supervisors and subject lecturers who were thoroughly familiar with the cadets' performance in both their military service and academic studies). This sample size enabled the formulation of statistically reliable conclusions (at the $p \leq 0.05$ and $p \leq 0.01$ levels); these values are traditionally considered acceptable error limits. Statistical analysis of the empirical data was carried out using the standardised IBM SPSS Statistics 23.0 software package.

The survey of cadets was conducted in the morning in group sessions; each group comprised 12-15 respondents, and the premises met the necessary hygiene requirements regarding lighting and ventilation. The questionnaire instructions and texts were presented to each respondent on paper forms in Ukrainian; the survey took approximately 30 minutes to complete. The cadets took part in the survey voluntarily and were sufficiently motivated to complete the test tasks, as the psychologist had informed them in advance that the survey was aimed at assessing their level of mental health and certain components of their psychological suitability for study and professional service. The study was conducted in accordance with the ethical standards of the American Sociological Association's Code of Ethics (2018). The object of the study was the mental health and individual personality traits of the cadets; the subject was the level and structure of mental health, and the types of individual personality profiles.

◆ Results and Discussion

The study utilised C. Keyes' (2002) "Short Form Mental Health Continuum Scale" (MHC-SF) questionnaire, which is one of the most reliable and valid instruments for identifying comprehensive indicators that capture the nature of mental health. Tables 1-2 show the distribution of the "raw" mental health indices of cadets by level (using an ordinal scale from 0 to 4 points), as well as their distribution by levels of mental health and its components.

Table 1. Distribution of cadets' mental health indicators by level (based on a five-point scale) (points)

	Components	Range	Low (0)	Reduced (1)	Average (2)	Above average (3)	High (4)
1	Overall level	0-70	0-14	15-27	28-41	42-55	56-70
2	Emotional	0-15	0-3	4-6	7-9	10-12	13-15
3	Social	0-30	0-5	6-11	12-17	18-24	25-30
4	Psychological	0-25	0-4	5-10	11-16	17-21	22-25

Source: compiled by the authors

Table 2. Distribution of respondents by levels of mental health and its components (%)

	Components	Low (0)	Reduced (1)	Average (2)	Above average (3)	High (4)
1	Overall level	0	11.7	35.8	42.0	10.5
2	Emotional	0	11.0	38.0	41.3	9.7
3	Social	0	8.2	39.3	42.0	10.5
4	Psychological	0	8.2	37.2	42.7	11.9

Source: compiled by the authors

The findings indicate that the majority of respondents demonstrated either an average (35.8%) or an above-average (42.0%) overall level of mental health. A relatively small proportion of those surveyed exhibited a high (10.5%) or reduced (11.7%) level of mental health, while no respondents were found to have a low level. With regard to the individual components of

mental health, these were predominantly at average (37.2-39.3%) and above-average levels (41.3-42.7%). The psychological component was found to be the most developed, whereas the emotional and social components were developed to a lesser extent. Table 3 presents the mean values of the mental health components among military personnel.

Table 3. Average values for the components of mental health

	Components	X		σ	
		absolute	level	absolute	level
1	General level	57.50	3.38	11.3	0.58
2	Emotional	12.70	2.97	3.20	0.49
3	Social	21.22	3.28	3.95	0.54
4	Psychological	23.30	3.41	3.8	0.59

Source: compiled by the authors

As can be seen from Table 3, the overall mental health indices are quite high – 3.38 points, which corresponds to above-average level, and 57.50 absolute points. A similar pattern is observed for the indicators of individual components. The psychological component is the most developed (score of 3.41 and 23.30 absolute points), as is the social component (score of 3.28 and 21.22 absolute points). The emotional component has the lowest scores (score of 2.97, absolute value of 12.70). The dominance of the psychological component indicates that military personnel possess individual traits that are important for operational and combat activities, such as an adequate sense of self-worth, a sense of responsibility for one's own behaviour, the ability to overcome life's challenges and move towards self-actualisation, self-control and self-confidence.

The individual-typological questionnaire is based on the orthogonal model of personality and the theory of leading tendencies. In accordance with the proposed methodology, the individual-personality typology is based on a combination of oppositely directed (orthogonal) traits – extraversion-introversion, anxiety-aggressiveness, lability-rigidity, and sensitivity-spontaneity – which are linked to characteristics of the nervous system: activation-inactivation, lability-inertia, dynamism of excitation-dynamism

of inhibition, and strength-weakness (Fig. 1). Thus, the ITO enables the diagnosis of individual psychological characteristics in accordance with these factors, which allows for the construction of a military personnel's individual personality profile. The latter comprises a set of qualitative characteristics, as well as their quantitative indices, which psychologically describe a successful professional in the field of operational and combat activities; it is an important psychological characteristic of the individual (Barko *et al.*, 2022). The principal scales of the ITQ (within their normative ranges) are as follows. The Extraversion scale indicates a person's psychological orientation towards the real world, good sociability and activity, a tendency to socialise, and optimism; Spontaneity – a tendency towards self-assertion, self-actualisation, decisiveness, courage, and a desire to defend one's own interests; aggressiveness – a tendency towards exploratory behaviour, a clear personal stance, achievement motivation, boldness, self-confidence and rapid decision-making; rigidity – traits such as meticulousness, stress resilience, perseverance, thoroughness, practicality and straightforwardness; introversion – reflects a lack of sociability, modesty, passivity, and a focus on internal experiences; sensitivity – emotional sensitivity, empathy, vulnerability,

and the ability to sympathise with and help others; anxiety – caution in decision-making, responsibility, intuition, reflectiveness; lability (emotionality) – heightened nervous activity, mood swings, expressiveness. The questionnaire contains 91 statements, as well as scales for falsehood and exaggeration. Scores within the normal range (3-4 points) indicate a well-balanced personality; moderately pronounced scores (5-7 points) indicate accentuated

traits; and excessively pronounced scores (7-9 points) indicate emotional tension and difficulties with adaptation (Barko et al., 2022). To assess the degree of an individual's psychological suitability for military service, a three-level ordinal scale was proposed: Level 1 – high level of suitability for service; Level 2 – sufficient; Level 3 – insufficient (low). Research using the ITO helped to identify different psychological profiles among military personnel.

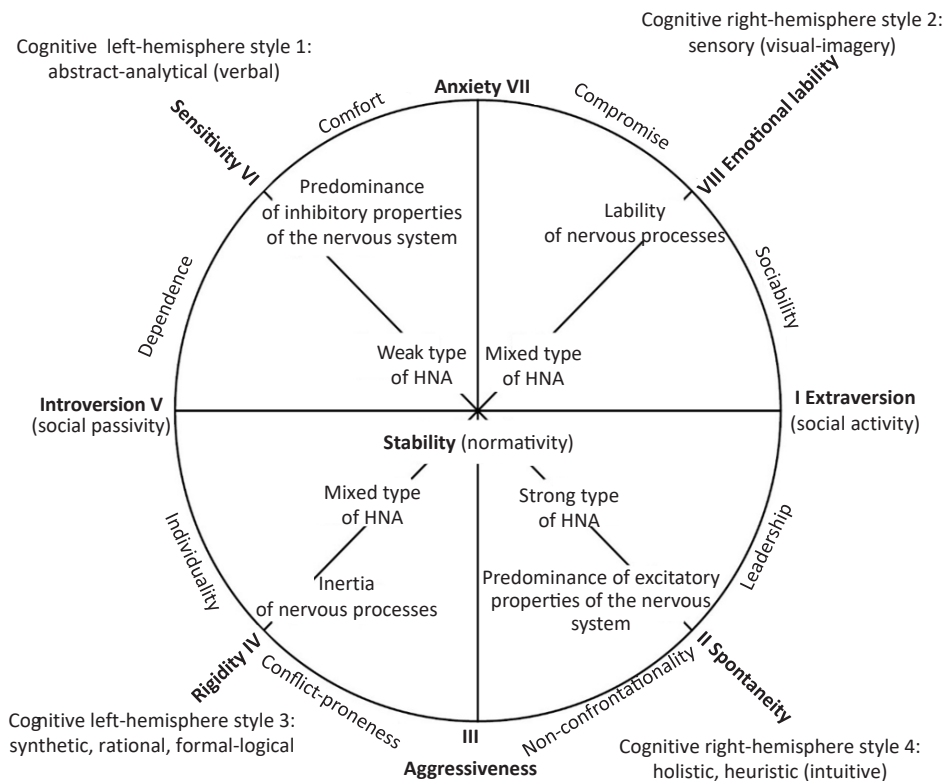


Figure 1. Orthogonal model of individuality

Source: compiled by the authors based on V. Barko et al. (2022)

1. The “balanced” profile (25 individuals, 17.2% of respondents) – a mixed response type. Such military personnel are characterised by balanced dominant tendencies, with all scales falling within the normal range (3-4 points). All tendencies are expressed evenly. They exhibit a mixed (moderate-strong) type of higher nervous activity (HNA), normal lability of nervous processes, and well-balanced excitatory and inhibitory properties; the left- and right-hemispheric features of thinking, as well as its rational and heuristic components, are equally developed. Characterological traits – stability, equanimity and composure, friendliness, stress resilience, sociability, a willingness to help others, optimism, work capacity, adequate self-esteem, perseverance and flexibility in achieving goals, and normative behaviour. Level of mental health – high or above-average. Prognosis for success in operational and combat activities – high.

2. “Hyperthymic” profile (22 individuals, 15.2%) – hypersthenic response type. Among military personnel, indicators of extraversion, spontaneity and aggressiveness

(scales 1, 2 and 3) are above-average (5-7 points). Characteristic features include a strong type of higher nervous activity, high lability of nervous processes, a predominance of excitatory processes, and a right-hemispheric cognitive thinking style, in particular its heuristic component. Characterological features include activity, sociability, moderate aggressiveness and egocentrism, high self-esteem, decisiveness, courage, bravery, stress resilience, tendencies towards self-actualisation, independence, defending one's own interests, and leadership. Adaptability is high. Level of mental health – high or above-average. Prognosis for success in operational and combat activities – high.

3. “Active-communicative” profile (22 individuals, 15.2%) – mixed response type. Among military personnel, the indices of extraversion and lability (scales 1 and 8) are above-average (5-7 points). Characterised by a mixed type of higher nervous activity, a moderately strong nervous system, and high lability of nervous processes. A predominance of excitatory processes, a right-hemispheric cognitive style, and a visual-imaginative cognitive style.

Characterological traits include activity, openness, sociability, a desire to be part of a group, talkativeness, ease in establishing contacts, a need for external stimulation of activity, an inability to cope with monotonous work, mood swings, emotional instability, demonstrativeness, dependence on a reference group, inflated self-esteem, and a need for guidance from management. Adaptability is within the normal range. Level of mental health – high or above-average. Prognosis for professional success – Level 1 (high).

4. The “independent” profile (19 individuals, 13.1%) – a mixed response type. Among military personnel, the extraversion and rigidity scales (1; 4) are above-average (5-7 points). Characterised by a strong type of higher nervous activity, considerable strength and moderate lability of nervous processes. Right-hemispheric, holistic heuristic (intuitive) cognitive type; left-hemispheric, synthetic, rational thinking. A combination of excitation and inhibition processes. Characterological traits – activity, self-confidence, independence, pedantry, practicality, meticulousness, principledness, a desire for dominance, persistence, suspiciousness, selfishness, active defence of one's views, high stress resilience. Adaptability is hampered by independence and stubbornness. Level of mental health – high or above-average. Prognosis for success in operational and combat activities – adequate (intermediate).

5. “Compromise” profile (15 individuals, 10.3%) – mixed response type. Among military personnel, anxiety and lability scores (7; 8) are above-average (5-7 points). Characteristic features include a mixed type of higher nervous activity, a moderately weak nervous system, high lability of nervous processes, a predominance of inhibitory processes, and a right-hemispheric, visual-imagery cognitive style. Characterological features include: a capacity for cooperation; a willingness to compromise in conflict situations; empathy; a willingness to help; anxiety over minor details and a tendency to worry; restlessness; an inability to focus on a goal; a certain lack of discernment in interpersonal relationships; and a need for supervision whilst carrying out tasks. Adaptability is within the normal range. Mental health level is predominantly average. The prognosis for success in operational and combat activities is intermediate (sufficient).

6. “Hypostenic” profile (14 individuals, 9.6%) – a hypothyroid response type. Among military personnel, indicators of introversion, sensitivity and anxiety (scales 5-6-7) are above-average (5-7 points). Characterised by a weak type of higher nervous activity, low strength and moderate lability of nervous processes, a predominance of inhibitory processes in the nervous system, and a predominant left-hemispheric, abstract-analytical (verbal) style of thinking. Characterological features include caution in decision-making, a sense of responsibility for assigned tasks, modesty, sensitivity, a tendency towards solitude and independence, dependence on the group, a propensity for compromise, sensitivity to environmental influences, somewhat low self-esteem, and self-criticism. Also characteristic are a subdued emotional state, weakened psychological defence

mechanisms, and inertia in decision-making. Adaptation is hampered by inertia, a neurotic structure of emotional experiences, vulnerability and a need for protection and support, and low self-esteem. Mental health level – average. Prognosis for success in operational and combat duties – intermediate (sufficient).

7. The “individualistic” profile (14 people, 9.6%) – a mixed response type. Among service personnel in this group, indicators of introversion and rigidity (scales 4-5) are above-average (6-7 points). Characteristic features include a mixed type of higher nervous activity, low lability of nervous processes, social passivity, and a left-hemispheric cognitive thinking style dominated by formal-logical operations. Characterological features include individualism, pessimism, rigidity of attitudes, subjectivism, stubbornness and suspiciousness, depressive tendencies, withdrawal, and slowness in decision-making. Adaptation is hampered by subjectivism, stubbornness and rigidity of attitudes. Level of mental health – average. Prognosis for success in operational and combat activities – intermediate (sufficient).

8. “Schizoid” profile (9 individuals, 6.2%) – mixed response type. Indicators of introversion and spontaneity (scales 2 and 5) are above-average (6-7 points). Characteristic of a mixed type of higher nervous activity: a combination of low lability with strong nervous processes, as well as left- and right-hemispheric cognitive styles and rational and intuitive modes of thinking. Characterological traits include individualism, introversion, reserve, steadfastness in one's own views and convictions, a tendency towards mood swings, and a combination of heightened sensitivity with emotional coldness and detachment in interpersonal relationships. Adaptation is hampered by difficulties in interpersonal interaction with those around them. Level of mental health – average or low. Prognosis for success in military service and combat activities – low (insufficient).

9. “Infantile” profile (5 individuals, 3.4%) – a mixed response type. Indicators of extraversion, spontaneity and lability (scales 8-1-2) are above-average (6-7 points). Characteristic of a mixed type of higher nervous activity, a combination of high lability and strength of nervous processes, as well as a right-hemispheric, visual-imaginative style of thinking with a right-hemispheric holistic heuristic (intuitive) approach. Characterological traits include activity, openness, sociability, motor disinhibition, irresponsibility, self-confidence, an inability to adhere to subordination, unpredictability in behaviour and speech, and narcissism verging on “delusions of grandeur”. Adaptation is significantly hampered by difficulties in communicating with those around them. Mental health level – average or below average. The prognosis for success in operational and combat activities is low (insufficient).

Consequently, more than half (60.7%) of military personnel demonstrated profiles characterised by high and above-average levels of mental health (profiles 1-4); a slightly smaller proportion (47.6%) also possess a high level of psychological suitability for military and combat duties (profiles 1-3). The majority of service personnel

predominantly exhibit balanced psychological characteristics within the normal range; hyperthymic or active-social profiles are also possible, characterised by traits such as extraversion, activity, optimism, some aggressiveness, adequate self-esteem, courage, a drive for self-actualisation, and a tendency to dominate and assert themselves. A proportion of respondents (29.5%) have an intermediate (average) level of mental health (profiles 5-7); slightly more respondents (42.6%) demonstrate a sufficient (average) level of readiness for operational and combat activities (profiles 4-7). Such individuals are characterised by normal indices, or slightly above-average indices on sthenic-type scales (spontaneity, aggressiveness), or above-average values on hyposthenic or mixed-register scales (introversion, sensitivity, anxiety, lability). A sufficient level of readiness

indicates the individual's general fitness for service and combat duties and adequate adaptability.

A small group of respondents (9.6%) demonstrate a low level of mental health (profiles 8-9); moreover, these same respondents demonstrated a low level of psychological fitness – that is, one insufficient for successful military service. Such cadets are characterised by traits such as individualism, conflict-prone behaviour, and schizoid or infantile profiles, for which there is a high probability of manifesting forms of maladjustment (hysterical, depressive, etc.) under the specific and extreme conditions of military service and combat operations. Significant correlations have been identified between levels of mental health and the characteristics of military personnel's psychological profiles ($p \leq 0.01$) (Table 4).

Table 4. Relationship between mental health levels and characteristics of psychological profiles

Mental health level	Profile type								
	1	2	3	4	5	6	7	8	9
High and above average	0.78	0.63	0.61	0.48	0.43	0.35	0.17	-0.28	-0.30
Average	0.28	0.38	0.29	0.28	0.45	0.48	0.39	0.20	0.11
Reduced and low	0.17	0.18	0.26	0.37	0.39	0.44	0.47	0.58	0.62

Note: the numbering of profile types corresponds to the list in the text

Source: compiled by the authors

As can be seen from Table 4, high and above-average levels of mental health correlate positively with the scales for balanced and sthenic profile types among military personnel ($r = 0.61-0.78$) and negatively with the scales for mixed (8 schizoid and 9 infantile) ($r = -0.28-0.30$), whilst low and reduced levels correlate positively with the hyposthenic scale (profile 6) and the scales of certain mixed types (profiles 7, 8 and 9). It has been established that borderline mental disorders are closely linked to a person's underlying personality traits. In particular, differences in the manifestations of maladjustment are often determined by the underlying response type of a military personnel's personality. Thus, neurotic disorders sometimes develop on the basis of the dominance of constitutional hyposthenic traits in the personality structure (Profile 6). At the same time, minor deviations (neurotic over-control, pessimism, heightened anxiety and introversion) may be exacerbated by situational factors and transform into more serious forms of maladjustment – hypochondria, depressive symptoms, obsessive phobias and “escape” (psychological escape). Conversely, behavioural reactions characteristic of psychopathic, excitable individuals arise from a hyperthymic personality type (Profile 2). Moreover, the “intermingling” within the structure of the hyperthymic response pattern of traits such as impulsivity in extreme situations, rigidity and withdrawal (the fourth profile), may intensify and form a stable pattern of explosive, expansive-schizoid, aggressive-non-conformist or emotionally unstable behaviour; that is, they may manifest as various shades of psychopathic variants of the hyperthymic personality type.

According to the authors' own psychodiagnostic research, the two types of response (hyposthenic and

hypersthenic) differ in the direction of aggression: a) intrapunitive, in which aggression is linked to a sense of dissatisfaction and is directed by the individual towards themselves; b) extrapunitive, where aggression is directed at one's immediate environment and manifests as the social maladjustment characteristic of psychopathic personalities. These primary response types may be accompanied by a range of additional characteristics; however, the hyposthenic response type is characterised by a predominance of inhibitory reactions (of the “flight-or-freeze” type), whilst the hypersthenic type is characterised by a predominance of excitatory traits. It should be noted that hysterical neurosis, which can develop into psychopathy due to a mixed reaction type, occupies a special place. This is evidenced by a combination of divergent and contradictory tendencies manifesting with equal intensity, and a clash between strong (spontaneous and rigid) and weak (anxious and emotive) characteristics. This conflicting combination of individual-typological traits often leads to numerous somatic disorders (for example, profiles 8 and 9). Thus, the present study identified psychodiagnostic indicators for distinguishing three principal non-psychotic forms of maladjustment: neurotic, psychopathic, and psychosomatic.

The works of C. Overstreet *et al.* (2018) and P. Galanis *et al.* (2021) emphasise that, in the training of future military personnel, it is important to accurately identify the psychological states in which they may find themselves in various situations during their service, to identify the causes of misunderstandings in interpersonal communication with others, and to pinpoint the sources of stereotypical destructive behavioural tendencies that do not facilitate professional communication. Y. Pylypchuk &

L. Ponomarenko (2024) point out that it is important to bear in mind that there may be individuals among subordinates who are prone to deviant behaviour and professional deformation, and that in cases of severe neuropsychological overload, certain mental health disorders may develop in some military personnel (particularly those with weak nervous systems).

In order to prevent the onset of neuropsychological instability, it is important to take into account its causes and symptoms. Researchers, notably Z.-F. Yao & S. Hsieh (2019) and D. Shvets *et al.* (2020), note that various psychogenic factors may be responsible for the onset of neuropsychological instability in workers engaged in extreme occupations. A study by I. Prykhodko *et al.* (2020) showed that the main factors include: setbacks at work and in personal life; frequent work-related situations perceived as dangerous to life and health; chronic fatigue and conflicts with colleagues; low professional competence; psychologically traumatic family factors; harmful habits (smoking; consumption of alcohol, narcotic and toxic substances); and a tendency to lie. Research by scholars, such as M. Mojallal *et al.* (2022) and the U.S. Army MWR (n.d.), also indicates that signs of neuropsychological instability in military personnel may include: the onset of fatigue even under normal work loads; a reduction in the employee's overall activity; a decline in memory; somatic symptoms (headaches; pain in the lower back or chest area; loss of appetite; general malaise, etc.); slowed thought processes; the emergence of negative emotions (irritability, anger, aggression, low mood); and a loss of self-control over one's own actions. Managers are advised to pay attention to service personnel who are easily agitated, hot-tempered or prone to conflict, as well as those who are withdrawn, resentful, excessively fearful or shy. Some authors, for example, I. Correia *et al.* (2023), also consider it important to identify individuals who display arrogance or condescension, who try at all costs to stand out from those around them or, conversely, have become the subject of jokes and ridicule, who engage in senseless behaviour, or who exhibit inappropriate behaviour. Research by V. Bondarenko *et al.* (2022) suggests that even difficult situations at work and psychological trauma, which in most people cause typical depressive symptoms, in strong-willed individuals with a sthenic response type may be accompanied by sthenic manifestations – optimism, increased self-esteem, self-assertion, and active and aggressive behaviour.

Researchers H. Jackson & N. Haslam (2022) emphasise that studies of various somatic disorders arising from excessive emotional stress have revealed a predominance of the mixed reaction type in patients with asthma, gastric ulcers, hypertension, neurodermatitis and ischaemic heart disease. Analysis of psychodiagnostic data showed that, in response to an adverse situation, such patients develop states characterised by the mutual blocking of both neurotic and hypersthenic response types, which is precisely why aggressive defence tendencies cannot be channelled through any of the emotional outlets –

neither the extrapunitive nor the intrapunitive channels. This results in an elevated level of emotional tension, against which biological abnormalities and somatic diseases manifest themselves.

◆ Conclusions

A person's mental health can be regarded as a multidimensional state of optimal functioning, which enables them to think effectively, regulate their emotions, maintain social relationships and realise their full potential. It is not merely the absence of psychopathological symptoms, but encompasses a whole spectrum of components relating to mental processes, states and characteristics, each of which contributes to an individual's mental well-being. Researchers in this field have a fairly broad range of diagnostic methods at their disposal for a comprehensive study of mental health. The results of the study indicate that the vast majority of cadets have a general level of mental health that is above-average (42.0%) or average (35.8%). A small proportion of those surveyed have high (10.5%) or low (11.7%) levels of mental health; no respondents with a low level were identified. As for the individual components of mental health, these are predominantly at average (37.2-39.3%) and above-average levels (41.3-42.7%); the psychological component is the most developed, whilst the emotional and social components are less so. The overall mental health score is quite high – 3.38 points (above-average).

The survey using the ITO confirmed that the majority of military personnel exhibit balanced psychological characteristics within the normal range; there are also hyperthymic and active-sociable profiles, with traits of extroversion, activity, optimism, moderate aggressiveness, adequate self-esteem, courage, self-actualisation, and a tendency to dominate and assert themselves. Hypostenic, individualistic, schizoid and infantile profiles are not typical of military personnel. More than half (60.7%) of military personnel have individual-typological profiles characterised by high and elevated levels of mental health (profiles 1-4); the first three profiles (1-3) are also characterised by a high level of psychological fitness for duty (47.6%). One-third (29.5%) of respondents have an average level of mental health and an intermediate (sufficient) level of readiness for service (these are profiles 5-7). Such individuals are characterised by normal or slightly elevated scores on the sthenic-type scales (spontaneity, aggressiveness), with possibly slightly elevated scores on the hypostenic or mixed-type scales (introversion, sensitivity, anxiety, lability). A sufficient level of readiness indicates the individual's general suitability for operational and combat duties and sufficient adaptability. A small group of respondents (11.7%) demonstrate a reduced level of mental health (profiles 8-9); moreover, the same proportion (and the same respondents) demonstrated a level of psychological fitness insufficient for successful military service. Such cadets are characterised by traits such as individualism, conflict-prone behaviour, and schizoid or infantile profiles, for which there is a high

probability of manifesting forms of maladjustment (hysterical, depressive, etc.) under the specific and extreme conditions of military service and combat operations.

The characteristics of mental health and the typological characteristics of military personnel were found to be closely interrelated. It has been established that indicators corresponding to high and elevated levels of mental health correlate positively with the scales of balanced and sthenic profile types among military personnel, and negatively with the scales of mixed (schizoid and infantile) types, whilst indicators of low and reduced levels correlate positively with the scales for the hypothymic (Profile 6) and the mixed-type profiles (Profiles 7, 8, and 9). The same patterns can be observed with regard to the indices of the components of mental health. The identified psychological characteristics of mental health and the typological characteristics of military personnel can be utilised in addressing the key tasks of psychological support for the professional activities of National Guard personnel. The predictive significance of the factors that reveal the leading individual-personality tendencies in the profile will facilitate the timely identification of possible types of neurotic maladjustment among military personnel even before they are exposed to the stressors of their service duties. It

is important to bear in mind that the emergence of signs of maladjustment is directly dependent on the dominant personality tendencies of each military personnel member. Consequently, typological individual-personality traits are prognostically significant factors that can indicate a military personnel member's likely behaviour and a possible form of maladjustment (including a clinical syndrome, should they be subjected to the negative impact of specific conditions of military service). Prospects for further research lie in the fact that, based on the results presented in this article, it is possible to develop and implement additional psychological methods and tools that will facilitate the diagnosis and correction of mental health issues among military personnel, as well as other employees in the security and defence sector of the Ukrainian state.

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Особливості ментального здоров'я та психологічні профілі військовослужбовців Національної гвардії України

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♦ **Анотація.** Стаття присвячена проблематиці вивчення й аналізу особливостей ментального здоров'я та їх зв'язку з індивідуально-психологічною типологією військовослужбовців Національної гвардії України. Метою роботи було співставлення результатів, отриманих на основі застосування адаптованих українськомовних психодіагностичних інструментів «Коротка шкала ментального здоров'я» та «Індивідуально-типологічний опитувальник» і надання висновку щодо психологічної придатності особи до службово-бойової діяльності. У статті використано теоретичні методи аналізу наукових джерел, синтезу, порівняння, узагальнення, систематизації, класифікації науково-психологічної літератури, нормативних документів щодо забезпечення ментального здоров'я військовослужбовців; міжнародного й вітчизняного досвіду підтримки ментального здоров'я персоналу сектору безпеки й оборони; емпіричні методи психодіагностики, а також кореляційного аналізу, опитування, експертної оцінки тощо. Представлено результати дослідження рівня і структури ментального здоров'я військовослужбовців та різних типів індивідуально-особистісних профілів, які характеризуються як сприятливі, менш сприятливі та несприятливі для службово-бойової діяльності в системі Національної гвардії України. Доведено, що особливості ментального здоров'я, а також індивідуальна типологія військовослужбовців тісно пов'язані між собою, цей зв'язок може бути використаний задля вирішення основних задач психологічного забезпечення професійної діяльності військовослужбовців Національної гвардії. Показано, що поява ознак дезадаптації залежить від провідних особистісних тенденцій, отже, типологічні індивідуально-особистісні властивості є прогностично значущими чинниками прогнозування ймовірних порушень поведінки військовослужбовця, можливих варіантів дезадаптації за умови негативного впливу особливих умов службової діяльності. Практична цінність дослідження полягає у тому, що воно є важливим для розробки методів управління станом військовослужбовців в екстремальних ситуаціях, моделювання умов для мінімізації нервово-психічних дезадаптацій

♦ **Ключові слова:** психічне благополуччя; психологічна діагностика; особовий склад Національної гвардії України; індивідуально-типологічні профілі; адаптація; стресостійкість



Social and psychological cohesion as a factor in responsible conduct under crisis conditions and military operations

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◆ **Abstract.** The relevance of this study stems from the need to increase the level of effectiveness in the activities of structured groups in crisis situations, such as military units, rescue organisations and volunteers, for which the social and psychological cohesion of the team is important as a factor of responsible behaviour, coordination of actions, trust and psychological stability. This study aimed to theoretically substantiate the role of social and psychological cohesion as a factor of responsible behaviour formation in crisis and military teams, and to find effective ways of organising interaction in the context of high stress levels. The research was based on such general scientific methods as analysis, generalisation, systematisation and synthesis of modern scientific sources on military psychology, organisational psychology, interaction of teams and leadership. The distinctive features of the activities of traditional, mixed and crisis groups, including military ones, were identified by the comparative analysis method. In the framework of the study, it was proved that social and psychological cohesion is an important factor in the formation of responsible behaviour in military and crisis groups, as it contributes to increasing trust, coordination of actions and readiness to complete joint tasks in risk conditions. The main conditions for the efficient organisation of interaction were identified, including the presence of a common goal, the distribution of roles, effective communication and stable psychological climate even in the context of high stress. It was substantiated that, within military units, particular importance is attached to team-building and training activities that contribute to the development of cohesion, improvement of combat coordination, and formation of collective responsibility. In mixed and remote forms of interaction, the organisation of digital communication and the provision of continuous feedback play an important role as factors supporting team unity. The results of the study are practically significant for application in systems of personnel work in civilian, military and crisis organisations to improve the efficiency of team interaction, cohesion, communication, and responsible attitudes to the performance of professional duties in combat and emergency situations

◆ **Keywords:** team-building; combat conditions; organisational communication; morale; personnel management

◆ Introduction

The effectiveness of any activity largely depends on the ability of people to interact, since people are in a permanent or situational social contact with each other in all spheres of life. It is especially acute in military activity and in crisis situations and emergency situations, where effectiveness depends directly on the coordination of actions, the level of trust and the sense of responsibility of each member of the team. Given the current context of military

threats, hybrid conflicts and social turbulence, social and psychological cohesion takes on particular significance as a key factor in ensuring the effectiveness of the activities of the military units, rescue organisations and volunteers, the key elements of which are the ability to behave responsibly, discipline and readiness to decide in situations of risk and uncertainty. Teams with a high level of cohesion are characterised by lower staff turnover, higher job satisfaction

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and better mental well-being among employees. According to the empirical study of J.E. Mathieu *et al.* (2019), cohesion was found to be a significant determinant of job satisfaction and turnover intention, and it had a positive effect on mental health by means of social support and trust. In addition, studies conducted by A. Pandey *et al.* (2025) and R. Fernández-de-Caleya-Dalmau *et al.* (2025) confirmed that team cohesion performs a mediating role in the relationship between organisational conditions, leadership, and personnel performance outcomes, including emotional burnout and work engagement.

Cohesion is one of the key characteristics of effective organisational functioning and an important factor in achieving high performance as well as fostering responsible employee behaviour. In modern psychology, cohesion is considered a key criterion of the quality of interpersonal relationships, the degree of trust, the unity of goals, and the ability of employees to interact and align their efforts. Trust and understanding are established via constant and reliable communication. When team members feel heard and understood, they are more inclined to actively and meaningfully participate in team discussions. In this respect, effective communication is of primary importance, including active listening, empathy, and prompt feedback. Cohesion is of most importance in a military organisation, where it affects combat readiness. The readiness for fighting is affected not just by professional and personal qualities of the individual, but also by the degree of their interaction and coordination of actions. M. Fors Brandebo *et al.* (2022) confirmed that combat cohesion is one of the main factors that determine combat effectiveness, psychological resilience, and adaptation under stress. Y. Lin *et al.* (2022) also found that leadership has a significant impact on the formation of cohesion in military organisations. In particular, effective leadership is identified as a mediator of stress effects on military personnel adaptation through group cohesion mechanisms. In other words, commanders serve as key actors in the promotion of trust, coordination, and responsibility in uncertain circumstances. Other research findings by J. Griffith (2022) and G.L. Siebold (2007) revealed that cohesion in military groups is correlated with combat motivation, performance on tasks and the mental health of members. Moreover, cohesion acts as a mediator between combat stress and military personnel's psychological adaptation, which helps strengthen their resilience (Fernández-de-Caleya-Dalmau *et al.*, 2025). According to the conclusions of M. Mach *et al.* (2022), transformational leadership is one of the most effective management styles in military units, as it promotes the formation of a shared purpose and supports the development of trust and cohesion among personnel.

Thus, contemporary scholarly approaches make it possible to consider cohesion and leadership as interrelated factors determining the effectiveness of military unit operations and the formation of responsible behaviour under crisis conditions. This study aimed to determine the influence of social and psychological cohesion on the

formation of responsible behaviour in crisis-response and military teams, as well as to analyse approaches aimed at improving the effectiveness of team interaction under conditions of heightened stress. The objectives of the study included: identifying contemporary approaches to the organisation of communication and the role of leadership in fostering the social and psychological cohesion of a team; establishing the relationship between the level of cohesion and responsible behaviour; and generalising the influence of group processes on operational effectiveness under crisis conditions.

◆ Materials and Methods

A theoretical and analytical study design was employed to investigate the role of the development of efficient interaction in ensuring the successful completion of professional tasks by members of a team, especially in conditions of stress, risk and combat situations. The focus was placed on the social and psychological mechanisms underlying the organisation of effective team interaction. The object of the study was the social and psychological cohesion of professional groups operating under conditions of heightened stress and uncertainty, including military units. The subject of the study comprised the psychological mechanisms through which social and psychological cohesion influences the formation of responsible behaviour, communication effectiveness, and leadership processes in crisis and combat conditions. The theoretical foundation of the article was formed by studies devoted to examining the positive impact of team cohesion on organisational performance outcomes. In particular, the findings of the meta-analyses conducted by C.J. Resick *et al.* (2010) and S.-H. Bae *et al.* (2023) were used, with emphasis placed on the importance of effective team communication and a high level of cohesion as factors contributing to increased productivity and organisational effectiveness. The source base of the study included contemporary scholarly publications devoted to issues of military psychology, team interaction, and organisational behaviour. In particular, the research of M. Fors Brandebo *et al.* (2022) was used to analyse cohesion within military units, while the study by E. Salas *et al.* (2018) was employed to examine issues of team effectiveness and coordination. Questions of leadership and adaptation under military conditions were analysed on the basis of publications by G.L. Siebold (2007), Y. Lin *et al.* (2022), and M. Mach *et al.* (2022).

The chosen concepts and literature sources have been selected following such criteria as their scientific significance, relevance to the research scope, as well as their ability to facilitate a comprehensive analysis and systematisation of processes of organisations' functioning in the professional communities. The theoretical analysis of scientific literature related to the psychology of influence, management, social and legal psychology made it possible to reveal certain regularities and correlations between social-psychological processes in the professional environment, as well as to identify specific patterns of interaction

within the organisation and factors that contribute to the joint coordinated work of the team. The classification of the information obtained during theoretical analysis made it possible to identify such psychological factors that influence individual behaviour and cohesion levels in the team, as well as the stages and indicators of their development. The synthesis and generalisation of the research results made it possible to identify conditions and means for organising efficient interaction in professional communities and to develop recommendations which, if followed, will facilitate its successful establishment when carrying out work tasks in teams with normative and mixed models of interaction. The study involved the use of general scientific and specialised psychological methods. The use of the systems approach to the analysis of the cohesion as a complex social and psychological phenomenon, which encompasses communication, leadership and group interaction. Comparative analysis was used to examine approaches to leadership and team interaction in civilian and military organisations. The content analysis of scientific publications made it possible to identify the basic regularities of scientific studies on the efficiency of team performance. Theoretical generalisation was aimed at developing an integrative model of the influence of cohesion on responsible behaviour. An interpretative method was employed to explain the mechanisms underlying the relationship between leadership, communication, and group cohesion. These methods ensured a comprehensive examination of the phenomenon of social and psychological cohesion and made it possible to determine its role in securing the effectiveness and responsibility of groups operating under crisis and combat conditions.

◆ Results and Discussion

Research in military psychology and organisational psychology views communication as a fundamental mechanism of team interaction, ensuring the coordination of actions, the formation of a common representation of the situation and effective functioning of the team under conditions of

uncertainty. Communication is an especially important factor in military units for the perception of the current state of affairs and the implementation of joint coordinated actions in combat situations, where even minor mistakes can lead to fatal consequences (Mach *et al.*, 2022). According to the findings of M. Fors Brandebo *et al.* (2022), intra-group communication influences the work effectiveness of the team as a whole and the psychological resilience of the armed forces. The cohesion and communication processes are some of the key factors of the functioning of small military teams in terms of their combat efficiency. The authors note that both vertical communication (leader-subordinate) and horizontal (between group members) affect the level of trust and coordinated actions in the unit.

According to the team coordination theory, communication is also considered as the process of alignment of individual actions to the joint activity, which is particularly relevant in hybrid and distributed teams. S. Schilling (2024) proved that in the team, effectiveness is determined by communication structures and the ability to maintain a shared understanding of objectives, even in remote or stressful working conditions. Professional activity is the dominant type of activity performed by employees in the context of both traditional and hybrid models and has a characteristic of continuity, active participation, coordination and understanding of goals, tasks, time and place. Using the analytical instrument of this model, it is possible to understand the interaction of personal traits, organisational structures and team cohesion. Through combining remote flexibility and face-to-face contact, the hybrid model creates conditions for balancing independence and co-operation, and building a workplace environment that can adapt to different needs and working styles. In contrast, the remote model emphasises the importance of digital technologies and project management tools and supports a decentralised but equally efficient team. On the basis of the analysed theoretical and practical material, practical recommendations aimed at improving the level of personnel cohesion were proposed (Table 1).

Table 1. Practical recommendations for the cohesion of employees in the organisation and military teams

Activities	Detailed characteristics
Regular scheduled meetings and informal gatherings (a platform for open dialogue)	♦ exchange of ideas, concerns, and personal experiences, contributing to the strengthening of trust and ensuring coordinated action within the team; ♦ daily or systematic check-ins and briefing/debriefing sessions that reinforce interpersonal ties and reduce hierarchical barriers; ♦ development of a shared understanding of the operational situation and improvement of adaptability to change.
Feedback mechanisms	♦ clarity and constructiveness in communication between commanders and personnel; ♦ focus on behaviour, task performance outcomes, and compliance with standards; ♦ provision of specific recommendations aimed at improving the effectiveness of combat task performance.
Regular assessment of personnel effectiveness	♦ discussion of professional development, combat training, and readiness to perform assigned tasks; ♦ identification of individual strengths and areas for development among service personnel; ♦ development of plans for professional advancement and adaptation to combat conditions.
Integration of systems of recognition and encouragement	♦ enhancement of motivation and morale through recognition of the contribution made by service personnel; ♦ demonstration of the importance of personal commitment to service and task fulfilment; ♦ fostering a culture of mutual respect and responsibility within the unit.
Team-building activities and unit coordination exercises	♦ development of trust, mutual assistance, and collective thinking; ♦ formation of skills required for work under stress and time constraints; ♦ joint training sessions, tactical exercises, physical training, and simulation of combat situations; ♦ informal activities (joint gatherings, cultural or restorative events) aimed at reducing psychological tension.

Table 1. Continued

Activities	Detailed characteristics
Development of strong leadership	♦ creation of an effective and psychologically resilient team environment; ♦ development of emotional resilience, decisiveness, and responsibility among commanders; ♦ conflict management under conditions of stress and combat operations; ♦ mentoring of junior service personnel; ♦ regular individual meetings (1:1) to support morale and monitor operational readiness.
Training sessions, role-playing exercises, and tactical simulations	♦ practice of combat and crisis scenarios under controlled and safe conditions; ♦ development of decision-making skills under pressure; ♦ formation of automated team responses; ♦ enhancement of psychological readiness for real combat tasks.
Virtual and remote forms of interaction (for dispersed units)	♦ maintenance of communication between units located in different areas; ♦ use of secure digital platforms for coordination of actions; ♦ brief online meetings for the exchange of operational information; ♦ preservation of morale and interpersonal connection among unit members.
Regular surveys and monitoring of morale and psychological condition	♦ assessment of stress levels, motivation, and cohesion among personnel; ♦ identification of communication and interaction problems; ♦ adjustment of management decisions on the basis of feedback; ♦ improvement of morale and psychological support measures.
Formation of cultural and morale-psychological groups	♦ involvement of representatives from different units in the development of a unified value system; ♦ strengthening of military identity and team culture; ♦ support for the adaptation of newly arrived service personnel; ♦ reinforcement of internal unity within the unit.
Recognition and reward system	♦ official recognition of combat achievements and discipline; ♦ awards, commendations, and distinctions from the command staff; ♦ public acknowledgement of contributions to task fulfilment; ♦ strengthening motivation through fair evaluation of service.
Individual encouragement of service personnel	♦ individual distinctions for exceptional achievements in service; ♦ opportunities for additional training and professional development; ♦ provision of additional leave or rotational advantages; ♦ support for personal and professional growth.

Source: compiled by the author based on C.J. Resick et al. (2009; 2010), J.P. Meyer & A.J.S. Morin (2016), S.H. Bae et al. (2023), R. Fernández-de-Caleya-Dalmau et al. (2025), L. Tang et al. (2024)

Enhancing organisational communication is the necessary condition for efficient interaction, decision-making, and commitment. Regular formal and informal meetings should take place to not only report project progress and changes in the organisation, but also to provide opportunities for dialogue. Such discussions should encourage the exchange of ideas, the voicing of concerns and the sharing of personal experiences, thereby helping to build trust and foster a sense of unity within the team. Informal meetings facilitate the exchange of information, provide fast feedback, develop relationships and communication between employees, and remove the formal barriers that affect the sense of involvement and importance for an individual and an employee. Concurrently, crossdepartmental meetings will allow each department to gain a better understanding of the operations of others within the organisation, to encourage the exchange of ideas between departments, and to formulate a more holistic vision of the operations of the organisation as a whole. Feedback mechanisms must be founded upon principles of clarity, constructiveness and bidirectionality. Managers should provide feedback that is specifically focused on the employee's behaviours and performance, and provide recommendations for how the employee can improve in these areas. Performance review processes should include discussions of professional development, goals and career prospects and be an active element of the review process. Fostering feedback loops that entail the active participation of employees in discussions is vital, as this transforms the process into a mechanism for continuous improvement. Integrating a system

of recognition and rewards into the feedback framework further reinforces staff motivation and helps embed core organisational values.

The regular execution of team-building interventions is often recognised as a significant factor in the development of team cohesion (Salas et al., 2018). These interventions can include activities related to the completion of work tasks as well as activities that focus on social interactions outside of the workplace. In addition, it helps to develop creative thinking, build strategic thinking, and identify potential leaders. The social events, such as gatherings, cultural activities, and recreational activities, contribute to the reduction of formal and informal barriers and the improvement of the relationships between individuals. Professional events can include seminars and workshops on professional and general competencies, in particular, communication. It also helps to build cohesion in the group (Noe, 2020).

Organisational development is also closely related to the effective development of leadership. In particular, it is not only the development of management competencies, but also emotional intelligence, conflict resolution and effective communication, both in a civil and military team. Through implementing a supportive leadership style, the manager becomes a mentor to the employees, who fosters the professional and personal development of employees (Northouse, 2021). Mentorship programmes allow for the transfer of experience and knowledge within the organisation, strengthening internal connections and enhancing the competence of the personnel. It can also be one-to-one

meetings, which help the staff to establish more open and trusting relations, discuss their career and goals, and resolve problems. When carrying out this activity, it is also very important to take into account individual characteristics, working styles, culture and diversity, which will help the management to choose the right management style and improve the effectiveness of work interactions. The use of training sessions, role-play and scenario-based exercises helps to develop leadership skills in a practical way. For remote and hybrid teams, it is especially important to organise and maintain social activity in a virtual format (Waizenegger *et al.*, 2020). Structuring online meetings – such as virtual coffee breaks or informal chat sessions – helps replicate the casual interactions characteristic of an office environment. The use of interactive methods such as games and quizzes will help to create additional motivation and engagement, and develop common interests and experiences. Surveys conducted on a regular basis are an important tool for systematically collecting feedback on the employee attitude towards different areas of work, organisational climate and employee satisfaction (Meyer & Morin, 2016). This data is useful for managers to make decisions and to understand what changes need to be made in organisational policy and processes. M. Armstrong & S. Taylor (2020) said that an effective recognition programme should have a systematic approach. This can be both formal and informal methods of rewarding employees. Public acknowledgement of accomplishments, individualised rewards and integration of the above-mentioned practices into the organisational daily activities help to raise motivation and engagement. For individual accomplishments, personalised rewards tailored to employees' preferences or requirements can be especially effective. Recognition and reward programmes should be woven into the organisation's routines and culture. The integration of these elements requires the review and updating of the strategies to ensure their relevance and ability to inspire the employees, ensuring that the leadership of the organisation is continually developed professionally.

Modern empirical research further supports the notion of cohesion's direct and indirect impact on an organisation's performance outcomes. E. Salas *et al.* (2018), for instance, demonstrated that team performance largely depends on such factors as level of coordination, mutual backup, and understanding of the goals among team members, which can all be regarded as key elements of cohesion. Besides, L. Tang *et al.* (2024) proved that cohesion serves as a mediator between leadership and the team's productivity. According to A.C. Edmondson (2018), cohesion is strongly related to the concept of psychological safety. Psychological safety is defined as the shared belief that the team is safe for interpersonal risk taking, including the willingness to speak up, to take the lead, and to own mistakes without fear of negative consequences (Edmondson, 1999). Such psychological safety promotes openness, trust, and thus contributes to a higher level of staff cohesion. The importance of leaders' efforts to ensure cohesion

and the influence of leadership on responsible employees' behaviour are crucial. In addition, modern research also shows that leadership style affects cohesion and, in turn, performance (Kozlowski & Chao, 2018). Analysis of the State of the American Manager (2015) and State of the Global Workplace 2023 Report... (2023) reveals that high levels of employees' engagement and cohesion are linked with higher levels of productivity, reduced staff turnover, and other positive impacts on the overall performance of organisations. This has allowed cohesion to be viewed not only as a psychological phenomenon but also as an important managerial resource. N.I. Pilat (2018) argued that team cohesion is an important factor of an organisation's control and an important determinant for managers' effectiveness. It is commonly thought that to influence a cohesive team, it is much simpler. O.V. Dyakiv (2018) examined cohesion as an important sociological property of a group. In other words, cohesion is a concept similar to an economic characteristic of productive activity in a team – labour productivity. Accordingly, in terms of orientation, team cohesion may be positive (functional), that is, directed towards the aims and objectives of its work activity, or negative (dysfunctional), directed towards the achievement of goals that conflict with societal aims and the objectives of production activity.

◆ Conclusions

Thus, according to the theoretical and empirical analysis, the study investigated social and psychological cohesion in organisational and military contexts, paying attention to psychological roots, measurement of this cohesion, and its practical application. Cohesion has been proven to be a complex and dynamic systemic property of the group that affects the effectiveness of the organisation, the psychological health of individuals, and the level of responsible behaviour of employees and service personnel. The study involved the synthesis of theoretical provisions and an analysis of the functioning of real-world organisational and military groups. The findings confirm that cohesive groups are more satisfied with their jobs, which, among military personnel, translates into a higher level of morale, spirit and readiness to work under challenging and potentially dangerous circumstances. This is facilitated by the development of a sense of support, trust and responsibility for the actions of one's own individual and its recognition as a critical element for military teams, the territorial defence of the country or rescue formations. Cohesive teams and units are characterised by a higher level of coordination of actions, as well as their alignment and communication, which allows them to work more effectively on complex tasks in difficult conditions of combat stress and uncertainty. The level of stability and operational efficiency also confirms the role of cohesion as a predictor of combat readiness and organisational resilience. The study proposed a number of strategies for enhancing cohesion and fostering responsible behaviour, which can be applied in both civilian and military contexts. This can be

done through team-building and training exercises adapted to work in extreme operation situations, and contributing to the development of trust, alignment and responsibility of action. Also important is the implementation of transparent communication processes, which in military and critical situations is an important condition for the exchange of information at the speed needed, the development of situational awareness and the reduction of risks of poor decision-making. The use of modern tools, such as digital communication and information management systems, can help maintain unity in a group even in situations of geographical dispersion or combat-related dispersion. Research indicates that leaders are key factors in increasing cohesion. Those who are empathetic, stress-resistant, decisive, and concerned about the well-being of their subordinates have a significant impact on the level of trust, morale and combat effectiveness in the unit. This is an important factor for the development of individual potential as well as the formation of a shared goal in the

conditions of risk of transformational leadership. Given the reality of present-time challenges, such as armed conflict, crisis situations, and hybrid threats, the implementation of these strategies is essential to ensuring the cohesion, psychological resilience and effectiveness of teams. Further research may be conducted to verify the discovered relationships in different types of organisational and military teams with the use of quantitative analysis methods and to expand the scope to include real situations in the field of crisis.

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Соціально-психологічна згуртованість як чинник відповідальної діяльності в умовах кризових ситуацій та військових дій

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♦ **Анотація.** Актуальність дослідження зумовлена необхідністю підвищення ефективності діяльності організованих груп у кризових умовах, зокрема у військових підрозділах, рятувальних службах і волонтерських організаціях, де соціально-психологічна згуртованість колективу є важливим чинником відповідальної поведінки, узгодженості дій, довіри та психологічної стійкості. Мета дослідження полягала у теоретичному обґрунтуванні ролі соціально-психологічної згуртованості як чинника формування відповідальної поведінки у кризових і військових колективах та визначенні ефективних підходів до організації взаємодії в умовах підвищеного стресу. У дослідженні використано загальнонаукові методи: аналіз, узагальнення, систематизацію та синтез сучасних наукових джерел із проблем військової та організаційної психології, командної взаємодії та лідерства. Застосовано порівняльний аналіз для виявлення особливостей функціонування традиційних, змішаних та кризових (зокрема військових) колективів. Встановлено, що соціально-психологічна згуртованість є критично важливим чинником формування відповідальної поведінки у військових та кризових групах, оскільки забезпечує підвищення рівня довіри, координації дій та готовності до виконання спільних завдань в умовах ризику. Визначено ключові умови ефективної взаємодії: наявність спільної мети, чіткий розподіл ролей, ефективна комунікація та підтримання стабільного психологічного клімату навіть у стресових ситуаціях. Обґрунтовано, що у військових підрозділах особливого значення набувають тимблдингові та тренінгові заходи, які сприяють розвитку згуртованості, підвищенню бойової злагодженості та формуванню колективної відповідальності. У змішаних та віддалених формах взаємодії важливу роль відіграє організація цифрової комунікації та забезпечення безперервного зворотного зв'язку як чинника підтримання командної єдності. Практичне значення результатів дослідження полягає у можливості їх застосування в системі управління персоналом цивільних, військових і кризових організацій для підвищення ефективності командної взаємодії, розвитку згуртованості, вдосконалення комунікації та формування відповідального ставлення до виконання професійних обов'язків у бойових і надзвичайних ситуаціях.

♦ **Ключові слова:** тимблдинг; бойові умови; організаційна комунікація; моральний дух; управління особовим складом



Psychological characteristics of professional burnout among social workers under martial law

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◆ **Abstract.** The relevance of this study is determined by the increasing psycho-emotional burden, the prolonged impact of wartime stressors, and the depletion of the psychological resources of social workers. The aim of the study was to identify the psychological characteristics of professional burnout among social workers and to analyse its relationship with stress resilience, optimism, and individual activity. The study involved 48 social workers (healthcare and social workers employed at social service centres). To collect empirical data, the Maslach Burnout Inventory (MBI), a stress resilience test, and the methodology "Determination of Psychological Types According to the Level of Optimism and Personal Activity (Energy)" were employed. Data analysis was conducted using descriptive statistics and Spearman's correlation analysis. The findings revealed a predominance of a moderate level of professional burnout across all its components. Depersonalisation emerged as the most pronounced component, indicating a tendency towards emotional distancing as a means of psychological adaptation to occupational stress. The majority of respondents demonstrated a moderate level of stress resilience (75%), suggesting the presence of adaptive resources; however, these resources were insufficient for effectively coping with prolonged stress. The predominance of the psychological type classified as "realists" (41.67%) and the relatively low proportion of "active optimists" (14.58%) indicate limitations in resource-based strategies for coping with occupational stress. Correlation analysis identified statistically significant negative relationships between optimism and emotional exhaustion ($r_s = -0.482$; $p \leq 0.001$) and depersonalisation ($r_s = -0.538$; $p \leq 0.001$), as well as between activity and emotional exhaustion ($r_s = -0.504$; $p \leq 0.001$). At the same time, positive relationships were found between optimism, activity, and indicators of personal accomplishment ($r_s = 0.552$; $p \leq 0.001$ and $r_s = 0.473$; $p \leq 0.001$, respectively). The results confirmed the important role of personal resources in reducing the risk of professional burnout and maintaining the professional effectiveness of social workers. The practical significance of the study lies in the possibility of using the findings to develop psychological prevention programmes aimed at

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enhancing stress resilience, optimism, emotional self-regulation, and the psychological well-being of social workers under martial law

♦ **Keywords:** emotional exhaustion; depersonalisation; reduced personal accomplishment; stress resilience; optimism; activity; wartime stress

♦ Introduction

Professional burnout is one of the most pressing issues in contemporary psychological science, particularly in a state of martial law, which is characterised by prolonged psychological and emotional strain, social instability and the depletion of an individual's psychological resources. For social workers, professional activity during wartime involves heightened emotional strain, the need for constant interaction with people in crisis situations, and the need to maintain their own psychological resilience under chronic stress. The relevance of research into professional burnout is also due to its negative psychological, physical and professional consequences, as it is associated with an increased risk of psycho-emotional disorders, somatic problems, reduced professional effectiveness and a deterioration in quality of life. In recent years, the problem of professional burnout has become particularly relevant among those in socio-economic professions, whose work involves constant interpersonal interaction, a high level of emotional engagement and significant responsibility for the outcomes of their professional activities. Such professions include social and healthcare workers, who, in conditions of social instability, martial law and chronic psychological and emotional strain, find themselves in a high-risk group for developing burnout. Á. Győri & S. Ádám (2024) confirm in their work that social workers demonstrate an increased risk of burnout due to a combination of high professional demands and an insufficient level of organisational support.

Contemporary research on professional burnout emphasises its multidimensional nature and the complexity of psychometric measurement. S. Edú-Valsania *et al.* (2022) note that professional burnout is a complex psycho-emotional phenomenon that develops as a result of prolonged professional stress and is accompanied by emotional exhaustion, depersonalisation and a decline in professional effectiveness. The authors emphasise the need for a comprehensive analysis of both professional and personal factors in the development of burnout. In international research, professional burnout is increasingly viewed not merely as a professional problem, but as a phenomenon closely linked to an individual's mental health. In particular, G. Parker & G. Tavella (2022) justify the need for the official inclusion of burnout in classification systems for mental disorders, emphasising its systemic impact on an individual's psychological functioning. At the same time, L. Nadon *et al.* (2022) consider it premature to introduce burnout as a separate mental disorder at this stage, although they acknowledge its importance as a psychological phenomenon. Research by A. Bakker & J. de Vries (2021) shows that high workloads, role ambiguity, a lack of support from management and colleagues,

as well as emotionally challenging client situations significantly increase the likelihood of developing burnout. This is precisely why the issue of stress tolerance, psychological resilience, emotional regulation and optimism is receiving increasing attention as factors capable of mitigating the negative impact of occupational stress. Recent international research confirms the significance of these resources in the professional adaptation of workers in socio-economic professions. For instance, a study by S. Li (2023) demonstrated that professional self-efficacy, resilience and emotional regulation mediate the level of professional burnout.

A separate area of current research focuses on the relationship between occupational stress and emotional exhaustion. Y. Wu *et al.* (2022) found that high levels of occupational stress are directly linked to the development of burnout symptoms, whilst social support and individual coping resources can mitigate this link. J. Maas *et al.* (2021) found that the perception of time constraints (time pressure) is directly linked to increased emotional exhaustion, whilst social support from management acts as a buffer and reduces the risk of occupational burnout. The authors emphasise the importance of organisational resources in supporting employees' psychological well-being. Studies focusing on social workers are particularly relevant to the subject of this research. Thus, V. Giménez-Bertomeu *et al.* (2024), in a systematic review and meta-analysis of professional burnout among social workers, demonstrate that burnout syndrome in this professional group is structural in nature and linked to chronic overload, high emotional involvement and a lack of organisational support.

In Ukrainian academic discourse, the problem of professional burnout under martial law is primarily considered in the context of psycho-emotional exhaustion, a decline in psychological well-being, and the depletion of an individual's adaptive resources. L. Karamushka (2023), analysing the mental health and well-being of staff in organisations under conditions of social instability, emphasises that prolonged occupational stress and uncertainty significantly increase the risk of emotional exhaustion and professional maladjustment among workers in socio-economic professions. Similar conclusions were reached by Ya. Vasylykevych *et al.* (2026), who, in a study of the subjective well-being of social sector workers in wartime conditions, found that prolonged exposure to war-related stress is accompanied by a deterioration in psychological and physical well-being and the depletion of personal resources. The authors emphasise the importance of personal resources and psychological support in maintaining the professional functioning of specialists. Despite a

significant body of contemporary research, the issue of the relationship between professional burnout and stress resilience, optimism, and activity among social workers remains insufficiently studied. In particular, the role of personal resources in preventing emotional exhaustion and depersonalisation under conditions of prolonged professional stress requires further clarification.

The aim of the study was to identify the characteristics of professional burnout among social workers and to determine the role of personal resources in its structure under conditions of martial law. The research objectives included determining the levels and structural components of professional burnout among social workers, investigating the characteristics of their stress resilience and personal resources, and analysing the relationship between indicators of professional burnout, optimism and personal activity. The scientific novelty of the study lay in a comprehensive analysis of the relationship between the structural components of professional burnout and personal resources (stress resilience, optimism and personal activity) among social workers in wartime conditions.

◆ Materials and Methods

The empirical study of the psychological characteristics of professional burnout among social workers was conducted throughout 2025 at the Centre for Social Services and Social Integration in Pereiaslav (Kyiv region) and the Ternopil Municipal Territorial Centre for Social Services. The study involved 48 female respondents, including 23 healthcare workers and 25 social workers. The healthcare worker group consisted of nurses and nursing assistants (ward attendants), whose professional duties involve continuous patient care and the performance of healthcare-related functions. The social worker group comprised care workers providing services to pensioners, persons with disabilities, and elderly individuals living alone and unable to care for themselves independently. All respondents belonged to helping professions of the “person-to-person” type, characterised by a high level of interpersonal interaction and emotional involvement.

The average age of the respondents was 55 years, and the average length of professional service in social service centres was 16 years. The sample was selected based on professional affiliation and the availability of respondents. The inclusion criteria for the study were: formal employment in the social or healthcare sector, direct professional interaction with people, and at least one year's professional experience. Exclusion criteria included temporary incapacity for work, being on sick leave, or refusal to participate in the study. To achieve the study's objectives, a set of psychodiagnostic methods was used:

1. The Maslach Burnout Inventory (MBI), developed based on the model by C. Maslach & S. Jackson (1981), was used to determine the level of professional burnout across three main subscales: emotional exhaustion, depersonalisation, and reduced personal accomplishment. The questionnaire comprises 22 statements relating to experiences and

states associated with professional activity. High scores on the emotional exhaustion and depersonalisation scales, together with low scores on the personal accomplishment scale, are interpreted as signs of a high level of professional burnout (Rozov, 2024).

2. The “Stress Resistance” test was used to assess the level of stress resistance, aimed at determining an individual's ability to withstand stressful influences and maintain psychological stability in challenging working conditions (Karamushka et al., 2023). The results were interpreted according to three levels: low, medium and high.

3. The methodology “Determination of psychological types based on the level of optimism and activity (energy) of the individual” allowed for the assessment of the level of optimism and activity as personal resources linked to the prevention of occupational burnout, as well as the identification of the psychological type of personality (active optimist, realist, passive pessimist, etc.) (Karamushka et al., 2023).

The research procedure involved individual and group completion of questionnaires under standard conditions. All participants were informed of the study's objectives and provided voluntary informed consent to participate. The study was conducted in accordance with the fundamental ethical principles of psychological research: voluntary participation, confidentiality, anonymity of the results obtained, and the right of respondents to withdraw from participation at any stage of the study. The ethical standards of the American Sociological Association's Code of Ethics (2018) were adhered to. Statistical analysis of the results was carried out using methods of descriptive statistics and correlation analysis. Microsoft Excel and the SPSS Statistics software package were used for data analysis. Means, percentages and Spearman's rank correlation coefficients (r_s) were calculated. The use of Spearman's coefficient was necessitated by the relatively small sample size and the need to analyse relationships between indicators, some of which are ordinal in nature and do not exhibit a clearly normal distribution. The level of statistical significance was set at $p \leq 0.05$. The methodological basis of the study was provided by contemporary approaches to understanding professional burnout as a multidimensional psycho-emotional phenomenon shaped by the interaction of professional demands, chronic stress and personal resources.

◆ Results and Discussion

The results of an empirical study on professional burnout among social workers revealed a predominance of moderate levels of burnout across all its structural components. In particular, the mean scores on the Maslach Burnout Inventory (MBI) questionnaire are as follows: emotional exhaustion – 19.06 points, depersonalisation – 8.90 points, and reduced personal accomplishment – 34.5 points, which corresponds to a moderate level of the syndrome. An analysis of the distribution of professional burnout scores among social workers is presented in Table 1.

Table 1. Distribution of levels (in %) of professional burnout indicators

Subscales of professional burnout	Levels of professional burnout		
	low	moderate	high
Emotional exhaustion	31	50	19
Depersonalisation	25	37.5	37.5
Reduced personal accomplishment	31	38	31

Source: compiled by the authors

On the emotional exhaustion scale, the moderate level (50%) predominates, whilst 19% of respondents show a high level, indicating the presence of significant emotional strain among some of the participants. Emotional exhaustion manifests itself both in feelings of emotional strain and in a sense of emptiness and depletion of one's emotional resources. The individual feels unable to devote themselves to their work as before. This is often accompanied by a sense of emotional "numbness" or "blunting", and in more severe cases may result in emotional breakdowns. On the depersonalisation scale, high scores were recorded in 37.5% of cases, indicating a tendency towards emotional distancing and the formalisation of professional relationships. Depersonalisation is a tendency to develop a negative, callous, cynical attitude towards clients. Interactions become impersonal and formal. Negative attitudes may initially be latent and manifest as internal, suppressed irritation, which eventually erupts in the form of outbursts of irritation or conflict situations.

Indicators of the reduction in personal achievements are distributed relatively evenly between low (31%), medium (38%) and high (31%) levels, indicating heterogeneity in professional self-assessment within the sample. The reduction in personal achievements manifests as a decline in the sense of competence in one's work, dissatisfaction with oneself, a diminished sense of the value of one's activities, and a negative self-perception in professional terms. Manifestations of professional inefficiency and emotional exhaustion lead to self-blame, a decline in professional and personal self-esteem, the development of a sense of personal inadequacy and a loss of meaning in professional activity, accompanied by emotional detachment and reduced motivation to work. Analysis of the results of the "stress resilience" test showed that the average stress resilience score for social workers is 33.54 points, which corresponds to the average level and confirms a sufficient, but not high, level of adaptive potential among the participants. The distribution of stress resilience levels in the sample is presented in Table 2.

Table 2. Distribution of stress resilience levels (in %)

Stress resilience levels		
low	moderate	high
2	75	23

Source: compiled by the authors

As can be seen from Table 2, the majority of respondents (75%) have an average level of stress resilience, which ensures relative stability of functioning even in wartime conditions. At the same time, the presence of a significant proportion of individuals with a high level of stress resilience (23%) indicates the development of effective mechanisms of psychological self-regulation and adaptation. However, the identification of individuals with low stress

resilience (2%), albeit in small numbers, is an indicator of potential risks for the development of emotional burnout and a decline in professional effectiveness. The group averages for optimism and activity (energy) among social workers are 18.38 and 18.73 points respectively, which corresponds to the average level and the "realist" psychological type. The distribution of levels of optimism and activity (energy) among social workers is shown in Table 3.

Table 3. Distribution of levels of optimism and activity (in %)

Indicators	Levels of indicators		
	low	moderate	high
Optimism	15	54	31
Activity	8	69	23

Source: compiled by the authors

An analysis of the indicators of optimism and activity revealed that: moderate levels of optimism (54%) and activity (69%) predominate; a high level of optimism was found in 31% of respondents, whilst a low level was found in 15%; a high level of activity (energy) was

identified in 23% of social sector workers, and a low level in only 8%. Table 4 presents the distribution of psychological types according to indicators of optimism and activity (energy) as personality types in relation to resistance to burnout. The dominant psychological type is

Realists (41.67%), who adequately assess their own capabilities and are characterised by resilience to psychological stress. The proportion of active optimists (enthusiasts) is only 14.58%. Enthusiasts are confident, view challenges as opportunities, are energetic and able to

recover quickly from setbacks. Passive pessimists (victims) and passive optimists (idlers) are represented to a minimal extent (2.08% each for both psychological types). The “active pessimists” (negativists) psychological type was not identified in the sample studied.

Table 4. Distribution of psychological types according to optimism and activity indicators (%)

Psychological types				
Realists (R)	Active optimists (AO)	Active pessimists (AP)	Passive pessimists (PP)	Passive optimists (PO)
41.67	14.58	0	2.08	2.08

Source: compiled by the authors

Overall, the results obtained suggest that the sample under study is characterised by a moderate level of professional burnout, an average level of stress resilience, and a predominance of balanced but insufficiently resourceful psychological types. The correlation analysis carried out made it possible to clarify the relationships between indicators of professional burnout, stress resilience, optimism and personal activity (energeticism). A tentative positive correlation was found between indicators of stress resilience and emotional exhaustion ($r_s = 0.248$; $p = 0.089$), as well as between stress resilience and depersonalisation ($r_s = 0.256$; $p = 0.080$). Although the identified correlations did not reach the level of statistical significance ($p \leq 0.05$), they indicate that even with a sufficient level of adaptability, social workers may exhibit signs of emotional exhaustion under conditions of prolonged occupational stress. No significant association was found between stress resilience and a reduction in personal achievements ($r_s = 0.056$; $p = 0.705$).

At the same time, statistically significant associations were found between measures of optimism and professional burnout. In particular, a moderate negative correlation was found between optimism and emotional exhaustion ($r_s = -0.482$; $p \leq 0.001$), as well as between optimism and depersonalisation ($r_s = -0.538$; $p \leq 0.001$). This indicates that an increase in the level of optimism is accompanied by a reduction in manifestations of emotional exhaustion and depersonalisation. At the same time, a moderate positive correlation was found between optimism and the reduction of personal accomplishment ($r_s = 0.552$; $p \leq 0.001$), reflecting the specific interpretation of this subscale in the Maslach Burnout Inventory questionnaire, where higher scores correspond to a lower level of reduction in professional achievements. Similar results were obtained for the activity indicator. A statistically significant positive correlation was found between activity and the personal accomplishment indicator ($r_s = 0.473$; $p \leq 0.001$). The relationship between activity and depersonalisation was weak and bordered on statistical significance ($r_s = -0.283$; $p = 0.051$). At the same time, a statistically significant negative correlation was found between activity and emotional exhaustion ($r_s = -0.504$; $p \leq 0.001$), indicating a lower level of exhaustion among more active (energetic) workers. Thus, the study results showed that professional burnout among social workers is of a moderately pronounced

nature and manifests structurally primarily through depersonalisation and emotional exhaustion. Despite a sufficient level of stress resilience, the limited availability of personal resources, particularly optimism and activity, reduces the effectiveness of coping with professional stress. The identified imbalance between the demands of professional activity and personal resources leads to the gradual development of burnout and highlights the need to develop targeted preventive and corrective measures.

The study results should be interpreted in light of the specific nature of the professional activities of social workers under martial law, which is accompanied by heightened psycho-emotional strain, chronic stress and the need for constant emotional engagement when interacting with people experiencing crisis situations. The findings confirm current scientific views on professional burnout as a complex, multidimensional phenomenon shaped by chronic occupational stress and a deficit of psychological resources. The prevalence of moderate levels of professional burnout in the study sample indicates the presence of prolonged psychological and emotional strain, which has not yet reached a critical level of maladjustment but is already accompanied by signs of exhaustion and reduced professional effectiveness. These findings are consistent with the research by C. Maslach & M. Leiter (2016) and contemporary approaches to understanding occupational burnout as a process of gradual depletion of personal resources under conditions of prolonged occupational stress. In particular, the predominance of moderate levels of emotional exhaustion confirms the findings of A. Shirom's (2009) study regarding the gradual depletion of resources due to prolonged stress. The high prevalence of depersonalisation identified in the present study is consistent with the findings of J. Halbesleben (2006), who described depersonalisation as a psychological defence mechanism commonly observed in person-oriented professions.

Of particular importance is the finding that depersonalisation emerged as the most pronounced component within the study sample. This suggests that emotional detachment is one of the key psychological mechanisms through which social workers adapt to chronic stress. Similar trends have also been described in recent international studies of social workers. In particular, V. Giménez-Bertomeu *et al.* (2024), in a systematic review and meta-analysis of professional burnout among social workers, identified high levels of

emotional exhaustion and depersonalisation, emphasising that it is precisely these components that are most closely associated with overload and the complexity of professional interactions with clients. The authors emphasise that almost half of social workers exhibit symptoms of burnout of varying severity.

The study's findings are also consistent with the data of A. Maddock (2025), who demonstrated that high levels of occupational stress among social workers are directly linked to increased emotional exhaustion, deteriorating mental well-being and reduced professional effectiveness. The author emphasises that professional burnout negatively affects not only the specialist's psychological state but also the quality of care received by social service clients. This point is particularly important for interpreting the study's findings, as even moderately pronounced symptoms of burnout can gradually lead to professional deformation and a decline in the quality of interpersonal interaction. The findings also corroborate the data from recent empirical studies of social workers by Á. Győri & S. Ádám (2024), which demonstrate the systemic nature of burnout and its link to professional workload.

The average level of stress resilience established in the study indicates that respondents possess a certain adaptive capacity, which allows them to maintain professional functioning even under conditions of prolonged psycho-emotional strain. At the same time, the results show that stress resilience does not provide complete protection against the development of burnout symptoms. A similar conclusion is presented in contemporary studies of resilience and professional well-being. In particular, S. Li (2023) demonstrates that professional self-efficacy, psychological resilience and emotional regulation act as buffers against professional burnout; however, their influence is indirect and depends on the intensity of professional stress. Similar results were obtained by Y. Wu *et al.* (2022), who found that occupational stress is one of the leading predictors of burnout, whilst social support and personal resources only partially mitigate its negative impact. The authors emphasise that even with sufficient psychological resources, prolonged overload can lead to emotional exhaustion and a loss of professional motivation. This is confirmed by the findings of a study in which an average level of stress resilience is associated with the presence of symptoms of professional burnout.

The findings are consistent with the conclusions of A. Vingre & A. Samusevič (2024), who emphasise the important role of psychological resilience in maintaining the professional effectiveness of social workers and reducing the risk of professional burnout. The authors emphasise that the development of personal resources is one of the key factors in professional adaptation under conditions of prolonged stress. The study's findings confirm current understandings of professional burnout as a factor in psychological and professional distress, which is consistent with the conclusions of D. Salvagioni *et al.* (2017). Another important finding of the study is the identification of a link between personal resources and manifestations of burnout. The predominance

of the "realist" psychological type and the under-representation of the "active optimist" type may indicate limitations in resource strategies for coping with professional stress. In this context, the findings of V. Greenier *et al.* (2021) are noteworthy, as they demonstrated that the capacity for emotional regulation and positive work engagement are directly linked to employees' psychological well-being. The authors emphasise that it is optimism and the ability to regulate one's emotions that enable more effective coping with occupational stress and reduce the risk of burnout.

The findings can also be interpreted within the framework of the job demands-resources model, according to which burnout arises as a result of an imbalance between high job demands and insufficient personal resources (Bakker & Demerouti, 2017; Schaufeli, 2017). In the present study, this manifests itself in the combination of moderate stress resilience with the presence of burnout symptoms. In the sample studied, professional activity is accompanied by high levels of emotional involvement, responsibility and interpersonal strain, which gradually leads to the depletion of adaptive resources. Similar conclusions are presented in contemporary studies of social workers, where overload, emotional strain and a lack of support are identified as the main factors in the development of burnout.

The issue of so-called "disaster fatigue" deserves special attention, as it is increasingly being addressed in contemporary research on social workers. H. Boetto (2024) emphasises that constant exposure to social crises, military conflicts and humanitarian challenges leads to the accumulation of emotional exhaustion and a gradual decline in the professional resilience of social workers. The author suggests viewing professional burnout not merely as an individual but as a systemic problem, requiring the development of organisational support and psychological support programmes. This conclusion is particularly relevant for interpreting the study's findings in the context of contemporary social instability. The study's findings are consistent with those of P. Koutsimani *et al.* (2019), who, in a systematic review and meta-analysis, demonstrated a close correlation between professional burnout, anxiety and depressive symptoms. The authors emphasise that emotional exhaustion is one of the key indicators of psychological distress among social workers. Furthermore, recent systematic reviews indicate that emotional exhaustion among social workers is closely linked to work overload, work-life conflict, insufficient social support and low levels of professional well-being. At the same time, resilience, support from colleagues and management, as well as self-regulation skills, are identified as key factors in preventing burnout.

The results of the correlation analysis, which identified relationships between indicators of professional burnout, stress resilience, optimism and activity (energy) among social workers, confirm current scientific understanding of the role of personal resources in preventing professional burnout. In particular, optimism and activity can be regarded as important psychological factors that contribute to maintaining professional effectiveness and reduce the

risk of emotional exhaustion. These findings are consistent with the studies by V. Greenier *et al.* (2021), Y. Wu *et al.* (2022), and S. Li (2023), which emphasise the importance of emotional regulation, resilience and personal resources in overcoming occupational stress. The identified trends in the relationship between optimism and manifestations of burnout are consistent with the recent research by A. Bakker & J. de Vries (2021), who view optimism as an important psychological resource for adaptation. The results obtained are consistent not only with contemporary international scientific approaches but also with Ukrainian studies on professional burnout and the psychological well-being of workers in socio-economic professions. In particular, L. Karamushka (2023) views professional burnout as a consequence of prolonged psycho-emotional strain, a deficit of psychological resources, and chronic professional stress, which is particularly exacerbated in conditions of social instability and martial law. The author emphasises the important role of psychological well-being, stress resilience and personal resources in maintaining the professional effectiveness of workers. At the same time, the study's findings align with the conclusions of O. Stoliaryk & T. Semigina (2024), who, analysing the experiences of Ukrainian social workers in wartime conditions, note an increase in psychological and emotional strain, emotional exhaustion and the need for constant mobilisation of psychological resources in professional practice.

Furthermore, the findings of this study are also consistent with Ukrainian scientific approaches to the analysis of stress resilience in extreme conditions. V. Rozov (2024) emphasises that adaptability to stress is an important factor in professional effectiveness; however, under conditions of chronic psycho-emotional strain, even a sufficient level of stress resilience does not guarantee complete protection against the development of emotional exhaustion and professional burnout. This finding was confirmed by the results of the author's study, in which an average level of stress resilience was associated with the presence of professional burnout symptoms. Thus, the study's findings are generally consistent with contemporary Ukrainian and international scientific approaches to understanding professional burnout as the result of the interaction between professional demands, chronic stress and personal resources. The identified characteristics of the burnout structure indicate the need to develop comprehensive prevention programmes aimed not only at developing individual stress resilience but also at improving the organisational conditions of professional activity for social workers.

◆ Conclusions

The results of the study showed that, under martial law, the issue of professional burnout among social workers is becoming particularly pressing due to prolonged psychological and emotional strain, chronic occupational stress and the depletion of personal resources. It was found that the majority of respondents exhibited a moderate level of professional burnout across all its structural components.

The most pronounced component was depersonalisation, with high scores recorded in 37.5% of the respondents, indicating a tendency towards emotional distancing and the formation of psychological defence mechanisms in response to prolonged professional overload. At the same time, indicators of emotional exhaustion and a reduction in personal accomplishment also demonstrate signs of psychological exhaustion and a decline in job satisfaction. The study found that the majority of respondents exhibited a moderate level of stress resilience (75%), indicating a certain capacity for adaptation. However, the results indicate that even with a sufficient level of stress resilience, social workers may exhibit signs of professional burnout under conditions of prolonged wartime stress. An analysis of psychological personality types revealed a predominance of the "realist" type (41.67%), whilst the proportion of "active optimists" was relatively low (14.58%), indicating limited resource strategies for coping with professional stress and insufficient expression of positive personal resources among some respondents.

Correlation analysis revealed statistically significant relationships between indicators of professional burnout and personal resources. In particular, a moderate negative correlation was found between optimism and emotional exhaustion ($r_s = -0.482$; $p \leq 0.001$), as well as between optimism and depersonalisation ($r_s = -0.538$; $p \leq 0.001$). A statistically significant negative correlation was also found between activity and emotional exhaustion ($r_s = -0.504$; $p \leq 0.001$). At the same time, positive correlations were found between optimism, activity and indicators of personal achievement ($r_s = 0.552$; $p \leq 0.001$ and $r_s = 0.473$; $p \leq 0.001$, respectively). The results obtained indicate the important role of optimism, activity and other personal resources in reducing the risk of professional burnout and maintaining the professional effectiveness of social workers. The study's findings are consistent with contemporary international and Ukrainian scientific approaches, in which professional burnout is viewed as a consequence of the interaction between professional demands, chronic stress and personal resources. The practical significance of the study lies in the possibility of using the obtained results to develop psychological prevention programmes for professional burnout, aimed at developing stress resilience, optimism, emotional self-regulation and maintaining the psychological well-being of social workers under martial law. Future research should focus on examining the effectiveness of burnout-prevention programmes, incorporating variables such as resilience, coping strategies, and professional self-efficacy.

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Психологічні особливості професійного вигорання працівників соціальної сфери в умовах воєнного стану

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✦ **Анотація.** Актуальність дослідження зумовлена зростанням психоемоційного навантаження, тривалим впливом стресогенних чинників воєнного часу та виснаженням психологічних ресурсів працівників соціальної сфери. Метою дослідження було виявлення психологічних особливостей професійного вигорання працівників соціальної сфери та аналіз його взаємозв'язку зі стресостійкістю, оптимізмом і активністю особистості. У дослідженні взяли участь 48 працівників соціальної сфери (медичні та соціальні працівники центрів надання соціальних послуг). Для збору емпіричних даних було використано опитувальник професійного вигорання «МВІ» (Maslach Burnout Inventory), тест стійкості до стресу та методику «Визначення психологічних типів залежно від рівня оптимізму та активності (енергійності) особистості». Обробка результатів здійснювалася з використанням методів описової статистики та кореляційного аналізу Спірмена. Результати дослідження засвідчили переважання середнього рівня професійного вигорання за всіма його компонентами. Найбільш вираженим компонентом виявилася деперсоналізація, що свідчить про тенденцію до емоційного дистанціювання як способу психологічної адаптації до професійного стресу. Більшість респондентів продемонстрували середній рівень стресостійкості (75 %), що вказує на наявність адаптаційних ресурсів, проте їх недостатньо для ефективного подолання тривалого стресу. Переважання психологічного типу «реалістів» (41,67 %) та відносно низька частка «активних оптимістів» (14,58 %) свідчать про обмеженість ресурсних стратегій подолання професійного стресу. Кореляційний аналіз виявив статистично значущі негативні зв'язки між оптимізмом та емоційним виснаженням ($r_s = -0,482$; $p \leq 0,001$) і деперсоналізацією ($r_s = -0,538$; $p \leq 0,001$), а також між активністю та емоційним виснаженням ($r_s = -0,504$; $p \leq 0,001$). Водночас встановлено позитивні зв'язки між оптимізмом, активністю та показниками персональних досягнень ($r_s = 0,552$; $p \leq 0,001$ та $r_s = 0,473$; $p \leq 0,001$ відповідно). Отримані результати підтвердили важливу роль особистісних ресурсів у зниженні ризику професійного вигорання та підтриманні професійної ефективності працівників соціальної сфери. Практичне значення дослідження полягає у можливості використання отриманих результатів для розроблення програм психологічної профілактики професійного вигорання, спрямованих на розвиток стресостійкості, оптимізму, емоційної саморегуляції та психологічного благополуччя працівників соціальної сфери в умовах воєнного стану

✦ **Ключові слова:** емоційне виснаження; деперсоналізація; редукція персональних досягнень; стресостійкість; оптимізм; активність; воєнний стрес



Phenomenological psychodiagnostics and testology: Advantages and disadvantages of methods in wartime conditions

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◆ **Abstract.** The relevance of this topic is driven by the growing need for high-quality psychodiagnostic support for military personnel and veterans who have experienced combat and related psychologically traumatic events. The aim of the study was to conduct a comparative analysis of phenomenological and testological approaches, identifying their advantages, limitations, and possibilities for integration within psychological support practice. The study employed theoretical-methodological, systemic, comparative, and SWOT analysis methods. The specific features of qualitative and quantitative methods for assessing an individual's mental state in wartime conditions, as well as the peculiarities of interpreting psychodiagnostic results, were examined. It was established that the phenomenological approach provides a deep understanding of an individual's subjective experience, allowing consideration of personal characteristics in experiencing combat, loss, fear, and post-traumatic changes; however, it is characterised by a high degree of subjectivity and difficulties in standardisation. The testological approach, in turn, is distinguished by its objectivity, standardisation, and capacity for rapid assessment of psycho-emotional status, which is particularly important within systems of psychological support for military personnel. At the same time, its application has certain limitations related to the insufficient consideration of the individual context in experiencing traumatic events: the standardised response format leaves little room for expressing the unique meanings individuals attribute to their experiences, while numerical scales are unable to capture the complexity of existential states, survivor guilt, moral injury, or loss of identity, all of which are characteristic of wartime experience. The study substantiates the appropriateness of integrating phenomenological psychodiagnostics and testology as complementary approaches, making it possible to combine the objectivity and standardisation of psychometric methods with a profound understanding of an individual's subjective experience. The practical significance of the study lies in the potential application of its findings to improve psychodiagnostic support for military personnel and veterans, as well as in the professional training of military psychologists

◆ **Keywords:** interpretation; client-centred approach; psychological assessment; psychological trauma; quantitative methods

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◆ Introduction

In the context of contemporary armed conflicts, military and crisis psychologists face the pressing challenge of conducting a rapid yet thoroughly comprehensive assessment of the mental state of military personnel, veterans and civilians who have been affected by combat operations. Psychodiagnostics is currently caught between two demands: on the one hand, it must ensure speed, objectivity and reproducibility of results for mass screening; on the other, it must preserve the integrity, uniqueness and authenticity of an individual's psychological experience. This methodological tension between objective test measurements and a subjective understanding of the individual is central to extreme and military psychology. In their practical work, specialists are constantly faced with a dilemma: standardised tests allow for the rapid assessment of stress resilience and the identification of risks of PTSD or depressive states, which is critically important for professional selection and monitoring the combat readiness of units. However, as noted by T.J. VanderWeele *et al.* (2025), the uncritical, linear use of tests alone carries the risk of reductionism: complex existential experiences, and the experience of combat-related psychological trauma or moral injury, are often reduced to dry numerical scores. At the same time, moving beyond formal scales through the analysis of subjective meanings, survivor guilt or the loss of comrades requires a qualitative understanding of a person's lived world. Consequently, resolving the conflict between the speed of measurement and the depth of understanding is of the utmost relevance to contemporary science. M. Sapkota's (2024) historical and methodological analysis demonstrated that the priorities of scientific research in psychodiagnostics have changed in stages, progressing from rigid standardisation to profound human-centredness and subsequent synthesis. In the 20th century, the testometric (psychometric) method gained unquestionable popularity, as the author emphasised. Thus, the classics formulated the fundamental principles of testing, established criteria for reliability, validity, standardisation of procedures, and mathematical and statistical analysis of data. When dealing with unique war-related trauma, purely quantitative methods demonstrate their limitations, as they are unable to capture the unique context of an individual's experiences.

In contrast, the phenomenological approach has been gaining popularity in the 21st century. T. Fuchs & H. Wendler (2023) focused on a person's immediate subjective experience and their individual meanings. Phenomenological epistemology has called into question the rigid reductionist strategies of purely testological or Diagnostic and Statistical Manual of Mental Disorders (DSM)-oriented diagnosis. In this context, psychodiagnostics has transformed into a space for the researcher's empathetic engagement, where the interview and dialogue themselves become therapeutic factors and the basis for establishing a trusting relationship with veterans. The current stage of scientific development, namely the 2020s, is characterised by researchers increasingly adopting and developing an

integrative approach. B. Nelson *et al.* (2021) argued that no single approach, taken in isolation, is sufficient for studying the complex nature of the psyche. In particular, B. Nelson *et al.* (2021) demonstrated the need to combine objective clinical quantitative assessment with in-depth phenomenological profiling of the patient's subjective experience. In a wartime context, such a methodological synthesis makes it possible to combine the efficiency of initial screening with an understanding of an individual's life history. Identifying previously unaddressed aspects of the overall problem. Despite significant scientific progress, the issue of the systematic integration of phenomenological and testological approaches in the context of wartime conditions remains under-researched. Most contemporary works focus either on the statistical aspects of standardising psychometric instruments or on considering phenomenology as a distinct humanities-based approach. At the same time, interpretative phenomenological analysis is gaining popularity as a means of studying personal life experience from the narrator's perspective. In O. Bayer's (2024) work, experience was interpreted as a phenomenal, rather than an objective, reality, with an emphasis on the importance of the sociocultural context.

However, a clear conceptual model combining methods within a single applied algorithm for crisis psychologists has not yet been proposed. This highlights the need for in-depth methodological reflection, which is a prerequisite for the development of contemporary scientific knowledge. A systematic examination of all the strengths and weaknesses of each approach is of fundamental importance for psychologists who work directly with issues of PTSD and war-related psychological trauma. A thorough understanding of the strengths and weaknesses of testology and phenomenology equips specialists with clear guidelines for selecting diagnostic tools at various stages of rehabilitation. This makes it possible to avoid methodological bias, the oversimplification of complex traumatic symptoms, and regrettable diagnostic errors. Furthermore, the results of this analysis will be useful in developing and refining specialised training courses in military psychology and the methodology of psychological research for the training and professional development of specialists. The aim of this study was to conduct a systematic comparative analysis of the phenomenological and testological approaches in psychodiagnostics, to identify their strengths and weaknesses, and to substantiate a conceptual model for their integration into the practice of psychological support for military personnel and veterans under martial law.

◆ Materials and Methods

The study was conducted as a theoretical and methodological analysis, which is an appropriate type of research design for the comparative study of methodological approaches in psychological science. The object of the study was phenomenological psychodiagnostics and testology as two leading methodological systems for assessing an

individual's mental state. The subject was their comparative characteristics, advantages, limitations and potential for integration in wartime conditions. The research source base comprised scientific publications, monographs and teaching guides covering three key areas: (1) classical and contemporary works on psychometrics and testology; (2) the phenomenological tradition in psychology and psychiatry; (3) integrative and military-psychological approaches. The criteria for selecting sources were: relevance to the research topic, the scientific authority of the publication, and the chronological principle – priority was given to publications reflecting both classical principles and the current state of the debate; The source base included materials indexed in leading scientometric databases – Web of Science, Scopus and Google Scholar. Overall, the analysis incorporated the concepts of E. Husserl (1970), J. Parnas & L.A. Sass (2008) and G. Messas *et al.* (2018).

The study employed a range of complementary methods. The theoretical and methodological analysis enabled a systematic review of academic sources and the identification of the key characteristics of each approach. Systemic analysis made it possible to consider phenomenological psychodiagnostics and testology as coherent methodological systems with their own epistemological logic, rather than as a set of separate techniques. Comparative analysis was used to compare the two approaches across nine criteria – data type, depth, objectivity, speed, individual approach, purpose of diagnosis, field of application, risk of retraumatisation, and suitability for wartime conditions – resulting in a consolidated comparative table. SWOT analysis was chosen as the methodological tool due to its ability to structure a multidimensional comparative characterisation of the two approaches within a single analytical matrix: unlike a linear list of advantages and disadvantages, it allows for the simultaneous consideration of both the internal properties of the methods (strengths and weaknesses) and the external conditions of their application (opportunities and threats), which is appropriate in the context of the extreme conditions of martial law, where the choice of diagnostic tools depends not only on their psychometric characteristics but also on situational, resource-related and ethical factors.

◆ Results

Contemporary psychodiagnostics under martial law is characterised by the intense coexistence of various methodological approaches, amongst which the phenomenological and psychometric (testological) approaches occupy a prominent place. Each of these reflects a specific understanding of the nature of the psyche, the ways in which it is understood, and the interpretation of the results obtained (Danylyan & Dzoban, 2019). In wartime conditions, the choice of approach is determined not only by theoretical preferences, but also by factors such as extreme circumstances, time constraints and the specific nature of the traumatic experiences of military personnel and the civilian population. Phenomenological psychodiagnostics

focuses primarily on exploring the inner world of the individual, their subjective experience, unique experiences of existential crisis, loss and combat trauma, as well as the meanings that a person ascribes to their own life during wartime. This approach is based on the idea of the integrity of the individual, which cannot be reduced to individual indicators or measurable variables (Messas, 2022). Within the phenomenological tradition, the diagnostic process is dialogical in nature: the interaction between the psychologist and the client is not merely a means of gathering information, but also a direct factor in psychological change and primary therapeutic support. As emphasised by E. Husserl (1970), in wartime conditions, the psychologist is an active participant in the process of understanding, which requires an exceptionally high level of reflection, empathy, interpretative skills and a readiness to work with severe psychological trauma. This ensures a deep and holistic understanding of the individual, taking into account their wartime context, personal history (for example, experiences of being under fire or under occupation) and value system. The main advantage of phenomenology in wartime is that it helps to avoid retraumatisation, which can be triggered by dry, formulaic test questions, and enables the identification of a specific individual's unique adaptive or destructive coping mechanisms. At the same time, such depth is accompanied by significant drawbacks in a state of war: a reduction in the objectivity and standardisation of results, as the significant role of subjective factors complicates their verification and replication; excessive resource consumption (in terms of time and emotional energy) – this approach is less suitable for mass or rapid screenings (for example, during mobilisation screening or rapid assessments during evacuation), and is therefore most effective in hospital clinical practice, in-depth psychotherapy and long-term counselling (Holiardyk & Kupchyshyna, 2021).

In contrast, testology is grounded in the principles of objectivity, standardisation, and the quantitative measurement of psychological characteristics (levels of anxiety, depression, symptoms of PTSD, or combat-related psychological trauma). It involves the use of standardised instruments with fixed responses, the results of which are subject to quantitative processing and comparison with normative indicators, thereby enabling the formulation of standardised conclusions (American Psychiatric Association, 2013). The popularity of the testological approach during wartime is attributable to its exceptional effectiveness in situations requiring rapid and reliable assessment of large numbers of individuals. The standardisation of procedures ensures the relative independence of results from the personality of the researcher, thereby increasing the objectivity of diagnosis in extreme field conditions. The use of quantitative indicators makes it possible to apply mathematical and statistical methods to assess the reliability and validity of tests, which makes them an important tool in military scientific research. However, testology has critical limitations in wartime. Firstly, standardised responses often oversimplify the complex structure of the wounded or traumatised

personality, reducing acute suffering to numerical indicators while failing to take into account the individual context, the dynamics of stress, and deeper meanings. Secondly, under the influence of defence mechanisms, simulation, or dissimulation – for example, when a serviceman conceals symptoms in order to return to comrades or, conversely, to secure demobilisation – responses may be consciously or unconsciously distorted. Furthermore, another problem is the uncritical use of tests by non-specialists, such as commanders or volunteers. The apparent simplicity of these instruments may create an illusion of universality and encourage their use without proper professional training, which in wartime sharply increases the likelihood of erroneous interpretations and potentially disastrous decisions, such as mistakenly granting access to weapons to a person experiencing acute stress.

A comparative analysis of phenomenological and testological approaches leads to the conclusion that they differ fundamentally in their understanding of the nature of psychological phenomena and the methods used to study them under martial law. Whereas the phenomenological approach is aimed at revealing the uniqueness and integrity of the individual experiencing war, testology focuses on identifying general patterns (for example, the percentage of maladjustment within a military company) and measurable characteristics. Accordingly, the former provides depth and meaningfulness of analysis, while the latter ensures accuracy, efficiency, and reliability. Contemporary

military and crisis psychology increasingly adopts an integrative approach that combines the capacities of testology and phenomenology. Testology provides the initial structuring of information through rapid screening and helps to identify general personality characteristics and critical problem areas (such as acute suicidal risk or high levels of psychotic symptoms), whereas phenomenological psychodiagnostics deepens these findings during personal interviews, giving them individual meaning within the context of the person's combat or life experience. Effective psychodiagnostics in wartime is based not on the opposition but on the complementarity of approaches. Combining "objective" and "subjective" methods makes it possible to achieve a balance between the speed and accuracy of decision-making and the safety and depth of understanding the individual from a humanistic perspective. Differences between these approaches should also be considered within the context of scientific paradigms. The phenomenological approach, rooted in the tradition of "understanding psychology", is oriented towards the interpretation of subjective experience and the uniqueness of personality (Frankl, 1966; Husserl, 1970). In contrast, as noted by N.A. Holiardyk & V.Ch. Kupchyshyna (2021), testology developed within the natural-scientific paradigm, in which the psyche is regarded as a system of measurable variables subject to quantitative analysis and generalisation. A comparison of the methods according to nine principal criteria is presented in Table 1.

Table 1. Comparative characteristics of the phenomenological and testological methods of psychodiagnostics

Comparison criteria	Phenomenological method	Testological method
Type of data	Qualitative	Quantitative
Depth	High	Moderate
Objectivity	Low	High
Speed	Low	High
Individual approach	Maximum	Limited
Application	Therapy, counselling	Selection, assessment
Purpose of assessment	A profound understanding of unique traumatic experiences, existential crises, and personal meanings during wartime	Measurement of symptom severity (PTSD, depression, anxiety), assessment of combat readiness or occupational suitability
Risk of retraumatisation	Low, owing to the flexibility of the specialist, who carefully regulates the emotional burden during dialogical interaction	High. Rigid closed-ended test questions may inadvertently activate triggers without the immediate support of a psychologist
Main area of application	Hospitals, rehabilitation centres, and long-term individual therapy for combatants and affected individuals	Mobilisation screening, field-based rapid screening, and large-scale scientific and statistical monitoring

Source: compiled by the authors

The comparative analysis of the two approaches across nine criteria demonstrates their fundamental methodological differences, which do not indicate incompatibility but rather highlight their complementary nature. The principal distinction lies in the type of data employed: the phenomenological method operates with qualitative data, whereas the testological method relies on quantitative data. This basic difference determines all subsequent distinctions between the approaches. The phenomenological approach provides considerable depth of analysis and the highest degree of individualisation, yet it is inferior to testology in terms of objectivity and speed, both of which are significantly higher in standardised instruments. This

inversion is not accidental but structurally inherent: the very features that make phenomenology profound – its dialogical nature, flexibility, and orientation towards unique experience – simultaneously complicate its standardisation and scalability. Particularly illustrative is the criterion concerning the purpose of diagnosis. The phenomenological method aims to understand unique traumatic experiences, existential crises, and the personal meanings individuals attach to their wartime experiences. In contrast, the testological method is directed towards measuring the severity of symptoms – PTSD, depression, and anxiety – and assessing functional characteristics such as combat readiness or occupational suitability. Differences in objectives directly

determine the fields of application: phenomenology is predominantly employed in inpatient facilities, rehabilitation centres, and long-term therapy, whereas testology is used for rapid field screening, mobilisation selection, and large-scale monitoring.

Special attention should be paid to the criterion of re-traumatisation risk, which acquires particular significance in the wartime context. Phenomenological interviews are characterised by a low level of such risk, as specialists can flexibly regulate emotional strain within the dialogue. In contrast, rigid closed-ended questions contained in standardised tests may unexpectedly activate traumatic triggers without providing the possibility of immediate psychological support from the assessor. Differences in paradigmatic foundations also determine the organisation of research. In phenomenological psychodiagnostics, statistical representativeness is not the primary concern; rather, emphasis is placed on depth of analysis. Consequently, it relies on small samples or individual cases to reconstruct in detail the inner world and unique structures of meaning of the individual. Testology, by contrast, is based on large samples, which are necessary to ensure statistical validity, verify the reliability of instruments, and establish normative scales that facilitate large-scale assessments and professional selection procedures. Substantial differences are also evident in the nature of the results obtained. In phenomenological psychodiagnostics, the outcome consists of a profound and contextualised description of subjective phenomena, reflecting the individual logic of personal experiences, life history, and systems of meaning (Szuła, 2024; 2025). Such results are predominantly qualitative and require interpretation that takes into account the broader context of the individual's life. In testology, however, results are presented in the form of generalised quantitative indicators that enable comparison between an individual and a specific norm or reference group. This allows for the rapid acquisition of structured information, but simultaneously entails a degree of simplification, as complex and multidimensional psychological reality is reduced to average scores and scales. It should also be noted that differences in paradigms influence the nature of data interpretation. Within the phenomenological approach, interpretation is an integral component of the research process itself. It is dialogical and open in nature, allowing for multiple meanings and remaining dependent on context. In testology, interpretation is largely standardised and based on predefined norms and algorithms for processing results, which enhances reliability but reduces flexibility.

The comparative analysis presented in Table 2 demonstrates that phenomenological psychodiagnostics and testology are not mutually exclusive approaches but rather

represent different levels of understanding the psyche. The former is oriented towards comprehending the unique and individual, whereas the latter is aimed at identifying the general and regular. Their combination enables a more comprehensive and multidimensional investigation of personality, in which quantitative indicators are supplemented by qualitative analysis and objective data are enriched with subjective meaning. SWOT analysis reveals not only the internal characteristics of each approach but also the external conditions that determine the effectiveness or potential risks of their application in real psychodiagnostic practice during wartime. The strengths of the phenomenological approach – depth, individuality, and therapeutic value – reflect its unique capacity not only to identify a person's psychological condition but also to contribute directly to psychological recovery during the diagnostic interaction itself. Testology, in turn, is distinguished by objectivity, speed, reliability, and standardisation, qualities that are critically important for making operational decisions under conditions of mass psychological strain. The weaknesses of both approaches are, in many respects, mirror images of their strengths. The phenomenological method is labour-intensive, time-consuming, and subjective, which considerably limits its applicability in situations characterised by shortages of time and resources.

Testology, despite its high degree of standardisation, inevitably sacrifices the individuality of the client and tends towards superficiality and formalism, reducing complex inner experiences to numerical indicators. The developmental opportunities associated with each approach also differ fundamentally. Phenomenology opens up prospects for in-depth assessment and the establishment of trusting relationships, which is especially valuable when working with veterans who often avoid formal requests for assistance. Testology possesses considerable potential for technological development through computerisation, automated processing of results, and scalability to large populations. The matrix of threats is particularly revealing. The phenomenological approach is vulnerable to excessive subjectivism on the part of the moderator, since the psychologist's personality may unconsciously distort the interpretation of results. Testology, by contrast, entails a different risk – that of trivialisation arising from the apparent simplicity of the instrument, which encourages its mechanical use by inadequately trained practitioners. In the wartime context, such misuse may have serious practical consequences. The SWOT matrix presented in Table 2 confirms that neither approach is self-sufficient and that their integration constitutes not only a theoretically justified but also a practically necessary response to the challenges facing psychodiagnostics under conditions of war.

Table 2. SWOT analysis of psychodiagnostic methods

Criteria	Phenomenological approach	Testological approach
Strengths	Depth, individuality, and therapeutic value	Objectivity, speed, reliability, and standardisation
Weaknesses	Labour-intensive nature, difficulty in comparing results, subjectivity, and lengthy duration	Loss of individuality, superficiality, and formalism

Table 2. Continued

Criteria	Phenomenological approach	Testological approach
Opportunities	Establishing a trusting relationship and conducting in-depth assessment	Computerisation, large-scale studies, and selection procedures
Threats	High degree of moderator subjectivity and distortion of results due to the influence of the psychologist's personality	Risk of trivialisation due to ease of implementation, mechanical application

Source: compiled by the authors

The results of the theoretical analysis conducted may be directly integrated into the content of educational components related to psychodiagnostics and the methodology of psychological research, with particular emphasis on the training of military and crisis psychologists. In courses on psychodiagnostics, it would be advisable not to limit instruction solely to psychometric instruments for screening PTSD or combat stress, but to broaden the curriculum by incorporating the phenomenological approach as an alternative and complementary methodology. This would enable future specialists to develop a holistic understanding of the diagnostic process during wartime, where, alongside the quantitative measurement of psychological states, an understanding of the individual experience of war, loss, and moral injury is of critical importance. Such an approach would foster professional reflexivity and reduce the risk of formalistic or “mechanical” application of tests, which is unacceptable when working with profoundly traumatised individuals. Within the educational component entitled “Methodology of Psychological Research”, the findings may be used to illustrate differences between paradigms within the context of extreme psychology. The analysis of phenomenological psychodiagnostics and testology as representatives of distinct methodological approaches allows students to gain a deeper understanding of the nature of scientific inquiry and to appreciate the limitations inherent in each approach – from the risk of reducing personality to numerical indicators in testology to the high degree of subjectivity associated with phenomenology. Particular attention should be devoted to the development of methodological synthesis skills, enabling specialists to make informed choices between rapid personnel screening and in-depth interviews for the rehabilitation of veterans. The practical implementation of these principles may be achieved through the introduction of interactive forms of learning, including the analysis of real wartime cases, the simulation of personnel selection scenarios, and comparative examinations of the results obtained through testing and phenomenological interviews concerning experiences such as survivor guilt or combat adaptation. It is important to teach psychologists that the test results of military personnel cannot be considered in isolation from their unique “war history” and require supplementation through qualitative analysis. Thus, integrating the principles of combining objective measurement with subjective understanding into psychological education will contribute to the preparation of specialists capable of applying diagnostic instruments comprehensively under wartime conditions. This will enhance the quality of psychological assistance, reduce the

risk of diagnostic errors, and promote the development of a professional culture among future psychologists grounded in the synthesis of scientific precision and profound respect for the individual.

◆ Discussion

In times of war, psychologists face a contradiction between the need to rapidly assess the condition of large numbers of individuals and the necessity of preserving the integrity and uniqueness of each person's psychological experience. In situations of mass psychological strain, testology serves as an indispensable tool for rapid screening, personnel selection, and monitoring the combat readiness of military personnel. The uncritical use of exclusively standardised tests carries significant risks. Complex traumatic experiences, such as moral injury or an existential crisis, as described by V.E. Frankl (1966), can be reduced to formalised numerical indicators. This leads to a loss of an individualised approach and a reduction in the effectiveness of subsequent psychological support, as noted by B.T. Litz *et al.* (2009). The field of psychodiagnostics is interdisciplinary in nature and has developed within various scientific traditions, each of which defines the nature of psychological measurement and the understanding of personality in different ways. Within the psychometric approach, key contributions were made by P.E. Meehl (1954), L.J. Cronbach (1951) and R.B. Cattell (1957), who formulated the basic principles for the construction of psychological tests: standardisation of procedures, verification of the reliability and validity of methods, and statistical justification for the interpretation of results. This idea was also developed by R.R. McCrae (1987) and H.J. Eysenck (1991), who supplemented their colleagues' work with new interpretations. Their work laid the methodological foundations of modern test theory and made it possible to view psychodiagnostics as a scientifically validated system for measuring psychological characteristics, thereby enhancing its objectivity and reproducibility. Psychometric approaches have taken on particular significance in military psychology, where standardised methods are used to assess combat readiness, psychological resilience and the risks of maladjustment among military personnel (Adler *et al.*, 2008).

In parallel with this, the phenomenological approach in psychodiagnostics developed as an alternative to reductionist approaches, emphasising the uniqueness of a person's subjective experience. In the works of E. Husserl (1970), the importance of an individual's personal experience in psychodiagnostics was noted. This idea was only taken up at the beginning of the 21st century by

J. Parnas & L.A. Sass (2008). The phenomenological idea was further developed in the work of A. Giorgi (2012), which emphasised the significance of direct experience, the context of the lifeworld, and individual meanings that cannot be fully reduced to quantitative indicators. In this approach, psychodiagnostics is viewed not merely as measurement, but as a process of in-depth understanding of the individual, which requires the researcher's empathetic engagement and the interpretation of phenomena in their entirety (Morgun & Titov, 2009). This is of particular significance for military psychology, as experiences of war often go beyond standardised categories and require consideration of individual meanings, existential experiences and moral conflicts within the individual. The current stage of psychodiagnostics' development is characterised by integrative trends aimed at combining quantitative and qualitative research methods. Researchers such as T.R. Insel (2014), P.D. McGorry *et al.* (2018) and G. Messas *et al.* (2018) have emphasised that neither approach, taken in isolation, is sufficient for a complete understanding of the complex nature of the psyche. Instead, their complementarity allows for greater diagnostic accuracy, broadens interpretative possibilities and ensures a more holistic approach to the study of the individual, particularly in clinical, crisis and military psychology. In the context of war, the integration of phenomenological and testological methods allows for the combination of the speed and standardisation of psychological screening with a deep understanding of the individual traumatic experience of a serviceperson or civilian.

The results of the comparative analysis are generally consistent with the conclusions of other researchers, although they also contain several important distinctions that attest to the scientific value of the present study. A key point of convergence is the recognition of the complementary rather than antagonistic relationship between phenomenological and testological approaches. In particular, B. Nelson *et al.* (2021) substantiated the need to combine clinical staging, which is predominantly a quantitative instrument, with phenomenological profiling of the patient's subjective experience. The findings of the SWOT analysis support this position: testology indeed provides speed and structure in primary assessment, whereas the phenomenological approach compensates for its relative insensitivity to context. Particular attention should be paid to the debate concerning the superiority of statistical methods over clinical judgement. Although P.E. Meehl (1954) advocated the primacy of actuarial methods, the present analysis demonstrates that, in addressing moral injury, survivor guilt, and existential crises characteristic of wartime experiences, the phenomenological approach offers a depth of understanding that cannot be achieved through testing alone. This corresponds with the position of A. Giorgi (2012), who regarded phenomenology as a necessary complement to quantitative strategies. The results of the SWOT analysis revealed the therapeutic potential of phenomenological diagnosis: the very process of the interview and dialogue

becomes a factor in psychological change, which is particularly important for veterans with combat experience. This is supported by the research of G. Messas *et al.* (2022), who regarded phenomenological understanding as the basis of therapeutic dialogue.

At the same time, the findings obtained differ fundamentally from certain positions within the literature. In his work on statistical and clinical prediction, P.E. Meehl (1954) argued for the superiority of actuarial (statistical) methods over clinical judgement in most situations. The present analysis does not dispute this proposition in the context of large-scale assessments and personnel selection; however, it demonstrates that in clinical, psychotherapeutic, and counselling contexts the phenomenological approach provides a depth of understanding that psychometric instruments are inherently incapable of delivering. This is consistent with A. Giorgi's (2012) argument that the descriptive phenomenological method is not an alternative to quantitative strategies in psychological science, but rather an indispensable complement to them. Within military psychology, the phenomenological approach enables practitioners to move beyond formal scales and address the subjective meanings that servicemen and servicewomen attribute to their experiences. This method is particularly effective in addressing profound conditions such as survivor guilt, the experience of losing comrades, and the complex processes of psychological adaptation following combat. Unlike tests, phenomenological interviews are dialogical in nature, whereby the interaction with the psychologist itself becomes a factor promoting psychological change and the establishment of trust, which is critically important for veterans with combat experience. Comparing the findings of the present study with research in the field of psychopathology, it is worth noting that J. Parnas *et al.* (2013) substantiate the key role of phenomenological epistemology in understanding the nature of psychiatric phenomena, questioning the reductionist strategies of DSM-oriented psychodiagnostics, which were subsequently developed by D. Zahavi (2013) and F.W. Weathers *et al.* (2013). These positions resonate with the conclusion drawn in the current study regarding the therapeutic potential of the phenomenological approach, which in the SWOT matrix is identified as a unique "opportunity" unavailable to the testological approach. G. Messas *et al.* (2022) likewise highlighted the practical effectiveness of phenomenological psychopathology within therapeutic strategies, thereby confirming the promise of the integrative model described here. A.O. Tatiianchykov (2021; 2025) also examined in detail the mathematical aspects of standardising psychodiagnostic methods, emphasising the necessity of adhering to psychometric standards. O.A. Chumak & O.M. Tovstukha (2024), in their educational and methodological manual, identified both approaches as equally important components of contemporary psychodiagnostics. However, none of the aforementioned authors proposes a comprehensive conceptual model of integration, which distinguishes the present study

from existing publications. At the same time, O.H. Danylyan & O.P. Dzoban (2019) emphasised the significance of methodological reflection for scientific inquiry in general, thereby providing methodological justification for the strategy of theoretical synthesis adopted in this study.

Effective psychodiagnostic strategy in wartime conditions is based on complementarity, whereby testology and phenomenology perform different but equally important functions. Within this model, testology provides the initial structuring of information, enabling the rapid identification of general personality characteristics and potential risk areas (for example, levels of PTSD or depression). At the same time, phenomenological psychodiagnostics deepens these results by providing them with individual meaning within the context of a person's unique life history. Such a synthesis makes it possible to combine the objectivity of measurement with depth of understanding, providing a reliable foundation for humanistically oriented psychological support. It is also worth emphasising that the theoretical propositions and conclusions of this study are highly appropriate for inclusion in educational components related to psychodiagnostics, as well as the theory and methodology of psychological research in higher education institutions. Integrating the proposed conceptual model into training and professional development programmes for psychologists (particularly within courses on military, crisis, and clinical psychology) would significantly modernise academic content in accordance with contemporary challenges. This would facilitate the development of flexible methodological thinking among students and practitioners, aimed at balancing the instrumental precision of testing with the humanistic depth of phenomenological analysis under the real conditions of martial law. Thus, the findings of this study do not contradict existing scientific discourse but rather develop and complement it, offering a more systematic and practice-oriented perspective on the problem of integrating approaches in psychodiagnostics.

◆ Conclusions

The conducted theoretical and methodological study confirmed that, under contemporary wartime conditions, phenomenological psychodiagnostics and testology should be regarded not as competing but as complementary methodological systems, each representing its own level of understanding psychological reality. The testological approach has been identified as an indispensable tool for rapid screening, personnel selection, and monitoring the

condition of large groups of military personnel and civilians, as it ensures objectivity, speed, and the possibility of quantitative comparison of results. At the same time, it was found that the uncritical use of standardised tests alone carries the risk of reducing complex traumatic experiences to formal indicators, potentially leading to the loss of the individual context of wartime experiences. In contrast, phenomenological psychodiagnostics provides a profound and contextualised understanding of the individual's inner world, focusing on the unique subjective meanings associated with combat stress, moral injury, and existential crises. A particular strength of the phenomenological approach lies in its therapeutic potential, whereby dialogical interaction between psychologist and client becomes not only a means of data collection but also a factor in psychological support and change. The study substantiates the appropriateness of implementing an integrative diagnostic strategy in which testology performs the function of initial information structuring and identification of problem areas, while the phenomenological method provides meaningful interpretation of results within the framework of the individual's unique life history. Such an approach makes it possible to combine scientific precision of measurement with a humanistically oriented depth of understanding personality. Integrating the proposed conceptual model into educational and professional development programmes for psychologists (particularly within courses on military, crisis, and clinical psychology) would significantly modernise academic content in response to contemporary challenges. This would contribute to the development of flexible methodological thinking among students and practitioners under the real conditions of martial law. Furthermore, the results of the study are directly applicable to improving practical systems of psychological rehabilitation for veterans. Prospects for further research lie in the empirical verification of the proposed model and the development of specific protocols for combining phenomenological interviews with standardised psychometric scales in clinical practice.

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Феноменологічна психодіагностика та тестологія: переваги та недоліки методів в умовах війни

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♦ **Анотація.** Актуальність теми зумовлена зростанням потреби у якісному психодіагностичному супроводі військовослужбовців та ветеранів, які пережили бойові дії та пов'язані з ними психотравмуючі події. Метою дослідження було здійснення порівняльного аналізу феноменологічного та тестологічного підходів, визначення їх переваг, обмежень і можливостей інтеграції у практиці психологічної допомоги. Використано теоретико-методологічний, системний, порівняльний та SWOT-аналіз. Проаналізовано специфіку якісних і кількісних методів оцінювання психічного стану особистості в умовах війни, а також особливості інтерпретації результатів психодіагностики. Встановлено, що феноменологічний підхід забезпечує глибоке розуміння суб'єктивного досвіду особистості, дозволяє враховувати індивідуальні особливості переживання бойових дій, втрати, страху та посттравматичних змін, однак характеризується високим рівнем суб'єктивності та складністю стандартизації. Тестологічний підхід, своєю чергою, вирізняється об'єктивністю, стандартизованістю та можливістю швидкого оцінювання психоемоційного стану, що є особливо важливим у системі психологічного забезпечення військовослужбовців. Водночас його застосування має певні обмеження, пов'язані з недостатнім урахуванням індивідуального контексту переживання травматичного досвіду: стандартизований формат відповідей не залишає простору для вираження унікальних смислів, якими людина наділяє пережите, а бальні шкали не здатні відобразити складність екзистенційних станів, провини вцілілого, моральної травми чи втрати ідентичності, що є типовими для досвіду війни. Обґрунтовано доцільність інтеграції феноменологічної психодіагностики та тестології як взаємодоповнювальних підходів, що дає змогу поєднати об'єктивність і стандартизованість психометричних методів із глибиною розуміння суб'єктивного досвіду особистості. Практичне значення дослідження полягає у можливості використання його результатів для вдосконалення психодіагностичного супроводу військовослужбовців і ветеранів, а також у професійній підготовці військових психологів

♦ **Ключові слова:** інтерпретація; клієнт-центрований підхід; психологічне оцінювання; психотравма; кількісні методи



Resilience of military physicians during wartime: Practical tools for development

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◆ **Abstract.** The relevance of the study is conditioned by the need for scientific substantiation of the psychological foundations of maintaining the reliability and psychological stability of military physicians in conditions of war. The activity of this category of specialists is characterised by the cumulative impact of combat stress, responsibility for preserving the lives and health of wounded and ill personnel, limited time for clinical decision-making, sustained psycho-emotional strain, and the need to address complex ethical dilemmas. Under such conditions, the risk of emotional exhaustion, burnout, secondary trauma, and reduced efficiency of functioning increases. This actualises the need to develop specialised programmes for the development of military doctors' resilience as an integrative psychological resource of self-regulation, adaptation, preservation of professional identity, and constructive interaction in extreme conditions of service and professional activity. The purpose of the study was to substantiate the content and structural foundations and practical tools of the author's programme for developing the resilience of a military doctor in war conditions. The empirical basis of the study was provided by materials from the formative phase of the piloting of the author's programme. The design included pre- and post-experimental evaluation of indicators in the control and experimental groups. The study involved 30 military interns divided into two groups of 15 people. The programme was designed for 30 hours and covered 10 interrelated classes. To assess its effectiveness, a set of psychodiagnostic techniques aimed at determining the level of resilience, professional resilience, coping strategies, basic beliefs, reflexivity, and communicative tolerance was used. The author's programme was based on a five-component model of military doctor resilience, which covered motivational and value, cognitive and reflexive, emotional and volitional, behavioural, and communicative and regulatory components. Positive dynamics of the integral resilience index and more pronounced changes in the experimental group compared to the control group were established. The most noticeable changes were found in indicators of professional resilience, engagement, control, problem-solving planning, acceptance of responsibility, and basic beliefs. The practical significance of the study lies in the development of a programme that can be implemented in the system of psychological support, training and support of military medical specialists

◆ **Keywords:** professional hardiness; emotional self-regulation; adaptive thinking; team interaction; psychological support; self-regulation under stress; development programme

◆ Introduction

In the conditions of a full-scale war, the problem of developing the resilience of a military doctor becomes particularly scientific and applied. Professional activity of this category of specialists is carried out under the combined influence of combat stress, intense service, and professional workload, lack of time for making clinical decisions, increased

responsibility for the life and health of the wounded and sick, and complex ethical and psychological situations. In such circumstances, a military doctor must not only ensure the quality of medical care provided, but also maintain emotional balance, cognitive clarity, the ability to self-regulate, make prompt decisions, and coordinate professional

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interaction. That is why the study of psychological conditions and means of developing the resilience of military doctors is important for maintaining their professional ability, mental well-being, and reliable functioning in extreme conditions of activity.

In contemporary scientific discourse, resiliency is increasingly considered not as a permanent individual trait, but as a dynamic psychological resource formed in the interaction of personal, professional, social, and organisational factors. C. Seo *et al.* (2021), analysing resiliency-oriented programmes in the medical education system, concluded that specially organised educational and psychological interventions can contribute to the prevention of professional burnout, strengthening adaptive capabilities, and maintaining the psychological well-being of future and practising doctors. Important for this study is the authors' opinion that the development of resilience requires not only informing, but also the development of specific skills of self-regulation, reflection, and overcoming stressful situations. C. Cohen *et al.* (2023), summarising the evidence on mental health interventions for healthcare workers, it was concluded that the most effective programmes are those that combine individualised stress management techniques, the development of psychological literacy, emotional self-regulation skills, and organisational support mechanisms. This conclusion is fundamentally important for the military medical sphere, since the activities of a military doctor do not take place in isolation, but in a system of official interaction, team coordination, and high responsibility for the consequences of professional decisions.

A. Castillo-González *et al.* (2024) in a meta-analysis on the relationship between resiliency and occupational burnout in healthcare professionals, found that higher levels of resiliency were associated with lower manifestations of emotional exhaustion, depersonalisation, and overall burnout. Consequently, the development of resilience can be considered not only as a means of psychological support, but also for preventing professional exhaustion. In the context of military medical activities, this provision is particularly important, since the emotional exhaustion of a doctor can negatively affect not only mental state, but also the quality of clinical thinking, communication, and professional decisions. Z. Sun *et al.* (2024), investigating the effectiveness of contemporary psychological interventions, focused on the importance of structured, skill-oriented, and preventive programmes aimed at developing emotional regulation, cognitive rethinking, and the ability to transfer acquired skills to real professional situations. For military doctors, this approach is particularly relevant, since their resilience should be manifested not only in their ability to withstand loads, but also in their ability to act in an organised, responsible and professional manner in conditions of uncertainty, risk, and time constraints. In military psychological research, the problem of resilience is also considered as one of the key factors of professional effectiveness in the face of threat. S. McInerney *et al.* (2024), analysing resilience development programmes in the U.S. Armed Forces,

highlighted the importance of self-regulation, self-efficacy, cognitive rethinking, and team cohesion as the main goals of such interventions. Similar conclusions were submitted by S. Panda *et al.* (2024), who noted that the psychological resilience of military personnel can be purposefully developed through systemic programmes focused on adaptive stress response, emotional regulation, and maintaining functional capacity in the face of danger.

The results of research on the mental health of specialists in war conditions are particularly significant for the Ukrainian context. V. Lekhan *et al.* (2024) showed that wartime healthcare workers function in the presence of significant mental stress, which requires systematic decisions to maintain their mental health. R. Pietrzak *et al.* (2024), studying the psychological resilience of Ukrainian mental health professionals, established the importance of social connections, life-meaning orientations, and optimism as factors of higher psychological stability in war conditions. These conclusions confirm that the resilience of a specialist in extreme conditions is formed not only through individual qualities, but also through a system of professional support, value-semantic resources, and constructive interaction. The recommendations of the World Health Organisation (2022) are also an important regulatory and methodological guide, which substantiate the need to combine organisational measures, staff training, executive training, and psychosocial interventions to maintain mental health in the workplace. In the military medical sphere, this approach is especially appropriate, since the psychological stability of a military doctor is directly related to the quality of medical care, the safety of professional actions, and the reliability of performing official tasks. The analysis of contemporary studies showed that, despite the active investigation of the resiliency of military personnel and medical workers, specialised programmes for the development of resiliency addressed specifically to military doctors remain insufficiently represented in the scientific field.

The purpose of the study was to scientifically substantiate the author's programme for the development and support of military doctor resilience in war conditions and determine its conceptual and applied foundations. To achieve the goal, it was planned: to analyse the current state of scientific development of the problem of developing the resilience of specialists who operate in conditions of increased risk and psychoemotional stress; to substantiate the theoretical and methodological foundations of building a programme based on the author's five-component model of the resilience of a military doctor; to characterise the structural components of the programme and practical means of developing self-regulation, psychological stability, adaptive thinking, and effective professional interaction. The scientific originality of the study consists in the systematic substantiation of the programme for the development and support of the military doctor's resilience based on a five-component model that integrates motivational and value, cognitive and reflexive, emotional and volitional, behavioural, and communicative and

regulatory components, and specified the practical tools for its implementation.

◆ Materials and Methods

The empirical basis of the study was the materials of the formative stage aimed at testing the author's programme for the development and support of the resilience of military doctors. Methodologically, the research was based on the understanding of the military doctor's resiliency as a multidimensional psychological phenomenon that combines signs of a relatively stable personal property, a dynamic process of adaptation to stressful influences, and an integrative resource of professional functioning in war conditions. According to this, the assessment was carried out both by the integral indicator of resiliency, and by a set of psychological characteristics correlated with the motivational and value, cognitive and reflexive, emotional and volitional, behavioural, and communicative and regulatory components of the author's model.

The study was organised according to the scheme of pre- and post-experimental comparison using the control and experimental groups. The formative stage was attended by 30 military interns, who were divided into two groups of 15 people each. The sample was formed according to the target principle, considering the professional affiliation of the participants, the stage of their training, and the possibility of participating in the full cycle of research procedures. The criteria for inclusion in the study were: the status of a military intern; the presence of higher medical education; professional training in the military medical environment; voluntary consent to participate in the study; the possibility of passing primary and repeated psychodiagnostic assessment. The criteria for non-inclusion were: lack of informed consent, inability to participate in the full cycle of the programme and/or pass a second psychodiagnostic assessment.

The experimental group included participants who completed the author's programme for developing and maintaining resilience; the control group did not participate in the programme. According to the main socio-demographic characteristics, the groups were comparable. The average age of participants in the control group was 25.53 years, the experimental group – 25.00 years; no statistically significant differences in age were found ($p = 0.394$). By gender composition, the control group included 10 men and 5 women, the experimental group – 7 men and 8 women; no statistically significant differences were also found ($p = 0.462$). The average length of service in the control group was 1.87 years, in the experimental group – 2.27 years; intergroup differences were not statistically significant ($p = 0.394$). This sampling strategy allowed minimising the impact of basic socio-demographic differences on the results of the formative impact.

The study was conducted in compliance with the principles of voluntary participation, informed consent, confidentiality, and prevention of psychological harm. The ethical standards of the American Sociological

Association's Code of Ethics (2018) were met. Participants were informed about the purpose of the study, the general content of the procedures, the specifics of participating in the programme, the procedure for using generalised results, and the right to refuse to participate at any stage without negative consequences. The data obtained were processed in a generalised form, without disclosing personal information, which ensured anonymity and confidentiality of the results.

The formative influence was implemented through the author's programme for the development and support of the resilience of military doctors. The programme had a total duration of 30 hours and consisted of 10 classes of 3 hours each. It was built on the principle of a consistent transition from the actualisation of professional meanings and internal resources to the development of self-regulation skills, stabilisation of thinking under stress, algorithmisation of actions in crisis situations, and improvement of team communication. The programme structure combined psychoeducational, reflexive, and skill components. The main forms of work were mini-lectures, practical exercises, case analysis, role-playing scenarios, group discussion, reflection, homework, and keeping a reflexive diary as a tool for transferring the formed skills to professional activities. The programme involved the use of the STOP-pause, AAR/debriefing without self-blame, breathing and grounding techniques, the 24/72-hour recovery plan, the "first 60 seconds" algorithm, SBAR, assertive "I-statements", de-escalation, and empathic reflection.

A set of psychodiagnostic techniques was used to quantify the effectiveness of the programme. The integral level of resiliency was determined on the resiliency scale by K. Connor & J. Davidson (2003) (CD-RISC-25). The Basic Beliefs Scale by R. Janoff-Bulman (2002) was used to assess the motivational and value component, as well as Methods for diagnosing professional motivation by V. Osodlo (2007). The cognitive and reflexive component was studied using the Big Five questionnaire (Klimanska & Haletska, 2019). The emotional and volitional component was analysed based on the coping strategy questionnaire by S. Folkman & R. Lazarus (1988) and the IES-R Traumatic Event Impact Assessment Scale (Weiss & Marmar, 1996). To assess the behavioural component, the Professional Resilience Questionnaire (Kokun, 2021; 2024) was used, which was developed in line with S. Maddi's (2004) conceptual framework on resilience. The communicative and regulatory component was evaluated using the communicative tolerance test by V. Boyko (2005). Additionally, feedback forms and the digital service Mentimeter were used to quickly record a subjective assessment of the psychological safety of classes, their practical usefulness, and the readiness of participants to transfer the acquired skills to professional activities.

The results were processed using IBM SPSS 21.0 and Jamovi. The methods of descriptive statistics, the Student's t-test, the Mann-Whitney U-test, and the Wilcoxon criterion were used for statistical analysis. The use of these statistical procedures helped to assess both intra-group dynamics of

indicators before and after the programme, and inter-group differences in the amount of individual shift in the control and experimental groups. The combination of parametric and nonparametric procedures was conditioned by the nature of the sample and the need to improve the reliability of interpretation of the results obtained. Thus, the applied methodological scheme allowed comprehensively tracking changes in the structure of military doctors' resilience and assessing the practical effectiveness of the proposed programme.

◆ Results and Discussion

Structuring of the programme for the development of military doctors' resilience in war conditions was carried out based on the author's five-component model, which integrated motivational and value, cognitive and reflexive, emotional and volitional, behavioural, and communicative and regulatory components (Stasiuk & Matvieieva, 2025). The programme's key priorities, main activities, and expected outcomes are summarised in Table 1.

Table 1. Structure and content of the programme for developing the resilience of military doctors in war conditions

Programme component	Content accent	Basic forms of work	Expected results
Motivational and value	Updating the professional mission, service values, semantic supports of professional activity, boundaries of responsibility	Mini-lectures, exercises such as "Values → Decisions" and "Professional Compass", analysis of ethical dilemmas, reflection	Strengthening of professional motivation, strengthening of professional identity, development of stable semantic guidelines in the activity
Cognitive and reflexive	Development of thinking under stress, reflection, decision analysis, awareness of cognitive distortions	Case analysis, STOP-pause, "Facts – Interpretations – Solutions" technique, AAR/debriefing, decision checklists	Increasing cognitive flexibility, developing reflexivity, improving the ability to make informed decisions in difficult conditions
Emotional and volitional	Development of skills of self-regulation, emotional stabilisation, stress control, and resource recovery	Breathing techniques, grounding, progressive muscle relaxation, emotional barometer, 24/72 recovery plan, self-support exercises	Strengthening emotional endurance, increasing the ability to self-regulate, reducing the intensity of psycho-emotional stress
Behavioural (operational and activity)	Development of adaptive algorithms of action in conditions of time deficit, risk, and uncertainty	Role-playing scenarios, "First 60 seconds" algorithm, coping strategy training, structured change transfer, crisis situation modelling	Increasing the adaptability of behaviour, developing readiness for action in stressful situations, strengthening professional effectiveness
Communication and regulatory	Development of skills of team interaction, communication in tension, requesting support, de-escalation of conflict	SBAR, assertive "I-statements", empathic listening, safe feedback, role-playing exercises "difficult conversation"	Improving the effectiveness of team communication, improving coordination of interaction, developing constructive professional communication skills

Source: developed by the author based on V. Stasiuk & D. Matvieieva (2025)

The implementation of the programme was accompanied by changes in a number of integral and component indicators that reflect the specifics of the development of military doctors' resilience in war conditions. In the experimental group, more pronounced positive changes in these indicators were recorded compared to the control group. First of all, this applies to the integral resilience index: in the control group, its average value increased from 68.33 to 70.33 points, while in the experimental group – from 64.53 to 75.00 points. The intra-group change in the

experimental group was statistically significant according to the Wilcoxon criterion ($p = 0.006$), while according to the parametric t-test it did not reach the level of statistical significance ($p(t) = 0.172$). Simultaneously, intergroup comparison of individual shifts did not confirm a statistically significant effect of the programme on the integral resiliency Index ($p = 0.384$; $p(U) = 0.058$), which gives grounds to state a more pronounced positive trend in the experimental group. The corresponding changes are shown in Figure 1.

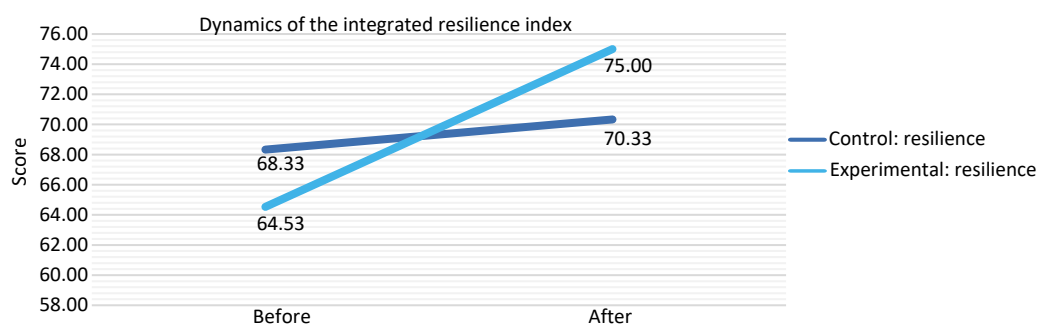


Figure 1. Changes in the integral resilience index in the control and experimental groups before and after the programme implementation

Source: developed by the author

Statistically significant changes after the implementation of the programme were identified by indicators of professional resilience. In the experimental group, the overall level of professional resilience increased from 60.33 to 67.13 points ($p(t) = 0.001$; $p(w) < 0.001$), while in the control group, the increase from 64.00 to 67.13 points was not statistically significant ($p(t) = 0.127$; $p(w) = 0.181$). Within the experimental group, statistically significant changes were also recorded for the subscales of professional inclusion – from 19.33 to 22.40 points ($p(t) = 0.001$; $p(w) = 0.001$) and professional control – from 19.87 to 22.80 points ($p(t) < 0.001$; $p(w) < 0.001$). Intergroup

comparison showed a statistically significant greater shift in the experimental group both in terms of professional inclusion ($p = 0.019$; $p(U) = 0.011$) and in terms of professional control ($p = 0.048$; $p(U) = 0.037$). In the experimental group, more pronounced changes were established in terms of indicators that characterise involvement in activities, subjectivity, and experience of own ability to influence complex official and professional circumstances. This gives grounds to consider these shifts as manifestations of the programme's influence on the behavioural and cognitive and regulatory aspects of resilience. The corresponding numerical values are shown in Table 2.

Table 2. Comparison of key psychological indicators in the control and experimental groups before and after the programme implementation

Indicator	CG before (M $\pm$ m)	CG after (M $\pm$ m)	p(t) CG	p(w) CG	EG before (M $\pm$ m)	EG after (M $\pm$ m)	p(t) EG	p(w) EG	p(t) between groups	p(U) between groups
Resilience	68.33 $\pm$ 2.92	70.33 $\pm$ 3.99	0.273	0.271	64.53 $\pm$ 5.78	75.00 $\pm$ 3.72	0.172	0.006	0.384	0.058
General level of professional resilience	64.00 $\pm$ 1.66	67.13 $\pm$ 1.99	0.127	0.181	60.33 $\pm$ 2.44	67.13 $\pm$ 2.20	<0.001	<0.001	0.159	0.184
Professional engagement	20.53 $\pm$ 0.74	20.80 $\pm$ 0.82	0.754	0.779	19.33 $\pm$ 1.10	22.40 $\pm$ 0.66	0.001	0.001	0.019	0.011
Professional control	22.07 $\pm$ 0.57	23.07 $\pm$ 0.76	0.047	0.064	19.87 $\pm$ 0.85	22.80 $\pm$ 0.76	<0.001	<0.001	0.048	0.037
Planning to solve the problem	13.67 $\pm$ 0.54	14.00 $\pm$ 0.63	0.417	0.558	12.60 $\pm$ 0.87	14.33 $\pm$ 0.64	0.006	0.009	0.044	0.019
Acceptance of responsibility	8.00 $\pm$ 0.53	7.67 $\pm$ 0.49	0.430	0.435	7.53 $\pm$ 0.68	8.40 $\pm$ 0.63	0.041	0.035	0.046	0.057
Benevolence of the world	17.47 $\pm$ 0.94	16.93 $\pm$ 0.84	0.310	0.340	14.67 $\pm$ 1.36	16.80 $\pm$ 1.22	0.003	0.005	0.002	0.001
Fairness of the world	14.20 $\pm$ 0.81	13.47 $\pm$ 1.03	0.268	0.368	13.87 $\pm$ 1.17	15.60 $\pm$ 0.97	0.015	0.017	0.010	0.006
Controllability of the world	14.67 $\pm$ 0.76	14.80 $\pm$ 0.93	0.841	1.000	12.47 $\pm$ 0.67	14.60 $\pm$ 0.51	0.002	0.003	0.028	0.016
Value of your own "self"	18.60 $\pm$ 0.92	18.73 $\pm$ 0.85	0.719	0.668	15.60 $\pm$ 1.28	17.27 $\pm$ 1.12	0.019	0.023	0.044	0.030
Randomness of events	14.53 $\pm$ 1.16	14.53 $\pm$ 1.23	1.000	0.722	16.67 $\pm$ 0.77	13.93 $\pm$ 1.08	0.008	0.009	0.010	0.008
Inability to accept the individuality of another	5.40 $\pm$ 0.87	5.07 $\pm$ 0.81	0.511	0.503	7.93 $\pm$ 0.89	6.47 $\pm$ 0.61	0.005	0.010	0.096	0.117
Life goals	11.00 $\pm$ 0.55	11.13 $\pm$ 0.64	0.829	0.855	8.73 $\pm$ 0.71	10.00 $\pm$ 0.65	0.020	0.016	0.082	0.165

Note: CG – control group; EG – experimental group; $p(t)$ – P-value according to the Student's *t*-test; $p(w)$ – P-value according to the Wilcoxon criterion; $p(U)$ – p-value according to the Mann-Whitney U-test. Intergroup values reflect a comparison of individual indicator shifts in the control and experimental groups

Source: developed by the author

Additionally, the social component of professional resilience increased statistically significantly in the experimental group – from 14.40 to 16.53 points ($p(t) = 0.006$; $p(w) = 0.007$) and the professional component – from 13.60 to 16.13 points ($p(t) = 0.007$; $p(w) = 0.017$). Although these shifts did not reach statistical significance in intergroup comparison, they show a significantly important positive trend that is consistent with the general logic of the programme. A significant result of the formative impact is a change in constructive coping strategies. In the experimental group, the indicators of planning problem solving increased statistically significantly – from 12.60 to 14.33 points ($p(t) = 0.006$; $p(w) = 0.009$) and acceptance of responsibility – from 7.53 to 8.40 points ($p(t) = 0.041$; $p(w) = 0.035$). No such shifts were detected in the control group. Comparison of the magnitude of changes between the groups showed that on the scale of planning for solving the problem, the advantage of the experimental group is statistically significant both according to the *t*-test and according to the U-test ($p = 0.044$; $p(U) = 0.019$). On the scale of acceptance of responsibility, the intergroup

difference reached statistical significance according to the *t*-test ($p = 0.046$), but was not confirmed according to the Mann-Whitney test ($p(U) = 0.057$). This suggests that the programme contributed to the transition to more active, problem-oriented, and subject-based ways to overcome stressful situations.

Equally important results were obtained in terms of basic beliefs. In the experimental group, after completing the programme, the indicators of commitment the world increased statistically significantly – from 14.67 to 16.80 points ($p(t) = 0.003$; $p(w) = 0.005$), justice of the world – from 13.87 to 15.60 points ($p(t) = 0.015$; $p(w) = 0.017$), controllability of the world – from 12.47 to 14.60 points ($p(t) = 0.002$; $p(w) = 0.003$) and the value of own "self" – from 15.60 to 17.27 points ($p(t) = 0.019$; $p(w) = 0.023$). The randomness of events decreased statistically significantly from 16.67 to 13.93 points ($p(t) = 0.008$; $p(w) = 0.009$), which is a positive change. No such shifts were recorded in the control group. Inter-group comparison of the magnitude of changes confirmed the superiority of the experimental group in all these indicators: benevolence of the world

($p = 0.002$; $p(U) = 0.001$), justice of the world ($p = 0.010$; $p(U) = 0.006$), controllability of the world ($p = 0.028$; $p(U) = 0.016$), self-esteem ($p = 0.044$; $p(U) = 0.030$), and randomness of events ($p = 0.010$; $p(U) = 0.008$). In a psychological sense, this means strengthening the subjective sense of order, meaningfulness, and a certain manageability of life events, and strengthening self-perception as a valuable and capable subject. For a military doctor in wartime, such a restructuring of beliefs is of particular importance, since it reduces helplessness, increases professional resistance, and creates a psychological basis for more stable functioning in situations of uncertainty.

Special attention should be paid to reducing the indicator of inability to accept the individuality of another. In the experimental group, this indicator decreased from 7.93 to 6.47 points ($p(t) = 0.005$; $p(w) = 0.010$). In the motivational and semantic aspect, a statistically significant increase in the indicator of life goals was revealed – from 8.73 to 10.00 points ($p(t) = 0.020$; $p(w) = 0.016$). However, in intergroup comparison, the shifts in both indicators did not reach statistical significance: for the inability to accept the individuality of the other, $p = 0.096$; $p(U) = 0.117$, for life goals – $p = 0.082$; $p(U) = 0.165$. Although intergroup differences have not reached statistical significance here, intragroup positive dynamics are significant. It fits well with the content of the programme, which focuses on team communication, SBAR, assertiveness, empathic listening, safe feedback, and de-escalation. Thus, the results show that the programme affected not only individual mechanisms of self-regulation, but also interpersonal aspects of professional interaction, which is especially important for the military medical environment.

A meaningful interpretation of the obtained results allowed correlating them with the logic of the author's five-component model. The positive dynamics of resilience, professional resilience, inclusivity, control and basic beliefs reflects, first of all, the strengthening of motivational and value, cognitive and reflexive, and emotional and volitional components. The growth of problem-solving planning, acceptance of responsibility, and the focus on algorithms such as STOP, AAR, "first 60 seconds" and 24/72 indicate the development of a behavioural (operational and activity) component. Instead, shifts in acceptance of the other, team clarity, and secure feedback logically relate to the communication and regulatory component. The qualitative component of the assessment included monitoring the participation of participants in group work, analysing behavioural and emotional changes in the course of the programme, using feedback forms, and recording a subjective assessment of practical usefulness, psychological security, and readiness to apply the acquired skills in professional activities. An important element of the programme was LogBook, in which participants recorded the transfer of the developed skills to real professional situations, reflected changes in their own state, difficulties in applying techniques, and the results of their use. Additional importance was given to homework assignments aimed at developing

reflection and awareness of internal resources, in particular, short essays on professional meaning and motivation, for example: "What inspires me to be a doctor?", "What supports me in my profession during the war?", "What is my professional strength?". Such forms of work helped not only to consolidate the content of the programme, but also to deepen the understanding of own professional role, values, and ways of self-support.

The results of the study give grounds to consider the development of a military doctor's resilience in war conditions as a separate area of psychological support aimed at maintaining psychological stability, self-regulation, functional reliability, and the ability to effectively interact in conditions of increased load. The identified changes are not reduced to an isolated improvement in individual indicators, but reflect interrelated shifts in the areas of professional resilience, coping behaviour, basic beliefs, and individual communication and regulatory characteristics. The results obtained are consistent with contemporary approaches to understanding the resiliency of medical professionals as a multi-level phenomenon that depends not only on individual psychological skills, but also on the organisational context, professional environment, and opportunities for resource recovery. In Particular, C. Stewart *et al.* (2024), analysing interventions to support the well-being of medical professionals, focused on the importance of targeted measures aimed at reducing professional stress and maintaining the psychological well-being of medical personnel. In turn, C. Frias *et al.* (2025), summarising strategies to support the mental health and well-being of health workers, concluded that effective support should combine individual, team, and organisational measures.

The positive changes established in the study in terms of indicators of professional resilience, professional involvement and professional control can be interpreted as increasing involvement in activities, increasing subjectivity, and strengthening the experience of own ability to influence difficult professional circumstances. This interpretation correlates with the conclusions of P. Vaquero-Cepeda *et al.* (2024), which proved the relevance of further generalisation of data on the relationship between occupational burnout of physicians and patient safety. S. Amiri *et al.* (2024), in their analysis of occupational risk factors for burnout among healthcare workers, highlighted the significance of work-related stress, communication difficulties and a lack of a supportive environment in the development of occupational burnout.

It is advisable to consider the results obtained in the context of research on the effectiveness of specially developed programmes for developing the resilience of doctors. C. Seo *et al.* (2021), analysing resiliency-oriented programmes in the medical education system, concluded that structured educational and psychological interventions contribute to strengthening the adaptive capabilities of doctors, developing self-regulation skills, and preventing professional burnout. In this context, the positive dynamics of professional resilience, engagement, and control

recorded in the study can be considered as one of the manifestations of the effectiveness of the proposed programme. This is of particular importance for the military medical environment, where the professional stability of a specialist is determined not only by the level of knowledge and experience, but also by the ability to maintain internal organisation, psychological capacity, and readiness for responsible decisions in difficult working conditions.

No less significant are the detected changes in coping behaviour indicators. The growth of problem-solving planning and responsibility acceptance indicators shows an increase in active and problem-oriented ways to overcome stress. M. Goniewicz *et al.* (2023), investigating resilience in emergency medicine in the context of COVID-19, emphasised the importance of staff readiness, psychological endurance, and the ability to act in crisis situations. I. Sharin *et al.* (2025), summarising personal psychoeducational approaches to reducing burnout in nurses, emphasised the importance of developing practical stress management skills that can be integrated into professional activities. Taken together, this gives grounds to consider changes in coping strategies as one of the important mechanisms for programme effectiveness.

Thus, the results of the study can be correlated with the results of the systematic review by B. Melnyk *et al.* (2020), dedicated to interventions aimed at improving the mental health, well-being, physical condition, and lifestyle of doctors and nurses. The researchers showed that targeted and structured programmes that cover not only the emotional state of a specialist, but also behavioural and adaptive aspects of their functioning are most effective. In this context, the changes in coping strategies should be considered as one of the important mechanisms for the effectiveness of the programme, since it is the transition to more active ways to overcome stress that creates a psychological basis for maintaining the professional reliability of a military doctor in war conditions.

A separate discussion will require changes in the scales of basic beliefs. An increase in the indicators of commitment to the world, justice of the world, controllability of the world, and the value of own "self" against the background of a decrease in the indicator of randomness of events can be interpreted as signs of a greater orderliness of the experience of the situation, a higher level of subjective control, and a lower severity of helplessness. P. Rzońca *et al.* (2024), examining the prevalence of post-traumatic, anxiety, and depressive manifestations among Ukrainian civilian doctors and paramedics during wartime, showed a significant mental load of this professional group. S. Zhang & L. Li (2025), summarising data on the phenomenon of military anxiety, concluded that prolonged exposure to military threats poses long-term risks to mental health and requires targeted psychological interventions. In this context, the changes in basic beliefs recorded in the study can be considered as signs of increased internal organisation of psychological resources in response to chronic stress.

For the Ukrainian context, it is fundamentally important that the results of the study are consistent with studies on the functioning of the medical system and the mental health of specialists during the war period. A. Deac *et al.* (2024), analysing the situation of Ukrainian health workers in the first year of a full-scale war, showed that the combination of military threats, the consequences of the pandemic, and personnel depletion makes it difficult to maintain the mental well-being of medical professionals. E. Dale *et al.* (2024), examining the sustainability of primary health care in Ukraine in the context of pandemic and war, concluded that maintaining the functioning of the health system largely depends on adaptability, local resources, and organisational flexibility. This gives grounds to consider the results obtained as an argument in favour of the fact that military medical specialists need not only general mental health support programmes, but also specialised approaches that consider the combination of clinical, organisational, and military workload. The study also recorded positive changes not only in the integral indicator of resiliency, but also in individual communicative and regulatory and motivational and semantic indicators, although not all of them reached statistical significance at the intergroup level. This may indicate that some of the programme's effects are gradual and require more time to stabilise or test on a larger sample. This conclusion is consistent with the opinion of C. Stewart *et al.* (2024) and C. Frias *et al.* (2025), who viewed maintenance of the psychological well-being and resilience of healthcare professionals as a complex process involving a combination of individual, professional, and organisational factors.

The findings of C. West *et al.* (2020) are also important for interpreting the results obtained. The researchers showed that a higher level of resilience of doctors is associated with a lower probability of professional burnout, but resilience itself does not completely eliminate the risk of exhaustion, since systemic and organisational factors of the professional environment play a significant role in its occurrence and maintenance. Thus, the positive changes identified in the study should be considered not as a self-sufficient solution to the problem of professional stress of a military doctor, but as an empirically based direction for strengthening his psychological resources, which should be combined with broader organisational and professional-environmental support measures.

Particular attention should be paid to the findings of R. Pietrzak *et al.* (2024), who, in their study of the psychological resilience of Ukrainian mental health professionals during the Russia-Ukraine war, identified social connections, life-meaning orientations, and optimism as factors contributing to greater psychological resilience. This conclusion is important for interpreting the results of the study, since the proposed programme is also aimed not only at developing individual self-regulation skills, but also at strengthening professional meanings, team interaction, and the ability to seek support in conditions of prolonged stress. However, the results should be interpreted with the

consideration of the limitations of the study. The formative sample was small, which reduced the statistical power of the analysis and partially explains the combination of significantly different, but not always statistically significant differences between groups. However, even under these conditions, the data obtained demonstrate a complete picture of positive changes, which allows considering the proposed programme as a promising tool for psychological support of military doctors in wartime.

◆ Conclusions

The study theoretically substantiated and empirically tested the programme for the development and support of military doctor resilience, built considering the specifics of military medical activities. Its content was focused on the consistent development of motivational and value, cognitive and reflexive, emotional and volitional, behavioural, and communicative and regulatory components. The proposed approach allowed considering resiliency not as a separate skill of stress tolerance, but as a complex professional and personal resource necessary for maintaining psychological stability, self-regulation, professional identity, and functional reliability of a military doctor in extreme working conditions. The results of the formative stage showed that the implementation of the programme was accompanied by positive changes in a number of integral and component psychological indicators. The most expressive shifts were established in terms of indicators of professional resilience, professional involvement, professional control, problem solving planning, and basic beliefs associated with the experience of controllability, order of the world, and the value of own "self". The results obtained give grounds to assert that the programme contributes to strengthening psychological stability, developing adaptive ways to overcome

difficulties, strengthening subjectivity, increasing readiness for responsible decisions, and maintain professional effectiveness in challenging work-related circumstances. The scientific originality of the study consisted in the systematic substantiation of the programme for the development and support of the military doctor's resilience based on the author's five-component model, which integrates motivational and value, cognitive and reflexive, emotional and volitional, behavioural, and communicative and regulatory components. The practical significance of the study lies in the possibility of using the proposed programme in the system of psychological support, professional training, and support of military medical specialists. Its content and practical tools are focused on application in real-world conditions of activity and can be used to maintain psychological stability, prevent professional exhaustion, and strengthen the reliability of the professional activity of a military doctor. The results obtained open up prospects for further empirical testing of the programme on wider samples and among various categories of military medical specialists. It would also be worthwhile to investigate the stability of the observed effects over time, to compare the effectiveness of individual programme modules, and to adapt its structural elements to different formats of psychological support in line with the conditions of military medical practice.

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◆ Conflict of Interest

None.

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Резильєнтність військового лікаря в умовах війни: практичні інструменти розвитку

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♦ **Анотація.** Актуальність дослідження зумовлена потребою наукового обґрунтування психологічних засад збереження надійності та психологічної стійкості військових лікарів в умовах війни. Діяльність цієї категорії фахівців характеризується поєднанням впливом бойового стресу, високої відповідальності за життя і здоров'я поранених і хворих, дефіциту часу для прийняття клінічних рішень, тривалого психоемоційного напруження та етично складних ситуацій вибору. За таких умов підвищується ризик емоційного виснаження, вигорання, вторинної травматизації та зниження ефективності функціонування. Це актуалізує необхідність розроблення спеціалізованих програм розвитку резильєнтності військових лікарів як інтегративного психологічного ресурсу саморегуляції, адаптації, збереження фахової ідентичності та конструктивної взаємодії в екстремальних умовах службово-професійної діяльності. Метою статті стало обґрунтування змістово-структурних засад і практичного інструментарію авторської програми розвитку резильєнтності військового лікаря в умовах війни. Емпіричну основу дослідження становили матеріали формувального етапу апробації авторської програми. Дизайн передбачав до та післяекспериментальне оцінювання показників у контрольній та експериментальній групах. У дослідженні взяли участь 30 військових лікарів-інтернів, розподілених на дві групи по 15 осіб. Програма була розрахована на 30 годин і охоплювала 10 взаємопов'язаних занять. Для оцінювання її результативності застосовано комплекс психодіагностичних методик, спрямованих на визначення рівня резильєнтності, професійної життєстійкості, копінг-стратегій, базових переконань, рефлексивності та комунікативної толерантності. Авторська програма побудована на п'ятикомпонентній моделі резильєнтності військового лікаря, що охопило мотиваційно-ціннісний, когнітивно-рефлексивний, емоційно-вольовий, поведінковий та комунікативно-регулятивний компоненти. Встановлено позитивну динаміку інтегрального показника резильєнтності та більш виразні зміни в експериментальній групі порівняно з контрольною. Найбільш помітні зрушення виявлено за показниками професійної життєстійкості, включеності, контролю, планування вирішення проблеми, прийняття відповідальності та базових переконань. Практична цінність дослідження полягає в розробленні програми, що може бути впроваджена в систему психологічного супроводу, підготовки та підтримки військово-медичних фахівців

♦ **Ключові слова:** професійна життєстійкість; емоційна саморегуляція; адаптивне мислення; командна взаємодія; психологічний супровід; саморегуляція в стресі; програма розвитку



Psychological mechanisms underlying the therapeutic impact of support groups on individuals in difficult life circumstances

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◆ **Abstract.** The relevance of the study is conditioned by the rapid growth of the need for psychological assistance in the context of prolonged armed aggression and social crisis in Ukraine, where support groups become particularly important as an accessible and scalable form of psychological work with people in difficult life circumstances. The purpose of the study was to empirically investigate the psychological mechanisms of therapeutic influence of support groups on people in difficult life circumstances, and to determine the therapeutic resources of group interaction. The study was conducted using an online questionnaire. The sample consisted of 158 respondents: 71 facilitators and 87 participants of support groups of various thematic areas, selected according to the criterion of having direct experience of participating or leading the group. The author's questionnaire included an assessment of therapeutic mechanisms on a five-point Likert scale, closed multiple choice questions, and two open-ended questions. The results showed a high significance of all nine mechanisms (average scores from 3.99 to 4.41). The highest ratings were given to mechanisms for fostering safety and trust, providing emotional support, and helping people come to terms with their experiences. Statistically significant differences were found between the scores of facilitators and participants: facilitators rated the mechanism of experience universalisation higher, while participants attached more importance to the influence of group norms and values. Factor analysis confirmed the univariate structure of the scale (48.6% of the total variance; internal consistency coefficient – 0.867), which indicates the functioning of the selected mechanisms as a single integrated system. Among the participants, 91.4% noted the positive impact of the group on their lives; empathic listening (83.1%), group reflection (70.4%), and a structured circle of experience exchange (62.0%) were recognised as the most effective techniques. The main obstacle was irregular attendance (76.1%), and professional problems included burnout of facilitators (18.3%) and insufficient supervision support (16.9%). The practical significance of the study lies in the use of the obtained data to improve the methodological support of support groups, training facilitators, supervision support for leading groups, and adaptation of group work to wartime conditions

◆ **Keywords:** therapeutic factors of group interaction; psychological recovery; group facilitator; military crisis; subjective effectiveness

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◆ Introduction

Russia's prolonged armed aggression against Ukraine has caused a large-scale psychological crisis that has engulfed millions of people. According to World Health Organization (2025), 68% of Ukrainians reported a deterioration in their health compared to the pre-war period, and the most common problem was mental health disorders – they were recorded in 46% of respondents, and the need for psychological assistance took on the character of a systemic public challenge. In an environment where the resources of professional individual psychotherapy are limited, and the level of social isolation, anxiety, and loss remains critically high, support groups appear as an accessible, scalable, and psychologically effective form of assistance to people in difficult life circumstances. Despite the growing practical use of support groups, the issue of psychological mechanisms of their therapeutic impact remains insufficiently systematised both in the Ukrainian and international scientific space.

International studies in recent years have recorded a steady increase in the evidence base for the effectiveness of group forms of psychological assistance. J. Rosendahl *et al.* (2021), in a review of the results of 329 randomised controlled trials over 30 years, found that group psychotherapy showed results equivalent to individual psychotherapy, and therapeutic alliance and group cohesion are the leading predictors of positive change regardless of theoretical orientation. D. Smit *et al.* (2023) in a meta-analysis of 30 randomised trials (4,152 participants) showed that mutual support interventions are effective for clinical and personal recovery in a wide range of psychiatric disorders, and their effects are sustained and reproducible regardless of the type of intervention. C. Høgh Egmo *et al.* (2023), analysing data from 49 randomised trials (12,477 participants), confirmed the positive effect of mutual support on personal recovery (SMD = 0.20) and reduced anxiety symptoms. The researchers emphasised that the overall values of mutual support may exceed the specific needs of a particular disorder, which raises the question of the internal architecture of the mechanisms of such influence.

A separate area of research focuses on support groups in situations of armed conflict and forced displacement. S. Hillis *et al.* (2024) examined the effectiveness of the “Hope Groups” programme for families affected by the war in Ukraine: according to the results of the programme, the level of emotional violence decreased by 57.7%, physical violence – by 64.0%, the mental health indicators of parents significantly improved, and the effects were stable regardless of the participants' displacement status. This study was particularly significant, as it was conducted directly in the Ukrainian context and confirmed the potential of group forms of assistance specifically for people in difficult military circumstances. In a similar line, K. Lysnyk (2024), analysed the experience of conducting online support groups in Ukraine from the first weeks of a full-scale invasion and found that the most effective factor is sincere interpersonal relationships between group members supported by the

facilitator – a conclusion that echoes the humanistic tradition in understanding the group process.

In Ukrainian science, research of support groups is intensively developing in several areas. I.M. Trubavina *et al.* (2020) revealed the methodological foundations of organising support groups for people in difficult life circumstances, emphasising the role of structuring the group process and the facilitator. V. Shtyfurak & N. Burlaka (2025) theoretically substantiated the corrective factors of group work, in particular, the role of group norms as a regulator of behaviour and a source of psychological security. S.L. Horbenko & O.A. Prokopenko (2025) conceptualised psychotechnologies of therapeutic influence in groups as an integral system, where changing one element inevitably alters the functioning of others. Despite these achievements, the available research does not sufficiently systematise the psychological mechanisms of therapeutic influence of support groups as an integral multi-level model that combines cognitive, emotional, behavioural, and socio-dynamic processes in the context of a prolonged social and military crisis.

The purpose of the study was to empirically investigate the psychological mechanisms of therapeutic influence of support groups and determine the therapeutic possibilities of group interaction for people in difficult life circumstances. Objectives of the study: (1) to determine the level of significance of therapeutic mechanisms of support groups based on the assessments of facilitators and participants; (2) to carry out a comparative analysis of assessments between facilitators and participants; (3) to investigate correlations between mechanisms and identify the factor structure of the scale. The scientific originality of the study consists in the development and psychometric validation of the authors' scale of nine therapeutic mechanisms of support groups, empirical confirmation of their unifactorial structure, and identification of statistically significant differences in the perception of these mechanisms by facilitators and participants of support groups in wartime conditions in Ukraine.

◆ Materials and Methods

The empirical study was conducted in 2025 in the form of an online survey using the Google Forms platform. The choice of the online method was determined by the specifics of the target audience: facilitators and members of support groups were dispersed in different regions of Ukraine, which made it impossible to collect data in person in wartime conditions. The link to the questionnaire was distributed through coordinators and leading support groups, public organisations that provide psychosocial assistance, and through specialised online communities of psychologists and social workers. Participation in the study was voluntary and anonymous; before filling out the questionnaire, each respondent provided informed consent to participate in the study and use the data in an impersonal form. The study was conducted in compliance with the

current national and international ethical requirements for psychological research involving people. Participation in the study was voluntary and anonymous. Before filling out the questionnaire, each respondent received information about the purpose and procedure of the study and provided informed consent to participate and use the data in an impersonal form. The confidentiality of participants' personal data was ensured in accordance with the requirements of ICC/ESOMAR International Code on Market, Opinion, and Social Research and Data Analytics (2025) and WMA Declaration of Helsinki (2013). Data collection, storage, and processing were carried out without the possibility of identifying the respondent's identity.

The study involved 158 respondents selected according to the following inclusion criteria: experience in participating or maintaining a support group of any thematic focus; residence or stay on the territory of Ukraine at the time of filling out the questionnaire; voluntary informed consent. The exclusion criteria were: a lack of direct experience with support groups and failure to complete the questionnaire in full. Among the included respondents, 71 people (44.9%) identified their role as a facilitator (leader) of the support group, 87 people (55.1%) – as a participant. The analysis was carried out strictly according to the chosen role: answers to questions addressed to another role were not included. According to the experience of participating in support groups, respondents were distributed as follows: less than 3 months – 55 people (34.8%), from 3 to 12 months – 47 people (29.7%), more than 1 year – 56 people (35.4%). By the number of groups: 1 group – 63 people (39.9%), 2-3 groups – 49 people (31.0%), 4-5 groups – 15 people (9.5%), more than 5 groups – 31 people (19.6%). The thematic focus of the groups (respondents could choose several options) covered: general psychological support (37.3%), support for military families (36.7%), parental support (31.6%), support for internally displaced persons (25.3%), experiencing loss and grief (21.5%), support for veterans and military personnel (6.3%), and other areas.

The authors' questionnaire was developed based on a theoretical analysis of the psychological mechanisms of group therapy (Rogers, 1961; Bandura, 1977; Yalom & Leszcz, 2020). Current research of support groups was also considered (Rosendahl *et al.*, 2021; Smit *et al.*, 2023). The questionnaire included an assessment of nine therapeutic mechanisms on a 5-point Likert scale (from 1 – “not significant at all” to 5 – “very significant”): M1 – emotional support and normalisation of experiences; M2 – awareness of commonality of experience (universalisation); M3 – development of a sense of safety and trust; M4 – social learning through the example of others; M5 – development of self-awareness and self-regulation; M6 – restoration of a sense of control over life (subjectivity); M7 – group cohesion and sense of belonging; M8 – quality of feedback, and M9 – influence of group norms and values. In addition, the questionnaire included closed multiple choice questions (techniques, difficulties, what

helped) and two open questions about subjective experience (What do you think could improve the effectiveness of support groups? What do you think could be improved in the work of the support group?).

Mathematical and statistical processing was carried out using: descriptive statistics (m, SD, Mdn) to characterise the distribution of ratings; nonparametric Mann-Whitney criterion for comparing two independent groups (facilitators and participants) – due to the ordinal nature of the Likert scale and the violation of the normality of the distribution; Kruskal-Wallis criterion – for comparing three or more groups (based on the experience of participation); correlation analysis by the Spearman coefficient – to determine the relationship between mechanisms; factor analysis by the principal component method (with preliminary verification of the Barlett test and the KMO index) – to determine the latent structure of the scale; assessment of internal consistency using Cronbach's alpha (α). In preparation of this paper, the authors used the artificial intelligence tool Claude (Opus 4.6, Anthropic, Inc.) for the statistical analysis of empirical data (descriptive statistics, comparative analysis, correlation analysis, and factor analysis). The authors are fully responsible for the content, scientific interpretation, and reliability of the results. All results generated using AI were verified and approved. Content analysis of the open-ended responses was carried out using thematic coding, with two independent coders identifying key categories and subsequently resolving any discrepancies.

◆ Results and Discussion

Support groups occupy a special place in the system of psychological assistance, combining elements of professional psychotherapeutic support and mutual assistance of participants. In the scientific literature, they are considered as a form of organised group interaction aimed at providing emotional, social, and psychological support to people experiencing similar difficulties or crisis states (Chorna *et al.*, 2021). As noted by P.V. Kozyra & A.I. Lehka (2023), the group conditions form a kind of micro-society that reflects the realities of the external world and ensures the authenticity of interpersonal interaction of participants. I.D. Yalom & M. Leszcz (2020) made a significant contribution to the theoretical understanding of the phenomenon of support groups, identifying the key therapeutic factors of group interaction, including the universality of experiences, altruism, interpersonal learning, development of social skills, and group cohesion. The combination of these factors provides the therapeutic potential of support groups and determines their effectiveness in overcoming stress, emotional isolation, and feelings of helplessness. Psychotechnologies of therapeutic influence in support groups are considered as a set of scientifically based methods aimed at restoring the internal balance of the individual, working out traumatic experiences and unlocking own potential (Horbenko & Prokopenko, 2025). Understanding the therapeutic effect of group interaction is based on various theoretical approaches, each of which explains the mechanisms

of psychological changes in the group process in its own way. Within the humanistic paradigm, support groups are considered as a space for personal growth, formed through an atmosphere of empathy, authenticity, and unconditional acceptance (Yatsenko *et al.*, 2008; Tytarenko, 2018).

According to C.R. Rogers (1961), self-actualisation is the basic source of vital energy that supports psychological integrity and promotes personal well-being. In conditions of acceptance and psychological security, this process is activated and provides a person with the ability to self-regulate, creative adaptation, and constructive interaction with the social environment. Against this background, the therapeutic impact of support groups is primarily associated with the quality of interpersonal relationships between participants. Cognitive behavioural approach, developed by A.T. Beck *et al.* (2015) in the 1960s, is based on the idea of the close relationship between cognitive circuits, emotional responses, and behavioural strategies, focusing on the possibility of their purposeful change, in particular, in the context of group interaction. The practical implementation of this approach is cognitive behavioural therapy (CBT) – a structured and scientifically based psychotherapeutic method aimed at overcoming depression, anxiety, and other mental difficulties by solving the client's current problems. The study by S. Omelchenko *et al.* (2025), devoted to the analysis of psychotherapeutic methods in the system of psychological rehabilitation, showed that CBT involves active participation of the client, promotes rapid positive changes, and usually has a short-term format that ensures the effective use of time and resources. In the group format of CBT, conditions are created for the development of skills in overcoming stress, emotional regulation, and constructive communication, which ultimately contributes to increasing the psychological stability of participants.

Within the framework of the psychodynamic approach, the group is considered as a special therapeutic environment in which the previous interpersonal experience of participants is reproduced and their characteristic emotional reactions and ways of interaction are updated. Based on the mechanisms of transference, emotional exchange, and feedback, participants get a deeper understanding of their own internal experiences and patterns of building relationships with others, which helps to reduce internal tension and form more mature models of interpersonal relationships (Osiodlo *et al.*, 2020; Shtyfurak & Burlaka, 2025). In this context, deep psychocorrection as a form of group work, according to N. Dmeterko (2024), combines elements inherent in support groups, in particular, group dynamics, emotional support, and constructive feedback. The method of active socio-psychological cognition (ASPC) has a fundamental difference, since it is aimed not only at supporting participants, but also at deep knowledge of the psyche in the unity of conscious and unconscious processes, which determines its special role in the psychodynamic context of group psychocorrection. V.L. Zlyvkov & S.O. Lukomska (2019) reported a significant contribution to the development of the psychodynamic approach to group

psychotherapy made by S. Foulkes, who first applied psychodynamic principles to the psychotherapy community. He considered a person as a social being, and a group as a leading therapeutic factor, within which, through interpersonal interaction, open communication and active participation of participants, neurotic manifestations are overcome. The systems approach considers a support group as a dynamic system in which changes in one element affect the functioning of the entire structure. The therapeutic effect is achieved through the restructuring of communicative patterns, changing dysfunctional roles and the development of more adaptive ways of interaction (Yatsenko *et al.*, 2008; Pohorilenko, 2025). In this context, support groups contribute not only to individual changes, but also to the development of new patterns of social behaviour. The group serves as a kind of training space where participants test and consolidate new forms of behaviour, communication and thinking, which increases the likelihood of their transfer to a real-life context (Novak & Bodnar, 2025).

Thus, various theoretical approaches allow comprehensively understanding the therapeutic potential of support groups and the psychological mechanisms of their influence on the individual. Simultaneously, the practical implementation of these approaches requires considering the specifics of the target audience, in particular, the life circumstances in which the group members are located. This is particularly relevant when working with people who are experiencing difficult life events, traumatic experiences, or the consequences of social crises. This category of people is characterised by an increased level of anxiety, a violation of the basic sense of security, and a decrease in trust in the social environment. One of the main tasks of group work with traumatised individuals is to restore a sense of security, control and trust, which is a prerequisite for further psychological recovery (Herman, 1992; Romanenko, 2024). It is worth noting that in the context of social upheavals and war, support groups become particularly important as a tool for psychological stabilisation and social consolidation. According to T.M. Tytarenko (2018), group interaction contributes to the actualisation of resilience, the development of a sense of community, and the strengthening of internal resources of the individual. Such groups combine elements of emotional support, psychoeducation, and mutual exchange of experience, which allows participants to gradually restore psychological balance. Therefore, support groups are an effective component of the psychological assistance system, and their therapeutic impact is conditioned by a complex of psychological mechanisms that are implemented within the framework of various theoretical approaches. These provisions indicate that the therapeutic potential of support groups is realised not only through general theoretical approaches, but also through specific psychological mechanisms of group interaction. It is the analysis of these mechanisms that helps to better understand how support groups provide positive psychological changes for participants in crisis conditions.

One of the basic mechanisms of therapeutic influence of support groups is the mechanism of emotional support and normalisation of experiences. Its essence is to create a space where individual emotional responses are recognised, accepted, and validated by other group members. Participants in support groups gradually realise that their emotional reactions are not pathological, but correspond to the complexity of life circumstances. C.R. Rogers (1961) consider emotional support as a significant condition for personal growth, realised through empathic listening, acceptance, and authenticity of interpersonal relationships. In support groups, this mechanism is manifested through mutual empathy, verbalisation of emotions, and joint understanding of the experience. T.M. Tytarenko (2018) suggests that normalising experiences in a group format helps to restore emotional balance and reduce internal tension in people experiencing long-term crisis situations. Closely related to the previous is the mechanism of identification and universalisation of experience, which consists in understanding the commonality of life's difficulties and experiences. According to I.D. Yalom & M. Leszcz (2020), versatility is one of the leading therapeutic factors for group work, as it destroys the illusion of the uniqueness of suffering and reduces the subjective feeling of loneliness; experiencing the universality of problems and receiving an emotional response reduces the level of anxiety and feelings of isolation that often accompany crisis states. In the process of listening to the stories of other participants, identification with their experience takes place, which allows taking a fresh look at their own situation. Observation of other people who successfully overcome difficulties, as noted by A. Bandura (1977), increases self-confidence and promotes the development of effective coping strategies. Identification with the experience of other participants activates the processes of self-reflection and contributes to the restoration of a sense of life perspective (Osiodlo *et al.*, 2020; Trubavina *et al.*, 2020).

An important mechanism for the therapeutic impact of support groups is also the mechanism of safe communication and trust building. Its implementation is associated with the creation of clear group rules, confidentiality, and predictability of interaction, which is especially important for people with traumatic experiences. Restoring a sense of security is a primary stage of psychological assistance, without which it is impossible to further work out the trauma. A safe group atmosphere is seen as a condition for gradual awareness of deep interpersonal experiences and restoring trust in other people. Through repetitive, structured, and supportive interactions, participants gain an experience of safe contact that can be transferred to out-of-group life (Shtyfurak *et al.*, 2023; Romanenko, 2024; Yamnitskyi & Storozh, 2025). In times of war and social instability, support groups help to restore trust in others and own emotions. Mechanisms of emotional support, identification, and safe communication reduce tension and ensure the gradual restoration of psychological stability of individuals in difficult life circumstances.

However, the therapeutic impact of support groups is not limited to emotional stabilisation and restoring a sense of security. At the next stage, group interaction creates conditions for activating the internal resources of the individual, forming new ways of behaviour and a conscious attitude to their own life experience. It is these processes that determine the transition from support to development, which is implemented through the mechanisms of social learning, reflection, and the growth of subjectivity. The essence of the mechanism of social learning and modelling of adaptive behaviour is to learn new ways of responding, coping strategies, and models of interpersonal interaction through observation of the behaviour of other group members. Within the framework of socio-cognitive theory, A. Bandura (1977) emphasised that learning occurs not only through own experience, but also by observing significant others who demonstrate effective ways to overcome difficulties. In support groups, participants have the opportunity to see examples of constructive response to crisis situations, which increases their confidence in their own capabilities. From the standpoint of the cognitive behavioural approach, social learning in the support group is accompanied by the gradual development of new behavioural skills, in particular, assertive communication, emotional regulation, and problem-oriented coping (Maksymenko *et al.*, 2015; Horbenko & Prokopenko, 2025). Mutual feedback and group support contribute to the consolidation of adaptive behaviours and their transfer to everyday life. Thus, the group format creates a unique environment for learning through example, as participants perceive the experience of others as more realistic and achievable.

The mechanism of growth of personal reflection and self-regulation provides awareness of own emotional states, thoughts, and behavioural reactions. Reflection is a significant process of professional and personal development that allows a person to reflect on their experience and change the ways of interacting with reality (Shtyfurak *et al.*, 2023; Omelchenko *et al.*, 2025). In support groups, reflection is activated by discussing the experience, receiving feedback, and comparing own reactions with those of other participants. Awareness of own internal processes is a prerequisite for effective management of behaviour and emotions. Support groups promote these skills through structured discussion of experiences that allow participants to identify maladaptive responses and replace them with more constructive ones. In crisis conditions, group reflection helps to reduce the level of chaotic experiences and restore a sense of inner order (Zlyvko & Lukomska, 2019).

Integrative is a mechanism for increasing subjectivity and restoring a sense of control over life. Subjectivity in the psychological sense means the ability of a person to consciously influence their own life, make decisions, and take responsibility for them. A sense of subjectivity is associated with an active life position and the ability to give meaning to own experience (Maksymenko *et al.*, 2015). In support groups, this mechanism is implemented through a gradual transition from the position of passive experience to the

position of an active participant in changes. Internal control helps to increase psychological stability and responsibility for their own life. Sharing experiences of successfully overcoming difficulties in a support group strengthens participants' faith in their own ability to influence life circumstances. In conditions of war and prolonged crises, support groups become a space for restoring the subject position, where a person again begins to feel not only the object of events, but also the active creator of their own life path (Ihnatovych, 2025; Yamnitsky & Storozh, 2025). Thus, the mechanisms of social learning, reflection and the growth of subjectivity form a complete system of therapeutic influence of support groups, which provides both short-term relief of the emotional state and long-term positive changes in the life of the individual.

A logical continuation of the analysis of the psychological mechanisms of therapeutic influence of support groups is to consider the therapeutic resources of group interaction, which contribute to the sustainability of positive changes and strengthen the restorative potential of the group. In Ukrainian psychological science, these resources are considered as a set of socio-psychological factors that arise in the process of joint activities and interpersonal interaction of group members. One of the most important resources of group interaction is group cohesion and a sense of belonging. Cohesion is manifested in a sense of unity, mutual responsibility, and emotional involvement of participants in the joint process. The sense of belonging to a group performs an important regulatory function, contributing to the stabilisation of the emotional state and the development of a positive self-concept of the individual (Maksymenko *et al.*, 2015). In support groups, cohesion creates a psychologically safe environment in which it is possible to discover traumatic experiences without fear of judgement or rejection. T.M. Tytarenko (2018) noted that in crisis conditions, it is the experience of "being together" and feeling part of a meaningful community that reduces the intensity of existential anxiety and helps to restore the resilience of the individual. A sense of belonging in support groups allows compensating for the loss of social connections and contributes to the development of new resource identities.

A significant therapeutic resource is also feedback and mutual support of participants, which provide an opportunity to correct their ideas about themselves and their own experiences. Constructive feedback in a safe environment promotes self-awareness, responsibility and social competence, and increases the level of psychological adaptation (Mazokha, 2025). Through the feedback of others, a person gets the opportunity to see themselves from different perspectives, which contributes to a deeper awareness of their own emotional and behavioural patterns.

O. Romanenko (2024) pointed to the fact that the presence of differentiated feedback – positive or negative – is particularly valuable, based on which a person learns to evaluate own behaviour more critically. Mutual support in groups performs not only an emotional, but also a meaning-making function, helping participants to find new interpretations of the experience and restore trust in the social environment. Conditions of mutual support activate altruistic tendencies, which, according to N. Dmeterko (2024) and T.V. Novak & M.B. Bodnar (2025) has a positive effect on subjective feelings of psychological well-being.

The influence of group norms and values on the process of psychological recovery is another valuable resource of group interaction, because group norms based on the principles of confidentiality, respect, voluntary participation, and responsibility, create a framework for safe interaction and regulate the behaviour of participants. Internal acceptance of group norms contributes to the interiorisation of socially acceptable forms of interaction and increases the level of self-regulation of the individual (Shtyfurak & Burlaka, 2025). The values fostered within support groups – such as mutual support, empathy and acceptance – gradually become internal guiding principles for participants and are carried over into their lives outside the group. T.M. Tytarenko (2018) emphasised that in difficult life circumstances, value solidarity and support contribute to the restoration of the psychological integrity of the individual and the preservation of their ability to actively function in life.

Based on the theoretical analysis, the authors identified six key psychological mechanisms of therapeutic influence of support groups (the mechanism of emotional support and normalisation of experiences; the mechanism of identification and universalisation of experience; the mechanism of safe communication and trust formation; the mechanism of social learning and modelling of adaptive behaviour; the mechanism of growth of personal reflection and self-regulation; the mechanism of increasing subjectivity and restoring a sense of control over life) and three therapeutic resources of group interaction (group cohesion and a sense of belonging; feedback and mutual support; the influence of group norms and values). It was these nine components that formed the basis of the empirical study.

The reliability of the scale, as measured by Cronbach's alpha, was $\alpha = 0.867$, indicating a high level of internal consistency in the instrument. The adjusted correlations of each item with the overall score ranged from 0.540 to 0.645, and the removal of any item did not increase the overall reliability of the scale, which confirmed the feasibility of including certain mechanisms. The results of evaluating the significance of therapeutic mechanisms are presented in Table 1.

Table 1. Descriptive statistics for evaluating the therapeutic mechanisms of support groups ($n = 158$)

Mechanism	M	SD	Mdn	Rank
Safety and trust (M3)	4.41	0.75	5.0	1
Emotional support (M1)	4.40	0.73	5.0	2
Universalisation of experience (M2)	4.37	0.78	5.0	3-4

Table 1. Continued

Mechanism	M	SD	Mdn	Rank
Group norms and values (M9)	4.37	0.78	5.0	3-4
Social learning (M4)	4.32	0.76	4.0	5-6
Self-awareness (M5)	4.32	0.76	4.0	5-6
Feedback (M8)	4.24	0.83	4.0	7
Cohesion (M7)	4.06	0.90	4.0	8
Subjectivity (M6)	3.99	0.82	4.0	9

Source: compiled by the authors

As can be seen from Table 1, the highest scores were given to the mechanisms of fostering a sense of safety and trust ($M = 4.41$; $SD = 0.75$) and emotional support and normalisation of experiences ($M = 4.40$; $SD = 0.73$). These results are consistent with the theoretical propositions of C.R. Rogers (1961) on unconditional acceptance as a basic condition for personal growth and the conclusions of I.D. Yalom & M. Leszcz (2020) on the therapeutic role of

experience universality. The lowest, though still high, scores were recorded for the mechanisms of subjectivity ($M = 3.99$) and group cohesion ($M = 4.06$), which may reflect the longer nature of their development, as noted by S.D. Maksymenko *et al.* (2015). To identify statistically significant differences between the scores of facilitators ($n = 71$) and participants ($n = 87$), a comparative analysis was performed using the Mann-Whitney criterion (Table 2).

Table 2. Comparison of assessments of therapeutic mechanisms by role (Mann-Whitney U test)

Mechanism	Facilitators M (SD)	Participants M (SD)	U	p	r	Sig.
M1	4.51 (0.61)	4.31 (0.81)	3,417	0.202	0.11	
M2	4.51 (0.75)	4.25 (0.78)	3,717	0.015	0.20	*
M3	4.51 (0.65)	4.32 (0.81)	3,416	0.202	0.11	
M4	4.39 (0.62)	4.25 (0.85)	3,248	0.541	0.05	
M5	4.31 (0.67)	4.32 (0.83)	2,922	0.523	0.05	
M6	3.89 (0.78)	4.07 (0.85)	2,666	0.116	0.14	
M7	4.13 (0.79)	4.00 (0.99)	3,233	0.594	0.05	
M8	4.27 (0.70)	4.22 (0.92)	3,021	0.800	0.02	
M9	4.24 (0.80)	4.48 (0.74)	2,548	0.036	0.18	*

Note: * $p < 0.05$; r – effect size

Source: compiled by the authors

The results of the comparative analysis (Table 2) revealed two statistically significant differences. The facilitators rated the mechanism of universalising experience significantly higher ($M = 4.51$ vs $M = 4.25$; $U = 3,717$; $p = 0.015$; $r = 0.20$), which may reflect their professional awareness of the value of recognising the shared nature of experiences, a concept first articulated by A. Bandura (1977). Instead, participants rated the impact of group norms and values significantly higher ($M = 4.48$ vs. $M = 4.24$; $U = 2,548$; $p = 0.036$; $r = 0.18$), which indicates the importance of a structured and predictable environment for people in difficult life circumstances, as emphasised by V. Shtyfurak & N. Burlaka (2025). Correlation analysis (according to Spearman) revealed statistically significant positive correlations between all nine mechanisms ($p < 0.001$ for all pairs). The strongest links were recorded between cohesion and feedback ($r_s = 0.613$), self-awareness and subjectivity ($r_s = 0.558$), group norms and cohesion ($r_s = 0.534$), social learning and subjectivity ($r_s = 0.528$). These results confirm the opinion of I.D. Yalom & M. Leszcz (2020) regarding the integrative nature of therapeutic factors and conclusions of T.M. Tytarenko (2018) on mutual strengthening of group interaction mechanisms. The suitability of the data for factor

analysis was confirmed by the Bartlett test of sphericity ($\chi^2 = 508.88$; $p < 0.001$) and KMP value of 0.888. Analysis of eigenvalues revealed one dominant factor with an eigenvalue of 4.373, which explains 48.6% of the total variance. The univariate structure of the scale suggests that the nine selected mechanisms measure a single latent construct – the overall therapeutic potential of the support group, which is consistent with the findings of S.L. Horbenko & O.A. Prokopenko (2025) on the cumulative nature of psychotechnologies of therapeutic impact.

Analysis of the relationship between assessments and participation experience (Kruskal-Wallis criterion) revealed no statistically significant differences ($p > 0.05$ for all mechanisms). Simultaneously, there is a tendency to increase the assessment of the safety and trust mechanism with increasing experience (from $M = 4.22$ to $M = 4.57$; $h = 5.21$; $p = 0.074$), which may indicate the cumulative effect of group experience described by T.V. Novak & M.B. Bodnar (2025). According to the facilitators ($n = 71$), the most effective techniques for activating therapeutic mechanisms are: active (empathic) listening (83.1%), group reflection and feedback (70.4%), structured circle of experience exchange (62.0%), psychoeducation (60.6%), relaxation and grounding techniques (57.7%), art

therapy techniques (49.3%), rituals of the beginning/end of the meeting (47.9%), working with metaphors and stories (45.1%). The dominance of empathic listening is consistent with humanistic paradigm by C.R. Rogers (1961), and the combination of emotionally-oriented and cognitive educational approaches corresponds to an integrative model of therapeutic impact based on the cognitive behavioural approach (Beck *et al.*, 2015).

Among the difficulties in managing support groups ($n = 71$ facilitators), irregular attendance of participants dominates (76.1%), which poses a significant challenge to ensuring group cohesion. The dominance of individual participants (38.0%), organisational difficulties (32.4%), and passivity of participants (29.6%) form the second group in terms of frequency. Among the professional difficulties of facilitators, professional burnout (18.3%) and insufficient supervision support (16.9%) stand out, which emphasises the need for systematic support of leading groups, which is indicated by I.M. Trubavina *et al.* (2020). Among the participants ($n = 81$), the leading factors of subjective effectiveness were: understanding the commonality of experience (81.5%), support from the host (71.6%), the ability to speak freely about experiences (67.9%), and emotional support from other participants (60.5%). These data confirm the key role of mechanisms of emotional support and universalisation of experience, which received the highest ratings in the quantitative block of the study, and are consistent with the conclusions of V. Osiodlo *et al.* (2020) and V.L. Zlyvkov & S.O. Lukomska (2019).

Regarding the impact on life in general ($n = 82$ participants): 40.2% reported significant positive changes, 43.9% – moderate positive changes, 7.3% – minor positive changes. Thus, 91.4% of participants recorded a positive impact of the support group on their lives. Discrepancies in the number of responses to individual questions ($n = 81-87$) are conditioned by the fact that some participants did not answer individual questions of the questionnaire; for each indicator, the actual number of valid responses is given. 98.7% of respondents expressed their willingness to recommend participation to others (86.7% – “yes, definitely”; 12.0% – “rather yes”; 1.3% – “hard to say”). None of the respondents chose a negative answer. These results are consistent with the findings of O. Romanenko (2024) and O. Ihnatovych (2025) on the effectiveness of group forms of psychological assistance.

Content analysis of open responses of facilitators ($n = 53$) on improving efficiency revealed the following key categories: regularity and duration of work of groups; need for supervision and professional support; request for methodological support (ready-made meeting plans, exercise sets); need to promote the format of support groups and overcome stigma; need for funding and resources. Open-ended questions were optional, resulting in a lower response rate: 74.6% of facilitators (53 out of 71) and 55.2% of participants (48 out of 87) provided detailed answers suitable for content analysis. Participants ($n = 48$) most often noted: the desire to increase the duration and

frequency of meetings; the need for more practical components and psychoeducation; the importance of the host's qualifications; the desire for an offline format, and structure of the programme. Generalisation of the results of quantitative and qualitative analysis allowed stating that the therapeutic impact of support groups is a systemic phenomenon caused by the integrated action of interrelated mechanisms that function as a single latent construct. Despite the high subjective effectiveness and willingness of participants to recommend participation to others, the study revealed a number of systemic challenges – irregular attendance, burnout of facilitators, and lack of supervision support, which require a separate understanding in the context of international experience in organising support groups.

The results obtained confirmed that the therapeutic impact of support groups is a systemic and multi-level phenomenon, the implementation of which is provided by an integrated set of psychological mechanisms. This position is consistent with a wide range of contemporary international studies and simultaneously clarifies their conclusions due to the specifics of empirical data collected in the context of a long military and social crisis. The priority of the mechanisms of fostering safety and trust ($M = 4.41$) and emotional support ($M = 4.40$) over the mechanism of subjectivity ($M = 3.99$) reflects the logic of gradual recovery of the individual in crisis conditions: first – stabilisation and acceptance, then – restoration of an active position. This hierarchy echoes the conclusions of the large-scale review by J. Rosendahl *et al.* (2021), which analysed the outcomes of group psychotherapy over a 30-year period: the researchers found that the therapeutic alliance and group cohesion are the leading predictors of positive change across different types of groups and theoretical orientations. Therefore, the highest significance of safety and trust mechanisms in this study is not only a situational indicator, but also a pattern confirmed in 329 randomised controlled trials.

The identified statistically significant differences between the scores of facilitators and participants were one of the most interesting results of the study, opening up a field of discussion. Facilitators rated the mechanism of experience universalisation higher ($p = 0.015$), while participants rated the influence of group norms and values ($p = 0.036$). A similar asymmetry in the perception of the group process “from within” and “from outside” was described by G.M. Burlingame *et al.* (2018) in a meta-analysis of group cohesion (55 studies, 6,055 participants): the researchers showed that the quality of vertical relationships (participant-leader) and horizontal relationships (participant-participant) was evaluated differently depending on the position in the group, with presenters more likely to focus on cognitive and learning factors, while participants – on structural and normative ones. This is consistent with the study data and indicates the need to consider the participant's perspective when developing facilitator training programmes.

The univariate scale structure (48.6% variance; $\alpha = 0.867$) is a theoretically significant result that requires separate discussion. It points out that the nine identified mechanisms function not as independent factors, but as manifestations of a single latent construct – the overall therapeutic potential of the group. This echoes the opinion of D. Smit *et al.* (2023), who in a systematic review and meta-analysis of 30 randomised trials (4,152 participants) found that the maintenance effects are modest, but persistent and reproducible, regardless of the type of intervention and the specifics of the disorder. The researchers interpreted this fact as evidence that shared values of mutual support may extend beyond the specific needs of a particular disorder – a finding that supports the one-factor model in this study as well.

Simultaneously, the data obtained in some aspects come into productive conflict with foreign research. The level of subjective effectiveness in this study (91.4% of participants noted the positive impact of the group on their lives) was higher than that recorded in meta-analyses, where the effects of group support were described mainly as moderate: in particular, C. Høgh Egmo *et al.* (2023) in a review of 49 randomised trials (12,477 participants) found a small but significant positive effect on personal recovery (SMD = 0.20). This contrast can be explained by methodological differences: the subjective self-assessments used in this study tend to produce higher scores compared to the clinical scales used in randomised controlled trials. This raises the question of which performance indicators are more environmentally valid in the context of support groups – standardised clinical measurements or a subjective sense of change in own life. The discussion between these approaches remains open.

Regarding the main obstacle to the functioning of groups – irregular attendance (76.1%) – it is worth noting that it is a global problem. C.T. Alldredge *et al.* (2021), in a meta-analysis of therapeutic alliance in group interventions (29 studies, 3,628 participants), stressed that unstable group composition is a key factor undermining the development of alliance between participants and the leader. According to the researcher, in wartime conditions, irregular attendance becomes systemic due to objective circumstances – air raid alarms, displacement, domestic instability – and requires adaptation of support group formats: for example, hybrid or open structures, where the inclusion of new participants does not destroy the therapeutic community.

The problem of burnout of facilitators (18.3%) and insufficient supervision support (16.9%) recorded in this study reflects a broader trend recorded in the international literature. In particular, in the systematic review of group support interventions for individuals with mental disorders conducted by N. Lyons *et al.* (2021), it is emphasised that the quality of group management directly depends on the level of support of the presenters themselves, and supervision is not an optional, but a mandatory element of the psychological assistance system. Accordingly, the systemic lack of

supervision support for leading groups in Ukraine can hinder the implementation of the therapeutic potential of even well-planned programmes. Thus, the results of the study fit into the general international trend of recognising support groups as an effective and systematically organised format of psychological assistance, while emphasising the specifics of the military context in which the functioning of groups faces additional challenges and requires specific resources. Questions remain open about optimal methods for measuring the effectiveness of support groups, the role of supervision as a system resource of presenters, and the specifics of therapeutic mechanisms in conditions of chronic social stress.

◆ Conclusions

The conducted empirical study established that all nine identified therapeutic mechanisms of support groups received high significance ratings (M from 3.99 to 4.41 on a 5-point scale), which confirms their significant role in the therapeutic impact on people in difficult life circumstances. The highest scores were recorded for the mechanisms of fostering safety and trust (M = 4.41), emotional support, and normalisation of experiences (M = 4.40), while slightly lower scores were recorded for the mechanism of subjectivity restoration (M = 3.99). The defined hierarchy reflects the logic of step-by-step psychological recovery: stabilisation and acceptance precede the restoration of an active life position, which is consistent with the key theoretical provisions of humanistic, group and dynamic, and cognitive behavioural approaches.

Comparative analysis revealed statistically significant differences in the perception of therapeutic mechanisms between facilitators and participants. Facilitators evaluated the mechanism of universalisation of experience higher ($p = 0.015$), which reflects their professional reflection on group processes and awareness of the didactic value of this mechanism in the management of the group. But participants attach more importance to the influence of group norms and values ($p = 0.036$), which indicates the special need of people in difficult life circumstances in a structured and predictable environment as a source of psychological support. The identified asymmetry in the perception of the group process “from within” and “from outside” is of direct practical importance: facilitator training programmes should pay more attention to understanding the subjective experience of participants, and not just theoretical concepts of group dynamics.

Correlation and factor analysis confirmed the systemic interconnectedness of all mechanisms (all $r_s > 0.32$; $p < 0.001$) and the structure of the univariate scale (48.6% variance; $\alpha = 0.867$). This result is theoretically significant: it showed that the selected mechanisms function not as independent factors, but as an integrated system, where activation of one mechanism enhances the action of others. This conclusion is consistent with the concept of “general group effect”, which considers the therapeutic effect of a group as a systemic property of the group process as a whole, and not as the sum of individual techniques. A

practical consequence of this is the inadmissibility of a fragmented approach to the organisation of support groups: attention only to individual mechanisms (for example, exclusively to emotional support) without ensuring a holistic group process reduces the overall therapeutic potential.

The high subjective effectiveness of support groups was empirically confirmed: 91.4% of participants noted a positive impact on their lives, and 98.7% were ready to recommend participation in the group to others. The most effective techniques were recognised as empathic listening (83.1%), group reflection (70.4%), and a structured circle of experience exchange (62.0%). The data obtained indicate that techniques aimed at creating a safe dialogue space and promoting awareness of their own experience are perceived by participants as the most valuable – which is an argument in favour of a humanistic-oriented model of conducting support groups.

Furthermore, the study identified systemic problems that hinder the implementation of the therapeutic potential of support groups. The main obstacle is irregular attendance (76.1%), which in wartime conditions becomes objective and requires adaptation of work formats – in particular, the

development of hybrid and open models of groups, where the instability of the composition does not destroy the therapeutic process. Professional challenges include burnout of facilitators (18.3%) and insufficient supervision support (16.9%), which indicates the need to develop a system infrastructure to support the leaders themselves as a condition for the sustainable functioning of support groups in Ukraine. The prospects for further research include investigating therapeutic mechanisms at different stages of group work, comparing models of support groups, developing a standardised tool for assessing group interaction, and studying the durability of therapeutic effects in the post-group period.

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Психологічні механізми терапевтичного впливу груп підтримки на осіб, які перебувають у складних життєвих обставинах

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♦ **Анотація.** Актуальність дослідження зумовлена стрімким зростанням потреби в психологічній допомозі в умовах тривалої збройної агресії та соціальної кризи в Україні, де групи підтримки набувають особливої значущості як доступна і масштабована форма психологічної роботи з особами у складних життєвих обставинах. Метою статті було емпіричне дослідження психологічних механізмів терапевтичного впливу груп підтримки на осіб, які перебувають у складних життєвих обставинах, та визначення терапевтичних ресурсів групової взаємодії. Дослідження проводилося методом онлайн-анкетування. Вибірку становили 158 респондентів: 71 фасилітатор та 87 учасників груп підтримки різної тематичної спрямованості, відібраних за критерієм наявності прямого досвіду участі або ведення групи. Авторська анкета включала оцінку терапевтичних механізмів за п'ятибальною шкалою Лікерта, закриті питання множинного вибору та два відкритих питання. Результати засвідчили високу значущість усіх дев'яти механізмів (середні оцінки від 3,99 до 4,41). Найвищі оцінки отримали механізми формування безпеки та довіри, емоційної підтримки й нормалізації переживань. Виявлено статистично значущі відмінності між оцінками фасилітаторів та учасників: фасилітатори вище оцінюють механізм універсалізації досвіду, тоді як учасники надають більшого значення впливу групових норм і цінностей. Факторний аналіз підтвердив однофакторну структуру шкали (48,6 % загальної дисперсії; коефіцієнт внутрішньої узгодженості – 0,867), що свідчить про функціонування виділених механізмів як єдиної інтегрованої системи. Серед учасників 91,4 % відзначили позитивний вплив групи на своє життя; найефективнішими техніками визнано емпатійне слухання (83,1 %), групову рефлексію (70,4 %) та структуроване коло обміну досвідом (62,0 %). Основною перешкодою була нерегулярна відвідуваність (76,1 %), а серед професійних викликів – вигорання фасилітаторів (18,3 %) та недостатня супервізійна підтримка (16,9 %). Практична цінність дослідження полягає у використанні отриманих даних для вдосконалення методичного забезпечення груп підтримки, підготовки фасилітаторів, супервізійної підтримки ведучих груп та адаптації групової роботи до умов воєнного часу

♦ **Ключові слова:** терапевтичні чинники групової взаємодії; психологічне відновлення; фасилітатор групи; воєнна криза; суб'єктивна ефективність



Psychological consequences of war-related displacement among young Ukrainian students

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◆ **Abstract.** The 2022 Russian invasion of Ukraine produced large numbers of young civilians who were forced to leave the country; however, the psychological condition of war-displaced Ukrainian students living in host countries remains insufficiently studied. This cross-sectional study examined the severity of post-traumatic stress disorder (PTSD) symptoms and the level of post-traumatic growth (PTG) among war-displaced Ukrainian students residing in Slovakia and explored gender differences. Seventy Ukrainian university students (36 women, 34 men; aged 17-30) who left Ukraine due to the war and were living in Košice, Slovakia, completed the Posttraumatic Stress Disorder Checklist (PCL-5) for the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) and the Post-Traumatic Growth Inventory (PTGI) between January and February 2024. Group differences were tested using non-parametric statistical methods, and internal consistency was assessed using reliability coefficients. More than half of the participants (52.9%) reached the cut-off score indicating probable post-traumatic stress disorder. The prevalence was higher among women (63.9%) than among men (41.2%). Women also showed significantly higher overall post-traumatic stress disorder symptom severity and higher scores on intrusion and avoidance dimensions, whereas no gender differences were found for negative alterations in cognition and mood or arousal and reactivity. The level of post-traumatic growth was moderate to high in the total sample, with no significant gender difference in the overall post-traumatic growth score; a difference was observed only for the “appreciation of life” dimension, which was higher in women. The findings demonstrate the coexistence of psychological distress and positive psychological change among war-displaced students and highlight the need for gender-sensitive psychological screening and support services in higher education institutions. The results should be interpreted while considering the cross-sectional design and the characteristics of the study sample

◆ **Keywords:** conflict-affected populations; post-traumatic stress symptoms; post-traumatic growth; psychological adaptation; gender differences

◆ Introduction

Post-traumatic stress disorder (PTSD) remains a highly relevant issue in contemporary society, particularly in the context of ongoing wars, armed conflicts, and large-scale humanitarian crises that expose civilians to severe psychological trauma. Interest in PTSD research has grown substantially in recent years, especially among populations affected by war-related experiences such as forced displacement, loss of family members, and mass violence, including genocide. In this context, people affected by the recent war in Ukraine constitute a

particularly important population for investigation because they are exposed to multiple, cumulative stressors associated with both direct and indirect consequences of conflict. Understanding the psychological consequences of such experiences, including both negative outcomes such as post-traumatic stress symptoms and adaptive outcomes such as post-traumatic growth (PTG), is essential for developing effective support strategies and informing evidence-based interventions for displaced and conflict-affected populations.

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The large-scale displacement caused by the full-scale Russian invasion of Ukraine has resulted in one of the most significant humanitarian crises in recent decades. Since the beginning of the invasion in 2022, millions of Ukrainians have been forced to flee the country and seek refuge across Europe and beyond. This unprecedented refugee movement has created both an urgent need and a unique opportunity for scientific research into the psychological consequences of war-related trauma. In Poland, research on Ukrainian refugees has consistently demonstrated the importance of social support from both the host society and co-nationals in mitigating the psychological consequences of forced migration, as shown by M. Baran *et al.* (2024). At the same time, high levels of psychological distress have been reported: P. Długosz (2023), in a large Polish study (N = 737), found that 73% of participants experienced PTSD symptoms accompanied by depression and other mental health difficulties, while an Italian research group led by D. Rizzi *et al.* (2022) observed elevated levels of anxiety, depression, and sleep disturbances among Ukrainian refugees and internally displaced persons (IDPs) in Poland; they also highlighted the role of family as a protective factor supporting resilience.

Ukrainian researchers have increasingly examined PTSD, PTG, and their interrelations across diverse social groups, including refugees, internally displaced persons, civilians, military personnel, and students. D. Martsenkovskyi *et al.* (2024) studied parents and their children aged 3-17 to estimate the prevalence of probable PTSD symptoms and identify risk factors; they found that about half of participants had direct or indirect exposure to war-related events and that 14% met criteria for PTSD. M. Polyvianaia *et al.* (2025) reported very high rates of probable PTSD, anxiety, depression, and insomnia among Ukrainian university students and demonstrated that relocation status and living conditions substantially shape mental-health outcomes. Overall, A. Trofimov & N. Shabanova (2025) examined forcibly displaced Ukrainians, most of whom were residing in Poland, with particular attention to the role of faith in mental health. Their findings indicated elevated levels of PTSD, anxiety, and depression among participants, no significant differences related to the host country, and no clear association between faith and mental health outcomes. Taken together, these findings suggest that war exposure and forced displacement are associated with a substantial psychological burden across different Ukrainian populations. At the same time, the literature suggests that the relationship between PTSD severity and PTG is often weak, indirect, or non-linear, whereas PTG appears to be more strongly connected to personal, existential, and social resources. O. Banit (2023) found that PTG increases with age, particularly in the domains of improved interpersonal relationships and greater appreciation of life, while participants over 60 reported higher levels of spiritual change. O. Semidochna & T. Zavada (2025) showed that engagement in meaningful activities, especially volunteering and teaching children, predicts PTG through existential

freedom, whereas PTSD severity was not significantly associated with PTG. Similarly, O. Belov *et al.* (2025) demonstrated longitudinally that social and interpersonal support from family and friends is a central resource for PTG among internally displaced persons, alongside resilience and psychological hardiness. In a large cross-sectional study of 3,173 participants O. Lushchak *et al.* (2024) showed that psychological distress varies by displacement status, with the highest prevalence of PTSD among refugees and the lowest among non-displaced individuals, suggesting that forced displacement, adaptation to a new cultural environment, and ongoing post-migration stressors are associated with greater war-related psychological distress.

To the best of the author's knowledge, Ukrainian university students residing in Slovakia have not previously been examined in this context. Therefore, this study aimed to assess the severity of PTSD symptoms and the level of PTG among war-displaced Ukrainian students in Slovakia and to examine gender differences in these outcomes. This study hypothesised that gender is a central analytical variable rather than a background characteristic, and the study investigates gender-related differences in overall PTSD severity, specific PTSD symptom clusters, and dimensions of PTG among young Ukrainian civilian refugees studying in Slovakia. Accordingly, the following hypotheses were formulated: hypothesis 1: women report higher levels of post-traumatic stress disorder symptom severity than men; hypothesis 2: women report higher levels of overall post-traumatic growth than men.

◆ Literature Review

According to the DSM-5, post-traumatic stress disorder may develop following direct exposure to traumatic events, such as actual or threatened death, serious injury, or sexual violence, as well as through witnessing such events or learning that they occurred to close family members or loved ones (APA, 2013). The disorder is characterised by intrusive recollections of the traumatic experience, avoidance of trauma-related stimuli, negative alterations in mood and cognition, and heightened arousal and reactivity. These symptoms may include intrusive memories, avoidance of trauma-related reminders, emotional distress, anxiety, and dissociative experiences, which may significantly impair everyday functioning.

Post-traumatic growth was conceptualised by R. Tedeschi & L. Calhoun (1996) as positive psychological change that occurs as a result of struggling with highly challenging or traumatic life events. Rather than being a direct consequence of trauma exposure, PTG emerges through individuals' cognitive and emotional efforts to cope with disrupted beliefs, goals, and assumptions about the world. Although traumatic experiences are often associated with negative psychological outcomes such as post-traumatic stress symptoms, some individuals report positive changes in personal strength, interpersonal relationships, appreciation of life, and existential or spiritual understanding. From this perspective, crises may serve

as catalysts for psychological reappraisal and transformation, depending on how the individual interprets and integrates the traumatic experience. Empirical research indicates that PTG varies across populations and trauma types; nevertheless, it is widely regarded as an important dimension of psychological adaptation to adversity. Importantly, post-traumatic growth is not considered incompatible with psychological distress, as positive psychological changes may coexist with elevated post-traumatic stress symptoms (Tedeschi & Calhoun, 2004). In addition to differences in trauma exposure, previous research has shown that gender may influence psychological responses to trauma. Gender differences in post-traumatic stress responses are not limited to prevalence rates but may also reflect differences in cognitive appraisal, emotional processing, and trauma-related coping patterns. Previous research suggests that gender-specific pathways to PTSD may involve variations in perceived threat, meaning-making processes, and sensitivity to interpersonal stressors following traumatic exposure (Christiansen & Hansen, 2015; Christiansen & Berke, 2020).

These theoretical considerations are particularly relevant in the context of the full-scale Russian invasion of Ukraine, which has caused mass displacement and created large populations exposed to prolonged war-related stress. Since 2022, millions of Ukrainians have been forced to flee the country and seek refuge across Europe and beyond. According to the UNHCR (2026) and IOM (2026), 5,923,870 Ukrainian refugees had been officially recorded worldwide, while an estimated 3.9 million individuals were internally displaced within Ukraine as of March 2026. Earlier UNHCR (2025) show that the largest host countries for Ukrainian refugees include Germany, Poland, the Czech Republic, the United Kingdom, Spain, Romania, Italy, and Slovakia, with host populations ranging from approximately 147,000 to over 1.3 million individuals.

Recent studies among Ukrainian populations suggest that trauma-related outcomes vary depending on displacement status, migration context, and type of war exposure. For example, internally displaced persons (IDPs) appear to demonstrate particularly high levels of probable PTSD symptoms in comparison with soldiers and local residents (Masik *et al.*, 2025). While differences in post-traumatic growth trajectories have been observed between civilian and military populations – with civilians orienting more toward fulfilment of personal potential, whereas military personnel emphasised openness to life and interpersonal relationships (Pohorilska *et al.*, 2024). Civilian Ukrainian war victims who are university students living abroad remain an under-researched group despite facing distinctive developmental, educational, and psychosocial challenges associated with emerging adulthood, forced migration, and adaptation to a new cultural environment. Understanding how young people experience and respond to the war in their home country is essential for supporting their psychological adaptation in new social and cultural environments. Such insights may also inform research and therapeutic

approaches tailored to young Ukrainian refugees and migrants in host countries. Existing research conducted by international teams in collaboration with Ukrainian researchers has examined Ukrainian students residing in active war zones in Ukraine, primarily in Kyiv. Although all participants were living in Kyiv at the time of assessment, a substantial proportion had experienced prior displacement, with 29.1% having relocated within Ukraine and 16.9% having temporarily resided abroad (Lotzin *et al.*, 2023). Studies by A. Lotzin *et al.* (2023; 2025) indicate that sexual violence and cumulative trauma exposure are associated with an increased risk of complex post-traumatic stress disorder. At the same time, these studies highlight the role of resilient coping as a process of moving from psychological instability toward greater stability.

More broadly, trauma outcomes among Ukrainians appear to depend on both exposure intensity and post-migration conditions. T. Karatzias *et al.* (2023) reported high rates of PTSD and complex post-traumatic stress disorder among parents living in Ukraine six months after the invasion, with a dose-response relationship between war-related stressors and symptom severity. In contrast, K.-I. Karstoft *et al.* (2025) observed lower prevalence rates among Ukrainians who had resettled in Denmark within the first year after the invasion, emphasising the role of post-migration living difficulties and social support. Taken together, these findings point to the combined influence of conflict exposure and post-migration context on trauma-related mental health. Despite the growing body of research on the psychological consequences of the full-scale Russian invasion of Ukraine, limited attention has been paid to young civilian university students residing abroad, particularly in Central European host countries such as Slovakia. Moreover, relatively little is known about the coexistence of post-traumatic stress symptoms and post-traumatic growth in this population, particularly with regard to potential gender-related differences. Addressing these gaps may contribute to a better understanding of psychological adaptation among war-displaced Ukrainian students and support the development of targeted psychosocial interventions.

◆ Materials and Methods

The study was conducted as part of a larger NAWA-funded international project “The role of family in coping with war trauma among Ukrainian civilian victims of the 2022 war” involving participants from Ukraine, Poland, Germany, and Slovakia. The study received a positive ethical opinion from the University of Lower Silesia Research Ethics Board, Wrocław, Poland (Opinion No. 6/2022, 16 November 2022). The present article focused exclusively on the Slovak subsample. Data were collected between January and February 2024 in Košice, Slovakia, among 70 Ukrainian civilian war-displaced students (aged 17-30 years, $M = 18.45$; $SD = 1.90$), most of whom were university students in Košice. Inclusion criteria comprised Ukrainian nationality and voluntary informed consent to participate. The sample was purposively recruited within

the academic community, primarily among students residing in university dormitories. Participants represented various fields of study (e.g., social sciences, pedagogy, technical sciences, medicine, philology), although academic discipline was not included in the dataset. The study protocol was reviewed and approved by the institutional ethics committees of the University of Lower Silesia and the John Paul II Catholic University of Lublin. In this study, the term “war-displaced Ukrainian students” referred to Ukrainian citizens who left Ukraine after the 2022 full-scale invasion and were residing in Slovakia at the time of data collection, regardless of their formal legal or administrative status. Data was collected using paper-based and electronic questionnaires. Most participants ($n = 60$) completed paper questionnaires distributed in person by the researcher or trained volunteers in student dormitories. An online version (Google Forms) was available in Ukrainian and completed by 10 participants; the link was disseminated within the war-displaced Ukrainian student community in Košice. Paper questionnaires were available in Ukrainian and Russian according to participants' preferences, with the majority completed in Ukrainian ($n = 50$). Completion time ranged from approximately 25 to 50 minutes. All questionnaires were completed individually, under conditions ensuring privacy and without the researcher's presence, to minimise social desirability bias. To ensure anonymity, participants generated individual

codes based on personal but non-identifying information. Prior to participation, all respondents were fully informed about the study aims, the voluntary nature of participation, the right to withdraw, and confidentiality procedures. Informed consent was obtained from all participants, and the study was conducted in accordance with ethical standards of the American Sociological Association's Code of Ethics (2018) for psychological research. Data from both collection modes were standardised and coded uniformly. Information regarding the language version used was not recorded in the dataset. Statistical analyses were conducted using IBM SPSS Statistics and all results were reported at the aggregate level to ensure participant anonymity. All research instruments were translated into Ukrainian and Russian by the research team within the NAWA project. However, no formal cross-cultural adaptation or psychometric validation was conducted, which should be considered a methodological limitation.

The study consisted of 70 participants ($N = 70$), including 36 women (51.4%) and 34 men (48.6%). Participants ranged in age from 17 to 30 years ($M = 18.45$; $SD = 1.90$); the mean age was 18.89 years for women ($SD = 2.04$) and 18.00 years for men ($SD = 1.65$). Most participants were university students enrolled at different higher-education institutions in Košice, Slovakia (Table 1). The sample size was determined by the availability of participants within the specific academic context and timeframe of data collection.

Table 1. Sociodemographic data of the study group

1.	Sex	N	%
Women		36	51.40
Men		34	48.60
2.	Marital status	N	%
Single (never married)		70	100
Married		0	0.00
Civil union		0	0.00
Divorced		0	0.00
Widowed		0	0.00
3.	Religious belief	N	%
Believer		35	50.00
Non-believer		16	22.85
Missing data		16	22.85
Agnostic		3	4.3
4.	Religious affiliation	N	%
Christianity		14	20.00
Eastern Orthodoxy		12	17.14
Roman Catholicism		3	4.29
Greek Catholicism		2	2.86
Protestantism		1	1.43
Atheism/no religious affiliation		17	24.28
Agnosticism		3	4.29
Islam		1	1.43
Paganism		1	1.43
Missing data		16	22.85
5.	Education level	N	%
Primary education		22	31.43
Incomplete secondary education		0	0.00
Secondary education		42	60.00
Incomplete higher education (bachelor's level)		6	8.57
Higher education (master's level)		0	0.00

Table 1. Continued

6.	Family members	N	%
Father		63	90.00
Mother		69	98.57
Siblings		55	78.57
Spouse		0	0.00
Children		0	0.00

Source: developed by the author

The study employed a set of self-report questionnaires, which were translated and adapted to Ukrainian using Polish and English versions of the tools. They were selected to assess trauma-related symptoms and psychological adaptation. The PCL-5 questionnaire (PTSD Checklist for DSM-5, PCL-5) is a self-rated scale that was developed by PTSD (n.d.). The Polish adaptation of the tool was prepared by N. Ogińska-Bulik *et al.* (2018), and its psychometric properties were further examined and described in a later publication by N. Ogińska-Bulik & Z. Juczyński (2023). There was also validated Ukrainian adaptation by V. Bezsheiko (2016). It assessed PTSD symptoms across the four DSM-5 clusters: intrusions (Criterion B), avoidance of trauma reminders (Criterion C), negative alterations in cognitions and mood (NACM; Criterion D), and alterations in arousal and reactivity (AAR; Criterion E) (APA, 2013). The PCL-5 contains 20 items rated on a scale from 0 ("not at all") to 4 ("extremely"), summed to give a total score ranging from 0 to 80; a cut-off score of 33 or higher indicates probable PTSD. Participants rated symptoms experienced over the past month. In the study Cronbach's $\alpha = .90$ (overall post-traumatic stress disorder – total score of PTSD), so it indicates a very high reliability of measurement in the study group.

The post-traumatic growth inventory (PTGI) is a self-rated scale that was developed by R. Tedeschi & L. Calhoun (1996). The original version is based on a five-factor structure. The Polish adaptation was made by N. Ogińska-Bulik & Z. Juczyński (2018), and the factor analysis showed a four-factor structure. The Polish version combines two factors found in the original version – "new opportunities" and "greater personal strength" – into one dimension defined as "changes in self-perception". There was a Ukrainian validated version of the tool created by

D. Zubovskiy (2018). It measures the level of posttraumatic growth: positive changes such as personal strength and appreciation of life. Responses were rated on a 6-point Likert scale ranging from 0 ("not at all") to 5 ("to a very large extent"). Responses were rated on a 6-point Likert scale ranging from 0 ("not at all") to 5 ("to a very large extent"). The level of PTG is assessed on the basis of the total number of points obtained by the respondent. This result was compared to norms developed on the basis of the results of a large group of respondents ($N = 730$), which allows the severity of PTG to be classified as low, average or high (scores 1-4, 5-6, 7-10). The higher the total PTGI score, the greater the severity of positive changes associated with the traumatic experience. In the study Cronbach's $\alpha = .90$ (overall post-traumatic growth – total score of PTG), it indicated a very high reliability of measurement with this tool in the study group. In addition to the measures reported here, the survey included the international personality item pool-big five markers (Donnellan *et al.*, 2006), the attachment style questionnaire (Feeney *et al.*, 1994), and the psycho social and psychic defences questionnaire assessing defensive mechanisms (Senejko, 2019).

◆ Results and Discussion

Given the sample size, the analyses focused on descriptive statistics and non-parametric group comparisons, which constituted the primary analytical strategies of the study. The relatively homogeneous age range and student status of the participants should be taken into account when interpreting the results. Descriptive statistics for all analysed variables are presented in Table 2. Several variables showed deviations from normality, which justified the use of non-parametric procedures in subsequent analyses.

Table 2. Basic descriptive statistics for the variables included in the study ($N = 70$)

Variable	M	SD	SK	K	Min	Max	S-W	p
PCL_Ovs	34.76	16.49	0.14	-0.60	2.00	73.00	0.98	0.588
PCL_I	8.54	5.14	0.28	-1.03	0.00	19.00	0.94	0.005
PCL_A	3.60	2.25	-0.07	-1.12	0.00	8.00	0.94	0.005
PCL_NCaM	12.01	6.33	0.39	-0.41	1.00	26.00	0.97	0.073
PCL_AaR	10.60	5.76	-0.05	-0.93	0.00	22.00	0.96	0.054
PTGI_Ovs	67.45	18.24	-0.84	0.18	18.00	96.00	0.93	0.002
PTGI_CiSP	31.55	7.97	-0.92	0.62	9.00	43.00	0.93	0.001
PTGI_CiRwo	20.17	8.30	-0.49	-0.61	0.00	34.00	0.96	0.022
PTGI_GAoL	11.11	3.37	-0.83	-0.12	3.00	15.00	0.90	<.001
PTGI_SC	4.64	2.55	0.04	-0.71	0.00	10.00	0.97	0.144

Note: M – mean; SD – standard deviation; SK – skewness; K – kurtosis; Min – minimum; Max – maximum; S-W – Shapiro-Wilk test value; p – significance level; PCL_Ovs – overall post-traumatic stress disorder score; PCL_I – intrusion symptoms; PCL_A – avoidance; PCL_NCaM – negative cognition and mood; PCL_AaR – arousal and reactivity; PTGI_Ovs – overall post-traumatic growth score; PTGI_CiSP – changes in self-perception; PTGI_CiRwo – changes in relationships with others; PTGI_GAoL – greater appreciation of life; PTGI_SC – spiritual changes

Source: developed by the author

Gender differences in post-traumatic stress disorder symptom severity were examined using the Mann-Whitney U test (Table 3). Statistically significant differences were observed for the overall PTSD score, with higher symptom severity among

women compared to men. Significant gender differences were also found for the intrusion and avoidance symptom clusters. No statistically significant differences were identified for negative alterations in cognition and mood or for arousal and reactivity.

Table 3. Results of the Mann-Whitney U test for PTSD levels in the group of women and men (N = 70)

Variable	Women (N = 36)		Men (N = 34)		Comparison of averages	
	M	SD	M	SD	U	p
PCL_Ovs	39.03	16.77	30.24	15.14	422	0.030
PCL_I	9.86	4.90	7.15	5.09	423	0.030
PCL_A	4.33	2.14	2.82	2.14	380	0.010
PCL_NCaM	13.06	6.90	10.91	5.56	498	0.180
PCL_AaR	11.78	5.92	9.35	5.40	465.5	0.070

Note: PCL_Ovs – overall post-traumatic stress disorder score; PCL_I – intrusion symptoms; PCL_A – avoidance; PCL_NCaM – negative cognition and mood; PCL_AaR – arousal and reactivity; U – Mann-Whitney U test

Source: developed by the author

These findings indicate that gender differences in PTSD symptomatology were limited to selected symptom domains, with the most pronounced differences observed in intrusion and avoidance. Based on the recommended cut-off score of ≥ 33 on the PCL-5, 52.9% of participants (n = 37) met the criteria for probable post-traumatic stress disorder. The prevalence of probable PTSD was higher among women (63.9%, n = 23) than among men (41.2%, n = 14),

which is consistent with the observed gender differences in overall PTSD symptom severity. These findings underscore the clinical relevance of war-related psychological distress in this population of young civilian war-displaced students. Due to missing responses on the PTGI, analyses of post-traumatic growth were conducted on a reduced sample (N = 66). Gender differences in post-traumatic growth are presented in Table 4.

Table 4. Mann-Whitney U test results for PTG levels in the female and male groups (N = 66)

Variable	Women (N = 36)		Men (N = 30)		Comparison of averages	
	M	SD	M	SD	U	p
PTGI_Ovs	70.03	17.06	64.37	19.41	435	0.180
PTGI_CiSP	32.03	6.84	30.97	9.24	503	0.630
PTGI_CiRwo	21.25	8.45	18.87	8.06	423	0.130
PTGI_GAoL	11.86	3.33	10.20	3.25	359.5	0.020
PTGI_SC	4.89	2.68	4.33	2.38	469.5	0.360

Note: PTGI_Ovs – overall post-traumatic growth score; PTGI_CiSP – changes in self-perception; PTGI_CiRwo – changes in relationships with others; PTGI_GAoL – greater appreciation of life; PTGI_SC spiritual changes; U – Mann-Whitney U test

Source: developed by the author

The results presented in Table 4 indicate that no statistically significant gender differences were observed for the overall PTG score or for most PTG dimensions. A significant difference was found only for the greater appreciation of life dimension, with higher scores reported by women. These findings suggest that gender differences in post-traumatic growth were limited and provide only partial support for the study hypotheses. The present findings support the first hypothesis, indicating higher PTSD symptom severity among women than men. This difference was particularly evident in the intrusion and avoidance symptom clusters, while no gender differences were observed for negative alterations in cognition and mood or arousal and reactivity. These results are consistent with previous research demonstrating a greater vulnerability of women to PTSD following traumatic exposure (Kessler *et al.*, 1995; Breslau *et al.*, 1998; Christiansen & Hansen, 2015). The observed gender differences in PTSD symptom severity may reflect differences in psychological processing of traumatic experiences rather than differences in exposure alone. Gender-specific pathways to post-traumatic stress have

been linked to variations in cognitive appraisal, emotion regulation, and sensitivity to interpersonal threat, which may shape how traumatic events are experienced and integrated over time (Christiansen & Hansen, 2015; Christiansen & Berke, 2020).

In this context, higher symptom severity among women may be associated with greater perceived threat and more intensive emotional engagement with trauma-related memories, particularly under conditions of prolonged uncertainty and interpersonal stress, such as forced displacement. These mechanisms may help explain why gender differences were evident in some PTSD symptom clusters, while other domains showed more comparable levels between women and men. Earlier studies suggest that biological factors, such as hormonal influences, as well as socio-cultural factors related to gender roles, may contribute to these differences (Olf, 2017; Christiansen & Berke, 2020). Greater susceptibility of women to chronic PTSD has also been reported in longitudinal research (Yehuda, 2002; Solomon *et al.*, 2005). Similar patterns have been observed in the Polish population by N. Ogińska-Bulik &

Z Juczyński (2023), where women reported more intense PTSD symptoms, particularly in the emotional processing of traumatic memories.

The second hypothesis, assuming higher overall post-traumatic growth among women, was not supported. Although women obtained slightly higher mean post-traumatic growth scores, the difference did not reach statistical significance. Gender differences were limited to the appreciation of life dimension, suggesting that positive changes following trauma may manifest similarly in women and men, with only selected aspects differing between genders. The absence of significant gender differences in overall post-traumatic growth is consistent with findings indicating that post-traumatic growth is shaped by multiple contextual and individual factors, including the nature of the traumatic event, cultural background, coping strategies, and the measurement tools used (Joseph *et al.*, 2004; Joseph & Linley, 2006; Vishnevsky *et al.*, 2010). Further evidence of N. Ogińska-Bulik (2013), suggests that although some studies report higher post-traumatic growth levels among women, such differences are not consistently observed across populations or trauma types. Similarly, recent research by K. Zawistowska *et al.* (2023) reported no significant differences in post-traumatic growth levels between groups differing in physical functioning, further supporting the non-uniform role of gender in post-traumatic growth processes. In addition, contextual factors related to the place of stay may play an important role. For example, research by G. Ermansons *et al.* (2023) demonstrated that mental health and general well-being among refugees are strongly associated with host-country conditions in Global North countries, which may influence patterns of psychological adaptation, including post-traumatic growth. The presence of post-traumatic growth in the current sample is consistent with earlier findings from European war-affected civilian populations. For example, S. Powell *et al.* (2003) reported moderate levels of post-traumatic growth among war-displaced students from the former Yugoslavia, suggesting that positive psychological changes may emerge even under conditions of prolonged conflict-related displacement.

The co-occurrence of elevated PTSD symptoms and moderate to high levels of PTG observed in the present study supports the view that psychological distress and positive psychological change are not mutually exclusive. Post-traumatic growth has been conceptualised as a process of positive change that may emerge through cognitive and emotional struggle with highly challenging life events, rather than as a direct indicator of recovery or the absence of suffering (Tedeschi & Calhoun, 2004). Accordingly, PTG should be understood as a form of cognitive and existential reappraisal that can develop alongside ongoing psychological distress. Conceptual and empirical research further suggests that post-traumatic growth may reflect adaptive meaning-making processes aimed at restoring coherence and purpose in life, rather than actual reductions in symptom severity (Joseph & Linley, 2006; Zoellner &

Maercker, 2006). In populations exposed to chronic and unresolved stressors, such as war-related displacement, PTG may therefore represent an attempt to integrate traumatic experiences under conditions of prolonged adversity rather than an indicator of psychological recovery (Powell *et al.*, 2003; Tedeschi & Calhoun, 2004).

Taken together, the results suggest that gender plays a more prominent role in the severity of post-traumatic stress symptoms than in post-traumatic growth. Gender-related differences may therefore emerge only in specific domains, such as appreciation of life, rather than in the overall level of growth, depending on contextual and individual factors. This finding aligns with theoretical models emphasising the importance of personal resources, coping strategies, and social context in shaping post-traumatic growth. The present article focuses on the prevalence and gender-related differences in PTSD and post-traumatic growth. Other psychological variables assessed in the broader research project, including personality traits, attachment styles, and defensive mechanisms, were not analysed here. From an interdisciplinary perspective, the present findings can be interpreted in relation to the legal and institutional contexts in which war-displaced students live in host countries. Policy-oriented evidence on displaced Ukrainians in Denmark highlights the importance of integration experiences and psychosocial needs in shaping mental health and adaptation within European host societies (Karstoft *et al.*, 2025). Within the European Union, Ukrainian students who fled the armed conflict are generally covered by temporary protection mechanisms that provide formal access to education and basic social services. However, legal status was not assessed in the present study. The high level of post-traumatic stress symptoms observed indicates that legal protection and institutional stability alone are insufficient to mitigate the psychological consequences of war-related displacement. These findings highlight the need for targeted psychosocial support within higher-education institutions and may inform policymakers in the development of support measures for war-displaced students within existing legal frameworks.

Several limitations of the present study should be noted. First, the cross-sectional design does not allow conclusions about cause-and-effect relationships between trauma exposure, post-traumatic stress disorder symptoms, and post-traumatic growth. Second, the sample was relatively small and consisted mainly of young university students, which limits the extent to which the findings can be generalised to other groups of war-displaced Ukrainians. In addition, the study did not examine participants' formal legal status, therefore, the findings apply to war-displaced students as a social group rather than to legally defined migration categories. Third, although Ukrainian-language versions of the instruments were used, no formal cross-cultural adaptation procedures were conducted in this study. Fourth, the use of self-report questionnaires may have led to response biases, such as social desirability or recall bias. Future studies would benefit from longitudinal designs,

larger and more diverse samples, and the use of clinician-administered assessments. In this regard, longitudinal research by R. Goto *et al.* (2025) and M. Missler *et al.* (2025) demonstrated that displacement can have complex and time-varying effects on mental health, particularly among parents and children, as it may both increase exposure to ongoing stressors and, in some cases, reduce direct exposure to violence. These findings underscore the importance of longitudinal approaches for achieving a more accurate understanding of displacement-related psychological processes and for informing the development of interventions tailored to different groups of refugees, including families with children, students, and adults.

◆ Conclusions

The present study examined how war-related trauma outcomes operationalised as PTSD symptom severity and PTG are expressed among Ukrainian university students living in Slovakia, with particular attention to gender-related differences. The findings indicate that war-related trauma in this population is associated with a substantial psychological burden, reflected in elevated levels of post-traumatic stress symptoms, while post-traumatic growth showed more limited differentiation. Notably, 52.9% of participants reached the cut-off score indicating probable PTSD, underscoring the considerable psychological impact of war-related displacement among young civilians pursuing higher education abroad. Gender emerged as a relevant factor in the expression of PTSD symptoms, with women demonstrating a higher prevalence of probable PTSD (63.9%) compared to men (41.2%), as well as significantly higher symptom severity, particularly in the domains of intrusion and avoidance. In contrast, no significant gender differences were observed in overall levels of post-traumatic growth, with the exception of the “appreciation of life” dimension, which was higher among women. These results suggest that gender plays a more prominent role in trauma-related psychological distress than in positive psychological changes following trauma. At the same time, the presence of moderate to high levels of post-traumatic growth highlights that positive psychological changes may coexist with significant distress in

this population. Future research should extend the present findings by examining larger and more diverse samples of war-displaced Ukrainian students, including participants of different ages, professional backgrounds, and stages of post-migration adaptation. Such studies would allow for a more comprehensive understanding of the psychological consequences associated with war exposure and forced displacement. In addition, longitudinal research would be particularly valuable for assessing changes in trauma-related symptoms and post-traumatic growth over time, including their stability and potential long-term effects in the post-war context.

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◆ Conflict of Interest

None.

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✦ **Анотація.** Повномасштабне вторгнення Росії в Україну у 2022 році спричинило масове вимушене переміщення молодих цивільних осіб, однак психологічний стан українських студентів, які були змушені покинути країну через війну та проживають у приймаючих країнах, залишається недостатньо дослідженим. Це крос-секційне дослідження було спрямоване на вивчення вираженості симптомів посттравматичного стресового розладу (ПТСР) та рівня посттравматичного зростання (ПТЗ) серед українських студентів, вимушено переміщених через війну та які проживають у Словаччині, а також на аналіз гендерних відмінностей. У дослідженні взяли участь 70 українських студентів університетів (36 жінок і 34 чоловіки; віком 17-30 років), які залишили Україну через війну та проживали у місті Кошице (Словаччина). У період із січня по лютий 2024 року учасники заповнили Контрольний список симптомів посттравматичного стресового розладу (PCL-5) відповідно до Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) та Опитувальник посттравматичного зростання (PTGI). Для перевірки міжгрупових відмінностей застосовувалися непараметричні статистичні методи, а внутрішню узгодженість оцінювали за допомогою коефіцієнтів надійності. Понад половина учасників (52,9 %) досягли порогового значення, що вказує на ймовірну наявність посттравматичного стресового розладу. Поширеність була вищою серед жінок (63,9 %), ніж серед чоловіків (41,2 %). Жінки також продемонстрували статистично значущо вищу загальну вираженість симптомів ПТСР, а також вищі показники за шкалами інтрузії та уникнення, тоді як гендерних відмінностей за показниками негативних змін у когніціях і настрої або збудження та реактивності не було виявлено. Рівень посттравматичного зростання у загальній вибірці був помірним або високим, при цьому статистично значущих гендерних відмінностей у загальному показнику ПТЗ не встановлено; відмінності виявлено лише за шкалою «цінування життя», де вищі показники спостерігалися у жінок. Отримані результати демонструють співіснування психологічного дистресу та позитивних психологічних змін серед студентів, вимушено переміщених через війну, і підкреслюють необхідність гендерно чутливого психологічного скринінгу та програм підтримки у закладах вищої освіти. Результати слід інтерпретувати з урахуванням крос-секційного дизайну дослідження та особливостей вибірки

✦ **Ключові слова:** населення, постраждале від конфлікту; симптоми посттравматичного стресу; посттравматичне зростання; психологічна адаптація; гендерні відмінності



Patriotic education as a factor in the development of psychological resilience in times of war

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◆ **Abstract.** The study aimed to determine the influence of patriotic attitudes on the levels of resilience and situational anxiety among university students in various sociocultural contexts. The research methodology included methods such as theoretical analysis, the comparative method, and an experiment involving 408 participants across four countries, namely Ukraine, the United States of America, Israel and Estonia. Patriotism in Ukraine in 2022-2025 took the form of a mass psychological and behavioural phenomenon, manifested through the involvement of over 80% of the population in charitable activities, an increase in regular donations from 7% to 25%, and monthly contributions in the billions to support defence, which overall indicates its institutionalisation and transition to a sustainable model of civic resilience. A comparative analysis showed that Ukraine fosters patriotism through volunteering and social mobilisation, the United States through institutional civic education, Israel through security socialisation, and Estonia through digital civic participation; however, all models are aimed at strengthening civic cohesion and responsibility. A summary analysis of the three tables showed that at the pre-test stage ($M \approx 3.10-3.42$), the experimental and control groups in Ukraine, the USA, Israel and Estonia had virtually identical baseline scores for patriotic attitudes, resilience (CD-RISC-10) and state anxiety (STAI), confirming their statistical homogeneity. After the intervention, experimental groups showed higher patriotic attitudes ($M \approx 4.05-4.12$) and resilience ($M \approx 4.15-4.22$), alongside reduced anxiety ($M \approx 2.78-2.85$), while control-group changes were minimal. Dynamic indicators confirmed the programme's effect: patriotic attitudes increased by $\Delta \approx +0.91-0.97$, resilience by $\Delta \approx +0.95-1.01$, and anxiety decreased by $\Delta \approx -0.57$ to -0.62 . The findings support integrating practice-oriented patriotic education, stress-coping skills, digital tools, and community initiatives to strengthen youth resilience, civic education, and social cohesion

◆ **Keywords:** social integration; government strategies; educational programmes; volunteering; social impact

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♦ Introduction

In times of war, psychological resilience is one of the key factors in a person's ability to adapt to stressful situations, maintain inner balance and function effectively in conditions where life and safety are under threat. Patriotic education is regarded as a substantial socio-psychological mechanism that shapes a system of values, a sense of belonging to one's country, a sense of responsibility and a readiness to take an active civic stance. In the process of such education, an individual's inner resources are strengthened, moral resilience is developed, and the ability to counteract negative informational and psychological influences is fostered. Therefore, research into the role of patriotic education in shaping psychological resilience in wartime takes on particular significance, as it can further contribute to the mechanisms that support mental health and social adaptation among the population in crises. Patriotic education is regarded as a key factor in the development of an individual's inner resources, which maintain psychological equilibrium in the context of social upheaval and military conflict. In this context, S. Alwi *et al.* (2023) investigated the process of internalising patriotic values through educational practices, in particular through the national anthem as a tool for emotional and value-based influence. The authors analysed the mechanisms of civic identity formation and demonstrated that systematic patriotic education contributes to the strengthening of emotional stability and social cohesion. The development of psychological resilience in the context of military threats is also linked to the level of society's moral and psychological preparedness. M. Şerban (2024) examined military morale as a structural component of combat capability, emphasising its impact on individuals' ability to withstand prolonged stress. The study analyses the interrelationship between moral attitudes, collective belief and behavioural effectiveness in crises, which can highlight patriotic values as a stabilising factor. At the same time, the influence of political socialisation on an individual's psychological state is evident. O. Jabali *et al.* (2024) investigated the link between political socialisation, levels of psychological resilience and manifestations of post-traumatic reactions. This study analyses empirical data demonstrating how involvement in socio-political processes influences an individual's ability to cope with the traumatic effects of war and maintain mental equilibrium.

Psychological resilience, in a broader societal context, is viewed as a complex system of adaptive resources. S.C. Houck (2024) examined theoretical approaches to fostering societal resilience in the context of threats to sovereignty, emphasising the role of value-based guidelines and educational strategies. Conceptual models of the development of internal resilience, combining psychological and sociocultural factors, have been analysed. The dimension of national resilience is presented in the study by S. Kimhi *et al.* (2024), which assesses the level of national resilience in the context of armed conflict. The researchers examined the psychological reactions of the population

and the factors that support a sense of unity and the ability to overcome crisis situations, which is indirectly linked to the effectiveness of patriotic narratives. In the context of educational transformations during wartime, V. Koval *et al.* (2024) analysed the characteristics of psychological education in Ukraine aimed at supporting emotional stability and social adaptation. The study examines pedagogical approaches that promote the development of resilience through educational practices and the support of value orientations. Similar conclusions are confirmed by D. Pustovoichenko *et al.* (2024), who examine challenges and solutions in the field of education in wartime conditions. The role of the educational environment in supporting psychological balance and the development of adaptive mechanisms in learners is analysed. The training of teachers to foster resilience and an inclusive environment is examined in a study by S. Sydoriv (2023), which analyses approaches to teacher training in the context of crisis-driven change. The researcher examined pedagogical strategies aimed at developing students' emotional resilience and social support. The integration of psychological and ideological education is highlighted by X. Wang *et al.* (2025), which analyses the combination of value-based and educational components in shaping the spiritual development of the individual. The study showed that combining educational and psychological approaches helps to strengthen inner resilience. In the study by Z. Zhang (2024), the regulatory role of emotions in international conflicts is examined, and the significance of patriotic education as a factor reducing the level of destructive emotional reactions is substantiated. The author analysed theoretical models of emotional regulation, demonstrating their connection with the formation of personal resilience in conflict situations.

Despite the views expressed by the authors mentioned above, there remain certain gaps in the academic discourse regarding a comprehensive definition of the impact of patriotic education on the development of psychological resilience in wartime. The mechanisms of interaction between value orientations, civic identity and individual strategies for coping with stress in crises have not been sufficiently researched. The study aimed to identify the characteristics of patriotic attitudes on the level of resilience and situational anxiety among students. The research objectives were to conduct a theoretical analysis of scientific approaches to interpretation of patriotism and its psychological functions; to conduct a comparative analysis of cross-national differences; to determine the level of patriotic attitudes, resilience and situational anxiety among students.

♦ Materials and Methods

The study employed a mixed-methods design with a sequential three-stage quasi-experimental structure (theoretical-analytical, comparative-empirical and formative-control stages), utilising cross-country comparative analysis and pre- and post-measurements of psychological indicators. In the first stage, a theoretical analysis of the scientific

literature on patriotism and its psychological functions was conducted. The following mechanisms were examined: psychological mechanisms, collective cohesion, everyday patriotism (behavioural), altruism/pro-social motivation, financial support as a form of patriotism, the institutionalisation of volunteering, the dynamics of activity (adaptation), trust as the foundation of patriotism, and the scale of the movement (social effect). The source base comprised T. Boyarchuk (2025), Ukraine volunteer statistics... (2025) and O. Zhuleniova (n.d.). In addition, the following sources were also considered: I. Semeniuta (2025), How Ukrainians donated... (2025), More Ukrainians trust... (2025). During the selection of sources, criteria for their inclusion were established (timeliness, relevance to the topic and analytical value), and the publication period was limited to 2025.

In the second stage, a comparative method was employed, within the framework of which an analysis was conducted of the Ukrainian experience of patriotic education in wartime, specifically through educational practices, the voluntary sector and information policy, in comparison with international case studies from the United States of America, Israel and Estonia. The comparison was conducted following criteria such as the types of state and educational documents, the forms and content of patriotic initiatives, as well as models of civic identity formation and the corresponding psychological mechanisms in the context of Ukraine, the US, Israel and Estonia. These countries were selected for analysis as representative models of different approaches to the formation of civic identity and patriotic education: military-resilient (Ukraine), democratic-institutional (USA), security-mobilisation (Israel) and digital-civic (Estonia). The study highlighted the distinctive features of civic identity formation, models of patriotic education and mechanisms for enhancing the psychological resilience of the population. Ukraine was analysed through Law of Ukraine No. 2145-VIII (2017), the concept of the New Ukrainian School by the Ministry of Education and Science of Ukraine (2016), which reflects the fostering of patriotism through educational reforms and the development of civic competencies. The United States was examined through the National Council for the Social Studies (n.d.) and J.L. Nolen (2025), which demonstrated a model of civic education through standardised education and voluntary programmes. Israel was analysed through the Ministry of Aliyah and Integration (2019), which foster patriotism through security socialisation and military training. Estonia was examined through the Ministry of Education and Research of the Republic of Estonia (2022) and e-Estonia (n.d.), which reflected a digital model of civic identity and cyber resilience. Data from the sources included regulatory and educational documents, state programmes, and digital and voluntary initiatives for the formation of civic identity and patriotism in Ukraine, the USA, Israel and Estonia, reflecting various models of civic education.

In March-April 2025, a pilot study was conducted in the USA, Israel, Estonia and Ukraine involving 408 students aged 18-24, selected based on the following inclusion

criteria (enrolment at higher education institutions in the respective countries, study of humanities and social-behavioural disciplines, voluntary informed consent, absence of medical or psychological restrictions affecting participation in the study) and exclusion criteria (failure to meet age requirements, incomplete participation in all stages of the study, refusal to continue participation), with an even distribution of respondents across the experimental and control groups in each country based on the principle of random stratification, considering gender, year of study and specialisation; correlation analysis was used to determine the relationship between the level of patriotic attitudes, resilience and motivational indicators. The first stage (diagnostic) involved the sequential application of three instruments: the Patriotic Attitudes Scale (18 Likert-type items, comprising cognitive, emotional and behavioural components), the CD-RISC-10 (10-item Connor-Davidson Resilience Scale) (resilience) (Campbell-Sills & Stein, 2007) and the The State-Trait Anxiety Inventory (STAI). As part of the formative phase of the study, a comprehensive intervention was implemented, comprising educational and training programmes covering a range of topics depending on the country (volunteering and civic initiatives in Ukraine, community service learning and civic participation programmes in the USA, security simulation training in Israel, and digital e-citizenship modules in Estonia), which were held at a frequency of 2-3 sessions per week over a period of 6 weeks; surveys and psychodiagnostic methods were administered in English, and in some cases translated into the official languages of the participating countries with a back-translation procedure to ensure measurement equivalence; the study was conducted in accordance with the international ethical standards of the World Medical Association (WMA, 2024), and was approved by the local ethics committees of the participating universities, in compliance with the requirements of informed consent, voluntary participation and data confidentiality. Scores on the patriotic attitudes scale were calculated by determining the mean of responses to 18 statements on a Likert scale, followed by separate aggregation of indicators within the cognitive, emotional and behavioural components to calculate an overall integrated index of patriotic attitudes. Baseline values for the indicators were recorded in each country.

The second stage (training) was implemented according to a standardised framework, but with different content depending on the country: in the USA, participation in community service learning, AmeriCorps and Federal Emergency Management Agency (FEMA) preparedness modules; in Israel, security simulation training and educational modules on civil-military cooperation by the Israel Defence Forces (IDF); in Estonia, programmes by the Lithuanian Riflemen's Union and e-governance cyber resilience modules; in Ukraine, voluntary and civic educational initiatives integrated into the New Ukrainian School system and civic education programmes. The third (control) stage involved the re-application of CD-RISC-10 and STAI, with a parallel re-measurement of the level of patriotic attitudes

using the same scale. Data were compared between the first and third stages within each country. During the analytical stage of the study, a statistical significance level of $p < 0.05$ was used, along with a Shapiro-Wilk test to check the normality of data distribution, and the identification and analysis of outliers using boxplots; and for comparing pre- and post-experiment indicators, a paired t-test or the Wilcoxon signed-rank test (in the case of a non-normal distribution) was applied, whilst for intergroup comparisons, one-way analysis of variance (ANOVA) was used, ensuring a statistically sound interpretation of the results obtained. In the final stage, practical recommendations for educational and state programmes on patriotic education were formulated using the generalisation method. The integration of educational, socio-communicative and psycho-pedagogical tools aimed at fostering a strong civic stance among young people in a modern socio-cultural context was highlighted.

◆ Results

In contemporary scholarship, patriotism is viewed as a multidimensional construct that combines emotional, cognitive and behavioural components linked to an individual's identification with their state, culture and community. From a theoretical perspective, several key approaches are present. The socio-psychological approach interprets patriotism as a form of social identity that provides a sense of belonging to a nation and shapes a "we-identity". Within the cognitive-motivational approach, patriotism is defined as a system of beliefs and values that regulate human behaviour in situations of threat or social instability. The emotional-value approach emphasises the role of love for homeland, pride and empathy towards fellow citizens. The behavioural approach focuses on concrete actions, in particular participation in the defence of the state, volunteering and civic engagement (Lyanova & Issina, 2024). The psychological functions of patriotism include an integrative function (uniting society), a regulatory function (establishing behavioural norms), a motivational function (encouraging actions for the benefit of the state), and a protective function, which is particularly evident in times of crisis. Research conducted during the full-scale war in Ukraine shows that patriotic attitudes can serve as a psychological resource linked to increased stress resilience and a sense of purpose.

Patriotic attitudes correlate with psychological adaptation, although at the same time they may intensify emotional distress during wartime (Hamama-Raz *et al.*, 2022). Patriotic attitudes influence psychological adaptation by enhancing a sense of purpose, social support and belonging to a community, which helps a person recover more quickly from stressful events and maintain inner resilience. At the same time, during wartime, excessive emotional involvement and constant worry about the fate of the country can exacerbate anxiety, emotional exhaustion and increased psychological strain. The correlation between patriotic education and resilience is a key focus of

contemporary research. Resilience is defined as the ability of individuals and society to adapt to crises and maintain functionality under difficult conditions. Ukrainian studies emphasise that psychological resources, in particular identity, optimism and the value of statehood, are the main factors supporting the resilience of the population during wartime (Reznikova & Korniiievskiy, 2024). Patriotic education acts as a mechanism for shaping collective identity, strengthening a sense of unity and increasing readiness to overcome difficulties. The motivational component of patriotism is directly linked to a willingness to defend the state. Psychological research demonstrates that patriotism stimulates prosocial behaviour, including volunteering and participation in civic initiatives. For example, during the war, a significant proportion of the Ukrainian population became involved in voluntary activities, which became a substantial element of the country's defence system. According to F. Vincent (2025), around 71% of Ukrainian citizens were involved in voluntary work after 2022, covering both military and humanitarian aid. This indicates a transformation of patriotism into a practical form of civic participation.

Ukraine's experience of patriotic education during the war is noteworthy. The education system has strengthened its national and patriotic component through school curricula, the integration of the history of the current war, and pupils' participation in voluntary initiatives and on-line learning. Education has become a space for fostering resilience and adaptability, where supporting the psychological well-being of pupils and teachers are central. In the university environment, models of blended learning and international cooperation are being actively implemented, enabling the educational process to continue even amidst the destruction of infrastructure (Makhortykh *et al.*, 2025). The volunteer movement in Ukraine has become one of the most powerful expressions of patriotism. It fulfils not only a material but also a psychological function, namely reducing feelings of helplessness, boosting self-esteem and fostering a sense of control over the situation. Notably, volunteering in wartime has taken on a systematic character, encompassing humanitarian aid, support for the army, medical needs and information support. A. Chudzicka-Czupala *et al.* (2023) found that participation in such initiatives strengthens social cohesion and builds trust in civil society institutions. Ukraine's information policy during the war was substantial in shaping patriotic attitudes. The active use of digital platforms, social media and official communication channels has helped to maintain a high level of public mobilisation and counter disinformation. M. Makhortykh *et al.* (2025), in their study of media discourse, showed a sharp increase in the online activity of Ukrainian political and state actors after 2022, aimed at consolidating society and supporting defence resilience. Therefore, in contemporary psychology, patriotism functions as a complex integrative construct that serves the purposes of social stabilisation, motivation and psychological defence. The Ukrainian experience demonstrates that, in wartime, it becomes particularly significant as a factor in

the resilience of society and the individual. Table 1 summarises the main psychological mechanisms of patriotism

and illustrates their key manifestations in Ukrainian society during the 2022-2025 war.

Table 1. *Psychological mechanisms of patriotism and their manifestations in Ukraine during the war*

Psychological mechanism	Contributing factors	Data	Form of manifestation/social indicator
Team spirit	Widespread public participation in providing assistance	86% of Ukrainians are involved in charity	Widespread public participation in volunteering
		62% of Ukrainians donated or volunteered in 2025	Consistent civic engagement
Everyday patriotism (behavioural)	Regular donations as the norm	Proportion of regular donations has risen from 7% to 25%	Normalisation of financial support for the army
Altruism/pro-social motivation	Assisting strangers	77% helped strangers	Expansion of boundaries of the "social circle of trust"
Financial support as a form of patriotism	Mass donations to the army	67% made donations	Widespread financial mobilisation of society
		≈UAH 2.95 billion in monthly donations (2025)	Systematic financial support for defence
		UAH 32.47 billion in 11 months of 2025	Macroeconomic impact of civic participation
Institutionalisation of volunteering	Increase in the number of organisations	107,000 NGOs + 33,000 charitable foundations	Development of a structured civil society
		≈11,800 official volunteers (2025)	Official registration of volunteers
Activity dynamics (adaptation)	Changes in the intensity of support	21% reduced their participation, 14% increased it	Polarisation of engagement levels
		Donations decreased by 19% in 2025	Signs of fatigue from a prolonged conflict
Trust as the foundation of patriotism	Trust in volunteers	Trust has increased compared with the pre-war period	Strengthening social capital
Scale of the movement (social impact)	Major charity campaigns	UAH 77.7 billion – United24	State-run international fundraising platform
		UAH 26.2 billion – "Come Back Alive"	Public support for the military
		UAH 1.97 billion – the Prytula Fund	Personalised charitable initiatives

Source: compiled by the authors based on *Philanthropy trends: Numbers...* (2025), *Ukraine volunteer statistics...* (2025), *I. Semeniuta* (2025), *How Ukrainians donated...* (2025), *More Ukrainians trust volunteers...* (2025), *T. Boyarchuk* (2025), *O. Zhuleniova* (n.d.)

An analysis of the data presented shows that volunteer patriotism in Ukraine between 2022 and 2025 has a broad grassroots base and a high level of social inclusion. In particular, the involvement of 86% of the population in charitable activities and 62% of citizens who directly donated or volunteered in 2025 indicate the formation of a sustainable model of collective solidarity. Significantly, 77% of respondents reported helping strangers, indicating an expansion of social trust and a transformation of interpersonal relationships in times of crisis. At the same time, the rise in the proportion of regular donations from 7% to 25% reflects the institutionalisation of behavioural patriotism, where one-off emotional acts are gradually evolving into a systematic practice of civic engagement. The financial dimension of volunteering further underscores its structural nature: monthly donations amounting to approximately UAH 2.95 billion and a total of UAH 32.47 billion over the first 11 months of 2025 demonstrate the macroeconomic significance of civic engagement. At the same time, the development of the institutional framework (107,000 civil society organisations, 33,000 charitable foundations and around 11,800 official volunteers) indicates a transition from spontaneous volunteering to a structured civil sector. At the same time,

the trend in participation (21% reduced their activity, 14% increased it, and an overall 19% decline in donations) reflects the process of adaptation fatigue characteristic of prolonged crises. Despite this, the continued high level of trust in volunteers and the scale of major campaigns (United24: UAH 77.7 billion, "Come Back Alive": UAH 26.2 billion, the Prytula Foundation: UAH 1.97 billion) indicate the stability of patriotic motivation and its transition into a long-term institutional form of social support. Every country has a unique approach to fostering patriotism and civic identity, shaped by its historical experience, political system and the scale of security challenges it faces. Different models emphasise civic education, the development of democratic participation, security socialisation, collective responsibility and the use of digital technologies as tools for engaging citizens in state processes. Patriotism is realised through education, social engagement, institutional mechanisms or digital services; however, in all models it fulfils a common function, namely ensuring social cohesion, fostering a responsible civic stance and supporting social resilience. Table 2 summarises a comparative analysis of patriotic education initiatives and the corresponding psychological mechanisms in various countries, namely Ukraine, the USA, Israel and Estonia.

Table 2. *A comparative analysis of patriotism initiatives and their psychological mechanisms (Ukraine, the USA, Israel, Estonia)*

Country	Educational and political documents	Initiatives/practices	Significance of the identity formation model
Ukraine	Law of Ukraine No. 2145-VIII (2017); The Concept of the New Ukrainian School; The Concept of Civic Education	Integration of civic education at all levels of education; widespread volunteering among school and university students; programmes offering psychological support and resilience training	Development of a military-resilient civic identity, in which patriotism is expressed through active participation, solidarity and society's ability to act in the context of a threat

Table 2. Continued

Country	Educational and political documents	Initiatives/practices	Significance of the identity formation model
USA	C3 Framework for Social Studies Standards; national standards for civic education	AmeriCorps as a volunteer service scheme; community projects in schools	Development of a democratic and institutional identity centred on human rights, democratic participation and social responsibility through institutions
Israel	National Civic Studies Programme; educational standards for civic and security education	IDF as a key institution of socialisation; the army's educational programmes; crisis preparedness	Development of a security and mobilisation identity, in which patriotism is related to collective defence, discipline and constant readiness to face threats
Estonia	National Curriculum for Basic Education; Digital Competence Framework	e-Estonia (n.d.) as a digital citizenship system; Kaitseliit as a voluntary defence force; cyber education programmes	Development of a digitally resilient identity, in which patriotism is expressed through digital participation, cybersecurity and trust in the e-government

Source: compiled by the authors based on Ministry of Education and Science of Ukraine (2016), Ministry of Aliyah and Integration (2019), Ministry of Education and Research of the Republic of Estonia (2022), Ministry of Education and Science of Ukraine (2024), J.L. Nolen (2025), National Council for the Social Studies (n.d.)

A comparative analysis reveals fundamental differences between the approaches to fostering patriotism in the countries under study, which are determined by differing historical experiences, levels of security threats and the institutional structure of society. Ukraine is developing a model in which patriotic identity is formed in conditions of war and high social mobilisation, making practices of mutual aid, volunteering and psychological resilience key. The USA relies on a stable democratic environment, where civic consciousness is built through educational standards and institutionally organised participation in public life. Israel demonstrates a model in which patriotism is closely linked to the national security system and early socialisation in conditions of constant risk. Estonia, for its part, is shaping a digital model of citizenship, where participation in state processes largely

takes place through electronic services and cyber infrastructure. For Ukraine, elements of all models are highly relevant; however, the USA experience in systematic civic education through educational platforms and voluntary programmes, as well as Estonia's experience in digitising civic participation and building trust through digital services, are of particular practical value. At the same time, the Israeli approach is substantial as an example of how to prepare society psychologically for prolonged crises and foster a high level of collective responsibility. Integrating these approaches strengthen the Ukrainian combination of educational, digital and socio-psychological mechanisms of patriotic education, forming a more resilient model of civic identity in the context of military challenges and post-war recovery. Table 3 presents the results of the pre-test.

Table 3. Pre-test results

Country	Group	Patriotic attitudes (M ± SD)	CD-RISC-10 (resilience) (M ± SD)	STAI (anxiety) (M ± SD)
Ukraine	CG	3.10 ± 0.82	3.18 ± 0.80	3.40 ± 0.82
	EG	3.12 ± 0.81	3.20 ± 0.81	3.42 ± 0.81
USA	CG	3.15 ± 0.83	3.22 ± 0.79	3.38 ± 0.83
	EG	3.14 ± 0.80	3.21 ± 0.80	3.41 ± 0.80
Israel	CG	3.18 ± 0.79	3.19 ± 0.78	3.39 ± 0.82
	EG	3.20 ± 0.80	3.23 ± 0.79	3.40 ± 0.81
Estonia	CG	3.11 ± 0.82	3.17 ± 0.80	3.37 ± 0.81
	EG	3.13 ± 0.81	3.21 ± 0.81	3.41 ± 0.80

Source: compiled by the authors

The pre-test results in Table 3 showed generally similar baseline values between the experimental and control groups in all countries, confirming their comparability before the intervention: the level of patriotic attitudes ranged from $M \approx 3.10$ -3.20, resilience (CD-RISC-10)

$M \approx 3.17$ -3.23, and state anxiety (STAI) $M \approx 3.37$ -3.42, whilst minor differences between the groups ($\Delta M \leq 0.03$ -0.05) were not statistically significant and indicated the homogeneity of the sample before the experimental intervention. Table 4 summarises the post-test results.

Table 4. Post-test results

Country	Group	Patriotic attitudes (M ± SD)	CD-RISC-10 (resilience) (M ± SD)	STAI (anxiety) (M ± SD)
Ukraine	CG	3.22 ± 0.80	3.28 ± 0.78	3.35 ± 0.80
	EG	4.08 ± 0.75	4.15 ± 0.74	2.85 ± 0.76
USA	CG	3.25 ± 0.81	3.30 ± 0.78	3.33 ± 0.81
	EG	4.05 ± 0.76	4.18 ± 0.73	2.80 ± 0.75
Israel	CG	3.30 ± 0.78	3.27 ± 0.77	3.34 ± 0.80
	EG	4.12 ± 0.74	4.20 ± 0.72	2.78 ± 0.74
Estonia	CG	3.23 ± 0.80	3.29 ± 0.78	3.32 ± 0.79
	EG	4.10 ± 0.75	4.22 ± 0.73	2.82 ± 0.75

Source: compiled by the authors

The post-test results in Table 4 showed an increase in scores in the experimental groups across all countries compared with the control groups; in particular, the level of patriotic attitudes rose to $M \approx 4.05-4.12$, and resilience (CD-RISC-10) to $M \approx 4.15-4.22$, whilst situational anxiety (STAI) scores decreased to $M \approx 2.78-2.85$, indicating a

positive effect of the intervention; in the control groups, changes were minimal ($M \approx 3.22-3.30$ for patriotic attitudes, $M \approx 3.27-3.30$ for resilience and $M \approx 3.32-3.35$ for anxiety), confirming the absence of a significant effect without a specially organised programme. Table 5 presents the results by scale.

Table 5. Results by scale

Country	Group	Δ Patriotic attitudes	Δ CD-RISC-10 (resilience)	Δ STAI (anxiety)
Ukraine	CG	0.12	0.10	-0.05
	EG	0.96	0.95	-0.57
USA	CG	0.10	0.08	-0.05
	EG	0.91	0.97	-0.61
Israel	CG	0.12	0.08	-0.05
	EG	0.92	0.97	-0.62
Estonia	CG	0.12	0.12	-0.05
	EG	0.97	1.01	-0.59

Source: compiled by the authors

The results in Table 5 show that the experimental groups in all countries exhibited significantly greater positive changes compared with the control groups: the increase in patriotic attitudes was $\Delta \approx +0.91-0.97$, in resilience (CD-RISC-10) $\Delta \approx +0.95-1.01$, and the reduction in state anxiety (STAI) $\Delta \approx -0.57$ to -0.62 , whereas in the control groups the changes were minimal ($\Delta \approx +0.10-0.12$ for positive indicators and only -0.05 for anxiety), confirming the statistically significant effect of the experimental intervention. The practical recommendations formulated based on the results of the study called for the implementation of a comprehensive set of educational, social and psychological measures aimed at fostering strong patriotic values, enhancing resilience and reducing anxiety levels among students. In particular, the area of focus was the organisation of regular volunteering programmes with clearly structured tasks, which included participation in humanitarian initiatives, support for socially vulnerable groups, assistance to internally displaced persons, and involvement in local community projects. Such activities ensured the acquisition of practical experience in social responsibility, the development of empathy, and the fostering of collective cohesion as a substantial psychological mechanism of patriotism.

The second component involved the introduction of regular training sessions on psychological resilience, which took the form of interactive sessions using cognitive-behavioural regulation techniques. These sessions focused on stress management techniques (breathing exercises, relaxation methods), the development of emotional self-regulation, and skills for cognitively reframing complex or crises. It is also necessary to develop the ability to recognise emotional reactions and to develop adaptive behavioural strategies in conditions of uncertainty, which directly contributed to a reduction in anxiety levels. The third approach involved the use of simulation-based educational technologies, within which students were engaged in modelling real-life social and civic situations. This included examining ethical dilemmas, making decisions in conflict situations,

assigning roles within team dynamics, and subsequently analysing the consequences of the decisions made. This approach combined theoretical knowledge with practical experience, fostering skills in reasoned decision-making and responsible behaviour. In addition, the active use of digital educational platforms was recommended, which included interactive case studies, video scenarios, online discussions and reflective tasks. This ensured the continuity of the learning process, increased student engagement and promoted the development of critical thinking in a digital environment. Together, the implementation of these measures created an integrated model of patriotic education that combined social practice, psychological support and digital learning, which proved effective in increasing resilience and reducing anxiety among students.

◆ Discussion

Patriotic education fosters a sense of belonging to the community, which strengthens an individual's psychological resilience during times of military threat. This is consistent with M. Arif *et al.* (2023), in which the researchers outlined ways to strengthen patriotism in the educational environment and demonstrated the role of values-based education in the development of responsibility and discipline. The study describes how the systematic cultivation of a sense of belonging enhances young people's inner readiness to overcome difficulties. Preparing the younger generation in the spirit of military-patriotic values contributes to the development of resilience and readiness to act in crises, which is consistent with K. Azamat (2023). The researcher highlighted the importance of military-patriotic education for social development and the formation of young people. The article notes that such training fosters discipline, determination and the ability to withstand external challenges. Psychological resilience in war relies not only on values but also on the development of personal qualities such as self-control and endurance. This assertion is also reflected in the work of S. Breen & S. Cotterill (2025). The study focuses on the psychological traits that ensure the success

of special forces operators. The study shows that emotional regulation, resilience and the ability to perform under pressure form the basis of resilient behaviour in extreme conditions. Civic education, built on patriotic values, fosters a responsible attitude towards society and enhances personal adaptability, a point also addressed by the researcher S. Chen (2024). The author examined the concept of civic education through the lens of a shift from individual self-assurance to social responsibility. The study demonstrated that fostering civic maturity enhances an individual's readiness to respond constructively to social crises.

Patriotic cultural practices promote emotional well-being and help people cope with the aftermath of war. In the post-test, the experimental groups demonstrated significant improvements across all indicators: patriotic attitudes rose to $M \approx 4.05-4.12$, resilience to $M \approx 4.15-4.22$, and anxiety decreased to $M \approx 2.78-2.85$. This contrasted with the control groups, where the level of change remained minimal and fluctuated between $M \approx 3.22-3.30$ and $M \approx 3.27-3.35$, respectively. This is consistent with J.N. Clark (2023), who reviews the role of music and the sound environment during the war in Ukraine. It is shown that music sustains hope, strengthens solidarity and promotes psychological recovery in people. Maintaining the basic conditions of childhood during the war supports children's inner resilience and reduces the level of trauma. The study results in the experimental groups showed an increase in patriotic attitudes to $M \approx 4.05-4.12$ and resilience to $M \approx 4.15-4.22$, as well as a reduction in anxiety levels to $M \approx 2.78-2.85$. In the control groups, the changes were insignificant: the indicators remained at $M \approx 3.22-3.30$ on the positive scales and $M \approx 3.27-3.35$ for anxiety. This is also highlighted in the study by A. Glos (2025), in which the researcher analysed the significance of children's right to play in the context of wartime events. The opportunity to play supports emotional stability, a sense of security and children's ability to adapt to threats. Reflecting on war and peace in teacher training contributes to the formation of stable value orientations among future teachers. This is consistent with the findings of G. Gursel-Bilgin *et al.* (2023), and A.E. Fernandez-Osorio & S. Upadhyaya (2025). This study examines future teachers' perceptions of war, peace and peace education. A critical definition of conflicts fosters a sense of responsibility and the ability to support others in times of crisis. Victory in prolonged conflicts depends on the moral resilience and cohesion of the community. Multidimensional factors of successful leadership in irregular warfare were identified, demonstrating that morale, trust and shared values strengthen a group's resilience in conditions of prolonged conflict.

Armed conflicts highlight the importance of psychological resilience as a resource for maintaining personal functioning. This is consistent with the findings of M.S. Iancu (2024). This article examines the psychological dimension of resilience using the examples of conflicts in Ukraine and Israel. The study described that the ability to adapt to threats and maintain motivation determines the effectiveness of overcoming crises. Patriotic education

influences young people's emotional reactions and strengthens their bond with the state. This is highlighted in the study by W. Li (2024), in which the author examined students' affective reactions to patriotic education. Positive emotional engagement contributes to the development of confidence, solidarity and psychological resilience. Rationally structured patriotic education promotes moral maturity and strengthens psychological resilience in crises. This correlates with the study by J.C. Lin & L. Jackson (2023). In their study, patriotism is presented as a component of moral education, and the need for its balanced integration into the educational process is substantiated. It has been demonstrated that the combination of moral and civic values supports responsible behaviour and the ability to overcome difficulties. The post-war recovery of young people depends on the development of internal resources, mental health and access to education. N. Mayengo *et al.* (2025) also addressed the transition of youth to professional self-fulfilment in post-conflict societies. The study showed that psychological well-being and educational support strengthen the resilience of the younger generation and their readiness for independent living. Information security is a component of an individual's psychological resilience in wartime. This is consistent with the findings of D. Midler & M. Żółtowski (2025), who analysed the factors contributing to the population's resilience to disinformation and ways of countering manipulative influences. Critical thinking, civic awareness and trust in public institutions mitigate the destructive impact of propaganda.

Solidarity and mutual support among people strengthen collective and individual resilience during times of war. This is confirmed by L. Morska *et al.* (2024). The study examines letters written by Poles to Ukrainians as a form of public response to the war. It is described that empathy, mutual aid and moral support strengthen the psychological resources of the community. National cultural heritage is an effective means of patriotic education and the development of emotional resilience in young people. This is evident in the study by N. Musayev (2023). The article highlights folk musical heritage as a tool for educating students in the spirit of patriotism. An appeal to cultural symbols fosters pride in the nation, unity and inner resilience. Patriotic education influences the formation of social attitudes and behavioural patterns among citizens. S.L. Perry *et al.* (2023) also echo this view, specifically analysing support for compulsory patriotic education in schools through the prism of ideological convictions. Educational practices can influence civic mobilisation and attitudes towards social processes. Art from wartime can strengthen national identity and support the psychological resilience of young people. This is reflected in the study by T. Zhang (2024), which explores the influence of engravings from the Anti-Japanese War period on the spiritual identity of young people. Artistic depictions of historical struggles reinforce a sense of unity and a readiness to overcome difficulties. The state's education policy can serve as a mechanism for the systematic development of patriotic values and civic consciousness.

This is consistent with the views of E. Vickers (2023) and A. Weckman (2026). The paper examines the role of patriotism in the school curriculum and its impact on pupils' collective memory. The curriculum shapes young people's perceptions of the state, the community and civic duty. A sense of belonging to a wider community strengthens society's readiness to provide mutual support in times of war. The link between a sense of unity and support for military aid to allies is examined. Solidarity and a shared identity strengthen the cohesion and resilience of the population. The ability to counteract the enemy's psychological pressure is an essential component of personal resilience during war. This is logically consistent with G. Weimann & D. Weimann-Saks (2024). Methods for overcoming psychological warfare during the conflict in Gaza are highlighted. Information literacy, emotional regulation and social support reduce the destructive impact of enemy campaigns. Thus, patriotic education emerges as an effective factor in the formation of psychological resilience, as it contributes to the development of civic consciousness, internal cohesion, moral fortitude and readiness to overcome crises. The combination of values-based education, cultural memory, information literacy and social support strengthens the adaptive resources of individuals and society in wartime conditions.

◆ Conclusions

Between 2022 and 2025, patriotism in Ukraine emerged as a sustained psychological phenomenon, combining high levels of civic engagement with financial support for the defence effort. The data show that 86% of the population were involved in charitable giving and 62% in donations or volunteering, reflecting the development of a collective sense of unity. Regular donations rose from 7% to 25%, and monthly contributions reached around UAH 2.95 billion, demonstrating the institutionalisation of behavioural patriotism. Over 107,000 organisations and large-scale campaigns, such as United24, confirm the structural nature of the movement. Despite a partial decline in activity, high levels of trust and the resilience of society remain intact. A comparative analysis has shown that approaches to fostering patriotism vary significantly across different countries, depending on historical circumstances, the level of security challenges and the development of institutions. In Ukraine, the dominant model focuses on social mobilisation and the practical participation of citizens in overcoming crises. The USA is characterised by a stable system of civic education and institutional participation, which fosters democratic responsibility. Israel demonstrates a security-oriented model with a high level of collective readiness, whilst Estonia is developing a digital model of civic identity with an

emphasis on electronic interaction with the state. A common feature is the focus on strengthening social cohesion and civic responsibility.

The findings highlight the value of combining educational, digital and socio-psychological approaches to enhance the effectiveness of patriotic education. The results obtained generally demonstrated the clear effectiveness of the experimental intervention, as a significant increase in the level of patriotic attitudes was observed in the experimental groups across all countries, from approximately $M \approx 3.12-3.20$ to $M \approx 4.05-4.12$, along with an increase in resilience (CD-RISC-10) from $M \approx 3.20-3.23$ to $M \approx 4.15-4.22$, and a simultaneous decrease in state anxiety (STAI) from $M \approx 3.40-3.42$ to $M \approx 2.78-2.85$, indicating a positive trend in psychological adaptation and value orientations. In contrast, in the control groups, changes remained minimal and statistically insignificant: indicators of patriotic attitudes and resilience increased only to $M \approx 3.22-3.30$ and $M \approx 3.27-3.30$, whilst anxiety levels decreased by no more than to $M \approx 3.32-3.35$, confirming the absence of any significant effect without targeted intervention. Thus, a comparative analysis of pre- and post-tests and dynamic changes ($\Delta \approx +0.91-1.01$ for positive indicators and $\Delta \approx -0.57$ to -0.62 for anxiety in the experimental groups) demonstrated a statistically and substantively significant effect of the programme on the development of psychological resilience and patriotic attitudes. The study recommends the implementation of a comprehensive programme combining voluntary activities, psychological training and simulation-based educational techniques, with the aim of fostering strong patriotic values, enhancing resilience and reducing anxiety levels among students. Such measures are aimed at developing social responsibility and collective cohesion through participation in practical community initiatives, building skills in emotional self-regulation and stress resilience, as well as improving the ability to think critically and make informed decisions in simulated ethical and social situations. Prospects for further research include broadening the age range of the sample and analysing the long-term impact of patriotic attitudes on psychological resilience in the post-conflict period.

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Патріотичне виховання як чинник формування психологічної стійкості особистості в умовах війни

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◆ **Анотація.** Метою дослідження було визначити вплив патріотичних установок на рівень резильєнтності та ситуативної тривожності студентів університетів у різних соціокультурних контекстах. Методологія дослідження охоплювала теоретичний аналіз, порівняльний метод та експеримент за участю 408 респондентів із чотирьох країн, а саме України, Сполучених Штатів Америки, Ізраїлю та Естонії. Патріотизм в Україні у 2022-2025 роках набув форми масового психологічного й поведінкового феномену, що виявлявся через залучення понад 80 % населення до благодійної діяльності, зростання частки регулярних донатів із 7 % до 25 %, а також щомісячні внески в мільярдних обсягах на підтримку оборони. У сукупності це свідчить про його інституціоналізацію та перехід до сталої моделі громадянської резильєнтності. Порівняльний аналіз показав, що в Україні патріотизм формується через волонтерство та соціальну мобілізацію, у США – через інституційну громадянську освіту, в Ізраїлі – через безпекову соціалізацію, в Естонії – через цифрову громадянську участь. Водночас усі ці моделі спрямовані на зміцнення громадянської згуртованості та відповідальності. Узагальнений аналіз трьох таблиць засвідчив, що на етапі попереднього тестування ($M \approx 3,10-3,42$) експериментальні й контрольні групи в Україні, США, Ізраїлі та Естонії мали майже однакові вихідні показники патріотичних установок, резильєнтності за шкалою CD-RISC-10 та ситуативної тривожності за шкалою STAI, що підтверджує їхню статистичну однорідність. Після інтервенції в експериментальних групах було зафіксовано вищі показники патріотичних установок ($M \approx 4,05-4,12$) і резильєнтності ($M \approx 4,15-4,22$), а також зниження рівня тривожності ($M \approx 2,78-2,85$), тоді як у контрольних групах зміни були мінімальними. Динамічні показники підтвердили ефективність програми: патріотичні установки зросли на $\Delta \approx +0,91-0,97$, резильєнтність – на $\Delta \approx +0,95-1,01$, а тривожність знизилася на $\Delta \approx -0,57$ до $-0,62$. Отримані результати обґрунтовують доцільність інтеграції практикоорієнтованого патріотичного виховання, навичок подолання стресу, цифрових інструментів та громадських ініціатив для зміцнення резильєнтності молоді, громадянської освіти й соціальної згуртованості

◆ **Ключові слова:** соціальна адаптація; державні стратегії; освітні програми; волонтерство; соціальний ефект



Personal determinants of psycho-emotional states in children of combatants: A theoretical analysis

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◆ **Abstract.** The purpose of the study was a theoretical analysis of the influence of personal characteristics on the psycho-emotional states of children from families of combatants. The methodology was based on analysis of academic sources addressing psycho-emotional states of children in crisis conditions, personal determinants of these states, family influence, and mechanisms of adaptation and maladaptation, which enabled identification of the main approaches to the problem through theoretical analysis, comparison of interpretations of key personal factors, and, through systematisation, generalisation, and interpretation, determination of relationships between personal characteristics, family context, and psycho-emotional states of children. The results of the analysis indicated that psycho-emotional states of children in wartime conditions are formed under the influence of a combination of stress-related and traumatic factors that have both acute and prolonged character. The analysis established that anxiety, fear, distress, emotional exhaustion, and post-traumatic manifestations constitute an interconnected system of responses, the intensity of which increases with the accumulation of stress experience. The analysis demonstrated that personal determinants, including anxiety, resilience, self-esteem, and emotional regulation, play a significant role in determining variability of children's responses. Family context, including family structure, emotional state of parents, quality of interaction, and conditions of separation, acts as a key mediator of the impact of war on the child. Generalisation of the results confirmed that psycho-emotional states of children of combatants are formed through the interaction of personal determinants, family context, and prolonged exposure to war, which determines variability from adaptive responses to persistent maladaptive manifestations. The obtained data may be used by psychologists, psychotherapists, social workers, professionals in the education system, and specialists in the field of mental health during the development of psychological support programmes, psychological assessment, and prevention of maladaptive states in children from families of combatants

◆ **Keywords:** anxiety; resilience; self-esteem; emotional regulation; adaptation; war; distress

◆ Introduction

The experience of war that a child undergoes indirectly through parental participation in combat affects not only current emotional responses but also the experience of fear, anxiety, and tension, uncertainty, and emotional vulnerability. The development of such states is determined by prolonged separation from parents, transformation of

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family interaction, increased psycho-emotional burden, and a constant anticipation of danger. In this context, clarification of the role of a child's personal characteristics that determine the features of psycho-emotional adaptation is necessary. Insufficient clarity of these patterns complicates the timely identification of children at risk and may lead to the consolidation of maladaptive states, disturbances in interpersonal interaction, and further complications in mental development.

Psycho-emotional states of children in wartime acquire a complex character and encompass affective, behavioural, and adaptive levels of response to prolonged stress. In the study by V. Voronova *et al.* (2025), researchers analysed the psycho-emotional state of adolescents in wartime through indicators of anxiety, emotional tension, and maladaptive manifestations. Researchers reported that the experience of war-related threat was accompanied by increased internal tension, reduced emotional stability, and difficulties in everyday functioning, which indicates disruption of psycho-emotional adaptation and increased risk of maladaptive responses. The features of psycho-emotional states of children in wartime were examined by O. Koliada & N. Onishchenko (2024), who focused on fear, anxiety, emotional lability, and behavioural changes. Researchers noted that the dominance of negative emotional experiences is associated with impaired self-regulation mechanisms, increased sensitivity to stressors, and reduced capacity for constructive emotional responding. Changes in children's mental health during war were analysed by E. McElroy *et al.* (2024) using a large sample of parental assessments. The assessment demonstrated an increase in anxiety and depressive manifestations, which confirms the cumulative character of stress exposure and the dependence of psycho-emotional disturbances on the intensity of trauma. Indicators of mental well-being in adolescents exposed to war were evaluated by R. Goto *et al.* (2024) through analysis of emotional state, symptoms of psychological distress, and overall level of psychological adaptation. Researchers reported the spread of anxiety and post-traumatic manifestations combined with emotional exhaustion, which highlights deterioration of internal well-being, weakening of adaptive resources, and risk of transformation of situational reactions into more persistent maladaptive states.

Personal characteristics of children in wartime determine the variability of psycho-emotional responses and influence the balance between adaptive and maladaptive forms of stress experience. I. Babik *et al.* (2025) examined psychological and pedagogical foundations of developing emotional resilience in children. Researchers established that the development of emotional stability, self-control skills, and the ability to process experiences constructively reduces the intensity of destructive reactions and increases the adaptive potential of the child. O. Prokofieva *et al.* (2025) analysed the possibilities of preventing stress and anxiety in children under martial law conditions. The results indicated that the effectiveness of psychological support depends on the development

of emotional regulation mechanisms, the ability to maintain internal control, and the transition to more structured forms of responding to stressors. The development of resilience among Ukrainian learners under wartime conditions was described in the study by V. Syniuk *et al.* (2025). Researchers observed that resilience functions as an internal resource that supports psychological balance, mitigates the impact of traumatic experiences, and creates a basis for restoring emotional stability.

The influence of parental participation in combat on children's psychological state manifests through changes in family interaction, experiences of separation, and increased emotional tension in everyday life. The psychological features of the perception of war by children in the primary school age group, according to the researcher Y.V. Tsiuryk (2025), are influenced by the type of family to which the child belongs – military or civilian. Researchers reported that the family context directly determines the content of a child's representations of war, the intensity of anxiety-related experiences, and the type of emotional responses, while the experience of living in a military family intensifies the personalisation of threat. Psychological features of emotional responses of children of military personnel during periods of separation from parents were described by Kh.D. Poliakova (2025). The findings indicated that prolonged absence of one parent complicates emotional self-regulation, increases internal instability, and worsens the course of adaptation. Psychotherapeutic support for families of military personnel during wartime was examined by V. Demydiuk & E. Balashov (2023) in relation to psychological difficulties arising within the family system. Researchers noted that emotional exhaustion, tension, and traumatic experiences of adults reduce the child's adaptive capacities and increase the risk of maladaptive states.

Despite the availability of studies on psycho-emotional states of children in wartime, the influence of individual psychological characteristics on the experience of stress, anxiety, and emotional maladaptation in children from families of military personnel remains insufficiently examined. The purpose of the study was to analyse the role of personal characteristics in shaping the psycho-emotional states of children whose parents participated in combat. The objectives of the study were to identify theoretical approaches to the analysis of psycho-emotional states of children in crisis conditions; to examine the role of anxiety, resilience, self-esteem, and emotional regulation in shaping psycho-emotional states; to generalise psychological mechanisms underlying the development of adaptive and maladaptive states in children from families of combat participants.

◆ Materials and Methods

The study was theoretical and was designed as an analytical synthesis of approaches to the analysis of children's psycho-emotional states in the context of wartime influence. The subject of the study comprised academic approaches to psycho-emotional states of children in crisis

conditions, personal characteristics as determinants of psycho-emotional responses, the influence of parental participation in combat on the psychological state of children, and mechanisms underlying the development of adaptive and maladaptive states. The analysis utilised materials from international organisations, including the United Nations Children's Fund (UNICEF, 2025; n.d.) and the International Organization for Migration (IOM, 2025), to clarify psychosocial consequences of war for children and families. Materials from the World Health Organization (WHO) (Ommeren *et al.*, 2015; WHO, 2025) and UNICEF recommendations (Hijazi & Snider, 2018) regarding the psychological support needs of children in crisis conditions were analysed. Guidelines of the Inter-Agency Standing Committee (IASC, 2007) were also incorporated to define international principles for organising psychosocial support for children in emergency and wartime settings. The theoretical synthesis was grounded in academic sources addressing psycho-emotional states of children in the context of the Russian-Ukrainian war since 2022, including K. Dziwak *et al.* (2025), and M.V. Markova *et al.* (2025), as these sources most comprehensively reflected the specific features of wartime experiences of children from families of combat participants. Supplementary comparative material was drawn from selected studies based on armed conflicts in Syria (Perkins *et al.*, 2018; Veronese *et al.*, 2021; Awad & Almazroui, 2025) and Palestine (Gaza Strip) (Thabet *et al.*, 2016; El-Khodary *et al.*, 2020; Manzanero *et al.*, 2021), which enabled clarification of both general patterns of child war-related trauma and features determined by the Ukrainian socio-family context. The chronological scope of the source base covered the period from 2007 to 2025.

The analysis of personal determinants of psycho-emotional states of children from families of combat participants was conducted using general theoretical methods and research approaches aimed at analysing, comparing, systematising, and synthesising academic conceptions of the problem under investigation. Theoretical analysis identified the main approaches to examining psycho-emotional states of children in crisis conditions, including stress-based, trauma-focused, adaptive, and resilience-oriented approaches, and clarified their explanatory potential for interpreting children's psycho-emotional responses under wartime influence. The comparative method enabled comparison of interpretations of the roles of anxiety, resilience, self-esteem, and emotional regulation as factors of vulnerability or psychological protection, which allowed identification of common and divergent positions across domestic and international sources. Synthesis and systematisation organised academic concepts into key thematic domains, including psycho-emotional states of children in wartime, personal determinants of these states, the family context of parental participation in combat, and mechanisms underlying the development of adaptive and maladaptive responses. Generalisation and interpretation established relationships between children's personal characteristics, features of the family environment, and variability of

psycho-emotional states, and identified key mechanisms underlying their development under conditions of prolonged wartime stress. The study also applied a systems approach to examine psycho-emotional states as outcomes of interaction between individual and environmental factors, and a structural-functional approach to analyse the role of specific psychological mechanisms in supporting adaptation or contributing to maladaptation in children.

◆ Results and Discussion

Theoretical approaches to the analysis of psycho-emotional states of children

Theoretical analysis of academic sources enabled the identification of four main approaches to explaining psycho-emotional states of children in crisis and wartime conditions: stress-based, trauma-focused, adaptive, and resilience-oriented. Each of these focuses on a specific aspect of psycho-emotional responding, encompassing both immediate reactions to stressors and consequences of trauma, processes of adaptation, and resources for psychological recovery. This determines the relevance of their systematic comparison for a more comprehensive understanding of the mechanisms underlying the development of psycho-emotional states of children in crisis conditions. Within the stress-based approach, psycho-emotional states of children are interpreted as a result of the interaction between the intensity of stressors, their subjective appraisal, and available coping resources. The analysis indicates that in wartime conditions anxiety, emotional tension, and distress develop not only under the influence of acute extreme events, but also as a result of the prolonged accumulation of everyday stressors, among which uncertainty, perceived threat, forced lifestyle changes, and loss of predictability in the daily environment play a central role (Sousa & Veronese, 2022; Schwarzer, 2024). Synthesised data also indicate that the intensity of psycho-emotional states depends on how a child interprets the threat and the extent to which coping strategies are employed to reduce internal tension (Lim *et al.*, 2022). However, as noted by L. Hazer & G. Gredebäck (2023), the idea of reducing the psycho-emotional states of children to those caused by stress alone does not account for the long-term effects of those wars on the children, or for the reasons that those psycho-emotional states become persistent over time within those individual children.

Within the approach to assessing the psycho-emotional states of children that focuses upon the traumas that those children have experienced, those psycho-emotional states are considered to be the result of the events that impact the children's sense of safety and their ability to act according to their developed expectations of their environment. As described by researchers who have investigated the effects of war on children, various symptoms of PTSD, depression, and anxiety develop as a result of these traumas (Thabet *et al.*, 2016; Perkins *et al.*, 2018). It was also established that repeated exposure to traumatic events, prolonged presence under threat, and absence of a safe environment intensified

psycho-emotional disturbances and contributed to their consolidation (Manzanero *et al.*, 2021). In families of combat participants, psycho-emotional difficulties of children may be associated not only with direct exposure to traumatic events, but also with living alongside a parent experiencing service-related post-traumatic disturbances. This provides grounds to consider vicarious traumatisation as a potential mechanism underlying child distress, as the psychological state of a significant adult and the everyday family context may mediate the child's experience of threat, tension, and emotional instability (Cramm *et al.*, 2022). However, P. Ferrara *et al.* (2025) emphasised that the trauma-focused approach, despite its strong explanatory value for severe forms of maladaptation, frames psycho-emotional states predominantly through a pathological lens and therefore requires extension with models that account for variability of responses and partial preservation of psychological functioning.

Within the adaptive approach, psycho-emotional states are interpreted as outcomes of the process of adjustment to altered living conditions rather than solely as direct consequences of stress or trauma. Children in wartime demonstrate different response trajectories, ranging from pronounced maladaptation to gradual stabilisation of psycho-emotional states, with this process determined by a combination of individual characteristics and environmental conditions (Hazer & Gredebäck, 2023; Recka *et al.*, 2025). Significant factors of adaptation also include family support, preservation of access to familiar social roles, availability of a structured daily environment, and a

sense of at least partial predictability of life circumstances (Selman & Dilworth-Bart, 2024). UNICEF's recommendations for psychosocial support for children in crisis situations stressed the importance of staged and context-sensitive support. This is because children's adaptation in these situations is not a straight line and can involve emotional disturbances coming back when new stressors are present (Hijazi & Snider, 2018).

The resilience-oriented approach looks at psycho-emotional states as protective resources that keep things stable or help people get back to a healthy mental state when things go wrong. The study found that resilience, good family relationships, and social support made it less likely for people to have maladaptive states, even when they had been through trauma. This is because these things help people deal with negative experiences and control their emotions (Veronese *et al.*, 2021; Slone & Peer, 2021). These resources do not remove stress or trauma, but they do help the child stay psychologically stable and get better faster after things that upset them (Elvevåg & DeLisi, 2022). However, H. Jafari *et al.* (2022) demonstrated that resilience cannot be considered a universal or stable protective mechanism, as its manifestations depend on life context, displacement experience, availability of support, and broader sociocultural conditions, and therefore it should be interpreted not as a fixed trait but as a dynamic process of interaction between the individual and the environment. For comparison of explanatory capacities of the stress-based, trauma-focused, adaptive, and resilience-oriented approaches, the results of the theoretical analysis are summarised in Table 1.

Table 1. Comparative analysis of theoretical approaches to explaining psycho-emotional states of children

Approach	Object of analysis	Key mechanism	Explanatory capacity	Limitations
Stress-based	Psycho-emotional responses to stressors	Cognitive appraisal of threat and coping strategies	Explains development of anxiety, distress, emotional tension	Limited consideration of depth of traumatic experiences
Trauma-focused	Consequences of experiencing extreme and traumatic events	Traumatic impact and disruption of sense of safety	Explains PTSD, depressive manifestations, emotional disorganisation	Limited consideration of adaptive forms of response
Adaptive	Process of adjustment to altered living conditions	Interaction of personal and environmental factors	Explains dynamics of psycho-emotional states and variability of responses	Less attention to deep mechanisms of traumatisation
Resilience-oriented	Protective resources of the child in crisis	Resilience, social support, family resources	Explains psychological stability, recovery, reduction of maladaptation	Dependent on life context

Note: PTSD – post-traumatic stress disorder

Source: compiled by the authors based on M. Slone & A. Peer (2021), I.C.Z. Lim *et al.* (2022), C. Sousa & G. Veronese (2022), B. Elvevåg & L.E. DeLisi (2022), L. Hazer & G. Gredebäck (2023), R. Schwarzer (2024), K. Recka *et al.* (2025)

Table 1 indicates that differences between theoretical approaches are primarily determined by different levels of interpretation of children's psycho-emotional states. The stress-based and trauma-focused approaches are oriented towards explaining the consequences of negative wartime influences, yet they differ in analytical depth: the stress-based approach describes mainly situational and cumulative reactions, including anxiety, tension, and distress, whereas the trauma-focused approach focuses on persistent and structured disturbances in mental functioning, including post-traumatic stress disorder, depression, and emotional dysregulation. In contrast, the adaptive and resilience-oriented approaches shift the analytical focus from

negative manifestations to processes of adjustment and recovery resources, allowing for the explanation of variability in psycho-emotional responses of children under similar wartime conditions. The analysis of the stress-based model demonstrates insufficient consideration of the depth of traumatic experiences by children during the war. The trauma-focused model underrepresents the adaptive capacities that existed during that time period. The adaptive model does not always provide an explanation for the psychological disturbances for those children. Finally, while the resilience-oriented model considers some of the factors that may have provided those children with a means of coping with their traumatic experiences, it is limited in its

consideration of factors that can be applied universally to all children who experienced the war. Each of these models is likely to be utilised in conjunction with each other. Thus, the synthesis of these research studies leads to the conclusion that the best model for understanding the psychological and emotional responses of children during the war was an integrative model that considers each of the factors mentioned above.

Psycho-emotional states of children under war-related exposure

The analysis demonstrates that the psycho-emotional states of children in wartime conditions possess a complex, multi-tiered structure, encompassing both primary emotional responses (fear, anxiety, tension) and enduring maladaptive states (distress, post-traumatic stress disorder, emotional exhaustion). These states are not isolated; they constitute interconnected symptom complexes that may mutually reinforce each other (Scharpf *et al.*, 2023). The analysis reveals that a fundamental attribute of children's psycho-emotional responses is their dynamic nature: initial situational reactions, following extended exposure to stressors, may evolve into persistent forms of disturbance, thereby complicating their prompt identification and intervention (Miller & Rasmussen, 2024).

The analysis of various studies conducted in the context of the Russian-Ukrainian war indicates that the psycho-emotional states of children within this region have developed as a result of the stress and traumatic experiences that these children have endured. Researchers have reported that children within these regions experience symptoms of anxiety, depression, emotional lability, sleep disturbances, somatic symptoms, and a general feeling of threat (Markova *et al.*, 2025). Furthermore, the war within Ukraine has been noted to have contributed to the development of these negative emotional states within the population of Ukraine in particular (Savelyuk, 2024; Saveliuk & Zelenkova, 2024). Additionally, studies into the experiences of those who have been internally displaced as a result of the war indicate that these psycho-emotional states are the result of the experiences of these children of displacement (Dzivak *et al.*, 2025). Finally, a report of the United Nations Children's Fund (2025) regarding mental health and psychosocial work with those affected by the war in Ukraine states that children within these conditions generally experience high levels of anxiety and a need to restore a sense of safety and stability. Thus, as a result of these factors, it is clear that the psycho-emotional states of the children within Ukraine are the result of the interaction of these various stress and traumatic factors, and that their complexity is increasing as a result.

The analysis of international studies shows that the structure of children's psycho-emotional state in different regions of the world is similar, indicating the universality of some psycho-emotional states in children. Primary reactions include fear and anxiety, which reflect an immediate response to threat, yet under conditions of

prolonged persistence, they transform into distress and more complex mental disturbances (Koutoulaki, 2025). Studies conducted in the Gaza Strip show that a high frequency of traumatic events is directly associated with the development of post-traumatic stress disorder, depression, and anxiety disorders, with these conditions co-occurring and forming complex symptom clusters (Thabet *et al.*, 2016; El-Khodary *et al.*, 2020). The analysis further reveals that psycho-emotional disturbances have a network structure, within which individual symptoms mutually reinforce one another, contributing to their stabilisation and increasing complexity (Scharpf *et al.*, 2023). In a systematic review, J. Moreno-Chaparro *et al.* (2022) emphasised that the intensity of these states varies depending on the duration of war, socio-economic conditions, and the level of support, which highlights the importance of contextual factors. These findings highlight that psycho-emotional states of children have a universal structure, yet their expression and course depend on the specific environment.

There is a different line of research that looks at the shift from temporary to long-term psycho-emotional states. This process is gradual and builds on itself: initial responses like fear, anxiety, and tension can turn into chronic distress, post-traumatic symptoms, and emotional exhaustion when they happen over and over again and last a long time. The main mechanisms underlying this transition include the accumulation of stress experience, depletion of adaptive resources, and the absence of a stabilising environment that could interrupt this process (Miller & Rasmussen, 2024). Emotional exhaustion functions not only as a consequence but also as a factor that further deepens psycho-emotional disturbances, since it reduces the capacity for effective coping (Markova *et al.*, 2025). At the same time, evidence shows that, in the presence of family and social support, this process may be partially reversible, which reflects the dynamic character of psycho-emotional states (Veronese *et al.*, 2021). Recommendations of the World Health Organization on mental health, trauma care, and rehabilitation in wartime conditions emphasise that timely identification of such states and early intervention are essential for preventing their chronicity and progression into clinical forms of mental disorders (WHO, 2025).

Psycho-emotional states of children in wartime conditions develop under the combined influence of two key mechanisms: chronic stress and traumatic experience. A.M. Thabet *et al.* (2016) and B. El-Khodary *et al.* (2020) confirmed the determining role of traumatic events in the development of post-traumatic stress disorder, depression, and anxiety manifestations, which underlines the significance of direct exposure to threat in deepening psycho-emotional disturbances. In contrast, the study conducted by M.V. Markova *et al.* (2025) focused on stress, emotional tension, and the way in which such elements can manifest physically within those who are enduring such tension. While these types of studies appear to be contradictory to those examining trauma, they are, in fact, examining different levels of the development of the children's

psycho-emotional states – those at the traumatic level vs. those at the stress-related level. Furthermore, these studies support the interpretations related to adaptation and resilience within the children, regardless of whether the children experienced positive or negative outcomes as a result of their exposure to those specific stressor or trauma-related factors.

Consequently, the psycho-emotional states of children in wartime contexts exhibit a complex structure that integrates situational responses and enduring disturbances. Their development is influenced by the interplay of chronic stress, traumatic experiences, and accessible support resources, with a gradual shift towards more enduring forms resulting from the accumulation of adverse influences. This confirms the necessity for early identification, thorough evaluation, and multi-tiered support for children to avert the emergence of maladaptive conditions.

Personal determinants of psycho-emotional states of children in war

Aside from the previously mentioned determinants of psycho-emotional states of children in conditions of war, other significant determinants include characteristics such as anxiety, resilience, self-esteem, and emotional regulation. These characteristics help to determine the way that the children respond to the conditions of war – either appropriately and with control, or in the development of maladaptive psychological states. Yet, some of the constructs that were discussed in the literature were more thoroughly examined than others; anxiety, resilience, and emotional regulation were explored in more depth than the determinant of self-esteem (Urbański *et al.*, 2024; Lotzin *et al.*, 2025; Keleynikov *et al.*, 2025). Thus, each of these personal determinants can be analysed as components of a system of those personal, vulnerable characteristics and the protective characteristics within the children. In the studies examined, anxiety predominantly manifests as a component of psycho-emotional vulnerability that heightens the probability of progression from situational tension to enduring symptoms of distress, depression, and post-traumatic manifestations. In a study examining Ukrainian children displaced to Poland following the onset of full-scale war, researchers correlated anxiety and depressive symptoms directly with coping strategies and resilience. This finding supports the interpretation of anxiety not merely as an emotional state but also as an indicator of diminished adaptive capacity (Urbański *et al.*, 2024). Studies on children from the Gaza Strip show a similar pattern, where trauma from the war is linked to post-traumatic stress disorder, depression, and anxiety as different ways of showing psychological maladaptation (Thabet *et al.*, 2016). So, anxiety has two roles: it is a direct response to a threat, and it shows that someone is less able to deal with stressful situations mentally. In this respect, the conclusions of B. El-Khodary *et al.* (2020) align with the position of A. Koutoulaki (2025), who interprets anxiety not as an isolated symptom but as an element of a broader

complex of mental health disturbances in children during war, which indicates its central role in the structure of psycho-emotional vulnerability.

Resilience is interpreted as a psychological resource that mitigates the destructive impact of cumulative traumatisation. During the Russian-Ukrainian war, researchers explicitly address the buffering effect of resilient coping in relation to symptoms of post-traumatic stress disorder, which supports considering resilience as a factor that does not eliminate stress but modifies its psycho-emotional consequences (Lotzin *et al.*, 2025). Resilience was also examined in relation to anxiety, depression, and coping strategies, which confirms its role as a factor that mediates the impact of adverse experience on mental state (Urbański *et al.*, 2024). A similar interpretation appears in a study on societal and community resilience among the populations of Ukraine and Poland, in which resilience is conceptualised as a multi-level resource relevant at both individual and social levels (Kimhi *et al.*, 2023a). This supports the view that resilience in children cannot be reduced to an individual trait but develops through the interaction of supportive relationships, experiences of control, and a safe environment, functioning as a mechanism that mediates the relationship between accumulated trauma and the severity of post-traumatic symptoms.

Self-esteem is represented less directly in the analysed sources, yet its significance as a personal determinant of psycho-emotional states is evident through related constructs such as self-perception, self-efficacy, and psychological well-being. Positive self-perception is associated with greater internal stability and a stronger capacity to maintain functioning under stress (Sarżyńska-Mazurek *et al.*, 2024). This supports interpreting self-esteem as a factor that mediates experiences of helplessness, loss of control, and emotional destabilisation. Nevertheless, the influence of self-esteem on psycho-emotional states varies across developmental stages. In early childhood, its content is more strongly determined by emotional support from significant adults, a sense of acceptance, and the stability of the immediate social environment, whereas in adolescence, the role of self-awareness, self-reflection, social comparison, and sensitivity to one's social position increases (Krauss *et al.*, 2020; Katsantonis *et al.*, 2023). Under conditions of war, this produces age-related differences in the experience of anxiety, uncertainty, loss of control, and emotional instability. Evidence also indicates that individual psychological resources are associated with variability in the experience of war-related exposure (Guo, 2025). In this context, M.L. Temple *et al.* (2024) examined the relationship between resilience, stress, and well-being, which aligns more broadly with the interpretation of positive self-perception as an internal resource supporting psychological functioning in wartime conditions. Self-esteem may therefore be considered an internal resource of subjective stability: its reduction increases sensitivity to stress, whereas its relative preservation supports the integrity of self-concept during war.

Emotional regulation emerges as one of the most sensitive mechanisms through which war-related experience affects the psycho-emotional state of a child. Disruptions in emotional regulation within the family system increase the risk of maladaptation in children, since they complicate the processing of fear, tension, and uncertainty (Kelynikov *et al.*, 2025). Emotional regulation has also been examined as a factor of mental health in refugee children, which supports interpreting it as a mechanism that either constrains or intensifies negative emotional states (Çelik & Özkan, 2025). A similar pattern was identified in the context of traumatic experience, based on which emotional competence is associated with the effectiveness of coping with trauma-related consequences (Zhylin *et al.*, 2024). Emotional regulation constitutes not only a discrete skill but also a central link between war-related stress and the psycho-emotional state of a child, since it determines whether the experience of threat is integrated into experience or consolidated in the form of destructive reactions. In this respect, J.E. Opie *et al.* (2024) emphasised that emotional and behavioural outcomes of children in military families depend on broader family functioning, which aligns with the interpretation of emotional regulation as a process closely associated not only with individual but also with family resources.

The results of the theoretical analysis support considering anxiety, resilience, self-esteem, and emotional regulation as interconnected personal determinants of psycho-emotional states of children in wartime conditions. Anxiety increases vulnerability to maladaptation, resilience performs a buffering function, self-esteem supports or weakens internal stability, and emotional regulation determines the manner in which stress and traumatic experience are processed. Together, they form a psychological profile that determines the intensity, duration, and qualitative characteristics of psycho-emotional responding in children of combatants.

The impact of parental participation in hostilities on children

The analysis indicates that the impact of parental participation in hostilities on children's psycho-emotional state is mediated primarily by the family context, rather than by the mere fact of military service or combat experience of the adult. Key mechanisms of this influence include separation from parents, changes in the emotional state of adults, increased tension within the family, disruption of established patterns of family interaction, and a reduction in parental resources. The structure of the family also acquires significance, since the child's psycho-emotional responses differ depending on whether a complete family system is maintained or the child lives in a single-parent, guardianship, reconstituted, or distanced family, where one parent is absent for extended periods due to military service. Parental war experience acquires psychological significance for the child when it alters the sense of safety, predictability, and emotional availability within the family. The impact of

parental participation in hostilities therefore requires consideration not as an isolated external factor but as a process of transformation of the family environment, within which children's psycho-emotional difficulties emerge or intensify (Eltanamy *et al.*, 2021; Wadsworth *et al.*, 2021).

Separation from parents constitutes a primary mechanism associated with mobilisation, active service, rotations, or forced family displacement. Analysis of the sources confirms that prolonged absence of one parent disrupts established attachment structures, reduces the sense of stability, and increases anticipation of danger (Wadsworth *et al.*, 2021; Zhylin *et al.*, 2024). Children experiencing such separation more frequently demonstrate anxiety, emotional instability, difficulties with self-soothing, and behavioural responses associated with uncertainty in the family situation (Kent *et al.*, 2021). In this context, J.E. Opie *et al.* (2024) indicated that the consequences of separation vary across children and depend on the duration of absence, the quality of communication with the absent parent, and the level of family support, which means that separation operates through broader conditions of family functioning. The psycho-emotional effect of parental separation is therefore determined not only by physical distance but also by the extent to which the family maintains psychological connectedness during periods of enforced absence.

The impact of parental combat experience on the child's psycho-emotional state depends on characteristics of the family environment, including family structure, configuration of caregiving relationships, stability of family roles, level of emotional support, and preservation of internal family resilience. In intact families, where emotional availability of adults, role consistency, and supportive interaction are maintained, war-related strain is more likely to be partially compensated by greater stability of daily functioning and preservation of the child's sense of safety. In single-parent families, under conditions of parental separation, prolonged absence, or transfer of caregiving functions to guardians or other significant adults, the child's psycho-emotional state is more vulnerable to destabilisation, since the risk of reduced support, emotional distance, and heightened experience of uncertainty increases (Diab *et al.*, 2015; Koliadenko *et al.*, 2024). This corresponds with the position of R. Gribble *et al.* (2020), who emphasise the importance of considering family context and the configuration of military families in analyses of psychosocial consequences of war experience. Thus, family structure functions as a modifying factor through which parental combat experience translates into specific psycho-emotional outcomes for the child.

Another mechanism is the emotional state of parents, especially the presence of post-traumatic, anxious, depressive, or exhaustion-related symptoms. Analysis demonstrates that post-traumatic stress disorder, complex PTSD in parents, and general emotional distress in adults create an adverse psycho-emotional climate within the family, which reduces the quality of support available to the child and complicates emotional processing of war-related

experiences (Karatzias *et al.*, 2023; Keleynikov *et al.*, 2025). Emotional instability in adults influences the child not only through direct observation of anxiety or exhaustion but also through changes in communication styles, responses to everyday challenges, and the overall emotional atmosphere within the family (Lev-ari *et al.*, 2024). Within a broader theoretical framework, K. Erlewein *et al.* (2024) noted that parental service and cumulative adverse experiences of children should be examined jointly, since psychological strain in adults increases children's vulnerability to their own stress exposure. Therefore, the emotional state of parents performs an active mediating function in the development of children's psycho-emotional states.

Another of the factors that contribute to the negative impact of the war on children is the tension that often exists within the families. Such tension is worsened by the impact of the war, fatigue, changes in roles within the family, and the depletion of the resources of the parents. The impact of the war on the children is felt not just in the way that the war directly impacts the children, but also due to the impact of the war upon the parenting practices and behaviours of the adults within those families (Eltanamy *et al.*, 2021; Mladenović *et al.*, 2021). Families who experience tension between its members, or whose parents begin to exhibit irritability or fatigue due to the continued impact of the war often experience poorer emotional and behavioural

functioning from their children (Chemerys *et al.*, 2025). C. Awad & K. Almazroui (2025) have explored the relationship between traumatic experience, mental health, and the development of resilience among adolescents in Syria and found that the relationship exists within the context of the family system. The tension that exists within the families often has a direct impact upon the mental health of their children, and is, therefore, one of the factors that contributes to the worsening mental health of those children.

Another area of synthesis looks at the need for family-oriented support. This is because children's mental and emotional problems during wartime can't be fully understood without looking at the system of important relationships. When helping kids in emergencies and wars, you need to think about how stressed the parents are, how well the family interacts, how tired the adults are, and how well the family can give kids a sense of predictability (IOM, 2025; UNICEF, n.d.). The Inter-Agency Standing Committee (2007) guidelines stress that children's mental health in times of crisis should be looked at in a multi-layered system of support, where the family can either be a main source of safety or a risk factor. Consequently, parental involvement in hostilities necessitates evaluation not solely via individual outcomes for the adult, but also through alterations in the functioning of the entire family system. Table 2 shows these mechanisms in a structured way.

Table 2. Family mechanisms of the impact of parental combat experience on children

Family factor	Psychological content	Main mechanism of influence on the child	Most typical consequences for the child
Separation from parents	Temporary or prolonged separation, lack of direct contact, uncertainty	Reduction in the sense of safety and stability	Anxiety, emotional instability, behavioural difficulties
Change in family structure	Intact, single-parent, guardianship, or altered family configuration; redistribution of caregiving functions	Modification of care stability, continuity of presence of a significant adult, organisation of daily family functioning	Experience of uncertainty, reduced sense of safety, emotional instability, difficulties in adaptation
PTSD and distress in parents	Emotional instability, overload, exhaustion	Reduced emotional availability of the adult	Distress, secondary anxiety, deterioration of well-being
Family tension	Conflict, role changes, instability of family interaction	Destabilisation of the child's everyday environment	Emotional maladaptation, behavioural disturbances
Depletion of parental resources	Parental burnout, reduced sensitivity, fatigue	Weakening of support and containment of the child's emotions	Increased reactivity, difficulties in self-regulation
Supportive family environment	Predictability, stability, emotional availability	Buffering of stress and mitigation of war-related impact	Partial stabilisation of the state, better adaptation

Source: compiled by the authors based on IASC (2007), M. Diab *et al.* (2015), Z. Hijazi & L. Snider (2018), S.M. Wadsworth *et al.* (2021), H. Eltanamy *et al.* (2021), J. Kent *et al.* (2021), N. Mladenović *et al.* (2021), S. Kimhi *et al.* (2023a), T. Karatzias *et al.* (2023), N.V. Koliadenko *et al.* (2024), C. Awad & K. Almazroui (2025), N. Chemerys *et al.* (2025)

Examination of Table 2 reveals that the influence of parental involvement in hostilities functions through various interconnected familial pathways. Separation diminishes the sense of safety and triggers primary anxiety; PTSD and emotional distress in parents diminish the quality of emotional support; familial tension converts war-related stress into the child's daily experience; and the depletion of parental resources compromises the ability to maintain stabilising interactions. A supportive family environment has the most potential to make up for these risks because it can lessen their overall impact. Parental combat experience does not inherently dictate the child's psycho-emotional state; rather, the critical factor is the

manner in which this experience alters familial relationships, the emotional climate, and the daily operations of the household. This substantiates the relevance of a family-oriented approach to psychological support for children in families of combatants.

Integration of approaches and mechanisms of development of psycho-emotional states

The analysis undertaken allows the generalisation that children's psycho-emotional states in wartime form through the simultaneous action of several interrelated mechanisms, namely accumulation of stress, cognitive interpretation of threat, characteristics of emotional regulation,

influence of the family environment, and the presence or absence of protective resources. This multifactorial character indicates that no single approach – stress-based, trauma-based, adaptive, or resilience-based – provides an exhaustive explanation of children's psycho-emotional responses when considered in isolation. The synthesis therefore rests on an integrative model, in which the war experience of the child or family is mediated by internal and external factors and results either in adaptive stabilisation or in maladaptive consolidation of negative states (Ommeren *et al.*, 2015; Oliinyk *et al.*, 2025).

Accumulation of stress combines the impact of acute war events with prolonged everyday stressors. The prolonged character of strain, rather than a single traumatic event, determines the transition from situational emotional responses to persistent distress, exhaustion, and disruption of adaptation (Sokhor *et al.*, 2024; Amsalem *et al.*, 2025). In this context, stress accumulation has a cumulative character: uncertainty, forced displacement, separation, changes in daily routines, lack of control, and repeated exposure to threat signals do not merely coexist but reinforce each other. War-related impact therefore produces not a linear but a cascading dynamic of psycho-emotional strain, where new stressors build upon already weakened adaptive resources of the child. Within a broader humanitarian framework, M.V. Ommeren *et al.* (2015) emphasised that mental health in emergency contexts requires consideration of the interaction between acute stress and chronic psychosocial burden, which corresponds with this interpretation.

Cognitive interpretation of threat determines how the child understands danger, loss, separation, and uncertainty. Comparison of the analysed approaches indicates that similar external circumstances may lead to different intensities of psycho-emotional states depending on whether the child perceives the situation as uncontrollable, temporary, personalised, or manageable in the presence of support (Kimhi *et al.*, 2023b). Cognitive interpretation explains why some children exhibit predominant fear and anticipation of catastrophic outcomes, whereas others demonstrate mobilisation of adaptive resources. In this domain, the mechanism of psycho-emotional state development is linked to internal representations of safety, control, and the future. The IASC (2007) guidelines on mental health and psychosocial support in emergencies stress that helping children in crisis should include not only lowering outside stressors but also making the environment more understandable, predictable, and meaningful, since these things make threats less dangerous. So, cognitive interpretation is a key link between outside factors and a person's mental and emotional state.

Emotional regulation governs the processing of events and the subsequent storage of emotional reactions. The synthesis shows that when emotional regulation is poor, war experiences more often turn into long-lasting forms of anxiety, emotional exhaustion, irritability, or behavioural disorganisation. On the other hand, when emotional regulation is good, threatening experiences can be integrated

without leading to chronic maladaptation (Keleynikov *et al.*, 2025; Khadzhyradieva *et al.*, 2025). This mechanism is especially important in childhood because emotional regulation happens not only on an individual level but also through interactions with adults and the family system. So, emotional regulation can't be seen as just an internal skill. It depends on whether the child gets emotional support, whether adults show stable response patterns, and whether there are safe ways for the child to interact with others. V. Vus *et al.* (2023) looked at the barriers and facilitators of mental health and psychosocial support interventions for children and found that psychological support works best when the environment can maintain regulatory mechanisms instead of just reducing symptoms.

Family influence acts as a principal intermediary between the wartime experiences of adults and the psychological and emotional states of children. Separation from parents, post-traumatic stress disorder in parents, emotional distress in adults, family conflict, parental burnout, and diminished emotional availability create a secondary risk environment for the child, wherein war-related stress intensifies and becomes ingrained in daily life (Eltanamy *et al.*, 2021; Chemerys *et al.*, 2025). Family structure also affects this effect. For example, in two-parent families with an emotionally available adult, the effects of war-related stress may be lessened. On the other hand, in single-parent, guardian, or changed family structures, the risk of anxiety, emotional instability, and feeling uncertain goes up (Koliadenko *et al.*, 2024). At the same time, a supportive family environment allows the family to act as a buffer, lowering the level of distress and stabilising the person's mental and emotional state. This line of thinking is backed up by UNICEF (n.d.) and IASC (2007). They say that psychosocial support for children in humanitarian settings should always include stress on parents or carers, family functioning, and safety in everyday life as main goals of intervention (Hijazi & Snider, 2018). In this case, the family isn't just a background variable; it's a structural mechanism that shapes how children feel and think.

The balance between risk and protective factors reflects the relationship between vulnerability and psychological protection factors. Analysis of the impact of war on the mental health of refugee populations indicates that factors such as the experience of anxiety, emotional regulation deficits, instability within the family environment, and the traumatic experiences that those refugee populations have endured represent a line of risk (Dufynets *et al.*, 2024). However, factors like the presence of psychological resilience, social support systems, positive self-perceptions, and the presence of positive relationship with others in the individual's life represent the line of psychological protection against the risks that emerge from the experience of war and its related traumas. For this reason, the psycho-emotional state of a child is appropriately understood as the result of a dynamic balance between stressor pressure and available coping resources. Psychosocial support requires a multi-level structure precisely because mechanisms of risk

and protection operate simultaneously at the individual, family, and social levels (Ommeren *et al.*, 2015).

Thus, the results of the theoretical synthesis support the view that an integrative model is the most productive for explaining the psycho-emotional states of children in war-time conditions, as it combines stress-based, trauma-based, adaptation-based, and resilience-based approaches. This model enables simultaneous consideration of stress accumulation, the specificity of threat interpretation, the role of emotional regulation, family mediation, and the balance between risk and protective factors. Such a synthesis provides a theoretical basis for explaining the variability of psycho-emotional states among children of combatants and for substantiating multi-level psychological support.

◆ Conclusions

The synthesis of theoretical approaches to the analysis of children's psycho-emotional states indicated that their treatment in the academic literature is primarily framed within four approaches: stress-based, trauma-based, adaptation-based, and resilience-based. Each of these reflects a distinct level of analysis of children's psycho-emotional responses, from the initial reaction to a threat to long-term consequences of traumatising and the potential for psychological recovery. The isolated application of a single approach narrows the interpretation of psycho-emotional states, whereas their integration provides a more comprehensive explanation of the mechanisms underlying children's responses in crisis and wartime conditions. The analysis of children's psycho-emotional states under conditions of war identified five of the most common forms of response: anxiety, fear, distress, post-traumatic stress disorder, and emotional exhaustion. These states form an interconnected system of symptoms, and their intensity increases under prolonged exposure to stressors, forced displacement, separation from close others, and disruption of everyday stability. Evidence emphasised that the transition from situational reactions to stable maladaptive forms is cumulative and occurs through the interaction of chronic stress and traumatic experience.

The synthesis of personal determinants of children's psycho-emotional states confirmed the decisive role of anxiety, resilience, self-esteem, and emotional regulation. Anxiety is a vulnerability factor, resilience a protective resource, self-esteem acts as a regulatory factor for the emotional self-feeling, and emotional regulation is a factor in

the processing of stressful and traumatic experiences. The interaction of these factors determines whether the war has an influence upon the child of combatant in either the development of controlled emotions or the development of stable maladaptive emotional states. The significance of self-esteem is present at each developmental stage of the child. The impact of the parent's participation in combat has an impact upon the child in terms of the emotional distress that develops in the adults in the family, the tension within the family, and the weakening of the parental resources that support the child. For the child, the factor that is most important is the changes to the feeling of safety within the family that results from the parent's participation in combat. The influence of combat upon these factors is mitigated in families that contain two parents and an emotionally available adult, and is stronger within families with only one parent, guardian, or within altered families. Families that are supportive of the child can mitigate the impact of the war upon the child, whereas families that are exposed to conflict, exhaustion, or emotional instability within the adults in the family will have a stronger impact of the war upon the child. The synthesis of these factors has enabled the construction of a model that considers each of these factors in the determination of the emotional states of the children of combatants. The determination of the emotional states of these children is indicative of the need for forms of psychological support for these children at various levels within their lives and their communities.

A limitation of the study is its theoretical framework and dependence on the synthesis of academic sources, which restricts the potential for empirical validation of the identified patterns and their quantitative affirmation. Subsequent research should concentrate on the empirical analysis of the interrelations among individual traits, familial environment, and the psychological and emotional states of children of combatants, employing quantitative and longitudinal methodologies.

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◆ References

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Особистісні детермінанти психоемоційних станів дітей учасників бойових дій: теоретичний аналіз

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♦ **Анотація.** Метою дослідження був теоретичний аналіз впливу особистісних характеристик на психоемоційні стани дітей із сімей учасників бойових дій. Методологія ґрунтувалася на аналізі наукових джерел із проблеми психоемоційних станів дітей у кризових умовах, особистісних детермінант зазначених станів, сімейного впливу і механізмів адаптації та дезадаптації, що дало змогу шляхом теоретичного аналізу виокремити основні підходи до вивчення проблеми, через порівняння зіставити трактування ключових особистісних чинників, а завдяки систематизації, узагальненню та інтерпретації – визначити взаємозв'язки між особистісними характеристиками, сімейним контекстом і психоемоційними станами дітей. Результати аналізу засвідчили, що психоемоційні стани дітей у воєнних умовах формуються під впливом поєднання стресових і травматичних факторів, які мають як гострий, так і тривалий характер. Встановлено, що тривога, страх, дистрес, емоційне виснаження та посттравматичні прояви утворюють взаємопов'язану систему реакцій, інтенсивність якої зростає внаслідок накопичення стресового досвіду. Показано, що важливу роль відіграють особистісні детермінанти, зокрема тривожність, резильєнтність, самооцінка та емоційна регуляція, які визначають варіативність реагування дітей. Сімейний контекст, включаючи структуру сім'ї, емоційний стан батьків, якість взаємодії та умови розлуки, виступає ключовим посередником впливу війни на дитину. Узагальнення результатів дозволило визначити, що психоемоційні стани дітей учасників бойових дій формуються внаслідок взаємодії особистісних детермінант, сімейного контексту та тривалого воєнного впливу, що зумовлює їх варіативність від адаптивних реакцій до стійких дезадаптивних проявів. Отримані дані можуть бути використані психологами, психотерапевтами, соціальними працівниками, фахівцями системи освіти та сфери психічного здоров'я під час розроблення програм психологічної підтримки, психодіагностичного супроводу і профілактики дезадаптивних станів у дітей із сімей учасників бойових дій

♦ **Ключові слова:** тривожність; резильєнтність; самооцінка; емоційна регуляція; адаптація; війна; дистрес



Balance of conscientiousness and openness to experience in the training of operational level officers: An empirical study

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◆ **Abstract.** The relevance of the study is conditioned by the need to clarify the role of personal characteristics of officers in ensuring effective military management in a complex, dynamic, and uncertain operational environment. The purpose of the study was to identify specific features of the relationship between conscientiousness and openness to experience in the personal profile of officers undergoing training for an operational level of military education, and to substantiate psychological and pedagogical approaches to the development of a balance between normative self-regulation and cognitive flexibility in the system of professional military education. The study used a psychometric approach based on the five-factor personality model (Big Five). Empirical data were obtained using the Big Five Inventory-2 questionnaire (BFI-2), implemented on the "I am a Psychologist" platform. The statistical analysis included 424 valid officer profiles. Descriptive statistics were used for data processing, in particular, the calculation of mean values and standard deviations. To check the statistical significance of differences between indicators of conscientiousness and openness to experience, the Student's t-test was applied. The results showed that in the study sample, the most pronounced trait was conscientiousness ($M = 3.92$; $SD = 0.417$), which was manifested primarily through organisation ($M = 4.07$), productivity and responsibility ($M = 3.84$). Openness to experience had a moderate level of expression ($M = 3.60$; $SD = 0.521$) and a predominantly cognitive character, which was confirmed by higher indicators of creative imagination ($M = 3.77$) and intellectual curiosity ($M = 3.74$) compared to aesthetic sensitivity ($M = 3.29$). Statistical analysis confirmed a significant difference between indicators of conscientiousness and openness to experience ($t = 9.88$; $p < 0.001$), and Cohen's d effect size of ≈ 0.68 indicated the practical significance of this difference. The data obtained give grounds to interpret the personal

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profile of officers as one in which the regulatory component prevails, while simultaneously the potential for developing adaptability, alternative analysis, and innovative thinking remains. The practical significance of the findings lies in demonstrating the value of strengthening problem-based learning, scenario-based simulation, and “red team” exercises within the system of professional military education

♦ **Keywords:** military leadership; cognitive flexibility; normative self-regulation; managerial behaviour; adaptability; professional military education

♦ Introduction

In the context of a full-scale war and a complex operational environment, the effectiveness of military management increasingly depends on the ability of officers to combine discipline, responsibility, and normative manageability with cognitive flexibility, readiness to rethink experience, and search for non-standard solutions. This issue takes on particular significance in the training of officers for operational-level military education, as this stage of professional development involves a growing need to integrate staff experience, analytical thinking, the ability to cope with uncertainty, and the capacity to make decisions in rapidly changing circumstances. In this context, conscientiousness can be seen as a trait that supports organisation, consistency, and responsible task execution, while openness to experience is associated with adaptability, intellectual curiosity, and the ability to alternative analysis. The scientific literature does not sufficiently empirically substantiate exactly how these traits relate in the personal profile of officers who are trained at the operational level, which is what makes this study particularly relevant. Thus, the relevance of the study lies in the need for scientific understanding of the importance of personal predictors in the training of operational-level officers. The results obtained will help not only to better understand the psychological mechanisms of managerial activity, but also to substantiate approaches to improving the system of professional military education based on the requirements of modern warfare.

In recent leadership research, personality traits are considered as important predictors of professional performance, adaptability, and effectiveness of managerial behaviour. A.A. Javalagi *et al.* (2024) showed that personality traits are systematically associated with both leader emergence and leadership effectiveness, and the behavioural mechanisms of this connection are structure initiation, supportive interaction, and the ability to influence group processes. In this context, conscientiousness is usually associated with organisation, responsibility, self-discipline, and consistency of action, while openness to experience is associated with cognitive flexibility, intellectual curiosity, receptivity to new information, and a willingness to review established ways of doing things. The importance of these traits is enhanced in a complex and changing professional environment. A. Bonini *et al.* (2024) in a systematic review and meta-analysis proved a positive association between leadership and adaptive performance, which is particularly important for working in conditions of uncertainty and rapid changes in requirements. For the analysis of officer training, these results are of methodological importance,

since they give grounds to consider openness to experience as a psychological prerequisite for adaptation to changes, and conscientiousness as a basis for responsible and consistent implementation of management decisions.

In military psychology and military education, the role of personality traits is also considered as a factor in the professional development of future officers and military leaders. S. Bekesiene (2023), studying cadets of the Lithuanian military academy, found that conscientiousness, openness to experience and extraversion are associated with academic and military performance, and part of this influence is mediated by self-efficacy. S. Bobdey *et al.* (2021), drawing on data from an Indian military academy, also found a positive correlation between conscientiousness and success in military training, and the development of leadership qualities. These results confirmed the importance of conscientiousness as a trait that supports discipline, reliability, and the ability to withstand the demands of an intense professional environment. However, the effectiveness of military leadership cannot be reduced only to discipline and normativity. N.M. Sekel *et al.* (2023) argued that adaptive decision-making under simulated operational stress depends on a complex of psychological, cognitive, and physical factors, among which personality characteristics are essential. J. Österberg *et al.* (2024) proved that cadets' perceptions of future officer careers, leadership challenges, and professionally important qualities were linked to their personal characteristics; openness was positively correlated with empathy and general knowledge, and conscientiousness was positively correlated with a focus on certainty. Therefore, in a military context, conscientiousness and openness to experience should be considered not as mutually exclusive, but as complementary characteristics. Another important block of research concerns military leadership in highly stressful and innovatively saturated environments. C. Panait (2025), analysing the profile of highly effective military leaders based on BFI-2, showed that emotional stability and conscientiousness dominated among the most pronounced characteristics, with high performance and responsibility directly linked to leadership performance under stressful conditions. The researcher also noted that a balanced level of openness to new experiences promotes strategic adaptability without undermining discipline and effectiveness.

The question of combining discipline and adaptability was particularly pronounced in the research of military leadership. J. Teixeira *et al.* (2024) substantiated the need for forms of leadership that can maintain initiative,

autonomy, and adaptability without destroying hierarchy and discipline. V. Šimanauskienė *et al.* (2021), using the example of the Lithuanian Armed Forces, showed that support for innovation, delegation, intellectual stimulation, and remuneration were associated with innovative behaviour of military officers. These findings are consistent with a broader body of research that sees conscientiousness as a sustainable predictor of academic and professional performance (Mammadov, 2022), and openness to experience as one of the leading personal factors in innovative behaviour (Zhu *et al.*, 2025).

Thus, the available research confirmed the importance of conscientiousness and openness to experience for leadership, training, adaptation, and professional performance. Simultaneously, most empirical research focused on cadets, initial military training, or a broader organisational context. The correlation of these traits in the personal profile of officers undergoing training for obtaining an operational level of military education remains insufficiently investigated. It is this gap that determines the research focus of this paper. The hypothesis of the study is that the personal profile of officers who are trained to receive an operational level of military education, there is a statistically significant difference between the level of expression of conscientiousness and openness to experience. It is assumed that conscientiousness will have higher average indicators compared to openness to experience, which may reflect the predominance of the regulatory component in the personal profile of this professional group. The purpose of the study was to identify specific features of the relationship between conscientiousness and openness to experience in the personality profiles of officers undergoing training for an operational level of military education, and to substantiate psychological and pedagogical approaches to striking a balance between normative self-regulation, and cognitive flexibility within the system of professional military education.

◆ Materials and Methods

The methodological basis of the study was the five-factor personality model Big Five, which allowed describing relatively stable individual psychological differences in five basic domains: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience (McCrae & Costa, 2008). This research focused on two areas – conscientiousness and openness to experience, as they are conceptually related to normative self-regulation, responsibility, cognitive flexibility, and the ability to adapt in a challenging professional environment. To empirically measure these characteristics, the Big Five Inventory-2 (BFI-2) questionnaire was used in an adapted Ukrainian-language version implemented on the psychodiagnostic platform “I am a Psychologist”. The BFI-2 questionnaire contained 60 items and allowed evaluating five basic personal domains and 15 facets, with three facets for each domain. As part of this study, the tool was used to diagnose the personal characteristics of officers who are being trained to receive an operational level of military education. Respondents’ answers

were recorded on a five-point Likert scale, where lower values reflected a lower degree of the trait in question, and higher scores indicated a greater degree. The questionnaire format included assessing the respondent’s degree of agreement with brief statements describing typical behavioural, cognitive, and emotional manifestations of the individual. Examples of the content type of such statements are judgments related to organisation, perseverance, responsibility, intellectual curiosity, interest in new ideas, and the ability to mentally model situations.

The choice of BFI-2 was conditioned by its high psychometric characteristics. The tool provides “greater throughput, accuracy, and predictive power” (Soto & John, 2017). The authors also emphasised that BFI-2 had a clear hierarchical structure that enabled simultaneous analysis of both common domains and their facets. The hierarchical structure of the tool involved evaluating not only five basic factors, but also 15 facets, which provided a deeper understanding of the behavioural manifestations of the individual. In particular, conscientiousness included organisation, productivity, and responsibility, while openness to experience included aesthetic sensitivity, intellectual curiosity, and creative imagination (DeYoung, 2015; Denissen *et al.*, 2020). This approach was consistent with current understanding of the multi-level structure of the personality.

The empirical sample of the study consisted of 427 officers who were trained in the system of professional military education for obtaining an operational level of military education. The sample was targeted in nature and was formed according to the principle of accessibility of respondents who, at the time of the study, were enrolled in operational-level training programmes. The study involved officers who had military service experience, were enrolled in the Joint Staff Officer Training Programme (L-3) and had consented to take part in the online survey. This type of sample was not random in a strict statistical sense, but it was relevant for an empirical description of the personal profile of a particular professional group. The study was conducted at the National Defence University of Ukraine among officers enrolled in the operational-level professional military education programme. All respondents belonged to the same target category – officers trained to perform military management tasks at the operational level, but could have different previous service experience, military specialties, and experience participating in assigned tasks. This helped to maintain the focus of the study on a certain professional and educational group and simultaneously consider its internal heterogeneity. Empirical data was collected through an electronic questionnaire on the “I am a Psychologist” platform. The survey was conducted remotely, in a standardised form, without researchers interfering in the process of filling out responses. The subsequent statistical analysis included only valid profiles of respondents who had complete data on the studied scales; the final volume of the analytical sample was $N = 424$ (Table 1).

Table 1. Characteristics of the empirical sample of the study

Category	Value
Total number of participants	427
Average age	40.2 years
Age range	21-57 years old
Core sample by age	30-50 years old
Men	369 (86.4%)
Women	58 (13.6%)

Source: compiled by the authors based on generalised data from an empirical study of the sample profile

The data in Table 1 indicate that the sample covered a professionally mature group of officers with sufficient service and life experience. The average age of respondents was 40.2 years, and the age range was from 21 to 57 years, which allowed considering both the experience of junior officers and representatives of older age groups. The predominance of men in the sample was expected given the professional military context under study; however, the inclusion of 13.6% of women made it possible to partially reflect the gender representation of officers within the professional military education system. Taken together, these characteristics gave grounds to consider the sample as relevant for describing the personal profile of officers undergoing training at the operational level, considering the limitations associated with its targeted and non-random nature.

Participation in the study was voluntary. Before starting the survey, respondents were provided with information about the purpose of the study, the general content of the questionnaire, the approximate time of its completion, and how the aggregated results would be used for research purposes. Completing the electronic form was regarded as confirmation of informed consent to participate in the study and to the use of anonymised results for statistical analysis and subsequent scientific publication. Anonymity and confidentiality were ensured by processing data in an impersonal form. The analysis did not use personal data that would allow identifying a specific respondent, and the results were submitted only in an aggregated form. Participation or refusal to participate in the survey did not imply any organisational, educational, or service consequences for respondents. The research procedure was consistent with the general principles of voluntary, confidential, non-coercive, and non-discriminatory treatment of participants in accordance with the requirements of ICC/ESOMAR International Code on Market, Opinion and Social Research and Data Analytics (2025).

Statistical data processing was carried out using the methods of descriptive and inferential statistics (Field, 2018). At the first stage, mean values, medians, standard deviations, minimum and maximum values were calculated for the domains of conscientiousness and openness to experience, and for the corresponding facets of these domains. At the second stage, the Student's t-test for dependent samples was used to test the statistical significance of differences between the average indicators of conscientiousness and openness to experience, since both indicators were obtained from the same respondents. The

level of statistical significance was set at $p < 0.05$; results with $p < 0.001$ were interpreted as statistically significant. To assess the practical significance of the observed difference, Cohen's d effect size was additionally calculated. Statistical processing was performed using Jamovi software suit. The results were interpreted considering the descriptive nature of the study, the type of sample, and the limitations associated with the lack of repeated measurements or comparative groups.

The chosen methodological procedure allowed combining the descriptive characteristics of the officers' personal profile with checking the statistical significance of the difference between the key domains under study. The findings were interpreted not as evidence of dynamic changes in the personal profile, but as an empirical description of the ratio of conscientiousness and openness to experience within a certain professional and educational group. This approach was consistent with a cross-sectional descriptive study design and helped to avoid drawing excessive causal or longitudinal conclusions.

◆ Results and Discussion

The results of the study are presented in accordance with the logic of the stated objective and hypothesis. First, the general indicators of the two personality domains under study – conscientiousness and openness to experience – were characterised, after which their facet manifestations and the statistical significance of differences between these characteristics were analysed. This order of presentation not only described the personal profile of officers trained to receive an operational level of military education, but also determined the practical significance of the relationship between normative self-regulation and cognitive flexibility. The interpretation of the mean values was carried out based on a five-point rating scale, where scores close to 1 indicate a low level of the trait in question, and scores close to 5 indicate a high level. In this study, scores ranging from 1.00 to 2.49 were interpreted as low, 2.50 to 3.49 – as moderate, 3.50 to 4.49 – as high, and 4.50 to 5.00 – as very high. This interpretation framework was used to describe both common areas and individual aspects of conscientiousness and openness to experience. The empirical study conducted facilitated the identification of specific personality profiles among officers, focusing on two key traits: conscientiousness and openness to experience. Summary descriptive statistics for these domains and their facets were shown in Table 2.

Table 2. Descriptive statistics of indicators of conscientiousness and openness to experience in the personal profile of officers

Descriptive statistics	Conscientiousness	Organisation	Performance	Responsibility	Openness to experience	Aesthetic sensitivity	Intellectual curiosity	Creative imagination
N	424	424	424	424	424	424	424	424
Mean value	3.92	4.07	3.84	3.84	3.60	3.29	3.74	3.77
Median	3.92	4.00	4.00	4.00	3.58	3.25	3.75	3.75
Standard deviation	0.417	0.540	0.474	0.490	0.521	0.763	0.567	0.562
Minimum	2.58	2.00	2.25	2.50	2.08	1.00	2.25	2.00
Maximum	4.92	5.00	5.00	5.00	5.00	5.00	5.00	5.00

Note: the assessment was carried out on a five-point scale, where 1 – minimum and 5 – maximum degree of the corresponding feature or facet. The table shows the results for N = 424 valid profiles

Source: compiled by the authors based on the results of own empirical research

The data in Table 2 indicate that in the personal profile of the studied group of officers, conscientiousness is more pronounced, the average indicator of which is $M = 3.92$ on a five-point scale. This value belongs to a high level and indicates a pronounced orientation of respondents to organisation, responsibility, consistency, and compliance with the requirements of professional activity. Openness to experience is also in the zone of high values, but its mean value is lower – $M = 3.60$, which indicates a less pronounced but available potential for cognitive flexibility, intellectual curiosity, and readiness to work with new ideas. A comparison of standard deviations shows that openness to experience has greater variability in the sample than conscientiousness, and therefore the level of this trait among officers is less uniform.

General characteristics of the personal profile in the measurement of conscientiousness

Analysis of descriptive statistics showed that the study sample was dominated by a high level of conscientiousness ($M = 3.92$; $SD = 0.417$). Given the five-point scale used, this value indicates a pronounced orientation of officers to organisation, responsibility, self-discipline, and consistent performance of professional tasks. A relatively small standard deviation indicates a relatively high homogeneity of the sample in this domain, which may be conditioned by the specifics of military professional selection, service socialisation, and requirements for officers who are trained at the operational level. At the facet level, the highest score was recorded on the organisation scale ($M = 4.07$), which is the most pronounced component of conscientiousness in the study group. This may indicate the formed ability of officers to structure activities, plan a sequence of actions, maintain order in performing tasks, and act in accordance with certain procedures. For an operational officer, this characteristic is of particular importance, since staff and management activities require the ability to work with a large amount of information, coordinate interaction between various elements of the management system, and ensure control over the implementation of decisions.

Performance and responsibility indicators have the same mean value ($M = 3.84$), which also corresponds to a high level of severity, but is slightly lower compared to organisation. This configuration may indicate that the profile of officers more clearly presents the component of structuring and ordering of activities, while the parameters of persistent performance and personal responsibility, although they remain high, are less dominant. This should not be interpreted as a lack of productivity or responsibility, but rather as a feature of balance within the domain of conscientiousness, where the organisational and procedural aspect is most pronounced. The practical significance of such a profile lies in the fact that conscientiousness creates a psychological basis for reliable performance of managerial functions in a complex military environment. High organisation supports the officer's ability to act systematically, follow the planning logic, and ensure consistency of decisions with the requirements of the headquarters, senior commander, and overall plan of the operation. However, a certain lag of productivity and responsibility from organisation may indicate the need for educational tasks that not only support procedural discipline, but also develop the ability to independently bring complex solutions to practical results in conditions of uncertainty.

Therefore, conscientiousness in the study sample can be interpreted as a basic stabilising characteristic of the personal profile of officers who are being trained to receive an operational level of military education. It ensures predictability, consistency and manageability of professional behaviour, which is a necessary condition for the effective functioning of a military organisation. Furthermore, facet analysis shows that this domain is not internally homogeneous: its strongest component is organisation, while productivity and responsibility require further development through practice-oriented, problem-based, and scenario-based forms of training.

General characteristics of a personal profile in terms of openness to experience

In contrast to conscientiousness, openness to experience in the study sample has a lower, but still quite

pronounced level ($M = 3.60$; $SD = 0.521$). According to the interpretation scale used, this indicator is on the verge of moderate and high levels, which gives grounds to speak about the existing potential for cognitive flexibility, intellectual curiosity, and receptivity to new ideas. Simultaneously, a higher standard deviation compared to conscientiousness indicates a higher variability of this trait among respondents, that is, openness to experience in the officer sample is less uniform. Facet analysis showed that the highest components of openness to experience are creative imagination ($M = 3.77$) and intellectual curiosity ($M = 3.74$). This may indicate the ability of a significant part of officers to mentally model situations, search for alternative options for action, analyse complex problems, and be interested in new approaches to solving professional tasks. For the operational level of military management, such characteristics are of particular importance, since it is at this level that the need increases not only for performing specified procedures, but also for the ability to work with incomplete information, predict the development of the situation, and form several possible solutions. The lowest indicator in the structure of openness to experience was recorded by the aspect of aesthetic sensitivity ($M = 3.29$; $SD = 0.763$). This value is in the zone of moderate severity and has the greatest variability among all the analysed facets, which indicates the heterogeneity of respondents in this parameter. In the context of military professional activity, such a result is expected, since the educational and service environment of an officer traditionally actualises the instrumental and cognitive, analytical, and managerial aspects of the activity more than emotional and aesthetic receptivity.

The practical significance of the results obtained lies in the fact that openness to experience in this sample is manifested primarily through those components that are directly related to thinking, learning, and decision-making. Higher levels of creative imagination and intellectual curiosity can be a resource for developing scenario analysis, critical thinking, working with alternative hypotheses, and “red team” methods. A moderate overall level of openness indicates that this potential needs targeted support in the educational process, especially through tasks that encourage independent analysis, interdisciplinary vision of the problem, and rethinking established ways of acting. Therefore, openness to experience in the study group can be interpreted as a predominantly cognitive and instrumental characteristic. It manifests itself primarily in the ability to intellectual search, mental modelling, analyse complex situations, and learn new experiences, while the emotional and aesthetic component is less pronounced. Such a profile does not deny the presence of adaptive potential in operational-level officers, but indicates the need for its purposeful development through educational methods focused on flexibility of thinking, alternative analysis, and professional reflection.

The ratio of conscientiousness and openness to experience

A comparative analysis of the two domains showed that the personal profile of officers is characterised by more pronounced conscientiousness compared to openness to experience. The average conscientiousness score was $M = 3.92$, and the average openness to experience score was $M = 3.60$. This difference gives grounds to speak not about the opposition of these traits, but about a certain asymmetry in their severity, in which the regulatory and normative component of the personal profile is stronger than the component of cognitive flexibility and innovative receptivity. In a professional context, this configuration is functionally understandable, since military activities require a high level of discipline, organisation, responsibility, and the ability to act in accordance with certain procedures. The dominance of conscientiousness can support the stability of management processes, the sequence of tasks performed, and the predictability of an officer's behaviour in complex service and combat activities. At the same time, a relatively lower level of openness to experience may indicate potential limitations in quickly adapting to new conditions, rethinking non-standard situations, and generating alternative solutions, especially when the situation goes beyond established procedures.

To test the statistical significance of this difference, the Student's t-test was used for dependent samples, since indicators of conscientiousness and openness to experience were obtained from the same respondents. The results of the analysis showed that the difference between the level of conscientiousness ($M = 3.92$; $SD = 0.417$) and openness to experience ($M = 3.60$; $SD = 0.521$) is statistically significant ($t = 9.88$; $p < 0.001$). Thus, the revealed difference is not accidental within the study sample and can be considered as an empirically confirmed feature of the personal profile of officers who are trained for obtaining an operational level of military education. The calculated size of the Cohen effect $d \approx 0.68$ indicates the average strength of the practical significance of the detected difference. This means that the distinction between conscientiousness and openness to experience has not only statistical, but also applied content for analysing officer training. In particular, the data obtained indicate the need to preserve the strengths of the regulatory profile – organisation, responsibility and discipline – and purposefully develop those components that are associated with cognitive flexibility, alternative analysis, intellectual curiosity, and willingness to work with new management situations.

Thus, it is advisable to interpret the identified difference as an empirically recorded asymmetry between two important personal characteristics, and not as direct evidence of internal conflict between them. In theoretical terms, this asymmetry may reflect the tension between normative and adaptive requirements in military management, but this explanation requires caution given the descriptive design of the study. In practical terms, the results indicate the feasibility of such an educational impact that does not

reduce the importance of discipline and organisation, but enhances the ability of officers to think flexibly, search innovatively, and work with uncertainty. The obtained empirical results should be interpreted not as a contrast of conscientiousness and openness to experience, but as a revealed asymmetry between the regulatory and normative, and adaptive and cognitive components of the personal profile of officers. The dominance of integrity reflects the importance of discipline, organisation, responsibility, and procedural reliability for military professional activities. A moderately high level of openness to experience indicates an existing but less pronounced potential for cognitive flexibility, intellectual search, and readiness to rethink the situation. This interpretation is consistent with approaches to organisational behaviour, in which the effectiveness of activities is considered through a combination of two complementary modes: exploitation, that is, the effective use of existing procedures, resources, and methods of action and exploration, that is, the search for new solutions, experimentation, and adaptation to changes. The study by M. Park *et al.* (2021) showed that personality traits and team context influence innovative behaviour through exploration and exploitation mechanisms. Within the framework of this study, conscientiousness can be correlated primarily with the regulatory dimension of performance and maintaining the stability of activities, while openness to experience – with the potential for finding alternatives, intellectual renewal, and innovative behaviour. The findings also indicate a growing need for a combination of stability and adaptability at the level of organisational culture and personal qualities of an officer. This is reflected in the need to maintain conventional hierarchical coordination mechanisms, while increasing the importance of flexibility, initiative, trust, and adaptability. In this context, conscientiousness remains a key foundation for manageability, while openness to new experiences becomes an important psychological resource for learning, rethinking experiences, and finding effective solutions. A similar logic can be traced in studies of the professionalisation of officers in the system of continuing education. A. Vitchenko *et al.* (2024) emphasised that the development of the contemporary officer leader involves a combination of convergent thinking related to accuracy, consistency, and task execution in regulated environments, with divergent thinking that enables the generation of new ideas, creative reinterpretation of experience, and innovation. In the context of the results obtained, this gives grounds to consider conscientiousness and openness to experience as psychological prerequisites for two complementary ways of professional thinking of an officer.

Moreover, the mentioned study emphasised that an adult officer is simultaneously characterised by both stability and predictability of behaviour, and the desire for self-realisation, development, and professional growth (Vitchenko *et al.*, 2024). This confirms that the combination of “normativity” and “adaptability” is not a contradiction, but a natural characteristic of an officer's

development in a difficult environment. The relationship of the results obtained with the broader scientific discourse is also confirmed by meta-analytical data. S. Mammadov (2022) showed that conscientiousness is one of the most stable predictors of academic performance, as it is associated with self-regulation, responsibility, and purposefulness. However, H. Zhu *et al.* (2025) demonstrated that openness to experience is an important personal predictor of innovative behaviour. Together, these results allow considering conscientiousness and openness not as competitive features, but as characteristics that perform various functions: the first supports reliability and completeness of actions, the second – adaptability, intellectual flexibility, and susceptibility to change.

In a military context, the identified profile may indicate a predominance of a regulatory model of professional behaviour focused on ensuring manageability, reliability, and procedural consistency. It is a moderately high, but lower level of openness to experience compared to conscientiousness that indicates the scope of potential development in the system of professional military education. This interpretation is consistent with the findings of N.M. Sekel *et al.* (2023), which showed that adaptive decision-making under simulated operational stress depends on a combination of personal, cognitive, physical, and psychological factors. It is important to emphasise that conscientiousness and openness to experience are not mutually exclusive characteristics. S. Bekesiene (2023) found that both traits are positively associated with academic and military performance in cadets, and M.A. Dean *et al.* (2006) showed the predictive significance of Big Five measurements for various learning performance criteria. This suggests that the potential tension between normativity and adaptability manifests itself not as a psychological conflict of traits, but as a task of their pedagogical and managerial coordination in a specific professional context.

In a broader theoretical dimension, the results can be cautiously correlated with the concept of organisational ambidexterity, which implies the ability to simultaneously support the effective performance of existing tasks and carry out innovative search (Gibson & Birkinshaw, 2004). For an operational officer, this means the need to act in two interrelated modes: to ensure that the tasks set are clearly performed and simultaneously remain ready to rethink them in the face of a change in the situation. That is why the results of the study are of practical importance for professional military education, since they indicate the need not to reduce the role of discipline, but to supplement it with the development of cognitive flexibility, critical thinking and alternative analysis.

The practical interpretation of the results obtained is that the training of operational-level officers should create conditions for the simultaneous development of normative self-regulation and adaptive thinking. Conscientiousness supports the ability to act in a structured, responsible, and consistent way, while openness to experience helps to deal with uncertainty, generate alternatives, and adopt new

management approaches. In this context, it is advisable to widely use problem-oriented training, scenario analysis, analysis of complex management situations and methods of “red teams”, which allow simultaneously updating the discipline of thinking and the ability to critically rethink decisions. Thus, the results of the study do not give grounds to assert the dynamic transformation of the personal profile of officers, but they allow describing the characteristic correlation of two important features within a certain professional and educational group. The identified asymmetry between conscientiousness and openness to experience can be seen as an empirical argument in favour of the fact that professional military education should not only maintain organisation and responsibility, but also purposefully develop intellectual curiosity, the ability to alternative analysis, and readiness to work with uncertainty. This approach allows aligning the requirements of military discipline with the need for adaptive thinking, without contrasting these characteristics with each other.

◆ Conclusions

The study showed that the personal profile of officers who are trained at the operational level of military education is characterised by a high level of conscientiousness ($M = 3.92$) and a moderate level of openness to experience ($M = 3.60$). Conscientiousness is manifested through organisation ($M = 4.07$), responsibility, and discipline, ensuring the reliability and manageability of management activities. Openness to experience is mainly cognitive in nature (creative imagination – 3.77; intellectual curiosity – 3.74) and is a prerequisite for adaptability and the search for non-standard solutions. The most pronounced aspect of conscientiousness was organisation, which indicates the predominance of structure, planning, and procedural order in the professional behaviour of officers. In the structure of openness to experience, higher indicators of creative imagination and intellectual curiosity compared to aesthetic sensitivity indicate that the adaptive potential of officers is mainly cognitive and analytical, rather than emotional and aesthetic. The statistically significant difference between conscientiousness and openness to experience ($t = 9.88$; $p < 0.001$; Cohen's $d \approx 0.68$) confirms the practical relevance of the identified asymmetry for analysing operational-level officer training.

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The results obtained give grounds to interpret the revealed difference between conscientiousness and openness to experience as an asymmetry between the normative and regulatory, and adaptive and cognitive components of the personal profile of an operational officer. The dominance of conscientiousness ensures stability and performance of tasks, but a relatively low level of openness can limit the flexibility of thinking and the speed of adaptation to changes in the combat environment. This confirms that the effectiveness of military leadership is determined not by individual traits, but by their correlation. The results of the study are consistent with contemporary scientific approaches and empirical data that consider conscientiousness as a predictor of performance, and openness to experience as a factor of innovation and adaptability. Combined with data on the transformation of military organisational culture, this indicates a growing demand for flexibility, initiative, and the ability to rethink experience, and maintaining discipline and manageability.

The practical significance of the results obtained is to substantiate the need to create a manageable balance between conscientiousness and openness to experience in the process of training officers. This includes strengthening components in educational programmes aimed at developing critical thinking, cognitive flexibility, and alternative analysis, using problem-based learning, scenario modelling, and “red team” techniques. This suggests that the personal profile of an operational officer reflects the transition from a predominantly normative to a more adaptive model of military leadership, where the key factor in effectiveness is the ability to combine discipline and flexibility in decision-making. Further research should be directed to the investigation of the relationship between personal characteristics and leadership styles, and to the creation of psychological and pedagogical models for the development of adaptive thinking in the system of professional military education.

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◆ Conflict of Interest

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Баланс сумлінності та відкритості до досвіду в підготовці офіцерів оперативного рівня: емпіричне дослідження

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♦ **Анотація.** Актуальність дослідження зумовлена потребою уточнення ролі особистісних характеристик офіцерів у забезпеченні ефективного військового управління в умовах складного, динамічного та невизначеного операційного середовища. Метою дослідження було виявлення особливостей співвідношення сумлінності та відкритості до досвіду в особистісному профілі офіцерів, які проходять підготовку для здобуття оперативного рівня військової освіти, а також обґрунтування психолого-педагогічних підходів до формування балансу між нормативною саморегуляцією та когнітивною гнучкістю у системі професійної військової освіти. У дослідженні застосовано психометричний підхід на основі п'ятифакторної моделі особистості (Big Five). Емпіричні дані отримано за допомогою опитувальника Big Five Inventory-2 (BFI-2), реалізованого на платформі «Я-Психолог». До статистичного аналізу включено 424 валідні профілі офіцерів. Для обробки даних використано методи описової статистики, зокрема обчислення середніх значень і стандартних відхилень. Для перевірки статистичної значущості відмінностей між показниками сумлінності та відкритості до досвіду застосовано t-критерій Стюдента. Результати засвідчили, що в досліджуваній вибірці найбільш вираженою рисою була сумлінність ($M = 3,92$; $SD = 0,417$), яка проявляється насамперед через організованість ($M = 4,07$), а також продуктивність і відповідальність ($M = 3,84$). Відкритість до досвіду мала помірний рівень вираженості ($M = 3,60$; $SD = 0,521$) і переважно когнітивний характер, що підтверджується вищими показниками творчої уяви ($M = 3,77$) та інтелектуальної допитливості ($M = 3,74$) порівняно з естетичною чутливістю ($M = 3,29$). Статистичний аналіз підтвердив значущу різницю між показниками сумлінності та відкритості до досвіду ($t = 9,88$; $p < 0,001$), а розмір ефекту Cohen's $d \approx 0,68$ свідчить про практичну релевантність цієї відмінності. Отримані дані дають підстави інтерпретувати особистісний профіль офіцерів як такий, у якому переважає регулятивно-нормативний компонент, водночас зберігається потенціал для розвитку адаптивності, альтернативного аналізу й інноваційного мислення. Практичне значення результатів полягає в обґрунтуванні доцільності посилення в системі професійної військової освіти методів проблемно-орієнтованого навчання, сценарного моделювання та «червоних команд»

♦ **Ключові слова:** військове лідерство; когнітивна гнучкість; нормативна саморегуляція; управлінська поведінка; адаптивність; професійна військова освіта



Psychological prevention of the negative impact of war on Ukrainian students' attitudes towards health

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◆ **Abstract.** The relevance of this study is determined by the need to examine opportunities for reducing the negative impact of war on the civilian population of Ukraine, their health, and well-being. The aim of the research was to identify directions for the psychological prevention of the negative influence of wartime threats on young people and their attitudes towards health. The empirical research methods included an author-designed questionnaire, methods of mathematical statistics and data analysis using the Jamovi programme, and the Kruskal-Wallis test to identify relationships with the socio-demographic characteristics of students. Based on changes in students' attitudes towards health and the resources available to them, three groups were identified: the resource-stabilisation group (43.8%), the resource-accumulation group (34.9%), and the resource-depletion group (21.3%). The threats that students considered significant in the context of their attitudes towards health included the risk of shelling, danger to loved ones, lack of conditions for rest and work, loss, injury, or death of relatives and close persons, environmental and epidemic risks, relationship breakdowns, forced displacement, and the threat of mobilisation. Among the methods of health restoration, students most frequently chose passive and active forms of rest, communication with loved ones, humour and entertainment, hobbies and creative activities, self-regulation practices, and assistance from doctors and psychologists. Individuals who were in long-term relationships or marriage perceived the threat of shelling more acutely and experienced a stronger fear of relationship breakdown. Prevention of the impact of wartime threats on young people's attitudes towards health relied on non-institutional recovery resources (sleep, rest, communication, search for meaning, hobbies), and the combined effect of these practices enhanced their effectiveness. Effective preventive measures included encouraging the regularity of basic recovery methods, fostering an internal permission to rest and function imperfectly, and integrating recovery practices into daily study and work routines. For the resource-stabilisation group, greater support for horizontal connections within networks of mutual assistance and joint activities was recommended. For the resource-accumulation group, the development of communicative competence skills and the prevention of relationship breakdowns were recommended. For the resource-depletion group, it was considered desirable to develop group-based formats for discussing wartime experiences, which reduce the sense of uniqueness of such experiences and prevent isolation. The practical value of the study lies in the development of targeted configurations of preventive measures according to available resources, their use, and changes in attitudes towards health

◆ **Keywords:** threats; psychological health of young people; resource-stabilisation, resource-accumulation, and resource-depletion groups; methods of recovery; socio-demographic differences

◆ Introduction

Extreme life circumstances associated with the active phase of the war in Ukraine, its duration, and the aggressor's brutality have given rise to a specific attitude among

civilians towards themselves and their own safety. Life in the rear, sometimes even far from the frontline, nevertheless did not exclude the possibility of daily unpredictable

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and dangerous developments. The psychological health of Ukraine's civilian population deteriorated as a result of years of shelling, intensified attacks on energy and water supply infrastructure, widespread destruction, losses, and uncertainty about the future. The number of complaints concerning mental health increased, alongside the growing need for recovery. Under the extreme conditions of war-time, young people gradually began to recognise in a new way the dependence of their ability to study, form close relationships, and derive satisfaction from life on their routine well-being and on their capacity to overcome numerous fears, depression, exhaustion, and hopelessness. Thus, the study of the psychological aspects of preventing a deterioration in young people's attitudes towards their own health has become an increasingly relevant scientific task.

The negative impact of wartime conditions on an individual's attitude towards health manifested itself as the experience of daily life-threatening circumstances. Six years after the end of the war in northern Sri Lanka, R. Jayasuriya *et al.* (2025) identified the following types of potentially traumatic war-related events: extreme violence, traumatic losses, the impact of conflict, and the effects of constant stressors. As demonstrated by E. Zalli's (2024) study, the modal response to threats, grief and other potentially traumatic circumstances was resilience, which facilitated more flexible self-regulation. Z. Kostova *et al.* (2025) investigated how assistance provided to the Ukrainian population by mental health professionals strengthened an aspect of resilience known as compassion satisfaction. In 2025, M. Bradshaw *et al.* (2025), having conducted a cross-national meta-analysis of data collected in 22 geographically, economically and culturally diverse countries, demonstrated the influence of numerous factors on self-rated health, including country, age, gender, marital status, employment, education, attendance at religious services and immigration status. Accordingly, the Ukrainian sample also has its own specific characteristics regarding self-rated health, and the threatening conditions of war have become a significant factor in changes to this self-assessment. Psychological prevention of the impact of prolonged uncertainty and threats on self-rated health involves identifying core resources for resilience. A large group of experts, as presented in the work by S. Hobfoll *et al.* (2021), which examined the principles of assisting victims of natural disasters and mass violence, investigated the effectiveness of various models for preserving resources in conditions of mass traumatisation. According to the World Health Organization (2023), the key tools of socio-psychological prevention are considered to be the development of self-regulation skills, psychological education aimed at addressing the impact of prolonged stress on physical and mental health, as well as the legitimisation of rest and self-care as a necessary condition for adaptation during wartime.

In working with veterans, improving the capacity for emotional self-regulation has become increasingly important. As shown by the study by N. Malek *et al.* (2024), specialised mobile applications can be effective tools for

anger management. In Ukraine, rehabilitation centres are being actively established and programmes for the psychological recovery of military personnel following combat deployment are being developed. Among the tasks faced by staff at such rehabilitation centres, as shown by data from the study by I. Prykhodko *et al.* (2023), are not only the elimination of the negative impact of combat stress on mental health, but also the strengthening of mental health and the mobilisation of psychological resources. There are also studies of the civilian population of Ukraine affected by the war. A comparison of Israeli and Ukrainian communities has shown that in Ukrainian society, people have significantly higher levels of hope and social resilience compared to Israelis, and also demonstrate greater individual and community resilience (Kimhi *et al.* 2023). Based on these indicators, effective methods of recovery can be developed. It should be noted that restorative work with young people has its own specific characteristics. A study conducted by O. Kokun & O. Bezverkhyi (2026) on Ukrainian students during a full-scale war revealed an increase in symptoms of post-traumatic stress disorder and somatic complaints over the course of a year, indicating a greater need for psychological support.

It is important to examine which preventive measures are used to reduce stress and promote health among Ukrainian students. The aim of the study was to identify approaches to psychological prevention of the negative impact of military threats on young people and their attitudes towards health. To achieve this aim, the following steps were undertaken: changes in young people's attitudes towards their own health during the war were identified; young people's attitudes towards threatening life circumstances and the use of recovery practices were examined; and preventive measures aimed at strengthening the recovery process were identified.

◆ Materials and Methods

The empirical research methods included an author-designed questionnaire, methods of mathematical statistics, and data analysis using the Jamovi software package (version 2.3.28.0). The obtained data were coded and analysed using non-parametric statistical procedures. In particular, the Kruskal–Wallis test was applied to examine differences between three groups of respondents with different types of attitudes towards health in terms of the prevalence of recovery practices, as well as to identify relationships between these groups and socio-demographic variables. The use of this criterion was determined by the ordinal nature of the data and the absence of a normal distribution.

For one of the survey sections analysed in the article, a series of health-related questions was developed. The response options were based on detailed narratives about wartime life provided by participants in a previously conducted qualitative study (Tytarenko, 2024). The questions were as follows: (1) "How has your attitude towards health changed during the war?" (response options: I pay less attention to health; I pay more attention to health; nothing

has changed in my attitude towards health); (2) “Which life circumstances are threatening to your health?” (response options: lack of adequate conditions for sleep, rest, and work; risk of missile, bomb, or drone attacks; the frontline approaching; danger to relatives and loved ones, separation from them; environmental deterioration and epidemic risks; forced displacement and lifestyle changes; threat of mobilisation; losses, injuries, or death of loved ones; divorce, infidelity, or relationship breakdowns); (3) “Who or what helps you most in restoring your health?” (response options: rest, sleep, sport, walks; communication with relatives, loved ones, and friends; hobbies, travel, creativity, books; humour, entertainment, computer games, television series; religion, meditation, yoga, breathing practices; work or academic workload; psychotherapy, psychological counselling, sanatorium treatment; self-help: self-care, self-regulation practices, self-improvement).

The indicators according to which respondents were divided into three groups (resource-stabilisation, resource-accumulation, and resource-depletion) included three types of attitudes towards health and eight methods of recovery. The resource-stabilisation group included respondents whose attitudes towards health and recovery methods had not changed during the war; the resource-accumulation group included respondents whose attention to health had increased and whose recovery methods had expanded and been renewed; the resource-depletion group included respondents whose attention to health had decreased and whose recovery methods had diminished and acquired a destructive character.

Sample characteristics: the sample consisted of 502 respondents aged between 17 and 44 years; of these, 80.9% were individuals under the age of 22. In terms of gender, the sample was feminised (403 women and 91 men). All respondents were participants in the educational process: 419 (83.5%) were pursuing a Bachelor's degree, 78 (15.5%) a Master's degree, and 5 (1%) education at the third (educational and scientific) PhD level. The majority of respondents lived in Ukraine in the same region where they had resided before the beginning of the full-scale invasion (74.5%); however, one quarter of the sample had experienced a change of residence, indicating direct experience of adaptation to wartime conditions.

The sample was formed through the distribution of links to the online platform Google Forms. Participation in the study was anonymous and voluntary. All respondents provided informed consent for the use of their responses for scientific purposes. The study was conducted between April and October 2025. The research was carried out in accordance with current national and international ethical requirements. The author-designed questionnaire for data collection (one section of which is analysed in the article) was approved by the Research Ethics Commission of the Institute for Social and Political Psychology of the National Academy of Educational Sciences of Ukraine in accordance with the ICC/ESOMAR International Code on Market, Opinion and Social Research and Data Analytics (2025).

◆ Results and Discussion

Indicators of the dynamics of young people's attitudes towards their own health during the war demonstrate the heterogeneity of changes observed since the beginning of the full-scale phase of the war. A polarisation in attitudes towards personal health can be observed. According to the direction of changes in the assessment of their own health and well-being from the beginning of the aggression in 2022 until autumn 2025, respondents were divided into three groups. For some individuals, the war prompted greater self-care, and they began to accumulate resources. For others, the war distracted them from their own health and from analysing their routine well-being, and they instead began actively depleting their personal resources. For a certain category of young people, the war had the effect of leaving them indifferent towards changes in their own health. Each group – the resource-accumulation group (34.9%), the resource-depletion group (21.3%), and the resource-stabilisation group (43.8%) – demonstrated a specific need for targeted preventive work aimed at increasing attention to health, improving awareness of its value, and developing the ability to recover effectively.

According to the obtained results, respondents perceived the war as a multidimensional threat to health extending far beyond immediate physical danger. The most widespread threat was considered to be the risk of shelling and the approach of the frontline (71.3%), which created a state of constant tension and expectation of danger. The high percentage of responses concerning danger to loved ones and forced separation from them (63.9%) indicated the predominance of existential fears. More than half of the respondents (53.2%) reported the absence of adequate conditions for sleep, rest, and work, indicating disruption of basic physiological needs. Almost half of the respondents (49.4%) identified the loss, injury, or death of loved ones as a significant threat to health. Other threats – deterioration of the environmental situation and epidemic risks (45%), relationship breakdowns (29.1%), forced displacement (25.5%), and the threat of mobilisation (16.3%) – created an additional background of cumulative stress.

Analysis of responses concerning methods of health recovery demonstrated respondents' orientation towards accessible, routine, and socially mediated resources. The most frequently selected methods were rest, sleep, physical activity, and walks (78.3%), indicating awareness of the importance of basic recovery mechanisms. Communication with relatives, loved ones, and friends (75.3%) also played an important role, serving the function of emotional stabilisation and psychological support. A significant proportion of respondents used humour, entertainment, computer games, and television series (62.2%) as a means of psychological relief. Hobbies, creativity, travel, and reading (61.4%) contributed to preserving a sense of identity and inner resilience. Self-help and self-regulation practices were used by 41.6% of respondents. Professional assistance and spiritual practices remained less widespread, which may have been related to limited accessibility or prevailing social attitudes.

Such methods of self-recovery as turning to entertainment content did not demonstrate significant associations with changes in attitudes towards health. Although the majority of young people used humour, entertainment, games, and television series, the relieving effect of such practices proved short-lived, and long-term recovery did not occur. Seeking professional assistance from doctors, psychologists, and psychotherapists (21.7%) was also not very common among young people. This may indicate limited accessibility of medical and psychological assistance in different regions. Spiritual practices and meditation were used by 19.3% of respondents. Evidently, among recovery methods, preference was given to self-regulatory and communicative practices, that is, those oriented towards social support.

According to a number of socio-demographic characteristics, the Kruskal-Wallis test identified the following statistically significant differences between particular groups of young people. An age-specific pattern in the experience of war was revealed. Older respondents (22-44 years) significantly more often experienced such a threat as the possibility of mobilisation ($H = 51.1$; $p < 0.001$) than younger respondents (17-21 years). Among methods of recovery, younger participants more frequently used humour, games, and television series as coping strategies ($H = 10.015$; $p = 0.002$), whereas older respondents resorted to this means of self-preservation and recovery significantly less often.

Individuals who were in long-term relationships or marriage perceived the threat of shelling more acutely ($H = 12.141$; $p = 0.033$). They experienced fears of infidelity, divorce, and relationship breakdown ($H = 22.745$; $p < 0.001$) and more actively used communication with close individuals as a resource than students who did not have a permanent partner at the time of the study. This corresponds well with the logic of emotional involvement and responsibility for others. A person's financial situation, as it turned out, was associated both with the assessment of threats and with methods of recovery (rest and communication). A better financial situation provided greater access to recovery resources and reduced the significance of threats for respondents. Students who lived and studied in more dangerous regions were more fearful of shelling and the approach of the frontline ($H = 11.28$; $p = 0.004$). The threat of relationship breakdown was experienced more strongly by those students who had been forced to change their place of residence since the beginning of the war ($H = 30.139$; $p < 0.001$). No other significant differences by place of residence were identified. Likewise, no statistically significant gender differences were found.

In such a field as health psychology, especially under wartime conditions, the need for the prevention of health deterioration increases substantially, creating an urgent social and scientific demand for the legitimisation of such disciplines as preventive psychology or preventive health psychology. This is evidenced both by the results of the author's study and by the findings of the scientific investigations of N. Byshevets *et al.* (2023) and

S. Kimhi *et al.* (2023). Prevention of health problems is a global priority, and psychiatrists are increasingly raising the issue of the potential of preventive psychiatry, although the level of its implementation remains low because resources are limited. In order to meet the enormous mental health needs of the population, new forms of intervention are being used more actively, including mobile and internet-based interventions, as well as blended and stepped-care models (Singh *et al.*, 2022). The present study did not include obtaining data regarding the popularity among young people of online consultations with specialists. The choice of young people as the research group in this study was justified both by the author's previous investigations into attitudes towards health among people of different age groups (Tytarenko, 2024) and by the scientific work of other authors (Kałwak *et al.*, 2024). Young people proved to be more vulnerable to the negative impact on health of both the war and the contemporary polycrisis, which in recent years has come to include COVID-19, the war in Ukraine, climate change, and the economic crisis.

The focus of contemporary research aimed at identifying the role of widespread social determinants in health problems and developing preventive measures usually concerns vulnerable population groups with an increased risk of health disorders, particularly refugees and migrants. Such groups are precisely those that require preventive intervention strategies, including universal, selective, and indicated approaches. Preventive assistance is primarily focused on young people, and prevention is delivered through various innovative methods, including digital formats, within educational institutions, workplaces, communities, and clinical settings. Different types of psychosocial interventions contribute to the development of resilience, improvement of mental health literacy, and enhancement of social support. These include training young people to recognise and understand their own emotions, suicide prevention programmes, interventions aimed at combating loneliness, and trauma-informed interventions within an interdisciplinary approach (Kirkbride *et al.*, 2024). The author's study confirmed the urgent need for comprehensive education of young people regarding various forms of professional assistance available in cases of health-related problems, involving psychologists, educators, doctors, and social workers.

Given the prevalence of existential and cumulative threats (the risk of shelling, danger to loved ones, loss), the key focus of prevention is the search for strategies of self-preservation and recovery. Prevention approaches should concentrate on identifying and strengthening the basic resources of resilience. This approach is consistent with contemporary understandings of resilience as flexible adaptation to conditions of prolonged uncertainty and threat, as substantiated in the study by I.R. Galatzer-Levy *et al.* (2018), as well as with the resource conservation models of S.E. Hobfoll *et al.* (2021), which emphasise the importance of timely prevention of burnout in situations of mass trauma.

An important area of prevention is the strengthening of everyday and socially mediated resources for recovery – primarily interpersonal communication, social support and engagement in activities that sustain a sense of control and identity. These resources constitute social capital, which influences human health in stressful situations, where support from family and friends, as well as the social network, alleviates stress and promotes recovery (Ta *et al.*, 2025). Among the effective means of psychological prevention of health deterioration, non-institutional resources stand out, on which young people predominantly rely in their daily lives. This involves targeted changes to the work (study) – rest routine, with an emphasis on enhancing various forms of active and passive leisure. Equally effective are preventive measures focused on intensifying communication with significant others and engaging in joint activities, which strengthen the sense of community, control and identity. Significant preventive measures also include psychological education on the importance of mental health and ways to maintain it; the development of self-regulatory personality traits; and the promotion of self-care.

Given the identified polarisation of attitudes towards health, preventive measures must be differentiated and aimed both at supporting a responsible attitude towards health and at preventing its devaluation in the context of dwindling resources. A study by colleagues, conducted on a sample of students in Ukraine, found that the psycho-emotional status and physical condition of students at higher education institutions, as well as their emotional well-being, are directly dependent on their level of physical activity and lifestyle. It has been demonstrated that a more active lifestyle and systematic health-promoting recreational physical activity allow for a confident prediction of the maintenance of emotional well-being during the hostilities in Ukraine (Byshevets *et al.*, 2023).

The results obtained in the study make it possible to move towards the development of specific means of socio-psychological prevention of the negative impact of war on Ukrainian students' attitudes towards health. The proposed measures are grounded in the identified threats, available recovery resources, and socio-demographic differences. What follows is a comparison of youth groups according to three types of attitudes towards health. Representatives of the resource-stabilisation group, which included almost half of the respondents (43.8%), stated that their attitude towards health had not changed significantly during the years of the full-scale war. Such data indicate the relative stability of their habitual lifestyle, previously formed habits, and established self-care strategies even under threatening wartime conditions. Young people in this group possess a relatively stable self-assessment of health, since they maintain their previous, pre-war mode of regulating their own states and do not require modifications in self-regulation in order to adapt to wartime conditions. The resource-stabilisation attitude towards health serves as a means of maintaining a certain level of psychological well-being by satisfying

individuals' expectations regarding psychological stability, resilience, and adaptability.

The second group was termed the resource-accumulation group. Among its representatives, who constituted more than one third of the sample (34.9%), attitudes towards personal health became more attentive and purposeful during the war. The previous, pre-war mode of preserving health and regulating emotional states changed in order to adapt more effectively to wartime conditions. The lifestyle of representatives of this group underwent certain modifications: methods of study, interaction with others, and self-care were optimised, which led to additional mobilisation of resources. In response to prolonged threat and uncertainty, these young people demonstrated readiness to seek new forms of self-support and assistance. For this group, the war became a stimulus for more conscious self-care and for understanding the significance of self-rated health for self-preservation. The adaptability of young people within this group became more dynamic and flexible.

The third group was termed the resource-depletion group. In terms of participant numbers, it proved to be the smallest (21.3%). Its representatives reduced attention to their own health, losing psychological stability, resilience, and adaptability. Constant attempts to ignore needs associated with health conditions may be explained to some extent by fatigue, accumulation of stress, feelings of helplessness, and general exhaustion. The lifestyle of representatives of this group changed in a negative direction, since necessary adjustments were not made to methods of study, interaction with others, and self-care, resulting in a loss of resources. The overload of routine difficulties in life and the excessive urgency of new life tasks arising during wartime do not become a stimulus for this group either to seek new recovery resources or to return to the more attentive pre-war attitude towards health.

According to a worldwide expert study of intervention policy following mass trauma with cumulative effects, interventions should contribute to: (1) restoring a sense of safety; (2) calming; (3) experiencing personal and collective efficacy; (4) improving interpersonal connectedness; and (5) preserving hope. Since young people primarily rely on non-institutional recovery resources (sleep, rest, communication, hobbies), effective prevention should not replace these practices but, where possible, strengthen them. Accordingly, preventive measures include encouraging the regularity of basic recovery strategies (particularly various forms of physical activity), legitimising rest and granting permission for far-from-perfect, "non-ideal functioning" under difficult wartime conditions, and integrating different elements of recovery into everyday academic and work routines (Hobfoll *et al.*, 2021).

Comparison of the three groups with differing attitudes towards health demonstrates the existence of distinct configurations of preventive measures. The configuration of preventive measures among representatives of the resource-stabilisation group possesses its own specificity. Alongside basic forms of physical recovery and

communication with close individuals, spiritual and reflective practices (religion, meditation, breathing exercises) and educational activity play a significant role for this group. There is a tendency towards maintaining inner balance and stabilising emotional states, facilitated by various methods of self-regulation and the search for new meanings.

Representatives of the resource-depletion group demonstrate the most active use of various recovery methods. Their preventive measures are primarily associated with physical activity and basic forms of rest, supplemented by intensified social support. To some extent, various hobbies, creative activities, and deeper engagement in studies also become significant. Such a configuration may indicate a tendency to overcome tension through the active expenditure of available resources, which is later compensated for by a broad spectrum of recovery methods.

The configuration of preventive measures among representatives of the resource-accumulation group is characterised by a more strategic use of resources. For these individuals, not only basic forms of rest and support from close surroundings are significant, but also activities connected with personal development and self-help – creativity, cultural interests, self-regulation practices, and self-improvement. There is a tendency towards the gradual accumulation of internal resources oriented towards the long-term maintenance of health and psychological well-being. The high significance of communication with close individuals as a resource across all three groups indicates the necessity of intensifying socially oriented preventive measures. Such measures include support for horizontal connections within youth mutual-assistance networks; group-based formats for discussing wartime experiences as a means of alleviating suffering, reducing the uniqueness of experienced trauma, and preventing isolation; prevention of the loss of significant relationships; and development of communicative competence skills.

Attention to socio-demographic differences allows preventive measures to be differentiated in a more targeted manner, taking into account age differences, varying financial circumstances, and characteristics of place of residence. In particular, for older respondents, work with anxiety concerning possible forced mobilisation and loss of control over one's own life is significant. Individuals with fewer financial resources should orient themselves more towards voluntary and free forms of psychological support. For internally displaced persons, the prevention of maladaptation and the loss of a sense of stability becomes most important.

Prevention aimed at respondents who cease paying attention to their own health should focus on supporting motivation for self-preservation and self-care. Self-esteem and self-compassion are complementary phenomena that perform a shared protective role within the context of psychological well-being (Muris & Otgaar, 2023). Accordingly, effective preventive measures may include the cultivation of self-compassion and viewing care for health as a survival resource rather than an additional burden; development of

skills in setting micro-goals and applying the “small steps” technique in self-preservation practices; and reduction of feelings of guilt associated with imperfect or subjectively insufficient effectiveness.

N. Auttama *et al.* (2021) established that resilience, self-esteem, and psychological self-care are important factors in students' mental health. This corresponds with the results of the present study, in which young people actively used routine self-recovery practices and social support. Y. Shraga *et al.* (2025) emphasised the effectiveness of remote psychological assistance for the Ukrainian civilian population under wartime conditions. The obtained results also confirm the need for accessible forms of psychological support and prevention for young people. Researchers E.A. Yudiatia *et al.* (2025) demonstrated the significance of self-efficacy and resilience for psychological well-being. Similarly, in the present study, practices of self-regulation and social interaction contributed to the formation of a resource-accumulation attitude towards health.

The obtained results demonstrated that the impact of war on students' attitudes towards health is heterogeneous and determined by the interaction of threats, recovery resources, and socio-demographic factors. The identified differences between the resource-stabilisation, resource-accumulation, and resource-depletion groups confirm the necessity of a differentiated approach to psychological prevention. At the same time, the obtained data indicate the important role of routine self-regulation practices, social support, and resilience in preserving the psychological well-being of young people under wartime conditions.

◆ Conclusions

Whereas for a significant proportion of young people wartime threats become a trigger for a more responsible and attentive attitude towards themselves and their well-being, for another group they are exhausting, reducing attention to health. There is also a considerable proportion of young people who attempt to ignore difficult wartime conditions, considering their health to remain unchanged. Overall, the impact of war on young people's health is mediated by a complex interaction of threats and resources, which made it possible to distinguish the following groups: resource-stabilising (43.8%), resource-accumulating (34.9%), and resource-depleting (21.3%). The predominance of threats characteristic of martial law is, to some extent, balanced by an orientation towards particular preventive measures. In accordance with the groups that demonstrate different attitudes towards health, distinct configurations of preventive measures are appropriate. Among representatives of the resource-stabilisation group, the stabilisation of emotional state and improvement of well-being primarily require basic forms of physical recovery and support from close individuals. Spiritual and reflective practices, as well as educational activities, are also significant to a certain degree. Among representatives of the resource-accumulation group, the configuration of preventive measures includes basic forms of rest and support from close surroundings,

as well as activities related to self-development, such as creativity, reading, and self-regulation practices. Among representatives of the resource-depletion group, preventive measures are associated with physical activity, basic forms of rest, intensification of support from close surroundings, hobbies, creative activities, and learning.

Directing measures towards a more responsible attitude to health and the prevention of its devaluation under conditions of wartime resource exhaustion corresponds to the urgent needs of Ukrainian society. The effective implementation of self-preservation and recovery measures during wartime also presupposes targeted professional counselling with the use of indicative preventive interventions by psychologists, psychotherapists, and social workers. A limitation of the study lies in the disproportionate gender composition of the sample, which did not allow for the identification of significant differences between men and women. Prospects for further research involve a comparative

analysis of the cumulative impact of wartime threats on attitudes towards health among population groups differing by age, gender, economic status, and professional status, which will make it possible to identify predictors influencing psychological well-being.

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Психологічна превенція негативного впливу війни на ставлення українського студентства до здоров'я

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♦ **Анотація.** Актуальність роботи визначається необхідністю вивчення можливостей зменшення негативного впливу війни на цивільне населення України, його здоров'я і самопочуття. Метою дослідження було визначення напрямів психологічної превенції негативного впливу воєнних загроз на молодь і її ставлення до здоров'я. Методами емпіричного дослідження були: авторський опитувальник, методи математичної статистики й аналізу даних із застосуванням програми Jamovi; критерій Краскела-Уоллеса для виявлення зв'язків із соціально-демографічними характеристиками студентів. За змінами у ставленні студентства до здоров'я і наявних ресурсів виділено ресурсо-стабілізаційну (43,8 %), ресурсо-накопичувальну (34,9 %), і ресурсо-затратну (21,3 %) групи. Загрози, які студентство вважало суттєвими у контексті ставлення до здоров'я, – це ризик обстрілів, небезпека для близьких; відсутність умов для відпочинку та праці; втрати, поранення або смерть близьких; екологічні та епідемічні ризики; розриви стосунки; вимушене переселення; загроза мобілізації. Зі способів відновлення здоров'я найчастіше обиралися пасивні і активні форми відпочинку, спілкування з близькими; гумор, розваги; хобі, творчість; практики саморегуляції; допомога лікарів, психологів. Особи, які перебували у тривалих стосунках чи шлюбі, гостріше сприймали загрозу обстрілів та мали інтенсивний страх розриву стосунків. Превенція впливів воєнних загроз на ставлення молоді до здоров'я спиралася на неінституційні ресурси відновлення (сон, відпочинок, спілкування, пошук сенсів, хобі), і комплексна дія цих практик посилювала їх результативність. Ефективними превентивними засобами стали заохочення регулярності базових способів відновлення, внутрішній дозвіл на відпочинок і неідеальне функціонування, інтеграція практик відновлення у щоденні навчальні та робочі ритми. Для ресурсо-стабілізаційної групи рекомендовано більшу підтримку горизонтальних зв'язків у мережах взаємодопомоги та спільної діяльності. Для ресурсо-накопичувальної групи рекомендовано розвиток навичок комунікативної компетентності і профілактику розриву стосунків. Для ресурсо-затратної групи бажано розвивати групові формати обговорення досвіду війни, що знижує унікальність переживань та запобігає ізоляції. Практичну цінність роботи забезпечено розробкою адресних конфігурацій засобів превенції відповідно до ресурсів і їх використання і змін у ставленні до здоров'я

♦ **Ключові слова:** загрози; психологічне здоров'я молоді; ресурсо-стабілізаційна, ресурсо-накопичувальна та ресурсо-затратна групи; способи відновлення; соціально-демографічні відмінності



Metacognitive foundations for designing a programme for the targeted development of professional thinking in future border guard officers

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◆ **Abstract.** Metacognitive regulation is a psychological resource underpinning the effectiveness of the professional thinking of border guard officers, whose work is carried out under conditions of uncertainty, considerable psychological strain, and time pressure. At the same time, the gap between the development of metacognitive theory and its systematic application to the conceptualisation of existing professional thinking development programmes constitutes a significant theoretical scientific problem. The aim of this article was to substantiate the metacognitive foundations for designing a programme for the targeted development of professional thinking in future border guard officers through a theoretical analysis of its structural and functional components in the light of contemporary concepts of metacognition. The research methods employed included theoretical analysis and synthesis, comparative analysis, and conceptual modelling; the analytical framework was based on the metacognitive triad of “metacognitive knowledge – metacognitive monitoring – metacognitive control”. The programme’s three-block structure (theoretical, practical-developmental, and emotional-reflective blocks) is functionally aligned with the components of the metacognitive triad, while the temporal sequencing of the blocks corresponds to the psychological logic of metacognitive regulation development across three stages of professional training. The system of educational and professional tasks of four types (procedural, communicative, practical, and problem-based) implements the principle of metacognitively supported learning; six psychological conditions for activating metacognitive regulation have been identified, forming a causal pathway within the programme’s implementation process. Six metacognitive foundations for programme design have been formulated, and the MERIDIAN metacognitive matrix for the targeted development of professional thinking in future border guard officers has been constructed. This matrix operationalises the identified metacognitive architecture through parameter-based dimensions and developmental stages. The MERIDIAN matrix is intended as a design tool for lecturers teaching professional-cycle disciplines in higher military educational institutions. The findings are applicable to the design of professional thinking development programmes in higher military educational institutions of other security and law-enforcement agencies

◆ **Keywords:** supported learning; self-regulation of thinking; psychological conditions; reflective closure; MERIDIAN matrix

◆ Introduction

The ability to be aware of one’s own thinking processes, to regulate their course in a purposeful manner and to evaluate the results – namely, metacognitive regulation – is becoming increasingly important in the context of training specialists whose work takes place in extreme conditions. In contemporary theoretical frameworks, notably those of

D. Kuhn (2022), metacognitive regulation has been interpreted as a key mechanism for the flexible and adaptive functioning of the individual in complex situations, as it is precisely this that enables the monitoring of cognitive effectiveness and the timely adjustment of problem-solving strategies. An empirical study by C. Reale *et al.* (2023)

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confirmed that metacognitive processes play a decisive role in decision-making in dynamic and dangerous environments, where the outcome depends on the individual's ability to recognise their own cognitive biases and regulate them in real time. In law enforcement, security and military contexts, professional thinking unfolds under conditions of high stress, time pressure and complex cognitive load. As noted by N.M. Sekel *et al.* (2023), in a military environment, adaptive tactical decision-making under simulated operational stress depends on the personal characteristics, resilience, aerobic fitness and neurocognitive functions of military personnel. In a military environment, self-regulation was considered by M.J.W. McLarnon *et al.* (2021) and R. Zueger *et al.* (2023) as a factor in personnel resilience to the impact of adverse conditions, whilst resilience training programmes for cadet officers are being studied as a resource for reducing the psycho-emotional and physical stress effects of training. Future border guard officers belong to the same professional category, as their operational and service activities unfold in conditions of uncertainty, significant psychological strain and time constraints.

At the same time, in psychological science, there remains a persistent gap between the development of metacognitive theory and its systematic implementation in specialist training programmes, as emphasised by J.L. Dennis & M.P. Somerville (2023). At the level of professional development for higher education lecturers, this gap manifests as a lack of conceptual tools that would enable to interpret the existing curriculum in its metacognitive terms and consciously design the metacognitive architecture of the teaching interaction (Fono & Zohar, 2024). This gap is also particularly evident in the training of future officers of security and law enforcement agencies, where the metacognitive potential of the curriculum is not systematically conceptualised in psychological terms. Among Ukrainian studies, a verified programme for the targeted development of professional thinking in future border guard officers was developed in the doctoral research by A. Fedyk (2021), which serves as the primary source for this analysis. The programme is based on the conceptual principles of problem-based learning and has been validated in a formative experiment; however, metacognitive terminology was not articulated within it. This created a methodological opportunity for the theoretical reconstruction of its implicit metacognitive architecture within the categories of contemporary metacognitive psychology. In recent systematic reviews, including the work by C. Reale *et al.* (2023), decision-making in high-risk environments identifies metacognitive processes as a key resource for a specialist's effectiveness under conditions of uncertainty and time pressure-conditions that closely correspond to the operational and service activities of border guard officers. However, even in this field, metacognitive expertise is described primarily at the level of the expert's individual characteristics and rarely translates into a design principle for the development of professional training programmes. This has demonstrated that the theory-practice gap

concerns not only higher education in general, but also precisely those fields which, by the nature of their activities, are most in need of metacognitive conceptualisation.

The existing contradiction between the extensive development of metacognitive theory and the absence of its systematic application to the conceptualisation of a verified programme for the targeted development of professional thinking in future border guard officers constitutes a significant theoretical research problem. Addressing this problem requires a theoretical analysis of the programme's structural and functional components through the lens of contemporary metacognitive concepts, the identification of its implicit metacognitive architecture, and the substantiation of the psychological conditions that facilitate the activation of metacognitive regulation during its implementation. The aim of the study was to provide a theoretical justification for the metacognitive foundations underpinning the design of a programme for the development of professional thinking in future border guard officers through an analysis of its structural and functional components. Achieving this aim involved the following objectives: to conduct a theoretical analysis of the concept of metacognition in the context of developing the professional thinking of future border guard officers; to reveal the metacognitive potential of the programme's structural blocks (theoretical, practical-developmental, and emotional-reflective) and to substantiate the mechanism of metacognitively supported learning through a system of four task types; and to formulate the metacognitive foundations of programme design and develop a metacognitive matrix for the targeted development of professional thinking in future border guard officers as a tool for their operationalisation.

◆ Materials and Methods

The study was conducted within the framework of theoretical analysis. Its source base consisted of scholarly publications in metacognitive psychology and the psychology of professional thinking, including the works of A. Efklides (2011) and C. Dignath & M.V.J. Veenman (2021). The verified programme for the targeted development of professional thinking in future border guard officers developed by A. Fedyk (2021) served as the primary source for the analysis. Publications were selected according to criteria of thematic and conceptual relevance to the subject of investigation and bibliographic verifiability. The central object of analysis was the three-block structure of the programme, consisting of theoretical, developmental, and emotional-reflective blocks. The second block, designated by A. Fedyk (2021) as the developmental block, is referred to in the present article as the practical-developmental block to reflect its functional orientation towards the active solution of educational and professional tasks. The absence of explicit metacognitive conceptualisation in the original source was verified through an analysis of its content and bibliography for metacognitive terminology and relevant theoretical references. On this basis, the reconstruction of the

programme's metacognitive architecture is regarded as the author's own interpretation.

The interpretative framework adopted for the analysis was the triad "metacognitive knowledge – metacognitive monitoring – metacognitive control", derived from the classic works of the founders of metacognitive psychology, J.H. Flavell (1979) and A.L. Brown (1987), as well as the later operational models proposed by T.O. Nelson & L. Narens (1990). This triad was selected because of its suitability for describing the structural and functional components of an educational-developmental programme and its compatibility with the content of the source under examination. The research was conducted using interrelated theoretical methods. Theoretical analysis and synthesis were applied to examine key concepts of metacognition and distinguish them from related concepts in cognitive and regulatory psychology. Comparative analysis was used to compare the three blocks of the author's programme with functional descriptions of metacognitive processes in the scientific literature; the functional characteristics of each block served as the unit of comparison, and the comparison was carried out according to the logic of correspondence between the programme's components and the elements of the analytical triad. A similar comparison procedure was applied to the system of tasks across four levels of complexity as a tool for implementing the mechanism of metacognitive supportive learning within the programme. Conceptual modelling enabled the construction of a coherent theoretical framework of the programme's metacognitive architecture by correlating its blocks with the components of the triad. Systematisation and generalisation were applied to formulate the psychological conditions for activating metacognitive regulation during the programme's implementation and to outline prospects for its improvement on a metacognitive basis.

The research logic comprised three consecutive stages. The first stage involved a theoretical examination of the concept of "metacognition" in the context of the development of professional thinking; at this stage, the conceptual framework of the article was established. The second stage involved a comparative analysis of the three-block structure of the author's programme through the prism of the analytical triad; at this stage, substantive correspondences were established between the programme blocks and the components of the triad. The third stage involves conceptual modelling of the programme's metacognitive architecture, including the formulation of psychological conditions for activating metacognitive regulation and prospects for its improvement.

◆ Results and Discussion

A theoretical analysis of the concept of "metacognition" in the context of the development of professional thinking

The concept of "metacognition" entered scientific discourse in the late 1970s following the publication of J.H. Flavell (1979), in which the author defined metacognition as

knowledge and understanding of cognitive phenomena, with an emphasis on the function of self-regulatory monitoring of one's own thinking during problem-solving. Further development of the concept unfolded along two lines: cognitive-developmental and regulatory. In A.L. Brown (1987), metacognition is presented as a system of executive control over cognitive activity, with an emphasis on mechanisms of self-regulation and the transfer of strategies to new contexts. In parallel, T.O. Nelson & L. Narens (1990) proposed an operational model of metacognition in which the meta-level and the object level are in a two-way relationship: the meta-level monitors the object level, whilst the object level is restructured by the meta-level through a control function. This model remains fundamental in most contemporary applied uses of metacognition. In subsequent theoretical generalisations, the structure of metacognition has stabilised around two components: metacognitive knowledge and metacognitive regulation. Metacognitive knowledge, according to the classification by G. Schraw & D. Moshman (1994), encompasses declarative knowledge about oneself as a subject of cognition, procedural knowledge about thinking strategies, and conditional knowledge about the appropriateness of applying strategies in specific situations. Metacognitive regulation encompasses planning, monitoring, evaluation, correction and information management of cognitive activity. P.R. Pintrich (2002) clarified that metacognitive knowledge is a resource that can be developed through teaching and forms the basis of conscious learning alongside strategic knowledge. The current stage of the concept's development is characterised by the integration of metacognition with affective-motivational factors of self-regulation. In A. Efklides' (2011) model of metacognition and affective self-regulation, metacognitive processes are in constant interaction with the motivational and emotional spheres: affective states directly influence the accuracy of monitoring, confidence in decision-making, and readiness to adjust the chosen strategy. Metacognition, self-regulation and self-regulated learning are viewed as a shared theoretical space with distinct emphases. G. Schraw & R.S. Dennison (1994) and D. Kuhn (2022) have noted a steady expansion of the empirical applications of metacognitive models, whilst the gap between theory and applied practice in higher education remains.

In the Ukrainian psychological tradition, metacognitive issues are explored in close connection with the concept of subjectivity and the psychological mechanisms of learning. N.I. Poviakel (2004) defined the self-regulation of professional thinking as a systemic property of a specialist, encompassing metacognitive awareness, a culture of self-organisation and self-mobilisation. M.L. Smulson (2014; 2022), in line with Y.I. Mashbyts (n.d.), demonstrated that the psychological mechanisms of learning – namely, the dynamic distribution of control functions, feedback, and the redefinition of learning tasks – functionally implement precisely those operations that are designated as monitoring and control in contemporary metacognitive models. In the works of Y.I. Mashbyts (n.d.), these mechanisms are described as a

tool for purposeful management of learning activities with a gradual transfer of control functions from the teacher to the learner (Fedyuk, 2020). The concept of metacognition is relevant to the development of professional thinking in future border guard officers for three reasons. Firstly, the operational and service activities of a border guard officer unfold as the resolution of problem-solving tasks under conditions of uncertainty, significant psychological stress and time constraints, and it is precisely in such conditions that metacognitive regulation has the strongest effect on the effectiveness of thinking (Flavell, 1979; Fedyk, 2021). Secondly, professional thinking as a subject of targeted development involves not only the acquisition of mental operations, but also the development of the ability to manage them under psychological pressure, which structurally corresponds to the function of metacognitive control (Nelson & Narens, 1990; Efklides, 2011). Thirdly, the psychological mechanisms of learning underlying A. Fedyk's (2021) programme functionally coincide with the operational model of metacognition, making the metacognitive framework an adequate tool for conceptualising the programme within its own psychological categories, rather than an external theoretical imposition. The analysis carried out confirms the appropriateness of using the triad "metacognitive knowledge – metacognitive monitoring – metacognitive control" as an analytical framework for further consideration of the programme's architecture, the system of educational and professional tasks, and the psychological conditions for its implementation. In the course of the theoretical analysis of the structural and functional components of the author's programme for the development of professional thinking among future border guard officers, it was established that the three-block structure of the programme is substantively consistent with the functional components of metacognition, and the system of educational and professional tasks, which forms the core of the practical-developmental block, implements the principle of metacognitive supportive learning. A systematic justification of these propositions is presented below.

The metacognitive architecture of the programme's three modules

The theoretical module of the programme by A. Fedyk (2021) is, in terms of its functional content, aimed at forming in cadets a systematic understanding of the characteristics of professional thinking, the psychological mechanisms of problem-solving for a border guard officer, thinking strategies (analogising, combining, reconstructing) and the psychological conditions for regulating cognitive activity in the specific and extreme conditions of operational and service duties. The subject matter of the theoretical module aligns with the three types of metacognitive knowledge classically distinguished in contemporary metacognitive psychology: declarative (the cadet's knowledge of their own cognitive processes, and the strengths and weaknesses of their thinking), procedural (knowledge of methods and techniques for solving professional tasks) and

conditional (knowledge of the operational situations and criteria under which a particular thinking strategy should be applied) (Schraw & Moshman, 1995; Pintrich, 2002). The theoretical component, accordingly, serves within the programme to establish the foundation of metacognitive knowledge, without which further practice in monitoring and control remains merely formal. The practical-developmental component of the programme is aimed at the active resolution of professionally oriented learning tasks and is implemented through three psychological mechanisms of learning according to Y.I. Mashbyts (n.d.): the mechanism of dynamic distribution of control functions in the "lecturer ↔ cadet" system, the feedback mechanism, and the mechanism of refining the learning task (Smulson, 2014; Fedyuk, 2020). The psychological content of each of these mechanisms corresponds directly to the functions of metacognition in the operational model of T.O. Nelson & L. Narens (1990): the meta-level monitors the object level, receives information about the course of cognitive activity and, through control, restructures this activity in the event of a discrepancy between intermediate results and expected ones. The mechanism of dynamic distribution of control functions implements a gradual transfer of control functions from the lecturer to the cadet, which, in metacognitive terms, signifies the internalisation of the control function. The feedback mechanism ensures the tracking of the success of cognitive actions, meaning it implements the monitoring function. The mechanism of redefining the learning task requires the cadet to independently reformulate the conditions and objectives, which directly activates metacognitive knowledge about the task and the appropriateness of applying relevant strategies (Flavell, 1979). The practical-developmental block thus unfolds the functional dynamics of metacognitive regulation in the activity-based dimension of professional thinking.

At the same time, the practical implementation of monitoring and control remains incomplete without affective-regulatory integration. It is precisely this function that is performed by the programme's emotional-reflective component, which ensures the consolidation of the metacognitive loop through its self-regulatory and affective components. In A. Efklides' (2011) model of metacognitive and affective self-regulation, metacognitive processes are in constant interaction with emotional states: affective experiences directly influence the accuracy of monitoring, confidence in the decision made, and readiness to correct it. In the operational context of a border guard officer's duties, where decisions are made under significant psychological pressure, affective-reflective regulation determines whether the individual can identify an error in their own thinking in time and adjust their strategy. A cadet's systematic engagement with their own experiences, evaluation of outcomes, and reflection on the chosen strategy reinforces monitoring and control as stable metacognitive skills, transforming them from episodic to systematic (Schraw & Moshman, 1995; Zimmerman, 2000). The emotional-reflective block provides a self-regulatory feedback loop,

without which metacognitive knowledge and the practice of monitoring do not coalesce into a coherent ability to regulate professional thinking. The temporal unfolding of metacognitive development within the programme deserves special attention. The metacognitive architecture, embedded in the three blocks, is implemented not as a one-off educational activity, but as systematic work over several academic years based on the phased development of professional thinking: at the initial stage, the cognitive component dominates; at the main stage, the operational component; and at the final stage, the personal component (Fedyk, 2021). Following this logic, the theoretical module is activated primarily in the early stages of training and lays the foundations for metacognitive knowledge; the practical-developmental module unfolds in the main stage through a system of tasks of increasing complexity, whilst the emotional-reflective block achieves full effectiveness at the final stage, when the cadet is capable of sustained self-regulation of professional thinking. Empirical testing of the programme within a formative experiment (2016-2017), followed by the recording of the dynamics of professional thinking development (2017-2018), confirmed the appropriateness of precisely this extended implementation, which is substantively consistent with the meta-analytical data of C. Dignath & M.V.J. Veenman (2021) indicating that metacognitive skills become stable only through systematic training over a sufficient period of time. A comparison of the programme's three blocks with the functional components of metacognition and the phased logic of its development shows that the three-block structure ensures the sequential development of metacognitive regulation: from knowledge about thinking (theoretical block, initial stage) to the monitoring and control of cognitive actions (practical-developmental block, main stage) and further to self-regulatory consolidation through reflection and the affective loop (emotional-reflective block, final stage). The identified correspondence is a theoretical outcome of this analysis and is consistent with contemporary findings that the effectiveness of thinking development programmes in higher education increases provided there is a holistic activation of all components of metacognition.

Four types of educational and professional tasks and the mechanism of metacognitive supportive learning

The established metacognitive architecture of the three blocks is implemented substantively through a system of educational and professional tasks, which forms the core of the practical-developmental block and requires separate analysis. In A. Fedyk (2021), this system is identified based on the results of a psychological analysis of the operational and service activities of the State Border Guard Service of Ukraine and the regulatory framework, and comprises four types: procedural, communicative, practical and problem-based (non-standard) tasks. The rationale for this classification lies in the fact that each task type activates a distinct configuration of cognitive operations and strategies and, consequently, develops professional thinking from a

different functional perspective. These task types are organised according to increasing levels of uncertainty and the degree of cadet autonomy in selecting solution strategies. From a psychological standpoint, this arrangement corresponds to the principle of metacognitively supported learning, namely the purposeful and gradual reduction of external support provided by the lecturer as the learner's metacognitive independence increases (Guo, 2022; Shao *et al.*, 2023). Procedural tasks involve the performance of algorithmised operational actions in accordance with clearly regulated legal and regulatory documents – the procedure for border control at a checkpoint, the sequence of personal and document identification, and the algorithm of actions for border guards on the border line. The psychological structure of a procedural task consists of a simulated initial state, a simulated final state, and the procedure for transitioning between them (Fedyk, 2021). At this level, external support is maximal: the task structure, performance guidelines, and criteria for correctness are externally defined. The lecturer's role is to demonstrate the algorithm, explain it step by step, and monitor the accuracy of execution in real time through a feedback mechanism; the cadet's role is to recognise the type of task, select the appropriate algorithm from the available repertoire, and reproduce it accurately. The metacognitive load on the student is focused on activating declarative and procedural metacognitive knowledge (knowledge of algorithms and the conditions for their application), whilst the functions of monitoring and control are primarily carried out by the lecturer. The developmental effect of procedural tasks lies in the formation of a repertoire of automated professional actions, without which it is impossible to free up cognitive resources for solving more complex tasks.

Communicative tasks shift the emphasis towards interpersonal interaction within systems such as “officer-subordinate”, “officer-offender”, “officer-representative of a co-operating agency”, and “officer-citizen undergoing border control”. These tasks require the regulation of one's speech and behaviour in accordance with the dynamics of the situation. The distinctive feature of a communicative task is that the object of influence is an active system represented by another person whose knowledge state and reactions change throughout the interaction process (Fedyk, 2021). The lecturer's role consists of modelling the communicative situation, providing the role-playing framework, and analysing the consequences of the communication strategies employed once the exercise has concluded. The cadet's role is to monitor the interlocutor's responses continuously, adjust their own communicative behaviour, and anticipate the development of the dialogue. Metacognitive demands increase through the need for ongoing monitoring of the communicative process and the real-time adjustment of one's strategy. At this stage, the cadet begins to assume part of the monitoring function, while the lecturer retains the control function through final evaluation. The developmental value of communicative tasks lies in fostering skills of interpersonal regulation of professional thinking, which

are critically important in negotiations with offenders, interactions with foreign nationals at border crossing points, and the coordination of actions within operational units. Practical tasks simulate real-life operational situations with incomplete initial data – guarding a section of the border under resource-constrained conditions, the deployment of a unit's forces and resources, and responding to signals from technical surveillance equipment – and require the combined application of knowledge, skills and cognitive strategies. Unlike procedural tasks, where the solution path is dictated by an algorithm, and communicative tasks, where the subject of influence is fluid, practical tasks require cadets to independently choose a strategy from several plausible options, taking into account the specific conditions of the situation. The role of the lecturer is limited to providing a framework as a facilitator: setting the task, providing initial data and advisory assistance at critical points in the solution; the cadet's role is to independently analyse the conditions, select a strategy, make interim decisions and assess their consequences. The metacognitive load increases significantly: the cadet independently monitors interim results and makes control decisions within the given problem framework. The developmental effect of practical tasks lies in the formation of the ability to self-regulate the solving of professional tasks within a known problem domain.

Problem-based (non-standard) tasks place cadets with situations in which known algorithms do not provide a solution, and the conditions of the task require further clarification – such as an atypical attempt to breach the border, a sudden change in the operational situation within the area of responsibility, or the unpredictable behaviour of individuals at a border crossing point. It is at this level that the mechanism for further defining the training task is activated, requiring independent reconstruction of the problem, the formulation of working hypotheses and an assessment of their adequacy (Fedyuk, 2020). The lecturer's role is limited to advisory interaction – posing the problem and being ready to discuss the strategies chosen by the cadet; the cadet's role is to independently formulate the problem, generate alternative solutions, critically evaluate them, and select the optimal option. The functions of monitoring and control are entirely transferred to the student, with external support reduced to a minimum. It is in problem-based tasks that metacognitive regulation is realised in its fullest form, which is consistent with J.H. Flavell's (1979) assertion regarding the strongest activation of metacognitive processes in situations that exceed existing automated action schemes. The developmental effect of problem-solving tasks lies in the formation of the ability – crucial for a border guard officer – to make decisions under conditions of uncertainty and time pressure. The correlation of the four types of tasks with the metacognitive triad demonstrates that the task system encompasses a full cycle of metacognitive supportive learning: from activities with maximum external guidance (procedural tasks) through a gradual shift of monitoring towards the cadet (communicative and practical tasks) to full internal monitoring and

control (problem-solving tasks). The proposed interpretation is based on three factors:

a) the content-based characterisation of the task types themselves in the original source, which reflects the principle of reducing external support;

b) the psychological mechanisms of learning according to Y.I. Mashbyts (n.d.), which are functionally identical to monitoring and control in the model by T.O. Nelson & L. Narens (1990);

c) meta-analytical data from L. Guo (2022), C. Dignath & M.V.J. Veenman (2021) and A.A. Khachadoorian *et al.* (2020) indicating that structured support and metacognitive cues significantly enhance the quality of self-regulated learning in applied educational settings, particularly in the context of professional military education.

The identified metacognitive nature of the classification leads to a practical generalisation that extends beyond the programme's primary scope of application. The proposed framework is invariant with respect to the subject content of the discipline and can be adapted by a lecturer of any academic discipline within a higher military educational institution by organising the existing teaching material into four types of tasks and ensuring a gradual transition between them (Fedyuk, 2021). Such adaptation creates the conditions for the systematic development of professional thinking in various areas of professional training – not only within the State Border Guard Service system, but also in higher military educational institutions of other law enforcement agencies in Ukraine, where similar types of operational tasks are present. The universality of the metacognitive framework, particularly in this applied context, determines its value as a tool for designing programmes to develop professional thinking among specialists in law enforcement and security agencies.

Psychological conditions for enhancing metacognitive regulation

The implementation of a system of educational and professional tasks as a mechanism for metacognitive supportive learning depends on the psychological conditions under which the educational interaction takes place. The original source identifies six interdependent psychological conditions for the development of professional thinking in future border guard officers, each of which manifests a specific metacognitive function and requires the lecturer to perform a specific set of actions at the level of behaviour, speech and organisation of the environment (Fedyuk, 2021). The first condition – establishing subject-subject interaction within the “lecturer ↔ learners” system whilst the lecturer models professionally oriented problem-solving tasks – creates a safe psychological space of non-judgemental acceptance. The lecturer maintains this environment through specific behavioural actions: speaking at a calm pace with a warm and supportive tone; avoiding abrupt increases in volume and directive language; using open gestures with hands positioned at chest level; maintaining direct yet non-judgemental eye contact; sitting at

the same level as the cadet or beside rather than opposite them; allowing a pause after the cadet's response before reacting; verbalising their own reasoning as an example of metacognitive reflection; and replacing direct correction with clarifying questions such as, "What exactly did you do?", "Why did you choose this approach?", and "What concerns you about this solution?". From a metacognitive perspective, this condition facilitates the externalisation of thinking processes, without which metacognitive knowledge of oneself as a subject of professional thinking cannot be developed (Efklides, 2011; Veenman *et al.*, 2012).

The second condition – encouraging cadets to solve problems independently based on problem-based learning theory – involves a gradual reduction in external metacognitive support. The lecturer models a problem situation and then physically steps back: takes a step away from the cadet, moves to a side position in the lecture theatre, maintains a prolonged pause of silence even when the cadet has taken a wrong step, does not provide a ready-made answer to the cadet's question, but instead turns the question back using the phrase "And how do you see it?", uses open-ended questions rather than instructions, and does not intervene in small-group discussions during the first few minutes. In the metacognitive dimension, this condition involves the transfer of monitoring and control functions from the lecturer to the cadet, which corresponds to the key principle of metacognitive supportive learning (Guo, 2022; Shao *et al.*, 2023). The third condition – the development of indirect learning, personal prestige and professional-cognitive motives and interests, taking into account age, gender and individual cognitive characteristics – provides motivational reinforcement for metacognitive regulation. The lecturer implements this condition through specific actions: structuring each learning task as a fragment of the future professional activity of a border guard officer, referencing a specific operational situation (guarding a section of the border, a checkpoint, responding to a danger signal), invites practising officers with experience in operational service to individual sessions, uses video footage of real-life service incidents, gives cadets the opportunity to choose tasks from two or three options of the same level of difficulty, includes role assignments (supervisor, subordinate, representative of a related service), differentiates the complexity of tasks for groups with different starting levels, creates situations of early success for cadets with low motivation. The motivational sphere in A. Efklides' model (2011) is a direct determinant of the quality of metacognitive processes, in particular the accuracy of monitoring and readiness to adjust strategy (Efklides, 2011).

The fourth condition – directing cadets' attention towards understanding a task through conscious awareness and analysis of its conditions and requirements – activates metacognitive monitoring during the orientation phase. The lecturer signals the beginning of this phase through a range of techniques: emphasising key elements of the task by raising vocal stress on critical words; introducing meaningful pauses before key concepts and immediately

after presenting the task; using a "stop" gesture or an open raised palm; writing the task conditions on the board while highlighting in colour what is known and what must be determined; displaying the task through a projector with its structural components clearly marked; using an auditory signal, such as a gong or bell, to indicate the beginning of the analytical phase; asking a sequence of questions such as "What is stated here?", "What exactly must be determined?", and "What constraints apply?"; and requiring the cadet to restate the task conditions in their own words before proceeding. This set of actions implements the mechanism of task elaboration and develops metacognitive knowledge about the task itself as a prerequisite for subsequent monitoring (Flavell, 1979; Pintrich, 2002).

The sixth condition – encouraging the sequential development of cadets' cognitive actions and operations during problem-solving – ensures the structured character of metacognitively supported learning. The lecturer implements this condition through the following actions: organises a 10-15-minute reflective session at the end of each lesson, conducts a reflection round with a sequence of fixed questions ("What did we do?", "What was the most difficult part?", "What would you do differently?", "What have you taken away from this as an officer?"), introduces a reflective journal with a fixed structure for entries after each session, records the solving of problem-based tasks on video and conducts a subsequent joint review with pauses at key decisions, asks the cadet to compare their own strategy in writing with a classmate's alternative, and assesses, together with the cadet, the alignment of the decision made with the professional values and regulatory requirements of the State Border Guard Service of Ukraine. This constitutes a full manifestation of metacognitive control with a reflective superstructure (Zimmerman, 2000; Stanton *et al.*, 2021). The six conditions form a single causal pathway for the activation of metacognitive regulation. The first condition creates a safe space for interaction, without which the remaining conditions lack the psychological foundation for implementation. On this basis, the second condition initiates the transfer of control from the lecturer to the cadet, whilst the third supports this transfer with a motivational resource. The fourth condition ensures a correct entry into the task through monitoring of the orientation phase, the fifth maintains monitoring and control throughout the entire problem-solving process as a consistent sequence, and the sixth closes the cycle with reflective evaluation and lays the foundation for the transfer of acquired strategies to subsequent tasks. The sequence "space – transfer – motivation – entry – process – closure" constitutes a coherent psychological architecture for activating metacognitive regulation within the programme.

Metacognitive principles for designing a programme to develop professional thinking

The analysis of the metacognitive architecture of the programme's three blocks, the system of four types of educational and professional tasks, and the psychological

conditions governing its implementation makes it possible to formulate the metacognitive foundations of designing a programme for the development of professional thinking in future border guard officers as an organised set of design principles that ensure the programme's metacognitive effectiveness within its own psychological categories. The first foundation is the integrity of the three-block metacognitive architecture. The programme is designed as a sequence of three functionally interdependent blocks in which the theoretical block establishes the foundation of metacognitive knowledge (declarative, procedural, and conditional), the practical-developmental block unfolds metacognitive monitoring and control within an activity-based context, and the emotional-reflective block completes the metacognitive cycle through self-regulatory reflection while taking into account affective and motivational factors. None of the blocks is optional: the omission of any one of them disrupts the integrity of metacognitive development and reduces the programme to a partial educational intervention (Schraw & Moshman, 1995; Efklides, 2011). The second foundation is the principle of the progressive reduction of external support through task typology. The system of educational and professional tasks is designed along a gradient of uncertainty and learner autonomy, progressing from procedural tasks with maximum external support, through communicative and practical tasks, to problem-based (non-standard) tasks with minimal support. This gradient implements the principle of metacognitively supported learning and ensures the controlled transfer of monitoring and control functions from lecturer to cadet throughout the three stages of professional training (Guo, 2022; Shao *et al.*, 2023).

The third foundation concerns psychological learning mechanisms as functional equivalents of metacognitive functions. The programme design incorporates the three psychological learning mechanisms identified by Y.I. Mashbyts: the mechanism of dynamic distribution of management functions, which facilitates the internalisation of control; the feedback mechanism, which performs the monitoring function; and the mechanism of task elaboration, which develops metacognitive knowledge about the task and activates strategic decision-making. These mechanisms are not added to the programme as external pedagogical techniques but constitute its internal operational foundation (Nelson & Narens, 1990; Fedyuk, 2020). The fourth foundation is the structured sequence of metacognitive operations within each problem-solving cycle. The solution of each of the four task types is designed according to a common seven-stage algorithm: analysis of conditions, evaluation of information, formulation of the task, generation of solution options, anticipation of intent, decision-making, and evaluation. This structure consolidates monitoring and control as stable operations performed in a consistent sequence and facilitates their transfer across different task types and academic disciplines (Dignath & Veenman, 2021). The fifth foundation is a psychologically safe subject-subject interaction space as the basis for

metacognitive externalisation. Programme design requires the creation of a climate of non-judgemental acceptance through the lecturer's role as facilitator, researcher, observer, and partner in joint activity and communication. Without such a foundation, cadets do not engage in the verbalisation of their own thinking strategies, and metacognitive knowledge about oneself as a cognitive agent cannot develop (Efklides, 2011; Fedyk, 2021). The sixth foundation is reflective closure that incorporates the affective-motivational dimension. The programme design necessarily includes a reflective phase in which cadets' metacognitive gains are consolidated through systematic self-observation and critical evaluation of their own strategies, while taking into account the influence of emotional states on the quality of metacognitive judgements. It is this reflective closure that determines the transferability of acquired strategies to real operational and service activities and constitutes a decisive condition for the programme's effectiveness (Zimmerman, 2000; Stanton *et al.*, 2021). These six foundations form an integrated design framework suitable both for the refinement of A. Fedyk's (2021) original programme and for the development of analogous programmes aimed at fostering professional thinking among specialists from other military, security, and law-enforcement agencies in Ukraine. To provide an operational representation of these foundations compatible with the stages of the targeted professional thinking development model, a "Metacognitive Matrix for the Targeted Development of Professional Thinking in Future Border Guard Officers" (MERIDIAN) was developed. The matrix operationalises the programme's metacognitive architecture across seven parametric dimensions and three developmental stages and is presented in Figure 1. The MERIDIAN matrix is designed for practical use by lecturers of any academic discipline within the professional training system for future border guard officers, as well as at higher military educational institutions of other security and law enforcement agencies in Ukraine. The procedure for using the matrix involves four steps: determining the current stage of cadet training (initial, main, final) using the first column; cross-referencing with the metacognitive component to be activated at this specific stage, and with the dominant type of educational and professional tasks; selecting tasks from the academic discipline in accordance with this type – from procedural tasks at the initial stage to problem-based tasks at the final stage; designing the lesson by adopting the lecturer and cadet roles specified in the corresponding row of the matrix while activating the indicated psychological conditions. For example, at the intermediate stage, a lecturer teaching a professional-cycle discipline organises learning material in the form of communicative and practical tasks, adopts the role of facilitator, maintains the algorithmic sequence of problem-solving, and activates the second, fourth, and fifth psychological conditions through the specific actions described in the previous subsection. Such a sequential reading of the matrix transforms the general metacognitive framework into an operational tool for the day-to-day design of learning activities.

National Academy of the State Border Guard Service of Ukraine				
Metacognitive matrix for the targeted development of professional thinking among future border guard officers				
MERIDIAN				
metacognitive knowledge → monitoring → control				
	I Initial cognitive component	II Main operational component		III Final personal component
I Programme module	Theoretical	Educational		Emotional and reflective
II Model stage	Diagnostic	Educational		Effective
III Type of tasks	Procedural	Communicative	Practical	Problematic
IV Current terms and conditions	1 · 3 · 4	2 · 4 · 5		2 · 5 · 6
V The lecturer’s position	Explanation, demonstration of algorithms, diagnostics	Facilitation, consultancy support, feedback		Consultative collaboration, reflective sessions, diary support
VI The cadet’s position	Learning, type recognition, algorithm reproduction	Monitoring progress, adjusting one’s own strategy		Defining the problem, formulating hypotheses, self-regulation
VII Stage result	The foundations of metacognitive knowledge	Strong skills in monitoring and control		Self-regulation of professional thinking
Six psychological conditions for enhancing metacognitive regulation				
1. Subject-subject interaction a safe space for articulating strategies		2. Independent problem-solving delegation of monitoring and control functions		
3. Motivational reinforcement indirect learning motives		4. Understanding the task: monitoring the orientation phase		
5. Sequence of steps Structure of the solution algorithm		6. Self-awareness and self-assessment the reflective loop of self-regulation		
“Metacognitive knowledge·monitoring ·control”				

Figure 1. The MERIDIAN Matrix

Source: compiled by the author based on A. Fedyk (2021)

Prospects for improving a programme for the development of professional thinking based on metacognitive principles

The formulated metacognitive principles of design and the established metacognitive architecture of the programme define three directions for its further improvement, each of which has specific content and corresponds to empirically verified data from contemporary metacognitive psychology. The first direction involves introducing a separate module of explicit metacognitive training into the programme, comprising 8-10 academic hours, which runs in parallel with the theoretical block at the initial stage of professional training. The module should cover three content areas: familiarising cadets with the typology of metacognitive strategies for planning, monitoring and evaluating their own thinking using operational and service situations as examples; keeping a reflective journal of problem-solving tasks,

in which the cadet records in writing the chosen strategy, interim assessments of its effectiveness and a final analysis of the appropriateness of its application; group discussion of various strategies for solving the same problem-solving task with the aim of expanding the repertoire of metacognitive techniques. The validity of the module is supported by meta-analysis data indicating that direct instruction in metacognitive strategies, combined with their practical application, is a significant predictor of the effectiveness of self-regulated learning, with the effect of direct instruction exceeding that of indirect activation, as highlighted by C. Dignath & M.V.J. Veenman (2021) and J.D. Stanton *et al.* (2021). In applied educational settings, structured metacognitive prompts enhance the quality of self-regulated learning regardless of the subject area (Guo, 2022). The second direction involves supplementing the diagnostic stage of the structural-functional model of the targeted

development of professional thinking with a psychodiagnostic tool for assessing metacognitive awareness. One such tool is the Metacognitive Awareness Inventory (MAI) by G. Schraw & D. Moshman (1994), developed as a two-factor scale that measures metacognitive knowledge comprising declarative, procedural and conditional components, and metacognitive regulation comprising planning, monitoring, evaluation, correction and information management. Adapting the questionnaire to the context of military professional education involves translating it from the English original, linguistically and culturally adapting the items to the realities of operational and service activities, conducting psychometric testing on a sample of cadets at military higher education institutions, and determining normative indicators for three levels of professional thinking development. The tool introduced into the diagnostic stage tracks the dynamics of a cadet's metacognitive development as an independent dimension alongside the indicators of cognitive, need-motivational and operational criteria of professional thinking defined in A. Fedyk's programme (2021), and provides a basis for the individualisation of further psychological support.

The third direction involves strengthening the affective-regulatory component of the emotional-reflective block by introducing structured procedures for the metacognitive assessment of emotional states prior to decision-making into the final stage of the programme. According to A. Efklides' model (2011), affective states directly influence the accuracy of metacognitive monitoring: underestimated anxiety, excessive confidence or hidden uncertainty distort metacognitive judgements and lead to erroneous control decisions. Within the operational duties of a border guard officer, which unfold under conditions of significant psychological stress and time constraints, affective distortions in monitoring are particularly dangerous. The procedural framework for this area involves the introduction of a brief reflective "state-assessment-decision" model, whereby a cadet, before making a decision in a simulated problem situation, identifies their own emotional state, assesses its impact on clarity of thinking, and only then makes a decision, as well as the regular performance of exercises to recognise their own affective states whilst solving problem-solving tasks and analysing their impact on the quality of the decisions made. This enhancement is consistent with A. Efklides' (2011) theoretical proposition regarding the direct influence of affective states on the quality of metacognitive judgements, which, in the context of highly complex professional activities, manifests itself in the cadet's ability to transfer the strategies they have mastered from training situations to real operational and service activities. The outlined directions for improving the programme do not claim to be empirically verified within the scope of this article and constitute the subject framework for the next empirical study, in which the proposed modifications to the programme will be subjected to experimental testing, recording the dynamics of metacognitive indicators and their relationship with the criteria for the

development of professional thinking among future border guard officers.

The theoretical reconstruction of the programme's three-block architecture as an integration of metacognitive knowledge, monitoring and control is consistent with the conceptual generalisations of metacognition by S.M. Fleming (2024), in which the subject's propositional confidence in their own decisions is interpreted as the integrating link between the monitoring and control of cognitive processes. Within this framework, metacognitive judgements are combined with control decisions into a single cycle of monitoring and regulation, demonstrating the conceptual consistency of the programme's three-block architecture with the current state of metacognitive theory. The correspondence identified in the article between the functional content of the programme's theoretical, practical-developmental and emotional-reflective blocks and the structural components of metacognitive regulation provides grounds for viewing the programme as a holistic psychological system for the development of metacognitive regulation of professional thinking, which differs from a set of thematically similar, yet functionally autonomous elements, due to the identified functional correspondence between the programme's blocks and the components of the metacognitive triad. The gap between the development of metacognitive theory and its systematic implementation in higher education programmes, as noted by T. Tuononen *et al.* (2023), has been addressed in the present study through one possible strategy for overcoming it: the theoretical conceptualisation of an already verified programme within its own metacognitive categories. This approach works with the actual subject of professional training for future border guard officers without the need to create a new programme, and provides it with metacognitive clarity at the level of design decisions. The view formulated by C. Magno (2010) view of metacognition as a key factor in the formation of an independent and critical subject has been operationalised in the results obtained through the MERIDIAN metacognitive matrix, which reflects the phased transfer of monitoring and control functions from the lecturer to the cadet across three stages of professional training. Thus, the theoretically formulated goal of developing the subject's metacognitive independence is given concrete practical tools suitable for the day-to-day work of a lecturer in professional disciplines at a higher military educational institution.

The findings presented in this article form part of a broader tradition of metacognitive frameworks for curriculum design, within which specific applied models have emerged in recent years. S. Gamby & C.F. Bauer (2022) described a framework for metacognitive development integrated into the curriculum, built around a single academic discipline and aimed at fostering metacognitive awareness in students through regular reflection within the course. The MERIDIAN metacognitive matrix is distinguished by its scale and functional focus: it sets out the metacognitive architecture of a comprehensive professional training programme for law enforcement

specialists, covering three stages of training, three types of teaching modules and four types of educational and professional tasks. In medical education, J. Merkebu *et al.* (2024) established metacognitive reflection as an integrative framework for examining a specialist's professional thinking in complex clinical situations. The architecture identified in the present study performs a functionally similar role within a military-psychological context, demonstrating the transferability of the metacognitive framework across different domains of professional education, provided that it is adapted to the specific characteristics of operational and service activities. Alongside this, the military study by N.M. Sekel *et al.* (2023) on adaptive decision-making under simulated operational stress confirms the role of metacognitive and self-regulatory factors in the effectiveness of military personnel in environments of uncertainty and time pressure, which thematically corresponds to the operational context of a future border guard officer and justifies the appropriateness of a metacognitive conceptualisation of the programme specifically within this professional profile. Recent empirical studies on the quantification of emotional metacognition by H.-H. Lee *et al.* (2024) confirm the methodological distinction between metacognitive processes in the cognitive and affective spheres, which is methodologically consistent with the function of the emotional-reflective block of the MERIDIAN matrix. The advantage of the proposed approach is its reliance on the already verified programme by A. Fedyk (2021), which frees the theoretical reconstruction from the need for new empirical testing at the level of basic performance and allows for a focus on the metacognitive architecture of the programme within its own psychological categories. At the same time, the limits of this interpretation should be clearly defined: the reconstruction of the metacognitive architecture of the three-block structure has the status of an authorial theoretical conceptualisation; in the original source, metacognitive terminology was not articulated, so the theoretical results obtained are not attributed to the author of the basic programme. The empirical validity of the formulated metacognitive design principles and the additional contribution of the MERIDIAN matrix to the dynamics of cadets' metacognitive indicators, compared with the verified baseline programme, are subject to separate experimental verification in a subsequent study.

◆ Conclusions

The theoretical analysis conducted demonstrated that the metacognitive framework, in its operational form as the triad of “metacognitive knowledge – metacognitive monitoring – metacognitive control”, reveals within the verified authorial programme for the targeted development of professional thinking in future border guard officers an underlying psychological architecture that remained theoretically unarticulated in the original source. The programme thereby acquires the status of an integrated system for

the targeted development of metacognitive regulation of professional thinking, a status that emerges from its own psychological categories rather than being imposed externally. The identification of a functional correspondence between the programme's three-block structure and the components of the metacognitive triad constitutes the central theoretical finding of the study. The theoretical block was interpreted as the purposeful formation of metacognitive knowledge in its declarative, procedural, and conditional forms. The practical-developmental block acquires the status of the activity-based enactment of monitoring and control through three psychological learning mechanisms (dynamic distribution of management functions, feedback, and task elaboration), which are functionally equivalent to meta-level operations within the operational model of metacognition. The emotional-reflective block is conceptualised as the self-regulatory closure of the metacognitive loop, taking into account the affective-motivational factor, without which metacognitive knowledge and episodic monitoring practice cannot be consolidated into a stable capacity for regulating professional thinking. A comparison of this architecture with the phased logic of training revealed an additional, non-obvious result: the temporal sequence of the three blocks coincides with the psychological logic of the development of metacognitive regulation – from knowledge through monitoring and control to self-regulatory consolidation, which explains the programme's effectiveness precisely on the condition of its full implementation across the three stages of professional training. An analysis of the mechanism of metacognitive supportive learning within a system of four types of tasks demonstrated that the ordering of these types – procedural, communicative, practical and problem-based – along a gradient of uncertainty and autonomy constitutes a design principle: each type of professional task sets a distinct configuration of external support and a corresponding metacognitive load on the cadet's thinking process. The six identified psychological conditions for activating metacognitive regulation formed a cause-and-effect pathway – from a safe space for subject-subject interaction, through the transfer of control functions and motivational reinforcement, to task orientation, structured unfolding of the problem-solving process and reflective closure of the cycle, in which each subsequent condition builds on the previous one, and the omission of any one destroys the integrity of the activation. The synthesis of these conditions into a system of six metacognitive principles of design and their operationalisation within the MERIDIAN matrix has translated the theoretical result into the realm of applied lesson design: the teacher of vocational subjects is provided with a tool that correlates the preparation stage, the dominant metacognitive component, the task type, the positions of the lecturer and the cadet, and the activated psychological conditions within a coordinated design framework. Further research should focus on exploring the possibilities of transferring the proposed metacognitive model to professional thinking development programmes

at higher military educational institutions of other security and law enforcement agencies in Ukraine.

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◆ Conflict of Interest

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Метакогнітивні засади проєктування програми цілеспрямованого розвитку професійного мислення майбутніх офіцерів-прикордонників

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♦ **Анотація.** Метакогнітивна регуляція є психологічним ресурсом ефективності професійного мислення офіцерів-прикордонників, чия діяльність відбувається в умовах невизначеності, значних психологічних навантажень і дефіциту часу. Водночас розрив між розробленістю метакогнітивної теорії та її системним застосуванням для концептуалізації існуючих програм розвитку професійного мислення формує актуальну наукову проблему теоретичного характеру. Мета статті – обґрунтувати метакогнітивні засади проєктування програми цілеспрямованого розвитку професійного мислення майбутніх офіцерів-прикордонників шляхом теоретичного аналізу її структурно-функціональних компонентів крізь призму сучасних концепцій метакогніції. Методами дослідження стали теоретичний аналіз і синтез, порівняльний аналіз і концептуальне моделювання; аналітичною рамкою обрано тріаду компонентів метакогніції «метакогнітивне знання – метакогнітивний моніторинг – метакогнітивний контроль». Триблокова структура програми (теоретичний, практико-розвивальний, емоційно-рефлексивний блоки) функціонально узгоджена з компонентами метакогнітивної тріади, а часова розгортка блоків збігається з психологічною логікою розвитку метакогнітивної регуляції впродовж трьох етапів професійної підготовки. Система навчально-професійних завдань чотирьох типів (процедурних, комунікативних, практичних і проблемних) реалізує принцип метакогнітивного підтримувального навчання; визначено шість психологічних умов активізації метакогнітивної регуляції, що утворюють причинно-наслідковий трек у процесі реалізації програми. Сформульовано шість метакогнітивних засад проєктування програми і побудовано метакогнітивну матрицю цілеспрямованого розвитку професійного мислення майбутніх офіцерів-прикордонників (MERIDIAN), що операціоналізує виявлену метакогнітивну архітектуру у параметричних рядах і етапах розвитку. Матриця MERIDIAN призначена як проєктний інструмент для викладача дисциплін професійного циклу у вищому військовому навчальному закладі. Отримані результати придатні для проєктування програм розвитку професійного мислення у вищих військових навчальних закладах інших силових і правоохоронних відомств

♦ **Ключові слова:** підтримувальне навчання; саморегуляція мислення; психологічні умови; рефлексивне замикання; матриця MERIDIAN



Substantiation of a programme for developing mental resilience in Marine Corps service personnel through coping strategies

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◆ **Abstract.** The relevance of the study is determined by the considerable psychological strain experienced by Marine Corps service personnel of the Armed Forces of Ukraine, who perform tasks in complex littoral zones under conditions of intensive artillery fire, extensive use of unmanned systems and electronic warfare assets, resulting in prolonged logistical and communication isolation of small tactical groups. This study aimed to provide a theoretical substantiation, conceptualisation and structural modelling of a specialised programme for developing mental resilience, designed to transform maladaptive spontaneous defensive responses in service personnel into conscious, proactive and existentially meaningful strategies for coping with combat stress. The methodological basis of the study rested on the integration of the personality-activity approach, the salutogenic paradigm, and methods of existential analysis and logotherapy, which makes it possible to view the combatant as an active agent in managing their own condition. To develop the model of psychological intervention, a set of methods was applied, including systematic and comparative analysis of contemporary doctrines of combat stress management, in particular, Comprehensive Soldier and Family Fitness, as well as structural and functional modelling. The study found that classical Western protocols for combat stress control, in particular the doctrine of Combat and Operational Stress Control and the principles of Brevity, Immediacy, Contact, Expectancy, Proximity and Simplicity, are insufficient and require substantial adaptation to the conditions of a conventional conflict with disrupted evacuation chains. In response to these challenges, the architecture of a 36-hour training programme has been substantiated. The programme comprises four modules: psycho-emotional stabilisation based on an adapted iCOVER protocol (8 hours), cognitive reappraisal with heuristic modelling of crisis scenarios (8 hours), behavioural adaptation (8 hours), and existential-meaning integration (6 hours). The specific tactical value of reappraising coping strategies has also been substantiated: emotional distancing and fatalism, which are traditionally classified as maladaptive, have been shown to perform a critical compensatory function under conditions of a prolonged, uncontrollable macro-stressor. The practical value of the study lies in the development of an implementation-ready algorithm for autonomous psychological training. Its introduction by personnel psychological support structures can enhance the combat reliability of service personnel, prevent the development of moral injury, and ensure the sustained functioning of units

◆ **Keywords:** combat stress; resilience; mental health; Armed Forces of Ukraine; adaptation; self regulation; psychological readiness

◆ Introduction

The current stage in the development of armed conflicts, exemplified by the full-scale armed aggression of the Russian Federation against Ukraine, has fundamentally changed the paradigm for understanding the nature of combat stress

and has created entirely new and unprecedented requirements for the psychological training of service personnel. At the present stage, combat operations are characterised by a shift from low-intensity asymmetric conflicts to

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large-scale conventional confrontations between adversaries of comparable strength. This battlespace is marked not only by the use of precision-guided weapons and continuous massed artillery strikes, but also by the extensive presence of unmanned systems, particularly FPV drones, constant visual and fire control of the line of contact, and the widespread use of electronic warfare systems. The latter factor leads to the digital and communication isolation of combat units, as emphasised by I. Frankova *et al.* (2025). Under these conditions, Marine Corps service personnel of the Armed Forces of Ukraine (AFU), who perform specific tasks in complex littoral zones, conduct river assault landings and hold forward defensive lines, are exposed to psychological pressure of considerable intensity and duration. According to V.A. Pavlovskya-Kravchuk (2025), military psychology is actively seeking preventive mechanisms to counteract this exhaustion, with empirical evidence confirming the high effectiveness of specialised resilience-building programmes during the basic and professional training of service personnel. Moreover, as noted by J.D. Bremner & M.T. Wittbrodt (2020), the cumulative impact of combat trauma not only depletes cognitive resources but also causes profound neurobiological shifts, including persistent disruption of neurotransmitter expression and hormonal imbalance, making full psychological recovery impossible without the introduction of intensive methods of psychophysiological self-regulation. At the global level, the issue of maintaining the mental resilience of combatants is the subject of extensive study by leading research institutions. The study by J.F. Tornero-Aguilera *et al.* (2024) emphasised the need to introduce institutionalised systems of psychological support based on the principles of continuity and integration into the combat training process. However, a critical analysis of combat stress management doctrines, in particular the Combat and Operational Stress Control (COSC) doctrine, reveals certain limitations in the Ukrainian context. COSC programmes were historically developed for the conditions of expeditionary campaigns in Iraq and Afghanistan, where the principles of Brevity, Immediacy, Contact, Expectancy, Proximity and Simplicity (BICEPS) predominated. These principles critically depended on an uninterrupted aeromedical evacuation system and access to safe rear areas (Hukovskyy *et al.*, 2024). Under conditions of positional warfare and disrupted evacuation chains, where a unit may remain isolated for weeks or even months, classical Western protocols prove insufficient. Contemporary concepts of Marine Corps development, such as the United States' Force Design 2030, have emphasised the need to shift towards dispersed, autonomous operations conducted from expeditionary advanced bases (Yeadon, 2025). In these conditions, mental resilience emerges not only as a means of physiological survival but also as a key condition for the exercise of the warrior's agency and the unit's ability to operate autonomously without external support.

Research by Ukrainian scholars during 2023-2025 demonstrates a significant conceptual advance in understanding the phenomenology of combat stress and ways

of overcoming it. O. Kokun *et al.* (2023) showed that high levels of self-efficacy, emotional stability and professional resilience are key predictors of maintaining the combat effectiveness of elite combat units. Moreover, it has been confirmed that leadership qualities in service personnel are directly and positively correlated with their psychological endurance and ability to generate constructive coping strategies, even after traumatic experience. An important methodological step in the study by V. Osyodlo & D. Matvieieva (2025) was the examination of resilience as a complex, multilevel system in which social support and deep professional experience play a leading role, as demonstrated using the example of military doctors. The development of specific assessment tools by N.V. Rodina *et al.* (2022), in particular the scale for assessing coping behaviour in dangerous situations, made it possible to identify adaptive and maladaptive responses in combatants precisely under conditions of vital threat, moving away from general civilian concepts of stress. At the same time, the study of innovative methods of heuristic and game-based modelling of worst-case combat scenarios by A. Rotshtein *et al.* (2024) opened new avenues for the preventive cognitive preparation of service personnel for action under conditions of uncertainty. The need for a comprehensive approach to rehabilitation that integrates the family environment and clinical therapy was confirmed in the research of V.V. Stasiuk & Y.A. Fedorenko (2025b) on the socio-psychological recovery of veterans. This issue becomes particularly acute in the context of developing multidisciplinary approaches to supporting service personnel, where the purposeful formation of psychological stress-resilience skills should begin as early as possible and serve as the basis for the subsequent medical and social rehabilitation of wounded combatants.

Despite the existence of a comprehensive theoretical and empirical base, the problem of creating an integrated, pragmatic programme of psychological training adapted to the specific nature of contemporary Marine Corps operations remains relevant. The rationale for developing a specialised programme is based on the understanding that spontaneous mechanisms of psychological defence, which develop naturally in combatants, often prove destructive in the long term. This study aimed to substantiate the conceptual provisions of an original programme for developing mental resilience in Marine Corps service personnel, based on the optimisation of coping behaviour and the deepening of life-meaning orientations. In accordance with the aim, the objectives of the study were to determine the methodological basis of the programme, conduct a comparative analysis of a selected range of approaches, and provide a detailed account of the content of the functional modules in the developed intervention model. This made it possible to provide a scientific rationale for a paradigm shift in the assessment of coping strategies traditionally regarded as "maladaptive", particularly emotional distancing, by conceptualising them as vital tools for protecting the psyche under conditions of extreme fire exposure.

◆ Materials and Methods

Given the conceptual nature of the study, the research design was defined as theoretical and applied modelling based on methods of systematic and comparative analysis. The object of the study was the process of developing mental resilience in Marine Corps service personnel under the conditions of a contemporary high-intensity armed conflict. The subject of the study comprised the theoretical and methodological principles, structure and content of the functional modules of a specialised programme of psychological intervention. The theoretical basis of the study consisted of the integration of scientific paradigms, each of which determines the specific conceptualisation of particular components of the combatant's mental sphere:

1. The personality-activity approach served as the basic methodological framework for designing the architecture of the programme (Maksymenko, 2006). This approach made it possible to view the service member as an active agent of combat activity, capable of voluntary self-regulation and conscious control of their own behaviour.

2. The salutogenic paradigm, based on the research of A. Antonovsky (1987) shifted the theoretical focus from clinical pathology to the identification of internal resources and the development of mechanisms for maintaining mental health and a sense of coherence under extreme conditions.

3. V.E. Frankl's (1972) logotherapy served to introduce mechanisms of cognitive reappraisal, valuemeaning integration of the personality, and the spiritual-existential dimension of resilience, drawing on the criteria for assessing spiritual health proposed by O. Lazorko (2021).

4. Coping theory involved an analysis of the repertoire of coping behaviour based on the transactional models of R.S. Lazarus & S. Folkman (1984), as well as E. Heim's (1988) adaptive mechanisms of coping strategies.

5. The concept of resilience was applied to determine the target outcomes of the intervention through the constructs of hardiness developed by K.M. Connor & J.R.T. Davidson (2003) and S.R. Maddi (2002).

The logic behind the programme structure was based on conceptual modelling. The architecture of the programme was designed as a sequential transformation at the regulatory, cognitive, behavioural and existential levels. In modelling the regulatory component, which determines the capacity for autonomous behavioural control, contemporary approaches to the style of self-regulation proposed by M.V. Yatsiuk (2023) were conceptually considered. Validated models of psychological assessment developed by D.K. Korolov (2019) were used to define the role of personal dispositions. The total duration of the developed programme is 36 hours. This amount of training time was determined as sufficient to achieve the objectives of each module, from the acquisition of theoretical knowledge to the automation of techniques for psychomotor stabilisation and existential integration, within a standard intensive cycle for restoring combat capability. The scope of the programme is substantiated by the impact of prolonged psychological strain, lasting more than 12 months, under

extreme conditions and is consistent with contemporary approaches, in particular those of O. Kokun *et al.* (2023). The coherence and validity of the developed model were ensured through systematic and comparative analysis. The conceptual elements of the programme were compared with the COSC doctrine and BICEPS algorithms (Department of the Army, 2006). This made it possible to adapt them to the realities of a conventional conflict marked by a high level of tactical group autonomy and complicated evacuation.

This methodological framework led to a principled rejection of the reductionist medicalised model, in which the service member is viewed as a passive patient or recipient of trauma. Instead, in line with the principles of the activity approach, the programme focused on initiating a complex mechanism of shifting motive towards the goal. This mechanism enables the exteriorisation of internal anxiety into organised, conscious and object-oriented combat activity, restoring the individual's status as an agent of control over their own life and the external chaos of combat. To ensure high ecological validity and enable the use of the programme under conditions of autonomous action by small tactical groups, in accordance with the requirements of contemporary concepts of dispersed operations, peer-to-peer mutual support algorithms were incorporated into the methodology. These were based on standardised protocols for providing primary psychological support to service personnel: Military Publication VP 100(160)03.01 (2021) and the six-step iCOVER protocol adapted by O. Hukovskyy *et al.* (2024). The applied systematic approach to theoretical substantiation and conceptual modelling made it possible to develop a structured programme model whose parameters are adapted to the specific requirements of psychological support for Marine Corps units during combat coordination and restoration of combat capability.

◆ Results and Discussion

The central outcome of this study was the detailed theoretical substantiation, conceptualisation, and structural and content-based presentation of an original programme for developing mental resilience in Marine Corps service personnel. The comparative analysis of the collected body of empirical data and the specific features of the contemporary use of combat units showed that the mechanical transfer of civilian psychocorrection protocols, as well as the uncritical copying of Western military models from previous decades, is not only didactically ineffective but also potentially destructive under the conditions of a full-scale conventional war. Doctrines for maintaining the mental health of service personnel include the large-scale Comprehensive Soldier and Family Fitness programme in the USA, presented by the Department of the Army (2014), and specialised COSC protocols structured around the BICEPS principles (Department of the Army, 2006). These principles provide for assistance as close as possible to the front line, immediate intervention, and the maintenance of an expectation that the combatant will quickly return to duty. However, as noted by O. Hukovskyy *et al.* (2024),

such paradigms were developed for expeditionary asymmetric wars, in which US or NATO forces had substantial air superiority and the aeromedical evacuation system operated without interruption. The Russian-Ukrainian war is a high-intensity conflict in which the mass use of artillery, kamikaze drones and electronic warfare systems disrupts the traditional logistical chains of rescue and evacuation. A Marine Corps unit may remain under total encirclement in a fire pocket for weeks, which requires considerable psychological autonomy at the level of each combatant. The Ukrainian approach embodied in the proposed programme shifts the emphasis from institutional, medicalised assistance to the formation of horizontal “resource caravans” within small tactical groups and to deep existential survival. The developed architecture conceptually complements and extends existing national military developments.

A key precursor to the proposed model is the Practical Guide to Developing Service Personnel’s Stress Resilience to Sudden Changes in the Combat Environment by O. Kokun *et al.* (2020), which represents a systematic attempt by Ukrainian specialists to train combatants’ psychological resilience. The programme is also organically integrated with the methodology of institutional psychological

decompression programmes currently being implemented by the Main Directorate for Psychological Support of Personnel of the AFU (A project for psychological support..., 2025). The structural and functional logic of this intervention is also consistent with the algorithms of targeted training courses aimed at restoring the psychological resilience of service personnel of the Defence Forces, which are being scaled up in combat brigades under the coordination of the General Staff and the non-governmental organisation League of Officers (A project for psychological support..., 2025). Unlike universal basic courses, the developed programme offers a specialised logotherapeutic level of processing extreme experience, strictly adapted to the needs of Marine Corps units. The architecture of the programme is designed as an intensive 36-hour training cycle, which is structurally integrated into the process of restoring combat capability or combat coordination. The time budget is strictly and proportionally distributed between psychoeducational activities (7 hours), training activities (21 hours), and simulation and field-based activities (8 hours). The programme is built on the principle of cumulative effect: each subsequent competence is based on the automated skills acquired at the previous level (Table 1).

Table 1. Structural distribution of training time in the mental resilience development programme

Name of the programme module/block	Theoretical sessions (hours)	Training sessions (hours)	Simulation sessions (hours)	Total hours
Introductory part. Formation of motivation, destigmatisation and primary assessment of the current condition	1	2	0	3
Module 1. Psycho-emotional stabilisation and mutual support protocols (emotional-regulatory vector)	2	4	2	8
Module 2. Cognitive reappraisal and heuristic modelling (cognitive vector)	1	4	3	8
Module 3. Behavioural adaptation and proactive coping	1	4	3	8
Module 4. Existential-meaning integration	2	4	0	6
Concluding part. Reflection, effectiveness assessment and individual protocols	0	3	0	3
Total	7	21	8	36

Source: developed by the author

The introductory part of the programme (3 hours) serves to overcome psychological resistance and reduce stigma. In a masculine military environment, seeking help is often perceived as a sign of weakness. Group discussions and the “Tree of Fears” exercise help to legitimise fear. Psychological education is an important element: combatants are given a clear explanation of the mechanisms of emotional capture and acute stress response. Understanding the psychological nature of these states allows service personnel to rationalise their own reactions, such as nervous trembling, acute psychomotor agitation and tunnel vision, by moving them from the category of “personal weakness” to that of a “normal response of the psyche and body to abnormal circumstances”. Module 1. Psycho-emotional stabilisation and mutual support protocols (8 hours) develop the basic level of resilience. In situations of massed fire contact, higher cognitive regulatory mechanisms may be temporarily blocked by intense affective states, making it impossible to use complex analytical coping strategies. For

this reason, it is critically important to move to the level of direct psychomotor and breathing-based self-regulation. Tactical, or box, breathing techniques are used as an effective means of consciously reducing psycho-emotional tension and quickly restoring voluntary control over one’s condition, along with sensory proprioceptive grounding focused on elements of personal equipment. An adapted method of autogenic training developed by J.H. Schultz & W. Luthe (1959) serves as a supplement to the basic stabilisation techniques. From the standpoint of the activity approach, this method functions as a tool for purposeful psychological self-regulation, strengthening the service member’s internal locus of control. Through the sequential concentration of attention on sensations of heaviness and warmth, a conscious reduction in psycho-emotional tension is achieved (Stetter & Kupper, 2002). Mastery of self-suggestion formulas reinforces the combatant’s position as an active agent capable of voluntarily managing their own condition and resisting the stressor. The systematic use of

autogenic training forms a stable behavioural pattern of autonomous restoration of psychological resources, which is vital under conditions of logistical isolation among small tactical groups. The second component of the module is simulation-based practice of peer-to-peer assistance protocols for acute reactions, such as panic attacks, psychomotor stupor and aggression. The basic framework is the iCOVER protocol, adapted for Ukraine by O. Hukovskyy *et al.* (2024), which consists of six steps: identifying a fellow service member in an affective state (identify), establishing firm physical and visual contact (connect), offering support (offer choice), verifying the facts of reality (verify), establishing the chronology of events (establish order), and requesting a specific tactical action (request action). Repeated practice of this algorithm has been shown not only to stabilise the affected individual but also to restore the rescuer's own sense of full control, blocking the reflexive response of dissociative freezing.

Module 2. Cognitive reappraisal and heuristic modelling. The cognitive vector (8 hours) is aimed at overcoming the phenomenon of "tunnel thinking". The specific nature of contemporary combat lies in its radical uncertainty. To increase tolerance of the unknown, the module draws on the innovative method of heuristic scenario modelling proposed by L. Chernobai & O. Khairulin (2022). In a brainstorming format, service personnel collectively develop action algorithms for the worst, catastrophic scenarios, such as complete loss of radio communication, the death of commanders, or encirclement. The process of mentally rehearsing these critical situations in advance forms pre-prepared cognitive and behavioural response patterns. As a result, when a real critical situation arises in combat, the shock of suddenness is reduced, while the paralysing fear of the unknown is converted into a specific, structured operational task. Skills in distinguishing zones of control are also practised, teaching combatants to concentrate 100% mental energy only on objects they can control, such as weapon cleanliness, the quality of tourniquet application, or the observation sector.

Module 3. Behavioural adaptation and proactive coping (8 hours) involves a thorough revision and optimisation of the individual repertoire of coping strategies. This approach is consistent with contemporary views of mental resilience as a dynamic adaptive mechanism capable of responding flexibly to adverse factors in the combat environment through the continuous optimisation of behavioural patterns (Chernobai & Khairulin, 2022). According to S.E. Hobfoll's (2011) Conservation of Resources Theory, combat stress is initiated by the threat of losing critical resources. The module teaches marines to consciously map their resources and stop the "loss spiral" by forming proactive communication patterns and horizontal social support. The scientific innovation of this module lies in a radical reappraisal of the classical maladaptive coping strategies described in the transactional model of R.S. Lazarus & S. Folkman (1984). Traditional psychology often views emotional distancing or the suppression of affect as

exclusively maladaptive responses, while overlooking the physiological context. By contrast, the study by R. Zueger *et al.* (2023) showed that targeted resilience training helps combatants reappraise the stressor, which is accompanied by a faster return to normal cortisol levels and the generation of positive affect even after intense strain. However, analysis of the conditions of positional warfare shows that, in situations involving an uncontrollable macro-stressor, such as prolonged artillery shelling of a position or a mass FPV drone attack, where a direct problem-solving strategy is tactically impossible, strict emotional distancing acquires a life-preserving compensatory function. The programme teaches combatants to differentiate between situations and consciously apply distancing as a tactical tool for conserving mental energy until active assault or defensive actions once again become appropriate. This is fully consistent with the study of responses to danger by N.V. Rodina *et al.* (2022), which demonstrated the validity of passive strategies under certain critical conditions.

Module 4. Existential-meaning integration (6 hours) forms the spiritual and philosophical core of the programme. Studies of combatants' psychological status show that high levels of extraversion or self-efficacy may be insufficient to preserve identity when faced with the death of comrades and the need to make difficult ethical decisions. The module is based entirely on V.E. Frankl's (1972) logotherapeutic paradigm. The key resource for meaning integration is provided by practices of deep introspection, including meditation and individual prayer. From the standpoint of the activity approach, these practices are conceptualised as purposeful inner activity aimed at restoring spiritual support. Depending on their worldview beliefs, service personnel independently choose the most relevant tool. Meditation develops skills of voluntary concentration and intentional direction of attention. During this practice, the individual purposefully observes their own thoughts and emotions, learns to identify destructive states at the early stages of their development, and consciously distances themselves from them. At the same time, both meditation and prayer function as forms of deep inner dialogue that help overcome the existential vacuum. They allow service personnel to restore an integral connection with the transcendent, whether God or higher powers, or with their own authentic inner state. This variable approach directly strengthens the combatant's agency by providing tools to protect identity from the destructive impact of war. Through Socratic dialogue, the psychologist helps the group distinguish objective guilt from existential guilt, the latter arising from the objective impossibility of being omnipotent in war. Narrative reconstruction is then carried out: the destructive discourse of "I am a victim of circumstances" is transformed into the heroic narrative of a conscious warrior. This approach is substantially complemented by the Combat Path Debriefing methodology, which has been implemented in the Armed Forces of Ukraine and focuses on identifying the unit's combat path as a resource for continuing the struggle in memory of the

fallen (Hukovskyy *et al.*, 2024). Acquiring a deep sense of meaning in one's actions functions as a profound protective mechanism that shields the combatant from dehumanisation and provides a foundation for post-traumatic growth.

The results of the theoretical conceptualisation and structural modelling of the mental resilience development programme demonstrate the need for a paradigmatic shift away from universal civilian models of stress coping towards highly specialised algorithms of combat self-regulation. The proposed 36-hour architecture of the intervention is closely aligned with current empirical findings by international and Ukrainian researchers, while offering a fundamentally new perspective on assessing the adaptability of coping strategies in the realities of conventional warfare. The findings on the critical need to develop autonomous mechanisms of psychological support directly at the level of small tactical groups resonate with the conclusions of I. Frankova *et al.* (2025), who examined the impact of digital, communication and logistical isolation on combatants' mental state in hybrid trench warfare. Unlike doctrinal approaches to supporting the mental health of NATO service personnel, in which A.B. Adler *et al.* (2024) emphasised primary prevention and continuous expert support for leaders under relatively stable conditions of expeditionary deployment, the developed programme proceeds from the presumption of a radical vital threat and the impossibility of receiving external assistance. This conceptual opposition is confirmed by the findings of O. Hukovskyy *et al.* (2024), who, in developing the Combat Path Debriefing methodology, convincingly showed that the classical principles of the COSC doctrine, in particular rapid intervention and the proximity of professional evacuation-based psychiatric assistance, are difficult to implement or physically impossible under conditions of massed use of electronic warfare systems and continuous FPV drone attacks.

A key aspect is the fundamental reassessment of behavioural adaptation strategies. As noted above, prolonged exposure to a high-intensity combat zone leads to the total depletion of resources, initiating S.E. Hobfoll's (2011) "loss spiral". The accumulated impact of combat stressors not only gradually depletes the service member's mental and cognitive resources but also causes profound changes in the functioning of the nervous system. In particular, prolonged combat stress may disrupt the natural balance of important neurobiological mechanisms by reducing the activity of brain-derived neurotrophic factor, which is responsible for psychological adaptation, recovery and stress resilience, and by altering the functioning of enzyme systems involved in the regulation of the psycho-emotional state (Romash *et al.*, 2023). The use of cognitive constructs alone against the background of such physiological exhaustion is ineffective. The study by A. Shvalb *et al.* (2025) indicated a stable negative correlation between avoidant coping strategies and the level of combat stress, traditionally defining them as maladaptive mechanisms requiring psychocorrection. However, the developed theoretical model significantly refines this proposition, drawing on the innovative

five-factor model proposed by N.V. Rodina *et al.* (2022), which examined the specific nature of coping directly in situations of extreme danger. Under conditions of an entirely uncontrollable macro-stressor, for example, during several days of artillery shelling of positions, when active action is physically impossible, strict emotional distancing, fatalism, and passive waiting temporarily function not as manifestations of professional burnout but as critical, evolutionarily determined life-preserving mechanisms for conserving mental energy. Thus, the developed programme (Module 3) does not aim to eradicate these reactions indiscriminately. On the contrary, it teaches combatants to differentiate them consciously and apply them flexibly according to context. This represents a significant scientific contribution in comparison with existing linear psychocorrection protocols. For this reason, the autogenic training and firm proprioceptive grounding techniques integrated into Module 1 are designed to have a direct and immediate effect on reducing hyperreactivity of the sympathoadrenal system. This is fully consistent with the findings of recent studies of the Swiss Armed Forces: R. Zueger *et al.* (2023) and M. Niederhauser *et al.* (2023) empirically established that targeted resilience training not only ensures a significantly faster return to normal cortisol levels after exposure to a stressor, but also enables cadets to generate positive affect and cognitively reframe the situation. The programme extends this practice by adapting it to battlefield conditions, where physiological stabilisation is carried out not by a specialist in a safe environment, but by a fellow service member directly in shelter, in accordance with the iCOVER protocol.

The aspect of intra-group leadership and cohesion, which is actively addressed during the simulations in Module 1, is supported by empirical data from other researchers. According to the findings of O. Kokun *et al.* (2023), there is a direct and significant relationship between the leadership qualities of service personnel and their personal hardness during prolonged deployments. Moreover, further studies by the same research team clearly showed that the formation of a strong microsocial support environment within the combat group acts as a powerful buffer, substantially reducing rates of somatic complaints and PTSD symptoms in elite combat units compared with isolated wounded service personnel. This social buffer is impossible without deep individual meaning-making. The developed Module 4, existential-meaning integration, draws on V.E. Frankl's (1972) logotherapeutic paradigm and is supported by contemporary measures of spiritual health. By prioritising the tools of intentional meditation, inner prayer and narrative reconstruction of lived experience, the study is oriented towards the validated indicators of O. Lazorko's (2021) SHAS scale, which measure the capacity for selftranscendence. The transformation of traumatic and chaotic experiences of combat losses into a meaningful supranational and heroic narrative is the main effective safeguard against the development of destructive moral injury, as noted by B.T. Litz *et al.* (2009). As emphasised

by M. Reva & T. Titova (2024), successful mastery of proactive coping skills and the preservation of deep personal meaning during combat create a lasting foundation for post-traumatic growth. Finally, preventive psychological work conducted directly in the combat zone has significant implications for post-war psychological recovery. According to the conclusions of V. Stasiuk & Y. Fedorenko (2025a), who examined a comprehensive approach to reintegration, and T. Shapovalova (2023), who analysed the experience of the USA and the United Kingdom, the success of a veteran's return to civilian life and functioning in the family environment is directly proportional to the extent to which their psyche has retained the capacity for flexible self-regulation. By preventing severe psychotic disintegration while the unit is still on the line of contact, the programme minimises the future clinical burden on the national healthcare system. Thus, the comparative analysis shows that the proposed holistic model of psychological intervention conceptually and pragmatically fills the existing gap between general standards of preventive psychology and the stringent demands of contemporary armed conflict.

◆ Conclusions

The in-depth theoretical and methodological substantiation and conceptualisation of a specialised programme for developing mental resilience in Marine Corps service personnel made it possible to formulate several key conclusions. It has been shown that the conditions of a contemporary high-intensity conventional conflict, characterised by considerable uncertainty, massed fire exposure, the dominance of unmanned systems and the disruption of logistical evacuation chains, require a fundamentally new paradigm of psychological training. Classical protocols for combat stress control, in particular the COSC doctrine and BICEPS principles, which are oriented towards expeditionary operations with air superiority, have proved insufficient in the realities of trench warfare. This has created the need to develop autonomous, multilevel survival algorithms. The proposed original programme is a holistic, ecologically valid and pragmatic system whose architecture is based on the integration of the personality-activity approach, the salutogenic paradigm and methods of existential analysis. The structural and logical organisation of the intervention in the format of four interrelated modules – psychoemotional stabilisation, cognitive reframing and heuristic modelling, behavioural adaptation, and spiritual-meaning integration – ensures the gradual, ecologically grounded and sustainable transformation of spontaneous maladaptive responses to combat stress into a conscious repertoire of productive coping strategies. A contemporary view of the use of individual coping strategies at the epicentre of the

battlespace has been scientifically substantiated. It has been shown that strict emotional distancing and the suppression of affect, which are classified in traditional psychology as maladaptive and destructive mechanisms, acquire a critically important compensatory and life-preserving function under conditions of an uncontrollable macro-stressor, such as prolonged exposure to massed artillery fire, by preventing immediate psychotic disintegration of the personality. In addition, the need to implement logotherapeutic tools in combat training programmes has been confirmed: only in-depth work with existential meanings, the transformation of the victim narrative into the narrative of a conscious warrior, and the processing of survivor's guilt can effectively block the development of moral injury and ensure the stable post-traumatic growth of combatants. It has been shown that training personnel in peer-to-peer mutual support skills and the formation by leaders of horizontal "resource caravans" of support radically increase the overall combat reliability and controllability of small tactical groups. The implementation of this programme by officers of personnel psychological support structures, military psychologists and chaplains directly during combat coordination or restoration of combat capability is a tool for preserving the human capital of the AFU. Prospects for further research lie in conducting longitudinal studies on the influence of formed existential coping strategies on the success of the sociopsychological reintegration of Marine Corps service personnel after demobilisation or return to civilian life. Further synchronisation of such preventive military programmes with the best international and Ukrainian practices of veteran adaptation will make it possible to create an integrated system for preserving the nation's mental health.

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◆ Conflict of Interest

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Обґрунтування програми розвитку психічної резильєнтності військовослужбовців морської піхоти за допомогою копінг-стратегій

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✦ **Анотація.** Актуальність дослідження зумовлена значним рівнем психологічного навантаження військовослужбовців морської піхоти Збройних Сил України, які виконують завдання у складних літоральних зонах в умовах масованого застосування артилерії, безпілотних систем та засобів радіоелектронної боротьби, що спричиняє тривалу логістичну та комунікаційну ізоляцію малих тактичних груп. Мета статті полягала у теоретичному обґрунтуванні, концептуалізації та структурному моделюванні спеціалізованої програми розвитку психічної резильєнтності, спрямованої на трансформацію неадаптивних стихійних захисних реакцій військовослужбовців на усвідомлені, проактивні та екзистенційно осмислені стратегії подолання бойового стресу. Методологічний фундамент дослідження базувався на інтеграції особистісно-діяльнісного підходу, салютогенетичної парадигми та методів екзистенційного аналізу і логотерапії, що дозволяє розглядати комбатанта як активного суб'єкта управління власним станом. Для розробки моделі психологічного втручання застосовано комплекс методів, що охоплює системний і порівняльний аналіз сучасних доктрин управління бойовим стресом, зокрема Comprehensive Soldier and Family Fitness, а також структурно-функціональне моделювання. У результаті дослідження з'ясовано, що класичні західні протоколи контролю бойового стресу, зокрема доктрина Combat and Operational Stress Control та принципи Brevity, Immediacy, Contact, Expectancy, Proximity, Simplicity, виявляються недостатніми та потребують глибокої адаптації до умов конвенційного конфлікту з розірваними ланцюгами евакуації. У відповідь на ці виклики обґрунтовано архітектоніку 36-годинної програми підготовки, яка охоплює чотири модулі: психоемоційну стабілізацію за адаптованим протоколом iCOVER (8 годин), когнітивне переосмислення з евристичним моделюванням кризових сценаріїв (8 годин), поведінкову адаптацію (8 годин) та екзистенційно-смыслову інтеграцію (6 годин). Додатково обґрунтовано специфічну тактичну цінність переосмислення копінг-стратегій: доведено, що емоційне дистанціювання та фаталізм, які традиційно класифікуються як дезадаптивні, в умовах тривалого неконтрольованого макростресора виконують критичну компенсаторну функцію. Практична цінність дослідження полягає у створенні готового до імплементації алгоритму автономної психологічної підготовки, впровадження якого структурами психологічної підтримки персоналу здатне підвищити бойову надійність особового складу, попередити розвиток моральної травми та забезпечити стійке функціонування підрозділів

✦ **Ключові слова:** бойовий стрес; життєстійкість; психічне здоров'я; Збройні Сили України; адаптація; саморегуляція; психологічна готовність

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