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The psychological communication potential of cadets – future commanders of military units of the National Guard of Ukraine

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◆ **Abstract.** In the course of service and combat activities, commanders interact with personnel to ensure the effective performance of tasks, so knowledge of their communicative characteristics is important for the proper professional and psychological selection of candidates for leadership positions. The aim of the study was to analyse the key psychological characteristics of the communicative potential of cadets of the National Academy of the National Guard of Ukraine. The study was based on the use of reliable and valid psychodiagnostic tools: the Interpersonal Interaction Questionnaire and the Big Five Questionnaire. The study revealed the main types of communication profiles of cadets, among which the mixed type of response prevails, as well as the sthenic and hyposthenic types. The study made it possible to establish the main variants of typical communication profiles of cadets, who are predominantly characterised by a mixed type of response (60%), to a lesser extent sthenic (30%) and least of all hyposthenic (10%). The proposed approach to psychological diagnosis proved to be effective, as most respondents had similar characteristics of communicative potential according to both methods. Only 4% of respondents had diametrically opposite characteristics, which confirms the high reliability of the comprehensive application of methods for psychological diagnosis. The study also showed that professionally important communicative qualities for military personnel, in particular sthenic types of interpersonal interaction, identified using both questionnaires, correlate with each other. Negative communicative characteristics, which also correlated with each other, were often found simultaneously with other indicators of the hyposthenic type of response. The latter are considered undesirable for the service and combat activities of the military. The comprehensive use of the psychodiagnostic tools under consideration makes it possible to reliably determine the characteristics of the communicative potential of cadets and servicemen of the National Guard, which is of great importance for the optimal organisation of interpersonal interaction processes in military units

◆ **Keywords:** psychological diagnosis; individual characteristics; law enforcement officers; type of interpersonal interaction; service and combat activities

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♦ Introduction

The common psychological terms “communicative potential” and “communicative abilities” of a person refer to a set of characteristics, skills, and internal resources that enable a person to effectively establish, maintain, and develop interactions with other people. These concepts encompass both an individual’s natural predispositions and the communication skills acquired through socialisation and learning, which allow to adapt to different social situations, convey their own thoughts, understand their interlocutor and achieve mutual understanding. As noted by V.I. Barko *et al.* (2022), communicative potential includes several interrelated components: linguistic competence as the ability to use language competently; social competence – the ability to navigate social contexts, recognise the emotional states of others and adjust one’s own behaviour; personal characteristics – extroversion, openness, self-confidence, empathy, tolerance, reflection, etc., which ensure comfortable and productive interaction. A military serviceman with developed communication skills is able to successfully convey information, establish constructive dialogue, reach compromises, and maintain a positive atmosphere of communication. Effective service and combat activities of commanders of military units of the National Guard of Ukraine are impossible without mastering such skills, as it ensures communication with personnel, the ability to establish perceptive, communicative and interactive aspects of communication, the ability to influence the behaviour and emotional state of military personnel in extreme combat conditions, prevent and resolve conflicts, etc. V. Bondarenko *et al.* (2020) emphasise that it is particularly important for the personnel of the National Guard, the police and some other units of the Ministry of Internal Affairs of Ukraine to be able to communicate effectively both among themselves and with citizens, to establish psychological interaction, to listen to representatives of different categories of the population, to find answers to their questions and to obtain the necessary information from opponents. Organising successful interpersonal interaction is one of the most important functions of the commanders of the military units of the National Guard of Ukraine, as their daily service and combat activities take place in front of the personnel, and the authority of commanders largely depends on their behaviour and how they respond to the actions and deeds of military personnel, especially during combat missions. According to V. Tyurin *et al.* (2024), internal and external group communication is an important component of the functioning of military units, and their successful combat operations are impossible without each commander understanding the psychological characteristics of the formation, development and functioning of the unit’s collective. On the basis of successful interpersonal interaction, unit commanders can successfully solve the combat tasks assigned to them.

V. Barko *et al.* (2021) studied the establishment of interpersonal contacts in various communication settings, as well as the peculiarities of communication with different

categories of the population, in particular adolescents. In turn, the works of A. Masian & O. Romanenko (2023) and S. Ericsson *et al.* (2025) revealed the role of communication skills in improving the effectiveness of investigators, in particular in resolving conflicts in situations of domestic violence, as well as in communication during operational-search activities. V.V. Bondarenko *et al.* (2022) emphasised that employees of the Ministry of Internal Affairs need to possess a variety of communication skills, such as the ability to quickly establish psychological contact with people and get them to communicate, the ability to listen to others, and the ability to exert psychological influence on opponents during operational and service activities. The authors also emphasised the importance of mastering the skills of overcoming psychological communication barriers and the ability to transform and change one’s role repertoire. C.E. MacLean’s (2021) analysis confirmed the importance of translating scientific knowledge into practical action, which is no less important for improving the effectiveness of police work and management decisions in law enforcement agencies. Thus, studying the main psychological characteristics of the communicative potential of cadets – military personnel and future commanders of military units – is a relevant theoretical and practical task, the solution of which will increase the effectiveness of professional selection and training of the personnel of the National Guard of Ukraine. A review of the above-mentioned publications confirmed the insufficient number of scientific studies in this area, with the attention of scientists mainly focused on the analysis of the psychophysiological properties of military personnel, their personal qualities, abilities, orientation, etc. The aim of the study was to determine the main psychological characteristics of the communicative potential of cadets of the National Academy of the National Guard of Ukraine (NANGU). The research objectives included: conducting a psychodiagnostic examination of a representative sample of NANGU cadets using the Interpersonal Interaction Questionnaire (IIQ) and the Big Five Questionnaire (BFQ); to determine the psychological characteristics of the communicative potential of cadets and establish typical groups according to its content; to establish the peculiarities of correlational relationships between the indices of the scales used in the study questionnaires, as well as the reliability of the psychodiagnostic prognosis of the success of the service and combat activities of military personnel.

♦ Materials and Methods

The object of the study was interpersonal interaction among cadets of military higher educational institutions; the subject was the psychological characteristics of such interaction. The theoretical research methods included analysis and synthesis, comparison, systematisation and generalisation of the results of scientific research on the selected issues, as well as induction and deduction, which included the study of source materials, including the works of H.S. Sullivan (1965), T. Leary (1957) and

O.P. John *et al.* (2008). A total of 178 cadets from the National Academy of Security Service of Ukraine (NANGU), including those from educational and scientific institutes of state security, command and staff, and humanitarian fields, participated in the empirical study, 20 of whom were women. The participants were aged between 20 and 32, with between 2 and 12 years of service experience. All respondents were assessed by experts as successful. This sample size is representative, the results obtained fully reflect the characteristics of the general population and allow reliable conclusions to be drawn (at a significance level of $p = 0.01$). The study was conducted in 2025 in three stages: conducting a psychodiagnostic examination of NANGU cadets using IIQ and BFQ; establishing the psychological characteristics of the cadets' communicative potential, which included identifying typical groups reflecting different styles of interpersonal interaction. According to the characteristics obtained, each group was given a corresponding name reflecting the peculiarities of their communicative behaviour: "dominant-leader", "responsible-leader", "aggressive-rigid", "balanced", "rigid-introverted", "dependent-conventional" (according to IIQ); "stenic," "actively communicative," "demonstratively communicative," "independently rigid," "compromising," "responsible," "conflictual" (according to BFQ). This approach made it possible to characterise in detail various communication strategies and assess their impact on the effectiveness of interaction in the educational and professional activities of cadets; to establish the characteristics of correlation between the indicators of the scales of the questionnaires used, as well as the reliability of the psychological prognosis of the success of the service and combat activities of personnel. All participants in the study provided informed consent to participate, and the confidentiality of the data obtained was ensured, which was used exclusively for scientific purposes. The study was conducted in accordance with international ethical guidelines governing health-related research developed by the Council for International Organisations of Medical Sciences in collaboration with the World Health Organization (CIOMS, 2016). Statistical data processing was performed using Microsoft Excel and SPSS Statistics software. Descriptive statistics and correlation analysis were used to analyse the results, with statistical significance levels of $p \leq 0.05$ and $*p \leq 0.01$.

◆ Results and Discussion

In order to study the communicative potential of individuals since the end of the 20th century, T. Leary's (1957) psychodiagnostic technique, the IIQ, has been widely used. The questionnaire is based on the theoretical concept of H.S. Sullivan (1965), according to which, in the course of gradual socialisation, a person identifies themselves with the expectations of the group of people around them. In the process of constant contact with their social environment, a person develops a unique, individual style of interpersonal behaviour. Socialisation leads to the realisation of the need

to communicate with others; in the process of communication, the individual strives to align their actions with the assessments of reference persons, which occurs consciously and subconsciously using the mechanism of identification. Based on this concept, T. Leary (1957) summarised the materials of previous empirical studies and proposed eight variants of interpersonal behaviour, which schematically presented in the form of an orthogonal model, a circle, around the perimeter of which its various variants are located. The axes of this model are independent (orthogonal), and types of interpersonal behaviour that are opposite in psychological content are placed opposite each other. The IIQ contains a set of personality characteristics (128 in total) that describe different types of interpersonal interaction. Respondents are asked to evaluate themselves for each item in the questionnaire, noting in the answer sheet the communication characteristics that are typical for them. Psychologists evaluate the answers and calculate the number of points for each of the eight options of interpersonal interaction (1 – authoritative-leader; 2 – independent-dominant; 3 – straightforward-aggressive; 4 – distrustful-sceptical; 5 – submissive-dependent; 6 – dependent-obedient; 7 – cooperative-conventional; 8 – responsible-generous). Four types or octants (1-4) indicate a personal tendency towards the dominance of non-conformist communication characteristics (independence, autonomy, leadership, etc.); the remaining octants represent the opposite tendency – a desire for conformity, self-doubt, a tendency towards dependence and compromise in communicative interaction. Scores within the range of 7-9 points are characteristic of people who have harmonious relationships with those around them, while scores above and below this range indicate a certain emphasis on communicative traits or their insufficient development. A Ukrainian-language version of this questionnaire has recently been developed.

The so-called five-factor model is widely used in modern psychological practice for the psychological diagnosis of personality and communication characteristics. O.P. John *et al.* (2008) developed the original version of the BFQ. The questionnaire includes 44 personality characteristics and enables personality assessment using five bipolar factors. The BFQ enables personality assessment using five bipolar factors: extraversion, neuroticism, agreeableness, conscientiousness, and openness to experience. A Ukrainian version has also been developed for it. Extraversion is a factor that reveals a person's orientation towards the external or internal world. Extraverts are characterised by traits such as sociability, activity, impulsiveness, a search for novelty, and a need for external stimulation. Introverts are characterised by traits such as independence, self-reliance, and individualism. Between these two characteristics are ambiverts – people who are capable of both activity and isolation, as well as active work in a group. Neuroticism is a factor that indicates a person's sensitivity to stress. One pole includes reactive individuals who are prone to negative emotions. The other pole includes individuals with a tendency to approach life

rationally and calmly. Between these two extremes lies an intermediate range of manifestation of the factor. Openness to experience is a factor that manifests itself in such traits as openness, receptivity to new information or knowledge. Such individuals are distinguished by new approaches and ways of solving problems, and they are prone to self-analysis and reflection. The opposite pole of this factor is people who are resistant to acquiring new experiences and information. They are characterised by limited interests and are viewed by those around them as conservatives. Compliance is a factor that reflects sociocentrism as the opposite of selfishness. One pole of this factor is represented by conformists who tend to align their own interests

with those of the group. The other pole is represented by unyielding, persistent people who are preoccupied with their own interests and motives. Conscientiousness is a factor that characterises the degree of conscious control a person has over their own actions and behaviour. One pole of the factor is marked by high self-control, conscientiousness, perseverance, organisation, and discipline. The other is characterised by changeability, ease of switching attention, disorganisation, spontaneity of behaviour, and little focus on the goals of activity. Analysis of empirical data using these psychodiagnostic tools showed that the service and combat activities of cadets require them to have highly developed communication skills.

Table 1. Results of the assessment of cadets using the IIQ

Octant	1	2	3	4	5	6	7	8
Mean	8.45	6.64	6.09	3.32	4.14	5.60	7.61	6.93
Median	9	7	6	3	4	6	8	7
Mode	9	7	6	3	3	7	8	7
Standard deviation	3.20	1.91	2.06	2.30	2.39	2.40	2.55	3.10
Minimum	0	2	1	0	0	0	0	0
Maximum	15	16	12	11	12	14	14	15

Note: 1 – authoritative-leader; 2 – independent-dominant; 3 – straightforward-aggressive; 4 – distrustful-sceptical; 5 – submissive-dependent; 6 – dependent-obedient; 7 – cooperative-conventional; 8 – responsible-generous

Source: developed by the authors

The data in Table 1 showed that the average profile of a cadet is characterised by the dominance of authoritative-leader type of interpersonal behaviour (8.45 points), accompanied by pronounced tendencies towards cooperative-conventional and responsible-generous interaction (7.61 and 6.93 points, respectively). Manifestations of an independent-dominant communication style (6.64 points) are also quite noticeable. At the same time, the distrustful-sceptical and dependent-obedient types (3.32 and 4.14 points) were the least pronounced in the structure of the interpersonal profile, which indicates that most cadets do not have a tendency towards passive-dependent or aloof-defensive forms of interpersonal behaviour. The elevated indicators of octant 1 show that cadets in interpersonal interaction are characterised as active individuals with a tendency to dominate, high aspirations, ease and speed in decision-making, orientation towards their own position and insignificant dependence on external influences, and extroversion. Cadets are persistent and persuasive in communication, able to visually diagnose people's behaviour, accurately assess the actions and deeds of those around them, exert psychological influence on opponents, command the attention of others, create an atmosphere of trusting communication, interact with strangers, choose the right tone of voice, persuade the interlocutor to agree with them, identify the characteristic features of their opponents, achieve their goals in the process of communication, and insist on their own position. The hyperthymic properties inherent in the first octant are partially compensated by the increased indices of octants seven and eight, which indicate the ability to control aggressive

manifestations, be sensitive to environmental influences, listen to the views of others, be inclined to compromise, and be willing to coordinate actions with group expectations. Elevated indicators for the eighth octant allow to conclude that the person is capable of conforming to social norms, has a tendency toward harmony in interpersonal relationships, is able to express emotions, easily masters social roles, and possesses traits of friendliness, willingness to help, and flexibility in interaction. Elevated scores on the second octant indicate the presence of additional mixed-type response characteristics in the profile, which determine a distant communication position, egocentric traits, rivalry, individualism, stubbornness, and emotional detachment. However, they do not possess the traits of a dependent and distrustful-sceptical type of interpersonal relationships, which are characteristic of people who are withdrawn, passive, anxious, overly introverted, modest, prone to excessive self-analysis, with a predominance of avoidance motivation. Thus, the profile showed a combination of sthenic and hypostenic traits, which means the possibility of combining severity in communication with patterns of softer behaviour with an emotionally friendly attitude. The study of the communicative potential of cadets using the IIQ methodology allowed to identify several individual variants:

1. The first group – 20% (35 people), conditionally named “dominant-leader”, – represented by cadets with a sthenic type of reaction, spontaneous-impulsive orientation and the dominance of the first and second octants (“code 1-2”, up to 9 points, with the normative values of others being 4-7 points). Representatives of this group are

characterised by leadership traits in interpersonal interaction, organisational skills, optimism and activity, sociability, moderate aggressiveness and selfishness, positive self-esteem, determination, courage, stress resistance, independence, assertiveness in interaction, and the ability to make quick decisions in complex communication situations. The level of psychological readiness for combat duty among such cadets is usually high.

2. The second group – 20% (35 people) with the conditional name “responsible-leader” is characterised by a mixed type of response, with a predominance of the first and eighth octants “code 1-8” in the profile. These cadets are distinguished in interpersonal relationships by their desire to lead, they are persistent, diligent, rational, have a clear tendency towards consistency and purposefulness in their actions, like to advise and help, are active, open, sociable, strive to be part of a team, are easy to get along with, demonstrative, have a slightly inflated self-esteem, empathy, compassion and understanding of others. Experts assess their level of psychological readiness for combat duty as high.

3. The third group – 20% (35 people), provisionally named “aggressive-rigid”, consists of individuals with a mixed response type and a predominance of the third and fourth octants “code 3-4” (8-9 points). These are cadets who, in the process of interpersonal communication, prefer risk, act actively, boldly and decisively, and are usually irritable and aggressive. They are often self-confident, independent, pedantic, practical, neat, principled, striving for dominance, persistent, suspicious, selfish, and actively defend their views. They are characterised by independence, persistence, distrust of their surroundings, and a desire to defend their own interests. Social passivity combined with conflict in relationships. Adaptation may be difficult due to aggressive self-assertion, suspicion, distrust, and excessive pedantry. They tend to oppose their own interests to their social environment; they are sometimes too individualistic, rational, and independent. They are characterised by a combination of excitation and inhibition processes. Experts assess their level of psychological readiness for combat duty as average.

4. The fourth group – 15% (28 people), conditionally named “balanced”, includes cadets with a mixed type of reaction, they are characterised by a balance of octants, all of which are within the normal range – 4-7 points.

Individual personality traits: harmonious personality, all tendencies are evenly expressed. Mixed (medium-strong) type of higher nervous activity, normative lability of nervous processes, well-balanced excitatory and inhibitory properties; equally developed left- and right-brain thinking characteristics, rational and heuristic components. Characterological traits – emotional stability, balance and restraint, friendliness, stress resistance, sociability, willingness to help others, optimism, work capacity, adequate self-esteem, persistence and flexibility in achieving goals, normative behaviour. Prognosis for professional success – level 1 (high).

5. The fifth group consists of 15% (27 people) with the conditional name “rigid introverts”, who are characterised by increased indices of the fourth, fifth and sixth octants “code 6-5-4”. They have a mixed type of response and are distinguished by multidirectional tendencies of interpersonal interaction: they are sensitive introverts, sensitive to environmental changes, prone to monotonous and routine work, and at the same time rigid – persistent, diligent, stubborn in situations of conflict communication. They are characterised by individualism, a certain pessimism, inertia, subjectivity, suspiciousness, depressive moods, closedness, and inertia in decision-making. Experts assess the level of psychological readiness of such cadets for combat duty as average.

6. The sixth group consists of 10% (18 people), conditionally named “dependent-conventional,” who are characterised in their psychological profile by elevated fifth and seventh octants, “code 5-7.” Such cadets have a mixed type of response, in interpersonal interaction they show somewhat reduced self-esteem, pessimism, lack of self-confidence, increased anxiety, and feelings of dissatisfaction. They have difficulty communicating and prefer to interact with people they know well. Such individuals are also characterised by excessive compliance, dependence on the group, obedience, caution in decision-making, responsibility for the task at hand, modesty, vulnerability, a tendency towards solitude and independence, dependence on the group, a tendency to compromise, sensitivity to environmental influences, somewhat low self-esteem, and self-criticism. The level of psychological readiness of such cadets for combat duty is assessed as average. Thus, the majority of cadets (80%) have a mixed type of response, while one-fifth (20%) have a sthenic type. The study of interpersonal characteristics using the BFQ confirmed the data presented in Table 2.

Table 2. Results of the assessment of cadets using the BFQ

Indicators	BFQ scales				
	1	2	3	4	5
Mean	39.00	37.50	39.9	19.22	33.0
Median	38	37	39	18	32
Mode	39	36	40	193	32
Standard deviation	5.50	5.23	7.08	7.0	5.45

Note: 1 – extroversion; 2 – agreeableness; 3 – conscientiousness; 4 – neuroticism; 5 – openness to new experiences

Source: developed by the authors

The data in Table 2 showed a tendency to respond in communication in a mixed type. It was found that respondents

have the following characteristics of interpersonal interaction: a tendency towards conscientiousness (39.9 points),

extroversion (37.50 points), moderate agreeableness (35.91 points) and openness to experience (33 points), and low levels of neuroticism (19.12 points). Thus, in general, cadets are characterised by controlled behaviour and activity, self-control, perseverance, diligence, accuracy in work, thoroughness, responsibility, organisation, and discipline. They are impartial, interested in their work, receptive to new knowledge, have broad interests, developed imagination, flexible minds, independence and non-standard thinking, orientation in the search for new approaches to solving problems, a tendency to self-analysis, and originality in perceiving events. They are also

externally oriented, sociable, communicative, strive for leadership, are energetic, active, impulsive, and optimistic. Cadets are also moderately compliant, sensitive, friendly, trusting, conformist, inclined to subordinate their own needs to those of the group, and focused on cooperation. Rationalism, stress resistance, restraint, and a tendency to react calmly and treat their surroundings with respect are also evident. In order to optimise the processing of test results, non-linear standardisation of indicators was carried out and a corresponding scheme for converting raw BFQ factor scores into the stens scale was developed (Table 3).

Table 3. Conversion of raw BFQ factor scores into the stens scale

Scales	Stens									
	1	2	3	4	5	6	7	8	9	10
Extraversion	5-8	0-13	14-17	18-21	22-25	26-29	30-33	34-36	37-38	39-40
Neuroticism	5-8	10-13	14-17	18-21	22-25	26-29	30-32	33-35	36-38	39-40
Agreeableness	5-9	10-13	14-17	18-21	22-26	27-31	32-35	36-39	40-42	43-45
Conscientiousness	5-9	10-13	14-17	18-21	22-26	27-31	32-35	36-39	40-42	43-45
Openness	5-10	11-15	16-20	21-25	26-31	32-35	36-39	40-43	44-47	48-50

Source: developed by the authors

When interpreting the results on the scales of extraversion, neuroticism, agreeableness, and conscientiousness, it is advisable to take into account the following ranges of indicators: the normative level (4-6 points), which reflects the harmonious development of personal characteristics; moderate expression (7-8 points), which indicates the accentuation of the corresponding traits; excessive expression (9 and more points), associated with increased emotional tension and possible difficulties in adaptation; values below 4 points are interpreted as manifestations of hypoemotionality or insufficiently developed self-reflective processes. Based on the results of the study, individual communication profiles of cadets were determined according to BFQ. The group tentatively named "Stenic" – 20% (35 people) is characterised by a stenic type of response. Representatives of this group are characterised by predominantly normative indicators of personal characteristics; at the same time, on the sthenic type scales (extraversion and openness to experience), an increase in indicators to 9 sthenic is recorded. The indices of the hypostenic scales (neuroticism and compliance) in some cases may decrease to 3 stens, while the indicators of conscientiousness remain within the normative range. The communicative potential of such cadets is determined by the high lability of the nervous system, the predominance of excitation over inhibition, and the dominance of right-brain cognitive processes. They are active, sociable, have high self-esteem, are decisive, courageous, stress-resistant, spontaneous, strive for self-realisation, are independent, and dominate in interpersonal interactions. Experts assess the level of psychological readiness for service and combat activities of such cadets as high. The group with the conditional name "Active-communicative" – 20% of those surveyed (35 people) – have signs of a sthenic type of reaction. The indices of the sthenic

group's extraversion and openness scales are increased to 8 sthenic units, while the indices of the hypostenic scales of neuroticism and compliance, as well as the mixed type – conscientiousness – are normal (4-6 sthenic units). The communicative potential of such individuals is determined by the balance of polar tendencies, average or increased lability of nervous processes, good balance of excitation and inhibition, and the development of rational and heuristic cognitive components. They are characterised by emotional stability, composure, endurance in difficult situations, stress resistance, openness, optimism, adequate self-esteem, persistence and flexibility in achieving goals, normative behaviour, breadth of interests, and openness to new approaches to solving problems. The level of psychological readiness for service and combat activities of such cadets is assessed as high. The group with the conditional name "Demonstrative-communicative" – 20% (34 people) – has a mixed type of response. Extraversion indices may be overestimated at 9 points, while openness, neuroticism, and agreeableness are within the norm at 4-6 points, with low conscientiousness scores of 2-3 points. The communicative potential of cadets is characterised by a predominance of excitation over inhibition, a right-brain cognitive style of thinking, activity, openness, sociability, a desire to be in a group, talkativeness, leadership, friendliness, optimism, ease of establishing contacts, need for stimulation, inability to perform monotonous activities, mood swings, emotional instability, demonstrativeness, dependence on the environment, overestimated self-esteem, need for others to direct their actions. They are also prone to demonstrativeness, a tendency to dramatise events, and reduced self-control. Experts assess the level of psychological readiness for combat duty of such cadets as high. The group called "Independent-rigid" – 13% (23 people) is characterised by a mixed

type of response. The indices for extroversion and openness are slightly overestimated at 9 points, while the indicators may decrease to 2 points for the normative values of other scales – 4-6 points. The communicative potential of cadets is determined by the strength and moderate lability of the nervous system, characterised by openness, independence, pedantry, practicality, accuracy, principledness, striving for dominance, persistence, suspicion, selfishness, active defence of their views, stress resistance, and tolerance of false statements. They can be inattentive, selfish, and stubborn. Experts assess the level of psychological readiness for combat duty of such cadets as average. The group tentatively named “Compromise” consists of 13% of participants (23 people) who have a mixed type of response. The indices on the hyposthenic scales “compliance” and “neuroticism” are slightly increased to 8 and 7 points, respectively (with the normative values of others). The communicative potential of cadets is determined by a moderately weak nervous system, high lability of the nervous system, the predominance of inhibitory processes in it, the ability to work together, to compromise in case of conflicts, empathy, willingness to help, excitement and a tendency to worry, caution, responsibility for the work performed, modesty, vulnerability, compliance, sensitivity, somewhat low self-esteem, self-criticism, susceptibility, fussiness, inability to concentrate, indiscriminate contacts, and the need for support and guidance. They may be disorganised, timid and unsure of themselves. Experts assess the level of psychological readiness for combat duty of such cadets as average. The group called “Responsible” – 10% (18 people) have a hyposthenic type of response. The indices on the “neuroticism” and “compliance” scales show slight increases to 7 and 8 points, respectively, while the extraversion scale is reduced to 2-3 points (according to the normative

values of the “openness to experience” and “conscientiousness” scales). The communicative potential of cadets is determined by the average lability of nervous processes, the predominance of inhibition in the nervous system, and a verbal style of thinking. They are responsible, introverted, cautious, modest, vulnerable, dependent on the group, sensitive to influences, have low self-esteem, are self-critical, and are capable of monotony. Experts assess the level of psychological readiness for combat duty of such cadets as average. The group with the conditional name “Conflict” – 4% (9 people) have a mixed type of response. Indicators for the factors “neuroticism”, “compliance” and “conscientiousness” are reduced to 2-3 points (compared to the normative values of others). The communicative potential of cadets is determined by average strength and low lability of nervous processes, cognitive left-brain thinking style. They are unyielding, independent, distrustful, strive to defend their interests, are not very diligent, socially passive, and conflictual. Experts assess the level of psychological readiness for combat duty of such cadets as average.

One cadet demonstrated profiles atypical for military personnel – individualistic type (extraversion indices increased to 9 points; compliance and neuroticism indices decreased to 2 points); and neurotic-anxious (neuroticism indicators increased to 7 points; extraversion and openness to experience decreased to 2-3 points). Due to their small number, such profiles were not taken into account in the article. Thus, the study showed that cadets have seven types of communication profiles, with 40% of individuals having sthenic response types, 50% having mixed types, and 10% having hyposthenic types. To determine the nature of the relationships between types of interpersonal interaction and BFQ factors, a correlation analysis of the indices of the corresponding scales was performed (Table 4).

Table 4. Correlation relationships between IIQ scale indices and BFQ factors

IIQ scales	BFQ factors				
	1 – extroversion	2 – agreeableness	3 – conscientiousness	4 – neuroticism	5 – openness
1 – authoritative-leader	0.68*	-0.27	-0.22	-0.46*	0.30
2 – independent-dominant	0.49*	-0.35	-0.25	-0.56*	0.12
3 – straightforward-aggressive	0.51*	-0.40*	0.15	-0.61*	-0.22
4 – distrustful-sceptical	-0.34*	-0.38*	0.30	-0.18	0.15
5 – submissive-dependent	-0.66*	0.38*	0.35	0.38	-0.18
6 – dependent-obedient	-0.40*	0.40*	0.42*	0.43*	0.24
7 – cooperative-conventional	-0.45*	0.42*	0.38*	0.60*	0.35
8 – responsible-generous	0.35	0.23	0.28	0.30	0.39*

Source: developed by the authors

The results showed statistically significant correlations between interpersonal interaction indicators and personality factors assessed using the BFQ. Significant positive correlation coefficients were found between the indices of the “extraversion” scale and the authoritative-leader (0.68), straightforward-aggressive (0.51), and independent-dominant (0.49) types of interpersonal relationships; the “neuroticism” index and the cooperative-conventional (0.60) and dependent-obedient (0.43) types; the indices of “conscientiousness”

and dependent-obedient (0.42) and cooperative-conventional types (0.38) of interaction; the indicators of “openness” and responsible-generous (0.39) and cooperative-conventional types of interaction (0.35). Significant negative coefficients were found between the “extraversion” scale and submissive-dependent (-0.66) and dependent-obedient (-0.40) types of relationships; the “neuroticism” scale and authoritative-leadership, independent-dominant, and straightforward-aggressive types (0.46, 0.58, and 0.61, respectively).

The data obtained correlate with the results of B.A. Basińska & A.M. Dąderman (2019), who emphasised that complex and extreme types of activity require numerous abilities and individual psychological characteristics (psychodynamic, intellectual, cognitive, organisational, creative, etc.) from personnel, including communication skills. The conclusions of C. Civilotti *et al.* (2022) also confirm the important role of communication skills in professional activities, particularly in law enforcement agencies. The authors emphasised the need to implement preventive and therapeutic measures, as well as specialised psychological support programmes in the workplace to reduce the risk of professional burnout, depression and suicidal tendencies. O. Fedorenko *et al.* (2020) emphasised that the work of law enforcement officers is fraught with stressful situations, which require employees to have developed emotional and volitional qualities, stress resistance and coping strategies. In turn, K. Kohlstrom (2022) noted that the special conditions of law enforcement activities require the ability to communicate in conflict situations with various participants in interpersonal interaction, which can lead to internal tension, feelings of discomfort and psychological insecurity, and the development of signs of professional deformation – conflict, irritability, suspicion, indifference to the environment and to the service as a whole. Thus, an important task for psychologists is to conduct timely psychodiagnostic and psychocorrective work with law enforcement personnel, since the negative consequences of professional deformation of the personality can subsequently lead to disturbances in communication patterns and the emergence of unconstructive behaviour patterns.

Data from S. Ernst *et al.* (2021) confirmed the conclusions of the study that, in modern conditions, numerous socio-psychological, organisational, and technological factors necessitate the development of optimal psychodiagnostic tools for working with personnel. The feasibility of developing a psychodiagnostic complex for working with law enforcement and security personnel was also substantiated by D. de Cuffa *et al.* (2018) and P. Galanis *et al.* (2021). According to N. Galbraith *et al.* (2021) and R.G. Lockie *et al.* (2022), an effective psychodiagnostic complex will allow psychologists to successfully diagnose typological and individual personality characteristics of personnel, help overcome personal problems, optimise interpersonal interaction with colleagues, etc. The results of the analysis of the personal characteristics of security and defence sector employees by I. Correia *et al.* (2023) confirmed that in complex working conditions, they must possess a wide range of knowledge and skills that determine the effectiveness of their work. Modern law enforcement officers must be aware of the requirements that the profession places on specialists, possess a number of essential professional qualities, and strive for self-development, creating a basis for leadership in the unit through the development of personal and professional potential, communication skills, responsibility, self-control, empathy, tolerance, in relations with colleagues and the environment (Deschenes *et al.*, 2022).

Researchers D.J. MacDonald *et al.* (2020) and M. Mojallal *et al.* (2022) recorded high levels of work capacity, stress resistance, sociability, activity, high achievement motivation, and flexibility of thinking and creativity among respondents. The selection of optimal diagnostic tools for personnel research should be based on the identification of individual personality traits that manifest themselves in genetically determined constitutional and social aspects of professional activity (Tsumarieva *et al.*, 2023). Early psychological diagnosis of negative trends in the behaviour of personnel in the security and defence sector will make it possible to improve the effectiveness of psychological support for professional activities and optimise psychological prevention and correction measures in departments. Based on the analysis of the above approaches to the research problem, it can be concluded that the author's statements regarding the advisability of a comprehensive study of the communicative abilities and other individual psychological characteristics of law enforcement personnel, carried out using a systematic approach and taking into account the convergence of biogenetic and sociocultural aspects of individuality.

◆ Conclusions

Thus, the author's approach to diagnosing cadets' communicative potential proved highly effective, and the comprehensive application of IIQ and BFQ methods significantly increases the reliability of psychological assessment of an individual's readiness for combat duty. The results confirmed a high degree of correspondence between the types of interpersonal interaction of cadets according to IIQ and their personal characteristics according to BFQ. Most respondents assigned to the corresponding group according to IIQ demonstrate similar communicative characteristics according to BFQ, which indicates stability and consistency between these psychological instruments. The majority of respondents showed identical or very similar characteristics of communicative potential in both questionnaires used. Only 9 people (4% of respondents) showed diametrically opposite communication characteristics, which can be explained either by unwillingness to respond honestly to the test tasks, or by inattention or lack of motivation for psychodiagnostic examination. It was also found that communication traits that are professionally important for military personnel (sthenic types of interpersonal interaction, extroversion, conscientiousness, openness to experience, emotional stability), as evidenced by correlation analysis data, occur together, accompanying each other. Negative communicative characteristics, such as neuroticism and compliance, also correlate with each other and are found simultaneously with other indicators of a hyposthenic type of response.

The study showed that for cadets – future military personnel and commanders – the optimal communicative-psychological profile is one with signs of a sthenic type of interpersonal interaction, manifested by increased indices of the first and second octants according to the IIQ, as well as normative or moderately increased indicators of

extraversion and openness to experience according to the BFQ. The profile is considered favourable if there are additional mixed characteristics, in particular elevated values of the seventh and eighth octants or the conscientiousness scale of the BFQ. In general, analysis of the results of the two questionnaires showed a predominance of mixed (60%), sthenic (30%) and hypostenic (10%) response types among cadets. The comprehensive use of IIQ and BFQ allows military psychologists to integrate and compare the results of psychodiagnostic examinations, more accurately determine the degree of manifestation of individual personality factors that affect the communicative potential of cadets, and assess their level of psychological readiness for combat duty. The results obtained can contribute to the optimal deployment of personnel, as well as inform psychologists and commanders about the directions of

psychocorrectional work with military personnel in order to prevent professional deformation during the performance of combat duties. Prospects for further research lie in continuing scientific study of ways to diagnose and develop professionally important individual and personal characteristics of NANGU military personnel in order to increase the effectiveness of their combat operations.

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◆ Conflict of Interest

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Психологічний комунікативний потенціал курсантів – майбутніх командирів військових підрозділів Національної гвардії України

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◆ **Анотація.** У процесі службово-бойової діяльності командири, взаємодіючи з особовим складом, забезпечують ефективність виконання завдань, тому знання їх комунікативних характеристик є важливим для правильного проведення професійно-психологічного відбору кандидатів на керівні посади. Метою дослідження був аналіз ключових психологічних характеристик комунікативного потенціалу курсантів Національної академії Національної гвардії України. Дослідження засновувалось на застосуванні надійного і валідного психодіагностичного інструментарію: Опитувальника інтерперсональної взаємодії, а також опитувальника «Велика П'ятірка». Дослідження виявило основні типи комунікативних профілів курсантів, серед яких переважає змішаний тип реагування, а також стеничний та гіпостеничний типи. Дослідження дозволило встановити основні варіанти типових комунікативних профілів курсантів, їм переважно властивий змішаний тип реагування (60 %), в меншій мірі стеничний (30 %) і найменше – гіпостеничний (10 %). Запропонований підхід до психологічної діагностики показав свою ефективність, оскільки більшість респондентів мали схожі характеристики комунікативного потенціалу за обома методиками. Лише у 4 % респондентів виявилися діаметрально протилежні особливості, що підтверджує високу надійність комплексного застосування методик для психологічного діагнозу. Дослідження також показало, що професійно важливі комунікативні якості для військовослужбовців, зокрема стеничні типи міжособистісної взаємодії, виявлені за допомогою обох опитувальників, корелюють між собою. Негативні комунікативні характеристики, які також корелювали між собою, часто виявлялися одночасно з іншими показниками гіпостеничного типу реагування. Останні визначені небажаними для службово-бойової діяльності військових. Комплексне використання розглянутого психодіагностичного інструментарію уможливило надійне визначення характеристик комунікативного потенціалу курсантів і військовослужбовців Національної гвардії, що має велике значення для оптимальної організації процесів інтерперсональної взаємодії в колективах військових підрозділів

◆ **Ключові слова:** психологічна діагностика; індивідуальні особливості; правоохоронці; тип міжособистісної взаємодії; службово-бойова діяльність



Spatial-mnemonic model of deviant behaviour: Interrelation between space topology, selective memory, and forms of deviant behaviour

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◆ **Abstract.** In modern psychological science, the issue of deviant behaviour remains relevant due to the limited models that explain its persistence solely through cognitive errors or social factors, and insufficient attention to the role of the internal organisation of subjective space and memory. The study aimed to develop and empirically test a trichotomous spatial-mnemonic model of deviant behaviour, in which memory is considered as a way of organising the personal space of an individual. The research methodology was based on the integration of phenomenological and cognitive approaches using experimental psychological methods and correlation analysis. As a result of the study, a spatial-mnemonic model was proposed in which the selectivity of memory acts as a key mechanism for the formation of the topological characteristics of subjective space, in particular its structure, extent, continuity, three-dimensionality, and infinity. In contrast to traditional cognitive psychology, which focuses on the functional aspects of memory (encoding, storage, retrieval, and cognitive schemas), the proposed model treats memory as a fundamental mechanism for organising a person's living space. The study demonstrated that persistent patterns of deviant behaviour can be interpreted as a consequence of a specific configuration of space and memory, rather than as random or situational regulatory disturbances. Empirical validation of the model was performed on a sample of 50 subjects aged 20-50 using the Stroop Colour-Word Test. Analysis of automated reading, colour naming, interference conditions and interference index indicators revealed significant correlations between cognitive rigidity, spatial perception disorders and manifestations of deviant behaviour. The results confirmed that the characteristics of the spatial organisation of experience determine typical behavioural scenarios, in particular pedantry, impulsivity, emotional overload and narrowing of the cognitive field. The practical value of the study is determined by the possible use of the spatial-mnemonic model for psychological diagnosis, prevention, and correction of persistent forms of deviant behaviour

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

◆ Introduction

The research relevance of the relationship between spatial topology, memory selectivity, and forms of deviant behaviour is determined by the possibility of creating an effective model that can be used for the analysis of the

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variability of deviant forms of behaviour through the prism of spatial perception. Defining memory selectivity in the context of spatial characteristics further demonstrates these processes, which are necessary for the diagnosis of perception disorders and predicting changes in personality behaviour. This approach creates opportunities for therapeutic intervention, in particular, the correction of spatial perception to restore normal mental functioning. Memory is one of the most complex mental functions, the main characteristics of which are the mind's ability to memorise, store and reproduce information. However, these features cannot be explained mechanistically alone, as they involve much broader and multifaceted processes that depend on various factors and influences. A person can reproduce from memory an experience that they did not actually have; memory stores past events in an updated form, incorporating corrections made by life experience. A unique effect is the absence of a difference for the brain between the immediate experience of an event and the memory of the same event. Of course, memory as a mental phenomenon is associated with a person's spatial experience. A. Villegas & S.A. Siegelbaum (2025) examine the relationship between selective social memory and aggressive behaviour from the perspective of neuropsychology: memories of social contexts influence the level of aggression, i.e. selective memory itself changes behavioural strategy. The analysis of spatial memory is absent, but the role of the hippocampus in incorporating the contextuality of memory into behavioural decisions is confirmed. The dissertation research by T.S. Satmarean (2022) demonstrated empirical studies on the relationship between memory, attention and aggressive behaviour. The study proposed a version of the model of "social-informational processing with an emphasis on memory selectivity". D. Koevoet & A. Postma (2023) considered memory from the perspectives of systematicity and selectivity. The study raises the question of whether memory can retrospectively increase the memory of initially irrelevant information and to what extent. The authors reviewed the existing positive answer to this question. The authors question and consider doubtful the idea that retroactive memory enhancement can be selective for semantically meaningful material. A. Musa *et al.* (2022) were able to experimentally demonstrate that a tendency toward chaotic thinking selectively impairs the ability to create mental maps through reliance on vision. Instead of a unified spatial structure, people experience fragmented loci, which hinders orientation and decision-making; in other words, memory selectivity disorders directly lead to the disintegration of space. G. Northoff (2023) introduced the concept of "mental topography". The study concluded that symptoms are not errors, but rather disruptions in spatial-temporal structuring; that is, if the brain is unable to integrate stimuli into a continuous space-time continuum, the result is a disconnect from reality. The study provided a theoretical justification for a topological approach to the psyche. J.-Y. Son *et al.* (2021) demonstrated that humans encode social information not as a list, but as a spatial map.

If a person is unable to construct such a map, it becomes difficult to predict the behaviour of other people among their acquaintances. The latter causes deviant behaviour. In their subsequent work, J.-Y. Son *et al.* (2023) showed that the brain abstracts the structure of relationships, i.e., a person remembers not just a familiar person, but a certain scheme, a pattern of connections; memory selects the structure of connections and eliminates details and features. If this mechanism fails, a person sees only a set of chaotic loci, rather than the structure of society. From the perspective of phenomenology, J. Neisser *et al.* (2023) examined how a person experiences the past. As a result, the authors proposed a "model of the space of phenomenal states of memory". The study emphasised that the experience of memories is essentially not only access to information, but also a qualitative experience that can be described structurally. Despite the significant amount of literature on this topic, the question of how memory selectivity is related to the peculiarities of spatial perception and, further, to forms of deviant behaviour remains open. In this context, the use of a trichotomous spatial-mnemonic model of deviant behaviour is relevant and could form the basis for further research. The spatial-mnemonic model of deviant behaviour, with its diagnostic value, prognostic potential and possibility of implementation in the psychotherapeutic process, is particularly relevant in times of war and social upheaval, when psychology is seeking effective ways to help military and civilian personnel adapt in combat zones. The study aimed to develop a separate trichotomous, spatial-mnemonic model of deviant behaviour that integrates various scientific approaches and developments within the field of study. The research hypothesis was that there is a correlation between memory selectivity, topological characteristics of space and forms of human deviant behaviour. To achieve the aim of the study, the following tasks were formulated and solved. First, to present a theoretical and analytical representation of the relationship between space, memory selectivity and forms of deviant behaviour. Second, to conduct an experimental study of the problem.

◆ Materials and Methods

The study was conducted in 2025 in stages, combining theoretical, phenomenological and empirical levels of analysis. At the initial stage, memory was defined as a key mental function and was considered a multi-level process, the main properties of which are the ability to memorise, store and reproduce information. A phenomenological analysis of the selectivity of memory in the norm was carried out using the example of the 4th-century sarcophagus of Adelfia. The analysis was aimed at identifying ways of organising memory and semantic selection in a holistic, symbolically ordered space. In the second stage, a topological approach to the analysis of space was applied, which involves moving away from the phenomenological understanding of space as a field and using a system of characteristics (continuity, extension, structure, three-dimensionality, infinity) for in-depth interpretation

of human spatial existence in relation to forms of deviant behaviour. A theoretical review of concepts of space in the humanities and phenomenological knowledge was conducted, followed by the operationalisation of five key characteristics: continuity, extensiveness, structure, three-dimensionality and infinity. In the third stage of the study, the relationship between the topology of space, the selectivity of memory, and manifestations of deviant behaviour was phenomenologically substantiated using the text by V. Frankl (2023). The analysis was aimed at reconstructing the spatial-mnemonic transformations of personal experience in conditions of existential crisis and the destruction of the familiar world. The fourth stage involved the selection of psychodiagnostic methods for the empirical study of memory selectivity. The Stroop Colour-Word Test was chosen as the main tool, as it can be used for the quantitative recording of the characteristics of attention selectivity, cognitive control and the processing of conflicting information. At this stage, the transitions from test indicators (W, C, CW, and interference index I) to the characteristics of the topology of internal space and further forms of deviant behaviour were theoretically substantiated.

The fifth stage involved preparing and conducting empirical research, which was carried out online using a digital platform for individual testing. The sample consisted of 50 people aged 20 to 50 living in the same city. The only criteria for inclusion in the sample were age range and residence within the same urban social space. No exclusion criteria were specifically introduced, as the study was not intended for clinical diagnosis but was aimed at identifying general patterns of connection between memory selectivity and the spatial organisation of experience. The choice of the 20-50 age group was justified by the fact that this period is characterised by relative cognitive stability. From the point of view of deviant behaviour, this is not a stage of initial formation, but of practical realisation of deviant forms in the social and psychological space. The fact that the participants lived in the same city was regarded as a way to minimise the influence of diverse sociocultural contexts and as a condition for relative homogeneity of the external space. All participants took the Stroop Colour-Word Test remotely, in a familiar environment. Before the start of the test, participants were provided with standardised written instructions, identical in content and wording. The instructions contained an explanation of the purpose of the task, the procedure for its completion, and the requirements for answers. At the sixth stage, the empirical data obtained were analysed. The W, C, CW indicators and the interference index I were calculated for each participant. Further analysis was qualitative and interpretative in nature and was aimed at correlating cognitive indicators with the characteristics of the topology of internal space and possible forms of deviant behaviour. Descriptive statistics methods using Excel software were used to process the data. The study was conducted in accordance with the ethical requirements established by the World Medical Association's

Declaration of Helsinki (WMA, 2024). Before the start of testing, all participants provided informed consent in electronic form, were informed about the voluntary nature of participation, and about the possibility of withdrawing from participation at any time without negative consequences. The data obtained was used exclusively in aggregate form, in compliance with the principle of confidentiality.

◆ Results and Discussion

The system of five characteristics of space (continuity, extension, structure, three-dimensionality, infinity) has a scientific and historical basis. H. Reichenbach (1958) proposed an analysis of the topology of space in his study of the philosophy of space and time. The author identified, albeit not systematically, a range of already known characteristics of space – continuity, extension, structure, three-dimensionality and infinity. The characteristics of continuity and three-dimensionality were established as early as the 4th century BC by Aristotle (1999). Extent, as a characteristic of space, was substantiated by R. Descartes (1996), and the structure of space was derived in the works of mathematician B. Riemann (1868). N. Reichenbach did not list the characteristics of space, but thanks to the approach to the analysis of these characteristics, they are presented in the literature in a form that has become traditional for their study. K. Lewin (1939) considered behaviour as a function of “living space”. The study already used topological concepts: the connectivity of areas, boundaries, and paths, but in this case, the experience of using the topology of space, as shown, is different. A phenomenological analysis of the selectivity of memory in the norm was conducted using the example of the Adelfia sarcophagus, a monument of early Christian art dating from the second quarter of the 4th century. It was discovered in Syracuse, Sicily, in the 19th century, in the catacombs of St. John. The marble bas-relief of the sarcophagus has a complex spatial structure, which is shown in Figure 1.



Figure 1. Sarcophagus of Adelfia, 4th century

Source: N.P. Kondakov (2011)

The structure of the space is organised based on a timeline reflecting events from the Old and New Testaments, with a shell-shaped bas-relief in the centre depicting Adelfia and husband, Count Valerius. In the upper left corner of the bas-relief is a spatial locus describing paradise. In the 4th century, it was customary to rely not on abstract fantasy but on a very specific experience of encountering the reality

being described when depicting spiritual events through visual means. In the case of Adelpia's sarcophagus, a mariocentric structure of paradise has been identified, but this does not mean that paradise is monocentric: it may be polycentric, since the figure of Christ is not visible in it. Multicentricity is a paradoxical characteristic of the mental perception of space and is typical of late antiquity and the Middle Ages. The space of paradise is represented in such a way that the centre is a source of power that causes the subjects to move and attracts them to itself. This same force of gravity ensures the subjects' tranquillity after reaching the centre. The subject moves not to continue the journey, but to achieve a state of completeness. This definition of space is closely related to eschatological thinking and the experience of spiritual ascent. Thus, in this example, selectivity of memory is observed in the description of paradise – the most relevant spatial elements, the most significant for spiritual experience, are reproduced. Memory does not reproduce “everything”, but highlights structurally significant elements. This is not a defect or an abbreviation, but a way of orienting meaning. The image of paradise does not strive for descriptive completeness, because spiritual experience is not experienced as a sum of details, but as a whole of tensions, centres, directions and tranquillity. Selectivity of memory in this context is spatial in nature. It is not the sequence of events that is remembered, but significant places. Paradise is represented through those elements that determine the orientation of the subject: where the source of gravity is, where the force comes from, and where it is possible to stay. Everything secondary is omitted because it does not participate in the formation of the internal map of the world. Thus, the sarcophagus of Adelpia can be seen as the material embodiment of a spatial-mnemonic model: memory organises space, space directs movement, and movement ends in tranquillity. At the same time, memory is not archival, but active; it does not preserve the past, but actualises the experience of encountering transcendent reality. In this sense, the sarcophagus of Adelfia is not just a monument of art, but a kind of “icon of memory”, where selectivity does not distort reality, but makes it accessible for experience and recognition.

The connection between the topology of space in five characteristics and memory selectivity and deviant behaviour is analysed using the example of a text by V. Frankl (2023). Memory selectivity normally demonstrates space as a smooth, continuous experience and is regulated by conscious volitional activity. Selectivity of memory emphasises the selection of events that already exist in experience. When memory selectivity is impaired, the perception of the continuity of space is also disrupted; past events will be remembered fragmentarily, episodically, and space will therefore be perceived as fragmented, intermittent, consisting of a limited number of lost loci. The book by Austrian psychiatrist and psychologist V. Frankl (2023) describes the psychological state of people who were imprisoned in a Nazi concentration camp during World War II. V. Frankl noted that the book “is

about an ordinary, unknown camp inmate” and psychological reactions and experiences. The author attempts to overcome methodological difficulties related to subjective experience and therefore distances itself from describing an exclusively personal state. This approach to text analysis describes the relationship between memory characteristics and the peculiarities of spatial perception. In the first chapter, V. Frankl described the “shock of arrival”, which determines the state of selectivity of the prisoner's memory. Memory highlights stressful events and rejects all others. Stress regulates the functioning of selective memory. Since events are tied to space, and memory records stressful events, space is not a continuous space of experience, but a fragmented one, divided into loci by stress. The author transitions from describing one stressful locus of space to another. When the train arrived at the camp, the first stress factor was seeing the inscription “Auschwitz”, V. Frankl noted that this moment makes everyone feel as if their heart is stopping, because the concept of “Auschwitz” is inextricably linked with associations of gas chambers, crematoria, and mass murders. And then the memory highlights everything that causes stress: the gloomy “outlines of the camp”, “wire fences, watchtowers, searchlights”, “human figures in rags”, “authoritative whistles”, “hoarse cries”. V. Frankl also described the shock of the very first selection, when the “finger game” of a pampered officer sent some to the gas chambers and spared the lives of others for camp labour. While searching for a friend, the newcomer learns from one of the prisoners that the friend is now “there”, where the crematorium chimney emits black clouds of smoke, after which the author recalls stress at the impossibility of preserving the manuscript of the scientific work. A stressful factor was the full shaving before disinfection and parting with all personal belongings, including shoes. In this context, the prisoner's memory perceives the space of experience as fragmented and disjointed, with loci filled with stressful events, which determines its selectivity.

The fragmentation of spatial perception in human behaviour causes “fragmented behaviour”, i.e., impulsiveness and poor self-control; it is difficult for a person to behave in accordance with the logic of events. V. Frankl noted that under conditions of constant threat of death, prisoners engaged in an intense struggle for survival, which led to strong emotional tensions, which in turn caused physical conflicts. This reflex of aggression, as a way of releasing tension, became entrenched in the camp environment through constant exposure to violence. This phenomenon demonstrates how selective memory in such extreme conditions reflects the most emotionally charged moments, which determine the perception of space as fragmented and saturated with stressful events. Since the extent of space implies its measurability, the selectivity of memory in the context of the extent of space should be understood as a sense of breadth that connects the past, present and future. If the selectivity of memory is disrupted, a person's memory will be reduced to the reminiscence of a small segment of life experience, and the extent of space will be limited

to a relatively small locus of life. According to V. Frankl, experiencing an extreme situation is accompanied by a radical narrowing of the life world, when all mental activity is subordinated to a single existential goal – survival. This is what is remembered, while everything else is rejected by memory. In such a situation, a person feels more dead than alive, turning into an abstract point. Selectivity in the context of spatial extension caused “all spiritual aspirations and lofty interests to die out” in human memory, leaving room only for practical utility. In the long run, this caused complete self-depreciation, sinking to the level of herd existence: “We have reached the state of a flock of sheep”. Deviant behaviour is manifested, for example, in a limited perspective. In particular, V. Frankl linked the lack of perspective with the refusal to integrate meaning into the process of suffering. Perspective is manifested not only and not so much in “surviving the camp” as in developing a perspective on suffering. To refuse to search for meaning in suffering is to deprive life of meaning and make it dependent on chance. In this case, “life is essentially worthless”. The absence of a full-fledged duration of experience also leads to a person living with thoughts of the past: “The absence of a future had so deeply penetrated the consciousness that the entire life was perceived only from the perspective of the past, as already past, as the life of a dead person”. Escaping into the past was essentially an escape from harsh reality; the future lost its meaning.

A comparison of memory selectivity with spatial structuring showed that, normally, structuring determines the formation of a hierarchy of meanings and internal order, which enables a person to navigate the world. When memory selectivity is disrupted, the structure of space is destroyed, succumbing to chaos or becoming monothematic. If a person's value system before the camp was multi-layered and complex, it became primitive in the camp. A person's memory gradually erases everything that is not related to the instinct of self-preservation. According to V. Frankl (2023), the soul of a prisoner regresses to the satisfaction of basic needs. The structure becomes monothematic and primitive. Primitiveness affects not only external but also internal life. Existence was reduced to the level of herd existence, manifested in the desire of a person to dissolve into a faceless mass, while within this primitive, single-theme spatial structure, a clear orientation towards the categories of power and violence was preserved, as was the need to survive according to their rules, which determined the organisation of the camp space. Within the framework of deviant behaviour, the phenomenon of spatial structuring was manifested, in particular, in the form of obsessive thoughts, which were reflected in the constant focus on one topic, primarily in endless conversations about food, which served as the dominant semantic centre of their experienced space. The prisoners were obsessed with the idea that they needed to shave carefully, as a shaven person looks younger, and the latter fact, according to the administration, gives an additional chance of survival. In this context, it is not a question of clinically determined

obsessive symptoms, but of everyday obsession as a form of persistent cognitive fixation caused by extreme living conditions. Similar manifestations of everyday obsession include ritualised adherence to cleanliness of the premises before inspections, when the person on duty meticulously searches the floor of the barracks for the slightest accidental dirt and removes it, and the patients' blankets, regardless of their condition, are carefully aligned in a single line as an element of imposed spatial order.

If the length of space provides breadth, then three-dimensionality provides depth of space, the volume. Impaired memory selectivity leads to the loss of individual experiences, especially those related to the sensory sphere. This leads to impaired perception of spatial depth. As a result, the world loses relief, becomes flattened, as if it becomes flat. V. Frankl (2023) emphasised that prisoners experienced a progressive “dulling of normal feelings”. Over time, prisoners gradually lose their emotional sensitivity to traumatic events: numerous encounters with suffering, illness, and death lead to habituation, as a result of which such scenes cease to evoke a distinct affective response, and apathy and alienation from personal body become the dominant mental state. In retrospective recollection of the experience, memory focuses mainly on negative episodes, while positive experiences are few and far between in the overall structure of life experience. The experience of joy is thoroughly forgotten, even when there is a significant reason for it – liberation. The mental state in the first hours of liberation is replaced by relaxation, “but those who think that joy has prevailed among us are mistaken”. In the first hours of release, the surrounding world makes practically no impression and is perceived as flat; interaction between people is reduced to formal questions about emotional state, which usually receive negative answers, indicating a loss of the ability to feel joy. Thus, the loss of selective memory and emotional sensitivity leads to a loss of depth in both external and internal space. Space, such as the world of the senses, becomes devoid of volume, flat, and perception becomes like a projection without corporeality or internal perspective. In behaviour, this leads, for example, to mechanistic, monotonous and stereotypical behaviour. The normal perception of the infinity of space, i.e. its openness, the presence of a horizon that is constantly receding, is the possibility of movement, the possibility of change. Such space demonstrates freedom and perspective. Impaired memory selectivity leads to a person being unable to distinguish what is essential and unable to retain temporal and semantic connections. When this happens, the ability to construct continuity of perception and time is lost. As a result, the world loses its depth and perspective, becoming closed and finite. V. Frankl (2023) provided several examples of how prisoners suffer from despair due to the loss of life perspective. One such sign is that a person smokes a cigarette. Cigarettes were usually hoarded; they were equivalent to money and could be exchanged for food, which prolonged the life of a camp labourer. The act of smoking in camp conditions was interpreted as a behavioural in-

indicator of complete loss of hope and abandonment of life prospects, which usually correlated with a high probability of a fatal outcome. The prolonged state of hopelessness and the constant and intense threat of death caused suicidal thoughts in most prisoners, even if they were short-lived and situational, while suicidal behaviour assumed standardised forms that were culturally entrenched in the camp environment. Thus, in the course of analysing the book by V. Frankl (2023), examples were found that demonstrate the relationship between impaired memory selectivity and spatial characteristics. The available data do not specifically establish the nature of memory selectivity impairment in individual cases, but a certain impairment is assumed; in the absence of an accurate determination of the degree of impairment, it is impossible to reliably assess the impact on the perception of spatial characteristics. At the same time, if it is possible to quantitatively or qualitatively determine the level of memory selectivity impairment, it becomes possible to more accurately determine how the perception of space changes or remains unchanged.

Transition from Stroop Colour-Word Test indicators to topological characteristics of space and forms of deviant behaviour. The W (words) indicator of automated reading reflects the level of orderliness of internal semantic connections and has the same principle as spatial orderliness; when automated reading is disrupted, the internal orderliness of the verbal memory space is disrupted. In this regard, the structure of the external semantic space is also disrupted. If W is above normal (average value within 4.5-6; normal up to 6.5), this will lead to a loss of flexibility in the existing hierarchy, its excessive rigidity. If W is low, the rigidity of the structure is destroyed, and the structure of the space is distorted. When the semantic structure of space is disrupted, fragmentary thinking occurs, and cause-and-effect relationships are lost, leading to verbal aggression, suggestibility and following external attitudes. The C (colour) indicator determines the speed of processing sensory perception without relying on content. This indicator distinguishes between boundaries, layers, shades and transitions. The same principle underlies the formation of three-dimensional space. For this reason, if this indicator is disturbed, the perception of three-dimensional space will also be disturbed. With a high C (average value within 6.5-8.5; normal up to 9), there is a distinction between different sensory signals, and with a low C, the ability to distinguish signals is lost, making it impossible to perceive the depth of space. Violation of three-dimensionality leads to flattening of perception, decreased emotional sensitivity, resulting in apathy, alienation, depersonalisation, and loss of interest in other people. The CW (interference) indicator – conflict between word and colour reflects the ability to maintain a single perspective in the presence of contradictions. The continuity of space is built on the same principle. A violation of the CW indicator (average value within 7.5-9.5; normal up to 10) leads to a violation of the perception of the continuity of space. Space is perceived as fragmented if CW is high. In this case, there

is a fragmentation of perception, which causes aggressive reactions, emotional outbursts, impaired empathy, and alienation. The interference index I shows how strong the disorder between automatic and controlled processing is. The higher the coefficient (average value within 1-2; normal up to 2.5), the more attention is attracted to the conflict and the fewer resources remain to maintain stability of perception. The expanse of space converges at a single point. The loss of spatial expanse leads to impulsiveness and a tendency to take risks. A harmonious balance of all components ensures openness of perception and flexibility of thinking; disturbances lead to confinement within a limited cognitive field. Disruption of the sense of infinite space leads to closure and a feeling of deadlock, to a loss of semantic expansion. In behaviour, this is expressed in autoaggressive tendencies, in escape into dependent forms of behaviour, and in obsessive repetition.

Based on the text by V. Frankl (2023), a phenomenological analysis was conducted of the relationship between memory selectivity and topological characteristics of space, as well as forms of deviant behaviour. The phenomenological interpretation can be supplemented, if possible, by an interpretation based on the analysis of experimental data obtained from the Stroop Colour-Word Test. Thanks to the test, it became possible to experimentally and accurately correlate and analyse the relationships between memory selectivity, topological characteristics of space, and forms of deviant behaviour, which is presented in a study of a group of 50 subjects. At the psychometric level, the distribution of W scores showed that in 34 individuals (68%), the time taken to read words was within or below the norm (4.0-6 s). In 11 individuals (22%), the W indicator was less than 4 s, indicating extremely high automation of verbal processes. Only 5 individuals (10%) showed slow word reading (more than 6 s). Colour naming indicators (C) showed significantly greater variability. In 18 participants (36%), they were within the normal range (6.5-8.5 s). In 14 individuals (28%), the C index was below normal, indicating rapid sensory processing with minimal inhibition of automatic responses. In 18 individuals (36%), a significant excess of normal values was recorded (more than 9 seconds, in isolated cases up to 17 seconds), indicating increased cognitive load or excessive control of the sensory channel. CW interference indicators in 31 participants (62%) were below the normal range (7.5-9.5 s). In 13 people (26%), CW was within the normal range, and only 6 people (12%) had elevated interference. The interference index I in 29 participants (58%) had negative values or was close to zero (from -2 to 0.5), indicating a smoothed or absent Stroop effect. In 14 people (28%), I was within the normal range (1-2). Only 7 people (14%) had an interference index above 2, indicating a pronounced conflict between automated and controlled processes. Thus, quantitative analysis confirmed that 86% of the sample was characterised by low or moderate interference, high selectivity of attention, and the dominance of stable cognitive strategies over flexible ones (Table 1).

Table 1. Distribution of Stroop Colour-Word Test scores in the study group (N = 50)

Indicator	Category	Number of participants	% of sample
W (word reading)	Norm 4-6 s	34	68
	Less than 4 s	11	22
	More than 6 s	5	10
C (colour naming)	Norm 6.5-8.5 s	18	36
	Lower than norm	14	28
	Higher than norm	18	36
CW (interference)	Norm 7.5-9.5 s	13	26
	Lower than norm	31	62
	Higher than norm	6	12
I (interference index)	Norm 1-2	14	28
	0 or negative	29	58
	More than 2	7	14

Source: compiled by the authors

Table 1 shows that most participants demonstrate normal or below-normal W scores, indicating automated verbal processes and rapid word processing. C scores show a wider dispersion: 36% of participants are within the normal range, 28% are below normal, and 36% are above normal, demonstrating variability in sensory control and cognitive load. Most CW scores (62%) are below normal, and the I index is negative or close to zero in 58% of participants, confirming the smoothed Stroop effect and high selectivity of attention. Only a small proportion of participants show increased interference ($CW > 9.5$ s or $I > 2.0$), which correlates with situational cognitive overload. Thus, the data demonstrated a pattern: most participants are characterised by a highly structured cognitive space and controllable information processing, which is the basis for conclusions about the limited extent and depth of spatial perception and a tendency towards certain types of deviant behaviour (rigidity, pedantry, avoidance of uncertainty). Conclusions regarding the topology of internal space are based on specific empirical indicators of the Stroop

Colour-Word Test. Low or negative values of the interference index I, recorded in 58% of participants, indicate preserved continuity of perception and the absence of gaps in the cognitive field. The limited extent of space is confirmed by the combination of fast W and reduced CW in 62% of the sample, indicating a concentration of attention on the nearest, directly controllable stimuli. The high structure of space is empirically confirmed by the low variability of W indicators in most participants and the tendency towards automation of verbal processes. The reduced three-dimensionality of space correlates with excessively fast or, conversely, slowed C indicators recorded in 64% of the sample, indicating a reduction in deep sensory integration. The reduction in the experience of the infinity of space is associated with the dominance of a negative or zero interference index, reflecting the closed nature of cognitive space and weak openness to conflicting stimuli. In general, for most participants, space is experienced as continuous and orderly, but limited in extent, depth, and openness to new meanings (Table 2).

Table 2. Distribution of spatial characteristics of interior space in the sample (N = 50)

Space characteristics	Basis (empirical indicators)	Number of participants	% of sample
Continuity	$I \leq 0$ or negative index	29	58
Length	Fast W and reduced CW	31	62
Structure	Low variability of W, automation of verbal processes	34	68
Three-dimensionality	Excessively fast or slow C values	32	64
Infinity	Dominance of zero or negative I	29	58

Source: compiled by the authors

Table 2 demonstrated that most participants exhibited preserved continuity of perception (58%), corresponding to a low or negative interference index I. This means that the cognitive field of the participants is integrated and without gaps, and attention quickly switches between stimuli without loss of perceptual integrity. The extent of space is limited in 62% of participants, which is associated with fast W and reduced CW and indicates a concentration of attention on the nearest or controlled stimuli, without expanding perception to a broader context. The structure of space is high in 68% of participants, which is confirmed by low W variability and automation of verbal processes; the internal

space is organised and orderly. The three-dimensionality of space is reduced in 64% of participants, which correlates with excessively fast or slow C indicators, i.e., with a reduction in deep sensory integration and a focus on the superficial aspects of space. The experience of the infinity of space is reduced in 58% of the sample due to the dominance of zero or negative I, which reflects the closedness of cognitive space and limited openness to new meanings. Thus, most participants perceive internal space as structured, continuous, and controlled, while limited in extent, depth, and openness, which correlates with the psychometric indicators of the Stroop Colour-Word Test and can be

used to interpret potential forms of deviant behaviour, in particular rigidity, pedantry, and avoidance of uncertainty.

Based on the ratio of W, C, CW and I indicators, three types of responses were identified. The first type was recorded in 27 individuals (54% of the sample). It is characterised by a negative or low interference index, stable W indicators and relatively controlled C values. Behaviourally, this corresponds to high self-control, a tendency towards orderliness and rigidity. Potential deviant manifestations take the form of pedantry, avoidance of uncertainty and reduced spontaneity. The second type was found in 16 people (32%). It is characterised by fluctuations in C and CW indicators, episodic errors and an unstable interference index. Behaviourally, this is evident in impulsivity, affective

lability and situational disturbances of concentration. The third type was recorded in 7 people (14% of the sample). It is characterised by high C and CW indicators and an interference index above 2.0. The perception space in such participants is expanded but poorly structured, with impaired depth orientation. Behaviourally, this corresponds to a tendency towards emotional overload, inertia of action, and defocusing. In summary, the quantitative results of the empirical study confirm that the dominant type for the sample is spatial-mnemonic organisation with high structure and control, but limited depth and openness. These empirically recorded indicators of the Stroop Colour-Word Test form the basis for conclusions regarding the specifics of spatial perception and forms of deviant behaviour (Table 3).

Table 3. Types of responses by participants based on the results of the Stroop Colour-Word Test (N = 50)

Reaction type	Number of participants	% of sample	Basic psychometric characteristics (W, C, CW, I)	Spatial characteristics	Behavioural characteristics/potential deviant manifestations
Type 1	27	54	W stable, C controlled, I negative or low	The space is structured, controlled, and continuous	High self-control, tendency towards orderliness, rigidity, pedantry, avoidance of uncertainty, reduced spontaneity
Type 2	16	32	C and CW oscillations, unstable I, occasional errors	Space is less structured, the length is limited, and there is a lack of focus	Impulsiveness, affective lability, situational attention deficit
Type 3	7	14	High C and CW, I > 2	Space is expanded but poorly structured, and depth orientation is impaired	Emotional overload, inertia, lack of focus, poor behavioural control

Source: compiled by the authors

Table 3 showed that the dominant response type is Type 1 (54%), which is characterised by high structure, control of cognitive space, and low or negative interference. This indicates a predominance of stable information processing strategies, a high level of self-control, and a tendency towards rigidity in behaviour. Type 2 (32%) reflects a transitional or unstable profile, with fluctuations in colour naming speed and interference. This type of participant shows a tendency towards impulsive actions and affective lability, which emphasises the influence of situational factors on cognitive regulation. Type 3 (14%) represents a group with high cognitive load and significant interference, accompanied by weak internal spatial structuring and impaired depth orientation. Behaviourally, this manifests itself in emotional overload, lack of focus, and inertia of actions. Thus, quantitative data confirm the predominance of a type of spatial-mnemonic organisation with high structure and control, but with limited depth and openness to new meanings. These empirically recorded indicators of the Stroop Colour-Word Test form the basis for conclusions about the specifics of spatial perception and possible forms of deviant behaviour in the sample. Cognitive psychology studies memory, but does so functionally and focuses only on certain aspects of memory: encoding, storage, retrieval, distortion, and cognitive schemas. It does not establish a systematic connection between the characteristics of space and the characteristics of memory, but such a connection,

apart from cognitive psychology, as shown by A. Sousa *et al.* (2021), is possible. The study determined that “related memories form mnemonic structures in the space of experience, where space acts not only as a background but also as an organisational scheme for memory”. Memory can be organised in several ways: semantic, temporal, emotional, and spatial. A distinctive feature of the proposed model is that memory is a method of organising a person’s living space. N.W. Morton *et al.* (2017) demonstrated the idea that space, thanks to memory, is an organising principle that connects human experience. The spatial-mnemonic model does not repeat the conclusions of neurocognitive studies, but considers this idea at the level of human living space and forms of deviant behaviour. R.A. Wilson & L. Foglia (2011) largely did not consider memory in direct connection with spatial experience (both physical and social), while the spatial-mnemonic model integrates the characteristics of space, memory mechanisms, and forms of deviant behaviour into a single analytical framework from the outset. G.A. Holleman *et al.* (2020) did not explain the stability of human behaviour patterns. The spatial-mnemonic model provides the following explanation based on structural considerations: the specificity of memory selectivity leads to a specific perception of space, in which deficient forms of behaviour become not a mistake of human choice, but the only possible behavioural scenarios. F. Wertz (1993), based on phenomenology, demonstrated

that cognitive psychology emphasises natural-scientific reduction and does not sufficiently consider living subjective experience. The spatial-mnemonic model is compatible with phenomenological, psychoanalytical, and neuropsychological data. The trichotomous spatial-mnemonic model of deviant behaviour is psychological in nature, as it does not directly consider the biological determinants of spatial disorders emphasised by the neuropsychological approach, for example, W.B. Scoville & B. Milner (1957) and A. Villegas & S.A. Siegelbaum (2025). In turn, A. Bielińska & A. Lipszyc (2024) considered space and memory in a symbolic dimension, integrating them at the level of meanings, while within the trichotomous spatial-mnemonic model of deviant behaviour, the interconnection between space, memory and deviant behaviour appears as a system of real correlations, united into a single analytical structure. Thus, it is possible to argue that none of the above-mentioned approaches considers the interrelationship between the characteristics of space, memory and units of deviant behaviour in a clear matrix form. The spatial-mnemonic model of deviant behaviour is not a compilation. In contrast to most of the approaches analysed, in which memory is reduced to executive functions, space is considered outside the limits of mental functionality, or deviation is analysed without incorporating the ontology of the subjective image of the world, the spatial-mnemonic model of forms of deviant behaviour proposed in this study integrates the above-mentioned lines of research, which determines its methodological novelty.

◆ Conclusions

On the example of the sarcophagus of Adelfia, the study demonstrated that the selectivity of memory does not normally distort reality but, on the contrary, ensures its accessibility for experience and cognition. Phenomenological analysis has shown that deviant behaviour in camp conditions is formed as a result of a systemic disruption of the spatial-mnemonic organisation of experience. Having lost its regulatory function, the selectivity of memory ceases to maintain the continuity, extent, structure, depth and infinity of space. Deviation in this context was considered not as an individual pathology, but as a natural result of the deformation of the subjective image of the world. The material empirically confirmed the thesis that changes in memory selectivity and perception of space form a single dynamic system, within which forms of behaviour become rigidly determined by the structure of the experienced space. This made it possible to use topological analysis of space as a method for the determination and prediction of

deviant forms of behaviour. The Stroop Colour-Word Test indicators traced the connection between cognitive processes (selectivity of memory, sensory processing, attention control) and the topological characteristics of subjective space (structurality, three-dimensionality, continuity, extensiveness, and infinity), which determine forms of deviant behaviour. The combination of phenomenological analysis and experimental data from the Stroop Colour-Word Test demonstrates the connection between memory selectivity, topological characteristics of subjective space, and forms of deviant behaviour, which can be used for a quantitative and qualitative description of individual characteristics of cognitive and behavioural functioning. A trichotomous, spatial-mnemonic model of deviant behaviour has been developed, in which space and memory are key characteristics. In contrast to cognitive psychology, which emphasises the functional aspects of memory (encoding, storage, retrieval) and neurocognitive models, this model considers memory as a way of organising a person's living space, and not just as a tool for processing information. The spatial-mnemonic model provided a systematic link between memory characteristics, topological properties of subjective space, and forms of deviant behaviour, and the stability of behavioural patterns was explained by the specificity of memory selectivity, in which deficient forms of behaviour are interpreted not as a mistake of choice, but as the only possible scenarios within a certain spatial-mnemonic configuration. A methodologically new construct was presented, combining functional, phenomenological, psychoanalytical, and neuropsychological approaches. The interrelationships between memory, spatial topology, and forms of deviant behaviour were analysed within a unified system, providing tools for quantitative and qualitative description of these relationships. Prospects for further research are related to the possibility of developing a comprehensive approach to the analysis of mental organisation, within which memory and space are considered as interrelated structural components that determine various patterns of behaviour, including deviant ones.

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Просторово-мнестична модель девіантної поведінки: взаємозв'язок топології простору, вибірковості пам'яті і форм девіантної поведінки

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♦ **Анотація.** У сучасній психологічній науці проблема девіантної поведінки залишається актуальною у зв'язку з обмеженістю моделей, що пояснюють її стійкість лише через когнітивні помилки або соціальні чинники, і недостатньою увагою до ролі внутрішньої організації суб'єктивного простору та пам'яті. Метою дослідження була розробка та емпірична перевірка трихотомічної просторово-мнестичної моделі девіантної поведінки, в якій пам'ять розглядається як спосіб організації життєвого простору особистості. Методологія дослідження ґрунтувалася на інтеграції феноменологічного та когнітивного підходів із використанням експериментально-психологічних методів і кореляційного аналізу. У результаті дослідження запропоновано просторово-мнестичну модель, в якій вибірковість пам'яті виступає ключовим механізмом формування топологічних характеристик суб'єктивного простору, зокрема його структурованості, протяжності, безперервності, тривимірності та нескінченності. На відміну від традиційної когнітивної психології, яка зосереджується на функціональних аспектах пам'яті (кодуванні, зберіганні, вилученні та когнітивних схемах), запропонована модель трактує пам'ять як фундаментальний механізм організації життєвого простору людини. Показано, що стійкі патерни девіантної поведінки можуть бути інтерпретовані як наслідок специфічної конфігурації простору і пам'яті, а не як випадкові або ситуативні порушення регуляції. Емпірична валідація моделі проведена на вибірці з 50 випробовуваних віком 20-50 років із застосуванням тесту Stroop Color-Word Test. Аналіз показників автоматизованого читання, називання кольорів, умов інтерференції та індексу інтерференції виявив значущі кореляції між когнітивною ригідністю, порушеннями просторового сприйняття та проявами девіантної поведінки. Отримані результати підтвердили, що особливості просторової організації досвіду визначають типові поведінкові сценарії, зокрема педантичність, імпульсивність, емоційне перевантаження та звуження когнітивного поля. Практична цінність дослідження полягає у можливості використання просторово-мнестичної моделі для психологічної діагностики, профілактики та корекції стійких форм девіантної поведінки

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



How to establish effective interaction in military units during the performance of their combat duties

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◆ **Abstract.** The relevance of the study is determined by the need to ensure systematically organised interaction between military personnel during the performance of combat duties as part of units, since its violation reduces the effectiveness of combat operations and increases the risk of personnel, weapons and military equipment losses, and contributes to the enemy seizing the initiative. The purpose of the study was to identify and analyse key ways to establish interaction in military units in the process of performing service and combat tasks. Based on theoretical analysis, socio-psychological factors influencing the organisation of interaction in social groups were determined. The method of information classification identified positive and negative factors influencing the behaviour of individuals in a group, systematised the stages of small group formation and indicators of their development effectiveness. Synthesis and generalisation of the findings determined the conditions for establishing effective interaction in newly created military units to successfully perform their service and combat tasks. To strengthen unit cohesion, it is proposed to develop and coordinate rules of conduct that strengthen mutual responsibility, and to form an awareness of the common goal of activity and their own role of military personnel in achieving it. For the effective operation of the group during the performance of service and combat tasks, it is recommended to organise and maintain a communication system within the unit (group). After completing the task, it is recommended to hold a briefing to clarify the results, discuss problematic aspects, encourage introspection of the actions of group members, and prevent or resolve possible conflicts. The requirements for the selection of military personnel and their appointment to positions are formulated based on their adequate perception of the tasks of the unit in which they will serve, feedback from unit commanders from the previous place of service (work), in order to better predict their behaviour and create trusting relationships in the newly formed group

◆ **Keywords:** cohesion; identity; conflict; cooperation; leadership; working team; facilitation

◆ Introduction

The effectiveness of any activity is determined not by technical means or information technologies, but by people's ability to interact, since in all spheres of life they are constantly or situationally connected with others. To satisfy their needs and solve problems, people interact with others, participating in joint activities and forming groups; in doing so, their individual psychological characteristics and life and professional experience interact with the influence of the social group, which shapes their beliefs, values and behavioural patterns. The

invasion of Russian occupation forces into Ukraine necessitated the mobilisation of conscripts into the Armed Forces of Ukraine and other military formations, the replenishment of existing military units and formations, and the creation of new ones to perform a wide range of combat and other tasks. As a result of these events, military units now have representatives of different age and social groups in the ranks and command positions, who have different life and professional experiences, different attitudes towards military activity in general

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and the performance of combat duties, which impairs the interaction of military units in battle and leads to combat losses of personnel, weapons, equipment, interception of the initiative by the enemy, capture and destruction of important areas and objects, etc. According to their official duties, interaction during the organisation of the battle should be organised by the unit commander. However, the complexity and variety of combat tasks, the functional distribution of responsibilities in combat performed by various specialists suggest that their successful execution depends on the active participation of all military personnel in the unit, their cohesion, communication, and teamwork. In turn, the success of the actions of each lower-ranked and smaller-numbered group depends on the result of the activity of the entire division (formation, assembly).

As noted by Z. Yin *et al.* (2025), interaction occurs between people during communication, joint task completion, establishing interpersonal relationships, and exercising mutual influence. In this context, social interaction is a necessary condition for the existence of a society based on the norms of reciprocity and trust, which provide a forecast of behaviour, facilitate coordination of actions to achieve common goals. M. Hechter (2019) defined it as a process of mutually beneficial cooperation that arises based on searching, evaluating and sharing resources, differentiating status and power, and focusing on a common goal. Social interaction can be interpreted as a way of constructing reality by forming ideas, roles, and institutions that later become group, and belonging and group identity are further maintained through social processes (Turner & Roberts, 2023). R. Owunna *et al.* (2025) emphasised that it is formed in the learning process, which is implemented through observing other people's behaviour, imitating and actively modelling it. This process allows a person to integrate social norms, values, and behavioural strategies into their own practice, contributing to the development of interpersonal skills and social competence. J.A. Loughmiller-Cardinal & J.S. Cardinal (2023) considered social interaction as a social action in which behaviour is focused on other participants and is determined by group norms, expectations, beliefs, ideals, needs, an individual's emotional states, and social context. Using the example of medical workers, M.E. Meneses-La-Riva *et al.* (2025) emphasised that effective communication is closely linked to teamwork, namely: communicating corporate culture, motivating employees, and helping resolve conflicts significantly strengthen team interaction. People are encouraged to interact: a sense of identity, mutual expectations, common goals, interests, needs, based on which a system of relations, norms of behaviour is formed, statuses and roles are distributed, and joint activities are organised. Simultaneously, group activities can be effective or ineffective, constructive or destructive, solve problems or complicate them, even if they are perceived and understood by all the performers involved, as claimed by M. Holubčík *et al.* (2025). However, none of the above theories, revealing the features of group

behaviour, did not provide recommendations for organising effective interaction in groups, especially if they are constantly changing in composition and number, and their tasks are quite diverse. This problem has a particularly acute impact on the interaction of military units (combat groups), whose composition, size, and tasks may change constantly in accordance with the decisions of senior commanders (headquarters) and the current situation. The purpose of the study was to determine the methods of organising interaction in military units (groups) in the course of performing their service and combat tasks. Achieving this research goal involved completing the relevant tasks: identification of socio-psychological factors that affect the effectiveness of establishing interaction between members of the same group during joint performance of tasks; identification of ways to establish interaction between military personnel of the same unit (group) during the performance of their service and combat tasks; development of practical recommendations for commanders (managers).

◆ Materials and Methods

The study considered the success of performing service and combat tasks by military units as a function of the skills available to military personnel to establish effective interaction and was devoted to the study of techniques and ways to organise this interaction. The theoretical basis of the research was a set of sociological and social concepts:

- ◆ concept of sociology, which considers society as an autonomous system, guided by its own laws and exerts a coercive influence on individuals through control, correction of behaviour and transmission of social experience, existing only in the process of interaction of specific individuals (Durkheim, 2013);
- ◆ structural functionalism and social constructivism, which treat the social system as a set of interrelated phenomena and processes, where each structure performs the functions of adaptation, goal setting, integration, and maintaining internal stability (Pfadenhauer & Knoblauch, 2018; Gergen, 2023);
- ◆ methodological individualism, according to which social phenomena are considered as a consequence of the subjective reflection by individuals of ideas about a certain ideal social state (Weber, 2019).

The selection of concepts and sources was carried out according to the criteria of their scientific significance, compliance with the subject of research and the ability to provide a comprehensive review and systematisation of organisational processes in military units. Theoretical analysis of studies on sociology, social psychology, and management provided an opportunity to find out the patterns and interrelations of processes and phenomena occurring in social groups and highlight the features of organising interaction in military units. In particular, based on publications of P. Sztompka (1994), W.J. Scott *et al.* (2023) and A. Giddens *et al.* (2024), socio-psychological factors influencing the organisation of interaction in social groups were identified. The main provisions of the theory of

conflict and leadership were summarised based on contemporary scientific approaches presented by W. Wilczynski & S.F. Brosnan (2021), A. Driscoll & L. van Haarst (2025) and S. Page (2025). Classification of information obtained based on theoretical analysis helped to determine socio-psychological factors affecting the dynamics of social groups, stages and indicators of their development. Positive and negative factors influencing the behaviour of individuals in a group were identified, the stages of development of small groups and indicators of the effectiveness of their development were systematised. Synthesis and generalisation of the research results determined the conditions and ways of organising the most effective interaction in units and helped to formulate recommendations, compliance with which will ensure its successful establishment during the performance of service and combat tasks by newly created military units.

◆ Results and Discussion

Service and combat activity is a permanent, active, coordinated by the purpose, tasks, time, and place of the main type of activity of military formations, which is regulated by charters, laws, and other regulatory legal acts. According to the requirements of the time, it is highly professional and requires military personnel to have the appropriate competencies that ensure the combat capabilities of units, affect their purpose and combat tasks (Paparone, 2013; Scott *et al.*, 2023). Military personnel must be able not only to move quickly and overcome obstacles, destroy the enemy with fire from standard weapons, use and equip shelters to protect themselves from enemy fire, but also interact with other military personnel. This means that the decisive factor in winning a battle is not the individual level of training, but the coordinated actions of units (groups). Based on the purpose and combat capabilities of the units, the command and military management bodies carry out planning, preparation, execution, evaluation, and coordination of actions. The result of planning is an order or plan for future actions that directs, coordinates, and synchronises the actions of departments, defining ways to organise interaction during task execution (Larsen & Wade, 2019). At the level of interaction between units, commanders of different degrees are guided by the task defined by the senior chief, so they must take care of interaction with each other. At the inter-individual level, interaction is manifested in the fact that each serviceman performs a combat mission in the interests and as part of the unit, so their activities will be effective with the participation of other servicemen of the unit. The transience, sudden changes in the operational situation, and variability of combat tasks inherent in modern combined-arms combat significantly affect the effectiveness of interaction, especially if these tasks are performed by different tactical groups in number and structure, which are often equipped with military personnel from different units and are also managed by periodically changing commanders. One of the possible ways to overcome this problem is for unit commanders to master the techniques and methods of establishing interaction.

The formation of social groups and the establishment of effective interaction in them is determined by a complex of social, psychological, and organisational factors that simultaneously allow predicting the effectiveness of further activities. According to the theories of social learning, an individual's cognitive processes and behaviour are constantly interconnected with the external environment through the perception, imitation, and modelling of the behaviour of others, which provides learning, defining goals, and directing activities to achieve them, and adjustment and motivation through feedback (Watson *et al.*, 2021). According to the theory of social comparison, in difficult life situations, a person focuses on the beliefs, assessments and actions of the reference group to increase self-esteem, self-confidence, and motivation for actions (Köpeczi-Bócz, 2025). Theory of social imagination by P. Sztompka (1994) emphasises that the behaviour of individuals in a group is based on norms of reciprocity and trust, which facilitates coordination of actions and promotes effective cooperation to achieve common goals. The theory of social exchange, presented by T. Whalen (2018), emphasises that a social group is formed as a result of motivated search, evaluation and mutual exchange of resources, information or emotions, and differentiation of status and power with a focus on achieving a common goal. According to the theory of communicative actions, group decisions are made by choosing between several options, predicting consequences from the standpoint of group norms, and for the purpose of self-presentation to others or reaching agreement on solving a problem (Greifeneder *et al.*, 2017). Theories of social cognition and social imagination explain that in the process of social interaction, social representation is formed as a way to preserve categorised perceptual information that affects the judgement, decision-making, communication and regulation of behaviour of individuals in a group (Bauman & May, 2019). According to rational choice theories, group creation is considered as a process of optimising or maximising expected utility and planning to achieve a goal within existing conditions (Grundmann & Hacker, 2021). Theories of social constructivism, presented by M. Pfadenhauer & H. Knoblauch (2018) and K.J. Gergen (2023), argue that as a result of social practice, relationships, mental and linguistic representations are formed and transformed between individuals, and norms and roles are established that influence the behaviour of participants. Thus, in these theories, a necessary condition for creating a group is the presence of common interests, moods, views and feelings, the most important of which is a sense of identity, which encourages people to distribute roles and organise joint activities. Analysis of papers devoted to the study of methods of group interaction, in particular by D.R. Forsyth (2019), D. Levi & D.A. Askay (2021), provided an opportunity to identify key behaviours of group members in the interaction process:

1) cooperation (collaboration, partnership) – characterised by mutually beneficial goals, solidarity and mutual

sympathy, coordinated joint efforts, effective problem solving, and the distribution of functions, roles, and responsibilities;

2) rivalry (competition) – occurs due to mutually exclusive interests and positions of group members and involves attempts to mutually advance or defeat the opponent, which often develops into conflicts;

3) compromise – provides for mutual concessions, different interests and goals of the activity;

4) adaptation – involves neglecting own interests and conquering a stronger or more authoritative opponent;

5) avoidance – implies suspension and distancing between the parties, lack of responsibility for making joint decisions.

Thus, the mode of interaction and the leading social motive used by group members affect group cohesion, as it will be more or less attractive to most members (Durkheim, 2013). A group whose activities are based on cooperation and dominated by a spirit of collaboration has a better chance of becoming cohesive. Cooperation is a factor in group cohesion, as it helps to reduce intra-group conflicts, promotes free and open communication, and ensures mutual support. Accordingly, the group in which the activity is based on competition, and the leading motive is an individual result or benefit, has the least chance of becoming cohesive. During the performance of a combat mission, military personnel must have complete information about the existing situation in which they are located, and the tasks of other groups interacting with them. Ultimately, in a situation where a soldier or group commander lacks information about the actions of neighbouring groups in

order to make an individual decision, there is a possibility that he will not adhere to group norms or value the results of others, i.e., he will not cooperate. Competition between groups will also affect the rational use of resources if members of competing groups do not know who is interacting with them, do not have a basis of trust in them, and cannot communicate. Therefore, if there are several competing subgroups in a group, their interaction can also be productive only if the groups perform tasks that are independent of each other, and a delay in performing one will not lead to the failure of the others.

An important role in the organisation of group interaction is played by the attitude of the individual, which, according to R.F. Baumeister (2018) and S.T. Fiske (2018), reflects the nature of interaction of the individual with various aspects of reality, the driving forces of behaviour (goals, needs, motives, interests, ideals), the level of conscious regulation of behaviour, the assessment of oneself as a subject of activity, and emotions that reflect the degree of relevance of needs and the probability of their satisfaction. When distributing military personnel into groups, the unit commander needs to find out their individual characteristics, paying special attention to the attitude to other members of the group and to the performance of a combat mission, since it ensures the integrity, stability, and consistency of the individual's behaviour in the group, a sense of identity with its members. Socio-psychological factors that encourage an individual to imitate and reproduce models of group behaviour are presented in Table 1.

Table 1. Socio-psychological factors influencing the characteristics of behaviour in the group

No.	Factors of group behaviour	Influence on individual behaviour
1	Social facilitation	Improvement of the performance of group activities compared to individual ones
2	Cooperation	Improvement of group performance when solving problems together
3	Subordinate identity	Conflict reduction through conscious perception of group norms
4	Blocking or simulating performance	Resistance to innovation, blocking communication, resources, reduction of the effectiveness of teamwork
5	Interdependence of group members	Active exchange of knowledge and development of social skills through joint activities
6	Regulatory compliance	Demonstration of behaviour and expressing opinions that meet group norms and beliefs
8	Group thinking	Emergence of «illusions of invulnerability» among members of the group, an unfounded belief in the ethicality and benevolence of the group, stereotypes in assessing opponents, disregard for criticism, and pressure on dissenters
9	Conformism	Individual changes attitudes and behaviour in accordance with the norms and opinions of other members of the group against own beliefs
10	Group polarisation	Group's tendency to make the most risky, speculative, or stereotypical decisions
11	Cognitive conflict	Influence of a close-knit minority on the opinion of a larger group

Source: developed by the author based on R.B. Cialdini (2021)

Table 1 showed that socio-psychological factors of group behaviour influence individual actions both positively, contributing to productivity, cooperation, and development of social skills, as well as negatively, causing conformism, groupthink, and propensity to make risky or stereotypical decisions. This, in turn, highlights the complexity of individual-group interaction and the importance of consciously managing group processes to improve team performance. However, the definition of tasks assigned to a group is determined by the way it is

created and the specifics of development processes. According to the views of R. Brown & S. Pehrson (2019), the characteristics of the group are determined by its type: society is guided by rules, the crowd – mood, the mass arises spontaneously by a coincidence of moods, the social movement is organised for changes in social reality, the public is formed based on group decisions and public opinion, and the team is marked by coherence and productivity. An important factor is also the quantitative composition of the group: large groups include

communities united by common interests or status, while small groups (dyads, triads, quadras) are determined by the severity of group dynamics processes, in particular, alternative leadership, group pressure, duration of existence, the influence of individual differences, the level of social responsibility, anonymity of members, and conditions of group communication. In addition, groups differ in structure, within which subgroups are distinguished as close communities within a larger association, formed based on common interests, goals, and values. Structural elements also include group norms as informal rules for regulating behaviour, traditions, customs, rituals, and attributes that shape an individual's attitude to other group members, and statuses and roles that reflect a person's position in the hierarchy, level of influence, access to resources, and expected behaviours. An important characteristic of the group is cohesion, which manifests itself in a state of positive interpersonal relationships, common identity and unity of goals and determines the orientation of individual behaviour in accordance with collective interests. No less significant is the communication system, which regulates the interaction of group members, increases the level of group identity and interest in the results of joint activities, becomes a component of group culture, increases motivation and cooperation and reduces distrust, while acting as a source of stereotyping and influencing the processes of social cognition. A separate role is played by the leadership style, which determines the organisation and direction of group actions, the level of productivity and viability, staff turnover, integration strategies, coordination of joint actions, and ways to resolve conflicts. The study by R.L. Owen & J.A. Buck (2020), dedicated to the investigation of the principles of sociocracy, offers various models of self-government based on effectiveness, collegiality, evidence, equivalence, continuous development, transparency, collective responsibility and initiation of ideas, the use of flexible and dynamic methods of teamwork, activating the potential of employees in various fields, promoting cohesion. In these models, considerable attention is paid to the distribution of operational roles in work teams, with one performer voluntarily performing several of them in different processes. However, the complexity of group tasks is determined by the process of group development, in which, according to A. Giddens *et al.* (2024), within the framework of contemporary theories of group dynamics, the stages of development, conflict, normalisation, functioning, and decay are distinguished. In most models of group dynamics, there is a stage of conflict – a special type of interpersonal interaction that occurs due to contradictions in the goals, interests, opinions of group members, their views on ways to solve problems and can be constructive, contributing to a better understanding of the problem and ways to solve it, cooperation and increased motivation, or destructive, which distracts attention from understanding the causes of problems and ways to overcome them in the plane of interpersonal relationships and leads to inefficient resource consumption.

The study of conflict theories by W. Wilczynski & S.F. Brosnan (2021) and A. Driscoll & L. van Haarst (2025) provided an opportunity to conclude that conflict is an objective phenomenon caused by the contradictory nature of public life, the result of resistance to power and submission, and performed the following functions: signalling and information – identification and disclosure of problems; integration – adjustment of individual and group interests; stabilisation (preservation of the group). To organise cooperation within a group, first and foremost, there must be a leader who can coordinate its activities, approve decisions, and help the group solve problems. Analysis of the findings of S. Page (2025) showed that leadership is a dynamic phenomenon formed in the process of group activities, and the effectiveness of interaction with subordinates is largely determined by the ability of the leader to introspect, support, and communicate effectively. The leader must correct own behaviour, the behaviour of subordinates, or leave everything unchanged. If there are certain problems in the relationship, the manager will choose a leadership style that will provide an opportunity to establish effective interaction and achieve high-quality performance of duties by subordinates. The main task of the leader is to identify and realise the potential capabilities of each member of the group, to determine their roles in which they can perform most effectively. In order for group members to show a willingness to follow their instructions, the leader must have a high level of trust in them, based on both individual qualities and leadership style. Since the main purpose of the group is to perform tasks, for which it is necessary to make a decision and organise work, important factors for effective interaction are the leadership style and the degree of coordination of group work:

- 1) in an autocratic style, the group leader makes decisions alone without considering the opinions of team members, which is effective when decisions need to be approved quickly, but may cause resistance during implementation.

- 2) in a democratic style, the decision is approved by the majority of the group members, so it is executed without objections, but the lack of a sense of individual responsibility for the group decision can lead to undesirable results;

- 3) in a collective style, the leader considers the opinion of each member of the group, analyses the information received, and single-handedly approves the decision, but will be fully responsible for the final result, and group members are involved only at certain stages of its development and implementation;

- 4) in the consensus style, decisions are made collectively by all members of the group, which increases the sense of unity and creates an atmosphere of partnership.

In particular, if the complexity of the task is high and the group members are closely connected, they need to communicate more, make joint decisions, and synchronise individual efforts to succeed. In such situations, a hierarchical structure with an authoritarian management style will be useful, which can provide interaction, heuristics, and distribution of group resources, integrate individual

efforts, and establish rapid exchange and processing of information. An authoritarian work team management style is also necessary when tasks are ambiguous, for example, when members of the same team do not have a clear understanding of their responsibilities, group expectations, and how to interact, and feedback is used only to determine the degree of understanding of the content of tasks. If there are frequent conflicts in a working group (team), the influence of an authoritarian leadership style can increase tensions within it between different functional subgroups with a high level of differentiation of skills – specialised knowledge or functional responsibilities, which makes it difficult to replace team members (Berger, 1998). Negative consequences of applying an authoritarian style can also occur if they are caused by significant differences between members of the work team in statuses and opportunities (resources). For a cohesive division, a leadership style that encourages activity and initiative, group discussion of problems and decision-making for reaching consensus, and supports constant feedback is optimal. A significant factor in group conflicts is the variability of management, caused by the fact that members of the group with lower status can see more opportunities for promotion, while members with higher status tend to maintain it. Membership instability, when a group quickly forms and breaks up, a changing subordination system can also lead to rivalry that interferes with interaction.

Since newly formed groups tend to lack a well-established structure, distribution of roles and responsibilities, and previous experience of cooperation, in order for them to become productive, it is necessary to establish effective communication and create a high level of interdependence and coordination of knowledge, resources, and tasks. To effectively perform tasks as part of a newly created group, military personnel must feel involved in its activities and have all reliable information about their role in teamwork. A possible way to perform a complex task by a division is to divide it into smaller tasks and assign them to groups created on the principle of specialisation of the tasks that they perform best. In order for the group to interact effectively, it is necessary to identify a leader, an idea generator, a communicator, and task performers in each of them who will be loyal to group decisions and adhere to established norms of behaviour. This can increase the level of trust between group members and their sense of security. In addition, it will help to minimise the negative impact of anonymity on the quality of group tasks, as it can reduce the level of individual engagement and create expectations that the main burden will be placed on other members of the group. First and foremost, it is recommended that group leaders and members learn to resolve and manage conflicts rather than suppress or conceal them. After all, after the conflict is resolved, the group usually becomes more cohesive. A group in which members vary significantly in individual characteristics and skills may take a long time to come together, and some people may find themselves isolated. Therefore, the presence of an individual with

overly pronounced personality traits can significantly complicate the group interaction required to complete the task. Summarising the provisions of the theoretical framework of this study allowed identifying two key types of behaviour necessary for the successful functioning of the group: problem-oriented, which involves initiating and accepting suggestions, ideas, and information; supportive, aimed at providing emotional and social support to group members, which facilitates the achievement of common goals and contributes to greater cohesion. One of the important steps in this area is to create small targeted work teams within the group, based on trust and cooperation, which should use flexible tactics and maintain partnerships with other teams to expand the capabilities of their group and the entire division. For better mutual support within the group, it is necessary to create microgroups according to the specifics of their functional responsibilities and approximately the same level of professional knowledge and skills development. To do this, each group should select generators of ideas with different opinions, experience, and ways of thinking, performers who are specialists in specific activities, experts, communicators, and for successful resolution of conflict situations – a facilitator, whose role can be performed by the group leader, who should not be a supporter of an authoritarian style.

A group decision-making process that may seem organised as a result of the negative impact of group pressure can hinder free and open discussion. One of the likely results of group pressure on individuals may be a general reluctance to express ideas that do not correspond to the group norm, which makes it impossible to make a group decision. Ineffective decisions can be made in situations where only a few of the group members actually participate in the conversation, while others do not express any opinion because dissent is not perceived in the group. As a result, active members may think that all members of the group agree with the proposed solution. If the unit does not have a communication system in place, military personnel will feel uninformed and unprotected, because they do not understand the tasks of the activity and their role in it. To overcome this problem, it is necessary to provide a communication system, involve military personnel from combat groups in the task planning process, and develop a system of trainings (exercises) to develop the necessary interaction and communication skills. Effective communication, first of all, involves the development of skills of active listening and clarification of the position of the interlocutor, the ability to give and receive feedback. An important factor in effective communication is the ability to express thoughts concretely and concisely so that they are understandable to the interlocutor without additional clarifications. If a single communication space is formed, the opinion of each group member will reach the commanders and be considered, and they, in turn, will be able to transmit and receive feedback. Improving the communication system also requires the introduction of a self-assessment system, which contributes to the development of adequate

self-assessment by group members of their own activities and their perception of the results of the group's activities as personally significant. Thus, effective interaction in the division is ensured by the presence of a common goal, optimal structure and number, well-established communication, clear distribution of roles, compliance with group norms, cohesion, and appropriate leadership style.

Unit commanders are encouraged to focus not only on improving individual combat skills, but also on unit cohesion during combat training sessions. Socio-psychological factors that will contribute to the establishment of group interaction, improving group productivity and constructive conflict resolution will be: social facilitation, identity, interdependence, and responsibility of group members. In this case, it is necessary to consider that the establishment of an effective interactions in groups can be hindered by negative factors, namely: blocking and imitation of productivity, conformism and imitation of the behaviour of other group members, group thinking and group polarisation, and uncertainty of tasks, variability and imperfection of the group structure. To unite a division, it is necessary to develop and discuss rules that regulate individual behaviour and encourage the strengthening of mutual responsibility at the beginning of its development or after receiving replenishment. To improve cooperation within the group, constant communication within it should be ensured, which enhances group identity and strengthens mutual assistance and support. Discussion of common problems encourages people to cooperate, deepens mutual trust, provides an opportunity to realise mutual benefits, and change their attitude to the situation. Effective communication provides an opportunity for each member of the group to present their individual perception of the goals and objectives of the activity, share their individual experiences, and reveal their psychological characteristics necessary for decision-making and developing new qualities that were not previously apparent in other circumstances. On the other hand, the reduction of individual responsibility for the result of the group's activities, the lack of understanding of the importance of individual contribution to the overall result, the influence of the majority on the behaviour of an individual or a small isolated group in the opinion of the majority can lead to motivational and procedural losses, especially when performing combat tasks that involve the involvement of numerous groups without specifying individual responsibilities and ways to evaluate and control the results of activities. Therefore, at the inter-individual level, effective interaction can be established between people who have common interests and complement each other. Selfish behaviour of group members and the lack of psychological compatibility between them will hinder interaction, and conflicts will be destructive.

The most effective organisation of interaction in military units for the successful performance of service and combat tasks involves, first of all, a clear formulation of a goal of combat or actions, checking whether all members of the group are really aware of it, and understand

the necessary means to achieve it. It is also important to establish effective communication that ensures timely receipt and transmission of signals and commands within combat groups and between units, and timely notification of a threat and decisions taken to eliminate or avoid it. Conducting briefings after completing tasks, and if possible – at any stage of their implementation, helps to analyse actions, clarify tasks, discuss problems and contradictions, encourages introspection of group members, and helps to prevent or resolve conflicts. The unit commander should speak out after all members of the group have shared their views, and in case of complex or problematic issues, it is advisable to divide the large group into subgroups for detailed discussion. To resolve conflicts constructively, it is necessary to identify the sources of contradictions and eliminate them, while destructive conflicts require the settlement of relations between the parties, the establishment of rules, the conclusion of agreements or, in extreme cases, a change in the structure or size of the group. Personnel departments of military units and formations, unit commanders, personnel officers, and military psychologists are recommended to select and appoint candidates for positions not only based on the availability of the appropriate military accounting speciality, but also considering their attitude to the tasks of the unit in which they will serve. In addition, it is important to consider the feedback of previous commanders, which allows predicting the behaviour of new team members and contributes to the development of trusting relationships, increases responsibility, and ensures effective integration into the group.

The results obtained complement the provisions of contemporary theories of group dynamics, specifying the conditions and mechanisms of effective interaction in military units. V. Podorozhnyi & S. Ivanov (2024) considered cohesion in military units as a key factor determining the effectiveness of their activities, the ability to interact, perform combat tasks, and maintain the psychological stability of personnel. The synthesis of the provisions considered in the study showed that interaction occurs between people during communication, joint performance of tasks, the establishment of interpersonal relationships, and the implementation of mutual influence. The study by T.E. Khraban *et al.* (2022) was also devoted to the analysis of group cohesion of small military units (comparable in number to a platoon) in the context of civil-military relations in Ukraine. The study examined how internal factors (shared tasks, shared identities and beliefs, equal status, shared experiences of difficulties) shape cohesion in military units. M. Fors Brandebo *et al.* (2022) emphasised that cohesion plays a key role in team functioning and productivity. The study found that high levels of cohesion have a positive impact on psychological, social, and behavioural outcomes. P.M. Garrett (2018) argued that social theory is fundamental to social work, and without understanding theoretical concepts, the practice of social work loses its deep semantic basis. The results of this study correlate with the findings of M. Zupal & S. Zupal (2019). The researchers

examined the influence of economic and socio-psychological conditions on leadership style and interpersonal relationships in teams. During periods of economic instability and job shortages, subordinates depend on a specific place of work and manager, which often encourages the use of a rigid authoritarian leadership style, reducing democratic and partnership relations in the team. This leadership style creates psychological barriers, provokes internal anxiety, fear of losing job, and makes it difficult to establish equal business relationships, which can lead to conflicts. This study also confirmed that group work can be effective by actively sharing information and testing conflicting ideas during a group discussion. Group decisions can be better than individual ones only if the group members act rationally, considering all the evidence and coming to an impartial, fair, and open decision. Ultimately, the negative impact of phenomena such as blocking and imitation of productivity, conformism, the influence of the minority on the majority, group thinking, and group polarisation will negatively affect the results of the group's activities. Thus, the introduction of collective discussions with the participation of all members of the group and the delegation of decision-making functions to the trusted leader allows increasing the effectiveness of interaction in military units and ensures the successful performance of complex service and combat tasks.

◆ Conclusions

Therefore, the necessary conditions for establishing effective interaction between military personnel of the same unit were defined as follows: presence of a common specific goal; optimal size and structure of the unit; distribution and understanding of individual roles when performing joint tasks; effective communication system; conscious perception by group members of their identity and common interests; established group rules and norms; group cohesion; resistance to individual influence and ambitions; optimal leadership style. In the course of the study, it was found that the effectiveness of interaction in military units is largely determined by the level of group cohesion, the way activities are organised, and the leading social motives of team members. Groups whose activities are based on cooperation and the motive of cooperation dominates

are more likely to be united, reduce intra-group conflicts, open communication, and mutual support. In contrast, competition dominance and individual benefit orientation limit interaction productivity and increase the risk of destructive conflicts. The key factor is also the individual attitude of military personnel to tasks and the team, which ensures consistency of behaviour, identity with the group, and willingness to cooperate. The results of the analysis highlighted the role of socio-psychological factors such as social facilitation, interdependence, subordinate identity, and normative compliance that stimulate productive interaction, and negative factors such as group thinking, conformism, blocking productivity, and group polarisation. An important element of the organisation of interaction is the leadership style: a democratic or consensual style increases cohesion and motivation, while an authoritarian style can be effective in difficult or critical situations, but potentially causes tension in the group. Optimising interaction requires creating clear goals, a clear distribution of roles, a communication system, including all group members in decision-making, and delegating functions to a trusted leader. The establishment of small subgroups with clearly defined functions, the development of mutual trust and open communication contributes to improving the effectiveness of the unit's activities, cooperation and successful performance of service and combat tasks. Thus, the study confirmed that systematic management of socio-psychological and organisational factors of interaction is key to ensuring the productivity, cohesion, and stability of military groups in difficult combat conditions. The prospects for further research are experimental verification of the effectiveness of methods for establishing interaction in military units, the development of models of group intelligence and its combination with artificial intelligence.

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♦ **Анотація.** Актуальність дослідження зумовлена необхідністю забезпечення системно організованої взаємодії між військовослужбовцями під час виконання службово-бойових завдань у складі підрозділів, оскільки її порушення знижує результативність бойових дій та підвищує ризик втрат особового складу, озброєння і військової техніки, а також сприяє перехопленню ініціативи противником. Метою дослідження було виявлення та аналіз ключових способів налагодження взаємодії у військових підрозділах у процесі виконання службово-бойових завдань. На основі теоретичного аналізу визначено соціально-психологічні чинники, що впливають на організацію взаємодії в соціальних групах. Методом класифікації інформації визначено позитивні й негативні чинники, що впливають на поведінку індивідів в групі, систематизовано етапи формування малих груп та показники ефективності їхнього розвитку. Синтез та узагальнення результатів дослідження надав можливість визначити умови налагодження ефективної взаємодії у новостворених військових підрозділах з метою успішного виконання ними службово-бойових завдань. Для згуртування підрозділу запропоновано розробку й узгодження правил поведінки, що посилюють взаємну відповідальність, а також формування усвідомлення спільної мети діяльності та власної ролі військовослужбовців у її досягненні. Для ефективної діяльності групи під час виконання службово-бойових завдань рекомендовано організувати й підтримувати систему комунікації всередині підрозділу (групи). Після виконання завдання рекомендовано проведення брифінгу з метою уточнення результатів, обговорення проблемних аспектів, стимулювання самоаналізу дій членів групи та попередження або врегулювання можливих конфліктів. Сформульовано вимоги щодо добору військовослужбовців й призначення їх на посади з урахуванням адекватного сприймання ними завдань підрозділу, в якому вони будуть проходити службу, відгуків від командирів підрозділів з попереднього місця служби (роботи), з метою кращого прогнозування їхньої поведінки й формування довірчих відносин в новоствореній групі

♦ **Ключові слова:** згуртованість; ідентичність; конфлікт; кооперація; лідерство; робоча команда; фасилітація



Psychological features of the manifestation and dynamics of the cognitive structural component of the “professional self-image” of students of aviation specialities

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◆ **Abstract.** The relevance of the study lies in the need to train highly qualified specialists in various fields of society who are capable of addressing the tasks of Ukraine's development at the present stage. This is particularly true of the aviation industry, where the psychological characteristics that influence the formation of a motivated and responsible specialist remain insufficiently studied. The aim of the work was to identify the features of the formation and dynamics of the cognitive structural component of the “professional self-image” in future aviation specialists. The study employed a set of psychodiagnostic methods, in particular those developed by M. Kuhn and T. McPartland, and by A. Karpov and V. Ponomaryova, which made it possible to assess the content-related and structural characteristics of the criteria and indicators of the structural component of the “professional self-image”. The analysis included a comparison of results between first- and second-year students and third- and fourth-year students, as well as a quantitative and qualitative examination of respondents' statements regarding professional self-identification. The results of the study showed a moderate level of development of the cognitive component of the “professional self-image” with a tendency to increase over the course of study. Among junior students, situational reflection predominates, ensuring orientation towards current activity, whereas among senior students retrospective and prospective reflection become more active, facilitating the analysis of past experience and the planning of future professional activity. A transformation of internal self-perception was identified: the significance of the “active self” and the “social self” increases, while the “reflective self” decreases somewhat. At the same time, a proportion of students demonstrated a low level of reflexivity, which highlights the need for targeted psychological and pedagogical support. The practical value of the study lies in the possibility of using the obtained data to develop professional training programmes aimed at stimulating the development of the cognitive component of the “professional self-image” and professional self-identification of students of aviation specialities, as well as for the implementation of psychological and pedagogical support at different stages of education

◆ **Keywords:** specialist training; professional activity; reflexivity; self-identification; self-image

◆ Introduction

Modern conditions of societal development, in particular dynamic changes in the field of technology, globalisation processes, and the demand for highly qualified personnel,

give rise to specific requirements for the training of future specialists. In the aviation industry, which is one of the most highly organised and responsible spheres of professional

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activity, there is a need to form a mature professional self-awareness in future specialists. The professional development of students of aviation specialties involves not only the development of knowledge, skills and abilities, but also the formation of a positive system of perceptions of oneself as a professional in this field, that is, the development of a positive “professional self-image”. O. Vasylchenko & Ye. Batsman (2022) considered the self-image as a multidimensional personal formation that reflects a system of an individual’s perceptions of themselves and ensures the formation of an attitude towards one’s own self. This phenomenon encompasses several interrelated aspects: the “actual self”, characterised by a person’s perception of themselves at the present moment; the “desired self”, which reflects the image to which the individual aspires; and the “public self”, that is, perceptions of how the individual appears to others. The scholars noted that the interaction of these components ensures the integrity of self-awareness and contributes to personal development. The structure of the self-image includes a set of knowledge, emotional evaluations and expectations regarding oneself, which determine the direction of self-knowledge and self-improvement. A.O. Suprihan (2020) investigated the transformation of the self-image under conditions of complex life circumstances as a process that reflects the most dynamic component of self-awareness and changes under the influence of the social environment, changes in social status and lifestyle. The author defined the self-image as an integrative structure that includes cognitive, emotional-evaluative and behavioural components, each of which is characterised by high dynamism and the capacity for change depending on external and internal factors. Changes in individual modalities of the self-image occur under the influence of various life and social circumstances, which determines its plasticity and adaptability.

O.V. Stelmakh (2023) viewed the self-image (self-concept) as a relatively stable, partially conscious system of an individual’s perceptions and attitudes towards themselves, which determines their interaction with the environment. Its structure is a three-component model comprising a cognitive component, which includes processes of self-knowledge; an emotional component, characterised by the level of self-respect; and an evaluative-volitional component, aimed at regulating self-esteem and self-respect. O.V. Stelmakh emphasised that harmonisation of these components towards positive self-acceptance and adequate self-esteem contributes to the formation of constructive attitudes and behavioural strategies. The dynamics of this image are determined by the individual’s rethinking of their own life goals and value orientations. S. Breuer *et al.* (2023) emphasised that the success of pilot training and professional performance is determined not only by technical and cognitive abilities, but also by personality traits (in particular extraversion, conscientiousness, self-confidence, and others), while the concept of the “ideal pilot” remains debatable and requires further scientific clarification. In addition, S. Chernyavska (2022; 2024) found that the psychological

readiness of future civil aviation pilots is an integrative personal formation of a long-term nature, the structure of which combines motivational, content-operational, emotional-volitional, cognitive and personal components, and which should be formed with due regard to the specifics of aviation professional activity and the conditions of its implementation. In summary, based on scientific approaches to the interpretation of the structure of this phenomenon, a traditional three-component structure was identified, which includes a cognitive component (reflecting a system of knowledge and perceptions about oneself), an emotional-evaluative component (characterising emotional attitudes and self-esteem), and a behavioural component (manifested in forms of behavioural responses). At the same time, researchers do not share a unified approach to the study of the “professional self-image”. In particular, the study by O.O. Yevdokimova & Yu.Yu. Boiko-Buzyl (2023), devoted to the professional genesis of managers, emphasised that professional self-awareness encompasses various aspects of self-images: the “professional self in the present”, the “professional self in the past”, and the “professional self in the future”. Accordingly, these components determine the orientation, control and regulation of professional activity, forming the basis for professional development. In the study by Ye.M. Yakusheva (2021), devoted to examining the structure of professional self-awareness among employees of fire and rescue units of the State Emergency Service of Ukraine, it was found that the “professional self-image” constitutes a component of the cognitive element of professional self-awareness. Ye.M. Yakusheva emphasised that professional self-awareness reflects the content of an individual’s perceptions of themselves as a specialist, determines the level of their professional maturity, and represents a key part of professional consciousness, which manifests itself in the ability to recognise professional requirements, motives, goals and tasks of activity.

The analysis of professional self-awareness involves the study of perceptions of one’s own professional image, attitudes towards oneself as a subject of professional activity, and orientations towards self-development and the improvement of professional competences. The acquisition of professionally important qualities and professional competences is a necessary condition for the formation of a holistic professional self-awareness, since it is through the practical mastery of knowledge, skills and abilities that awareness of one’s own capabilities and limits of professional growth is formed. The development of competences ensures the effective performance of professional duties, contributes to a deeper understanding of one’s place within the profession, and promotes the formation of a positive “professional self-image”. As noted by N.F. Shevchenko *et al.* (2024), the personal and professional qualities of a specialist constitute an important condition for professional development and determine their ability to effectively realise professional functions and achieve high results in the chosen field of activity. The content of the components of the “professional self-image” directly depends on the

specifics of an individual's professional activity, and the analysis of scientific research demonstrates scholars' interest in studying this phenomenon among representatives of various professions. In particular, researchers have examined the development of this phenomenon among rescuers, lawyers, law enforcement officers, military officers, psychologists and nurses; however, insufficient attention has been paid to the study of the formation of a positive "aviation specialist self-image". The professional activity of aviation specialists belongs to the category of increased risk, as it is characterised by a high level of tension, frequent stressful situations and potentially unpredictable circumstances. The ability to make rapid and well-reasoned decisions within limited time frames is a crucial factor in ensuring passenger safety and the stable functioning of airspace. Thus, the formation and development of the "professional self-image" among students of aviation specialties must take into account the specific features of their future professional activity. The Federal Aviation Administration (2020) manual notes that the self-image of an aviation specialist is one of the key psychological factors that directly influences the effectiveness of the training process of future aviation professionals. A student's self-perception, in particular the level of confidence or lack thereof, significantly determines the quality of learning outcomes. When individual experience is consistent with a positive self-image, the student remains open to new experiences and motivated for further learning. Conversely, when previous experience contradicts established self-evaluations, a tendency to avoid new learning situations often emerges. A negative self-image creates psychological barriers that slow down perceptual processes and may limit the effective application of acquired knowledge and skills. Thus, self-esteem performs a regulatory function in learning activities: it determines an individual's readiness to perceive new information, influences confidence in one's own abilities, and affects task performance success. Students with a positive self-image typically demonstrate greater openness to instruction, demonstrations and new experiences in general. As a result of the theoretical analysis of a number of scientific works devoted to the study of the self-image phenomenon, the absence of a universal scientific approach to defining the content and structural components of this phenomenon was identified. The aim of the present study was to identify the psychological characteristics and dynamic changes of the cognitive structural component of the professional self-perception of students of aviation specialties.

◆ Materials and Methods

In the course of the study, a set of theoretical and empirical methods aimed at investigating the phenomenon under consideration was employed. At the theoretical stage, an analysis of the scientific literature on the problems of forming the "professional self-image" in students was carried out, scientific approaches were systematised, and key ideas and provisions were generalised. This made it possible to determine the theoretical and methodological

foundations and clarify the conceptual and categorical apparatus of the work. The empirical study was conducted at the State University "Kyiv Aviation Institute" in 2023-2024 using psychodiagnostic tools aimed at identifying the features of manifestation of the cognitive component of the "professional self-image" in students of aviation specialties. The obtained data were subjected to quantitative and qualitative processing using methods of mathematical statistics, which ensured the objectivity and reliability of the results. The sample of this study consisted of 180 students of aviation specialties from the first to the fourth year of study (78 women, 102 men), aged from 17 to 23 years. To analyse the dynamics of the cognitive component of the "professional self-image", the sample was divided into junior students (first-second year) and senior students (3rd-4th year). To study the specificity of the development of the cognitive component of the "professional self-image" in students of aviation specialties, psychodiagnostic methods were used, selected in accordance with the defined criteria and indicators. In order to investigate the processes of self-identification of students of aviation specialties, the "Who Am I?" method by M. Kuhn and T. McPartland was applied. This method was used to study the content characteristics of the personal identity of the future aviation specialist. The question "Who am I?" encourages the respondent to engage in reflection, self-analysis and awareness of the content of their own self-image. To examine personal reflexivity as an indicator of the cognitive component of the "professional self-image", the method for diagnosing the level of reflexivity developed by A. Karpov and V. Ponomaryova was used. This method focuses on two interrelated dimensions of reflection: awareness and development of one's own thinking and consciousness as factors of activity and personal growth, and the ability to interpret the internal state, position and motives of another person. Mathematical and statistical processing of quantitative results was carried out using Pearson's χ^2 criterion to assess the statistical significance of differences between indicators. The conduct of the study complied with ethical standards for research involving human participants as defined by the Declaration of Helsinki of the World Medical Association, in particular adherence to the principles of informed consent, confidentiality and prevention of harm to participants (WMA, 2024).

◆ Results and Discussion

Based on the theoretical analysis of the source base, the following content components of the "professional self-image" of students of aviation specialties were identified: the cognitive component, which reveals an individual's perception of themselves as a professional in the aviation field (the image of "I am a specialist in the field of aviation"); the emotional-evaluative component, which characterises professional self-esteem, a positive attitude towards oneself as an aviation specialist, and emotional stability in stressful situations; and the behavioural component, which includes self-regulation, self-control and readiness to take risks in

the aviation sphere. The cognitive component of the “professional self-image” of students of aviation specialties encompasses a system of an individual’s representations about themselves as a professional in the aviation industry. It reflects the level of awareness of one’s own professionally significant qualities, understanding of one’s role within the structure of aviation activity, and awareness of the need for continuous self-development, learning and adaptation to dynamic technological changes and the increasing demands of the profession. Thus, within the framework of the cognitive component of the “professional self-image” of students of aviation specialties, criteria and content indicators were defined that are determined by the specific features of the professional activity of representatives of the aviation industry. These criteria include self-awareness (awareness of one’s own “self”), which comprises a number

of content indicators: the “social self”, the “active self”, the “prospective self”, the “material self”, and the “reflective self”. In addition, an important component of the cognitive element is “personal reflexivity”, which is manifested through the level of development of reflection and the integrative and differentiating complexity of the self-image. The relevance of the process of forming professional self-identity is revealed through the content of the respondents’ answers to the question “Who am I?”. Among these were responses such as “I am a future aviation specialist”, “I am a future pilot”, “I am a future aviation engineer”, and similar statements, which indicate a formed awareness of oneself within the chosen professional activity. The quantitative distribution of significant self-identification characteristics of students of aviation specialties obtained during the empirical study is presented in Table 1.

Table 1. Quantitative indicators (%) of self-identification of students of aviation specialties

Indicator	1 st -2 nd year (n = 89)	3 rd -4 th year (n = 91)
“Reflective Self”	84.3	69.2
“Active Self”	49.4	87.9
“Social Self”	50.5	67
“Communicative Self”	22.4	32.9

Source: developed by the authors

During the empirical study, the analysis of the obtained responses showed that the following content categories were most frequently recorded among the respondents: the “reflective self” (identity) – 84.3% among 1st-2nd year students and 69.2% among 3rd-4th year students. It is also important to emphasise that 87.9% of 3rd-4th year students indicated the “active self”, which characterises personal activity and is a positive indicator at the senior stages of study. The “social self” (social identification) and the “communicative self” demonstrated somewhat lower indicators, but nevertheless were characteristic of the given sample. To identify statistically significant differences in the frequency of manifestation of the indicators of the cognitive component of the “professional self-image” among junior (n = 89) and senior students (n = 91), a comparative analysis was conducted using Pearson’s χ^2 test. The obtained results confirmed the presence of statistically significant differences between the samples ($\chi^2 = 10.07$; $df = 3$; $p = 0.018$), which indicates a different frequency of mentioning the indicators of the cognitive component depending on the year of study. Given that the significance level $p < 0.05$, it can be concluded that there is a statistically significant relationship between the year of study and the nature of students’ self-identification. In particular, senior students more often associate themselves with the “active self” and the “social self”, whereas junior students are more characterised by an orientation towards the “reflective self”. As shown in Table 1, among 1st-2nd year students the orientation towards the “reflective self” indicator predominates. This indicator reflects the personal-meaningful level of self-awareness and includes characteristics that

represent individual traits and personal reflection. Examples of respondents’ self-descriptions include: “I am creative”, “I am versatile”, “I am sincere”, “I am pragmatic”, “I am stubborn but fair”, and similar statements. At the same time, senior students referred significantly more often to the category of the “active self”, which may indicate a more intensive formation of professional self-identity in the process of professional training during the 3rd-4th years. This indicator characterises awareness of one’s own activity in the sphere of the future profession, interest in one’s speciality, readiness for professional self-realisation, and identification with a partially realised professional role. In the responses of 3rd-4th year students, self-definitions that directly reflect professional identity or intentions related to future activity predominate, for example: “I am an aviation engineer”, “I am a pilot”, “I am a future pilot”, “I am studying to be a pilot”. Such statements are complemented by expressions that reflect purposefulness and readiness to implement professional intentions, such as: “I will conquer the sky”, “I will operate unmanned aerial vehicles”, and similar formulations. A distinctive feature of such statements is the dominance of affirmative forms, which indicates the formation of professional beliefs, confidence in the chosen profession, and the integration of the personal role into the structure of personal identity. Ultimately, the “active self” indicator among senior students occurs more frequently and becomes more structured, demonstrating clarity and a more holistic understanding of the “professional self-image”. The dynamics of the indicators of professional self-identification of students of aviation specialties across all years of study are presented in Figure 1.

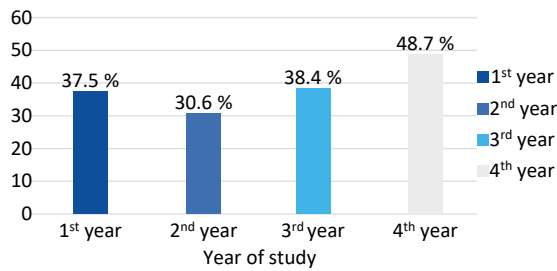


Figure 1. Quantitative indicators of the dynamics of professional self-identification among 1st-4th year aviation students

Source: developed by the authors

The analysis of the data presented in Figure 1 makes it possible to trace the dynamics of students' professional self-identification throughout bachelor-level training. The lowest level of professional self-identification was found among second-year students (30.6%), which is likely related to the process of adaptation to the requirements of the educational environment and the transition from general ideas about the profession to its actual content. At this stage of study, the curriculum is still dominated by basic and general education subjects, which do not always have a direct connection with future professional activity, leading to a temporary decrease in professional self-identification. First-year students are characterised by a higher level of interest in their future profession (37.5%), which can be explained by the novelty of studies, the romanticisation of the aviation field, and the high prestige of the chosen speciality. The responses of this group are dominated by emotionally coloured statements such as "I love aviation", "I will conquer the sky", and "I dream of becoming a flight attendant". From the third year onwards, a gradual increase in the level of professional self-identity is observed (38.4%), which is likely associated with the study of specialised and elective subjects, participation in practical training, and the first experience of professional interaction. The highest indicators were recorded among fourth-year students (48.7%), who demonstrate a stable awareness of their professional role. Their responses predominantly include clearly formulated statements reflecting the integration of professional identity, such as "I am a future pilot", "I will fly", and "I will restore the aviation industry of Ukraine". This indicates an increase in professional self-awareness and the development of the "professional self-image" in the course of training.

Despite the recorded positive dynamics in the development of professional self-identity by the fourth year, the results of the study indicate that this process is not complete for the majority of students. A significant proportion of respondents, even at the final stage of training, do not demonstrate a clearly formed awareness of their professional role. Insufficiently high levels of professional self-identification among senior students may indicate the need for targeted pedagogical influence and systematic support from the educational environment. It is likely that

some students are at the stage of rethinking or searching for their place in the profession, which necessitates the organisation of pedagogical guidance and psychological support. At the same time, another criterion of the cognitive component of the "professional self-image" of students of aviation specialities is personal reflexivity. To study this indicator, the method for diagnosing the level of reflexivity developed by A. Karpov and V. Ponomaryova was selected. A high level of reflexivity facilitates the aviation specialist's awareness of themselves as a subject of professional activity, the ability for continuous self-observation, analysis and correction of one's own actions, which is of crucial importance for ensuring flight safety and the effective performance of professional duties under complex and changing conditions. The analysis of the results obtained using this method showed that a high level of personal reflexivity was identified in 10.11% of 1st-2nd year students, whereas among 3rd-4th year students this indicator was recorded at 16.4%, which is 6.3% higher. A medium level of reflexivity was found in 23.5% of junior students and 30.7% of senior students, which is 7.2% higher compared to the junior group. In contrast, the proportion of students with a low level of personal reflexivity decreases from 66.2% in the junior years to 52.7% in the senior years, representing a difference of 13.5% (Fig. 2).

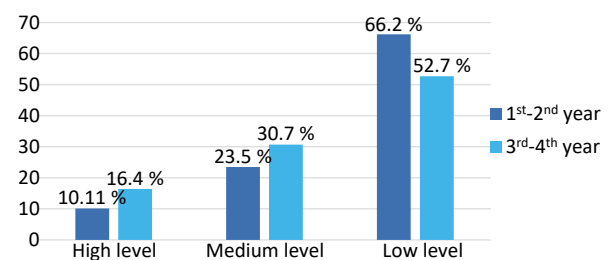


Figure 2. Differences in the dynamics of the level of reflexivity among students of aviation specialities in the 1st-2nd and 3rd-4th years, $n = 180$

Source: developed by the authors

The analysis of the obtained results demonstrated a gradual increase in the level of students' reflexivity depending on the year of study. This dynamic may be due to an increase in the level of professional self-identification, greater involvement in professional training, and a more detailed acquaintance with the future profession. This manifests itself in an increased ability to critically analyse one's own actions, correlate them with specific situations, and realise the need to make adjustments to one's own activities. At the same time, the predominance of a low level of personal reflexivity among junior students (66.2%) indicates an insufficient level of critical reflection on their own activity. At this stage of their studies, future aviation specialists are only mastering the basics of professional activity, so their reflective processes have not yet become systematic. The ability to analyse actions, self-assess and initiate changes in activities remains fragmentary, which

indicates the incomplete formation of the integrative function of reflection, which ensures awareness and regulation of professional activities. This psychodiagnostic tool makes it possible to assess the level of reflexivity in

three forms according to temporal criteria: situational, retrospective, and prospective. The mean scores on the scales were converted into sten scores in accordance with the instructions (Table 2).

Table 2. Mean scores on the scales of the diagnostic assessment of the level of reflexivity development by A. Karpov and V. Ponomaryova among students of aviation specialities

Scales	1 st -2 nd year (n = 89)	3 rd -4 th year (n = 91)
Retrospective reflection on activity	32.5	37.32
Situational reflection	39.3	35.12
Prospective reflection	33.28	36.5
Reflection on communication	30.14	32.8

Source: developed by the authors

According to the table data, the highest level of retrospective reflection is observed among 3rd-4th year respondents (37.32 points). This may indicate that senior students have greater educational and practical experience, which contributes to the comprehension of past actions, the analysis of mistakes, and reflection on their own professional development. In addition, compared to junior students, senior students demonstrate a higher level of prospective reflection (36.5 points), which points to the formation of professional self-determination, the actualisation of career plans, assessment of readiness for future professional activity, and anticipation of possible professional challenges. Among junior students, the highest score was recorded on the situational reflection scale (39.3 points). This indicator reflects direct involvement in a situation, analysis of its elements and conditions, as well as reflection on current actions, for example when performing learning tasks or practical exercises. Situational reflection helps 1st-2nd year students to orient themselves in a new educational environment, control their own actions, and adapt to the requirements of the educational process, which is natural at the initial stages of professional development. Retrospective and prospective reflection among junior students remain at a relatively low level (32.5 and 33.28 points, respectively), indicating a limited ability to establish connections between past experience, current activity and the anticipated future. This may also reflect a greater dependence on external circumstances and insufficient orientation towards shaping one's own professional future. Thus, an overall positive dynamic in the development of reflexivity among students of aviation specialities is observed as they progress from junior to senior years. In the 1st-2nd years, situational reflection predominates, ensuring orientation towards current activity, while levels of retrospective and prospective reflection remain low, indicating insufficient development of skills for critical comprehension of professional experience and limited capacity for strategic planning. In the senior years, retrospective and prospective reflection become more active as cognitive mechanisms that enable the analysis of past actions, forecasting the outcomes of future professional activity, and the formation of a holistic professional image. At the same time, it should be noted that a significant proportion of senior students

(52.7%) still demonstrate a low level of reflexivity, which highlights the need for systematic psychological and pedagogical support during the training of aviation specialists. The generalisation of the research results concerning the criteria of the cognitive component of the "professional self-image" of students of aviation specialities provides grounds to assert that its level of formation is moderate; however, it demonstrates positive dynamics and gradual growth in the process of professional training.

The results of the present study are consistent with the conclusions of K.Yu. Ushakova (2017), who focused on the professional self-concept of students of medical colleges and noted a tendency towards an increase in the number of highly moral traits in students' real and ideal self-representations. O.V. Stelmakh (2016), investigating the psychological conditions for the formation of the professional self-concept of future rescuers, pointed to the importance of activating self-awareness processes and ensuring the systematic development of all components of the concept, in particular the cognitive component, which determines the level of professional knowledge and perceptions of oneself as a specialist. These provisions are consonant with the present study, as they also confirm the importance of developing the cognitive component of the "professional self-image" for effective professional activity. R.V. Nevzorov (2018) noted that the motivational aspect in this context lies in the fact that the self-concept of a future pilot functions as an internal stimulus to acquire knowledge, develop skills and professional competences, forming interest, the need for planning, and the aspiration towards high professionalism. Studies by M.V. Patrul (2024; 2025) showed that the emotional-evaluative component of the "professional self-image" of students of aviation specialities is formed at a medium level with individual differences; it includes positive dynamics of self-respect and self-liking, while in some students an inflated self-esteem and unrealistic aspirations are observed, which emphasises the importance of developing this component for effective professional development and the formation of a responsible professional identity. With regard to gender differences, M.E. Chaparro *et al.* (2020) found that female pilots generally have a personality profile similar to that of male pilots, as indicators for most factors (neuroticism, extraversion,

agreeableness and conscientiousness) are largely equivalent; however, openness to experience among female pilots was found to be higher in most studies, while differences in agreeableness were inconsistent. In addition, the publication by N.D. Sazak & M. Rauch (2025) established that aptitude tests better predict practical success in flight training, whereas knowledge-based tests are mainly associated with the Airline Transport Pilot Licence, and personality questionnaires have limited predictive value in pilot selection. L. Onufrieva (2017) examined the process of forming the “professional self-image” as a result of gradual growth and self-identification of the individual in the chosen field of activity. The researcher emphasised that this image is formed in the course of maturation and professional self-determination, and that professional self-identification plays a key role in this process, ensuring an adequate awareness of one’s own capabilities and professional requirements. The obtained results are consistent with the conclusions of L. Onufrieva, as they also confirm the dynamic nature of the development of professional self-identification, which serves as an indicator of professional self-awareness (awareness of one’s role in professional activity and the formation of an appropriate attitude towards it). The identification of reflexivity as a criterion indicator of the cognitive component of the “professional self-image” corresponds with the findings of E. Simon (2024), who noted that a high level of development of reflective abilities is an important factor in the formation of a mature professional identity, manifested in a deep awareness of the content of professional activity and the image of the “professional self”. In the context of trait anxiety, which proved to be the only significant personality characteristic, J. Chen *et al.* (2025) established that it has a substantial impact on pilots’ stress responses in unexpected and threatening situations, whereas action style, error orientation and flight experience did not demonstrate a significant influence on cognitive and affective reactions, confirming the persistence of the role of anxiety even under conditions of professional pilot selection.

◆ Conclusions

The study showed that the cognitive structural component of the “professional self-image” of students of aviation specialities is characterised by a moderate level of development and a tendency towards gradual growth over the course of training. In the early years of study, situational reflection predominates, reflecting emotional

attitudes towards and interest in the profession, whereas in the senior years retrospective and prospective reflection become more active, contributing to the transformation of the “reflective self” into more concretised forms of the “active self” and the “social self”. This dynamic indicates a gradual awareness of one’s own professional self and highlights the need for systematic psychological and pedagogical support at different stages of training aviation specialists. An analysis of the source base confirmed the multidimensional nature of the “professional self-image”, which encompasses the past, present and future self and directly influences motivation, professional orientations and learning effectiveness. At the same time, the study of the content structure of the cognitive component revealed its heterogeneity: a high level of the “reflective self” in junior students decreases in senior years, which likely reflects the process of transition towards a more conscious and integrated professional self-determination. Despite positive trends, a significant proportion of students, even at the final stages of training, do not demonstrate a fully formed professional self-awareness, and the level of personal reflexivity remains relatively low, although an increase in the number of students with a medium level is observed. Thus, the formation of the cognitive component of the “professional self-image” occurs unevenly, which determines the need for targeted psychological and pedagogical intervention. Prospects for further research include the study of the features of manifestation and dynamics of the emotional-evaluative and behavioural components of the professional self, which will allow for a more comprehensive assessment of the process of forming professional self-identification among students of aviation specialities. In addition, it is advisable to analyse the influence of individual psychological characteristics and external professional conditions on the integration of all components of the “professional self-image”, which will contribute to the development of effective strategies for psychological and pedagogical support.

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Психологічні особливості прояву та динаміки когнітивного структурного компоненту образу «Я-професійний» студентів авіаційних спеціальностей

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♦ **Анотація.** Актуальність дослідження зумовлена необхідністю підготовки висококваліфікованих фахівців у різних сферах суспільства, здатних вирішувати завдання розвитку України на сучасному етапі. Особливо це стосується авіаційної галузі, де недостатньо досліджено психологічні характеристики, що впливають на формування вмотивованого та відповідального спеціаліста. Метою роботи було з'ясування особливостей формування й динаміки когнітивного структурного складника образу «Я-професійний» у майбутніх фахівців авіаційної галузі. У роботі застосовано комплекс психодіагностичних методик, зокрема М. Куна та Т. Макпартленд, А. Карпова та В. Пономарьової, які дозволили оцінити змістові та структурні характеристики критеріїв і показників структурного компонента образу «Я-професійний». Аналіз включав порівняння результатів між студентами 1-2 та 3-4 курсів, а також кількісний та якісний розгляд висловлювань респондентів щодо професійної самоідентифікації. Результати дослідження показали помірний рівень сформованості когнітивного компоненту образу «Я-професійний» з тенденцією до зростання протягом навчання. У молодших курсів домінує ситуативна рефлексія, що забезпечує орієнтацію на поточну діяльність, тоді як у старших курсів активізуються ретроспективна та проспективна рефлексії, що сприяє аналізу минулого досвіду та плануванню майбутньої професійної діяльності. Виявлено трансформацію внутрішнього сприйняття себе: зростає значення «діяльне Я» та «соціальне Я», тоді як «рефлексивне Я» дещо знижується. Проте частина студентів продемонструвала низький рівень рефлексивності, що підкреслює потребу в цілеспрямованому психолого-педагогічному супроводі. Практична цінність дослідження полягає у можливості використання отриманих даних для розробки програм професійної підготовки, спрямованих на стимулювання розвитку когнітивного компоненту образу «Я-професійний» та професійної самоідентифікації студентів авіаційних спеціальностей, а також для впровадження психолого-педагогічного супроводу на різних етапах навчання

♦ **Ключові слова:** підготовка фахівців; професійна діяльність; рефлексивність, самоідентифікація; «Я-образ»



Psychological determinants of the effectiveness of cybersecurity specialists

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◆ **Abstract.** The professional activities of cybersecurity specialists are becoming particularly relevant in the context of the digital transformation of society and the growth of cyber threats. The effectiveness of their professional tasks is largely determined by the formation of professionally important personality traits, which necessitates a scientifically based definition of psychological criteria for the professional and psychological selection of specialists in the field of cybersecurity. The aim of the study was to identify the psychological factors that influence the effectiveness of the professional activities of cybersecurity specialists by developing a psychogram that reflects the functional and dynamic structural components of the psyche that ensure their success at work. 120 cybersecurity specialists took part in the study. A set of psychodiagnostic techniques was used, in particular: Smirnov's "Motivational Structure of Personality" technique; Klimov's "Determining the Optimal Type of Profession" technique; Eysenck's personality questionnaire; a modified Landolt ring technique; Karamushka and Moskalyova's adaptive mobility technique; the analytical thinking test; methods for assessing long-term visual and working memory; Cattell's 16-factor personality questionnaire; Ryff's "Psychological Well-Being" method; Kokun's "Professional Resilience" method. Correlation and factor analysis were used to process the results. Five key components of the psychogram of cybersecurity specialists were identified: motivational, psychophysiological, cognitive, individual psychological, and social. It was determined that the leading component is motivational, the structure of which is dominated by motives of life support, social usefulness, and creative activity. In terms of temperamental characteristics, individuals with sanguine (40%) and phlegmatic (35%) types were found to be the most suitable. The cognitive sphere is characterised by a high level of analytical thinking and professional memory. The individual psychological profile includes practicality, firmness, normativity, self-control, and diplomacy. The social component is represented by a high level of professional resilience, control and acceptance of challenges. The developed psychogram can be used as a scientifically based tool for professional and psychological selection and career guidance of cybersecurity specialists, allowing to determine the suitability of candidates and predict the success of their professional activities

◆ **Keywords:** psychogram; professional and psychological selection; motivational component; psychophysiological properties; cognitive sphere; resilience

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◆ Introduction

The current stage of development of the information society is characterised by a rapid growth in cyber threats, which highlights the problem of ensuring the information security of organisations. The effectiveness of countering cyber threats largely depends on the professional competence of cybersecurity specialists, which necessitates a scientific justification of the psychological criteria for their professional and psychological selection. The issues of professional analysis of activities are discussed in detail in the work of K.O. Kushnirenko & N.D. Hordynia (2020), who focused on various areas of professional activity, in particular banking, trade and educational management. The peculiarities of the motivational sphere of professionals were considered in studies of professional motivation and its impact on performance. E. Voitenko & S. Myronets (2020) found that motivation determines 50% of professional success and psychological well-being. The structure of professional motives includes motives of personal work, social significance, self-affirmation, and professional skill. In the publication by L.I. Kolomiiets *et al.* (2023), motivation is defined as an internal drive that stimulates activity and determines a person's focus, influencing their behaviour, performance, professional self-determination and satisfaction with their work. Professional motivation is shaped by factors in the surrounding reality and by career guidance work carried out at school or in relevant career guidance centres. In general, career guidance is a dynamic, changing and continuous process that takes place under the constant influence of objective and subjective factors. The structure of professional motives can be identified at different stages of a professional's formation and development: at the stage of choosing a speciality, in the process of working in the chosen speciality, when changing jobs or transitioning from one job to another. M. Didukh (2021) examined the psychophysiological determinants of professional aptitude in the context of studying the typological features of the nervous system and their influence on the course of cognitive and sensorimotor processes. It has been proven that the course of cognitive and sensorimotor mental processes is associated with the typological characteristics of a person and practically does not change under the influence of training or learning. Temperament is determined by the type of nervous system and manifests itself in general activity, emotionality, and professional activity. The concept of individual style of activity as an indicator of professional suitability is important. Temperament in psychophysiology is considered as an individual-typological property of a person, which manifests itself in the strength, mobility and balance of the course of basic nervous processes. S. Boltivets *et al.* (2025) considered temperament to be a general characteristic of personality that determines the dynamics and uniqueness of an individual's inner life and determines their worldview, education and character. This general characteristic affects all vectors of human life and psyche. It has been proven that temperament is most clearly manifested in general activity, the emotional sphere and motor

skills, which significantly influence the formation of many professionally important qualities and competencies that determine a person's professional suitability. Psychophysiology considers the close connection between professional suitability and individual style of activity (ISA) as an indicator of professional suitability. ISA is a personality trait that is formed in the process of activity and under its direct influence through the active search for ways and means of action that enable the individual to adapt to the requirements of the profession and best perform professional tasks, as noted by O. Lavrentieva & O.P. Krupskiy (2022). The most important condition for the formation of ISA is the motivation and activity of the individual in professional activity. Cognitive aspects of professional activity are represented in studies of thinking, memory, and attention of specialists. The importance of analytical thinking for professions of the "human-sign system" type, which includes cybersecurity, has been established. Professional memory, which ensures the memorisation, storage, and activation of professionally significant information, is of particular importance. The cognitive sphere of the personality, in particular higher mental cognitive processes, which include such professionally significant cognitive components as thinking, memory, and attention properties, is of significant importance in choosing a career in cybersecurity and subsequent successful professional and career development. I. Prykhodko *et al.* (2022) have developed a step-by-step methodology for forming psychological profiles of professions, taking into account their specific requirements, which is based on a multi-criteria assessment of psychological and psychophysiological indicators and a comparison of the candidate's profile with a reference model of a successful specialist. Socio-psychological determinants are presented in the concepts of professional resilience and psychological well-being by O. Kokun & O. Bezverkhyy (2024). Resilience was considered by the authors as a system of beliefs about oneself, the world and one's relationship with it, which includes the components of inclusion, control and risk acceptance. Psychological well-being encompasses self-acceptance, positive relationships, autonomy, environmental control, life goals, and personal growth. Despite significant achievements in studying individual aspects of the professional activities of specialists, there is a lack of comprehensive research on the psychological determinants of the effectiveness of cybersecurity specialists in particular. Scientifically based criteria for their professional and psychological selection remain insufficiently developed. The aim of the study was to scientifically substantiate the psychological factors of effective professional activity of cybersecurity specialists by constructing a psychogram that represents the key functional and dynamic components of the psyche involved in ensuring professional success.

◆ Materials and Methods

The study involved 120 cybersecurity specialists working in organisations of various forms of ownership. Inclusion

criteria: at least one year of experience in cybersecurity, relevant education or certificates in information security. The study was conducted in 2024-2025 individually with each participant. The psychodiagnostic examination was carried out in two stages with an interval of 2-3 days to avoid respondent fatigue. The total duration of the examination was 4-5 hours. All participants were informed about the purpose of the study and gave their consent to participate. The study was based on the functional-dynamic structure of personality, which includes motivational, psychophysiological, cognitive, individual-psychological, and social components. The theoretical and methodological basis for studying professionally significant qualities was the functional-dynamic structure of personality by M. Korolchuk & V. Krayniuk (2006). Based on the prevalence of factor loads and the level of correlation with the integral indicator of performance, five factors were identified which, as structural components of personality, determine professionally important qualities and determine the success of professional activity. The motivational component was studied using Milman's "Motivational Structure of Personality" methodology and Klimov's "Determining the Optimal Type of Profession" methodology, which allow assessing the motivational orientations of the personality and their correspondence to professional interests. The psychophysiological component was studied using the following methodologies: Eysenck's personality questionnaire to determine the type of temperament; the Landolt Rings Test to assess information processing speed, accuracy, productivity, and endurance; the Karamushka and Moskalyova Adaptive Mobility Methodology; and the Stange and Genchi Functional Tests to assess the functional state of the respiratory and cardiovascular systems. The cognitive component was determined using Boltsev's analytical thinking test and methods for assessing long-term visual and working memory, which made it possible to assess the level of development of cognitive processes necessary for effective work with information. The individual psychological component was studied using Cattell's 16-factor personality questionnaire, which made it possible to identify a wide range of personality characteristics. The social component was studied using Ryff's Psychological Well-Being and Kokun's Professional Resilience methodologies, which allow for the assessment of subjective feelings of life satisfaction and the ability to function effectively in a professional environment. Mathematical statistics methods were used to process the empirical data: descriptive statistics, Pearson's correlation analysis, factor analysis using the principal component method with Varimax rotation. Statistical processing was performed using the SPSS Statistics 23.0 software package. The critical level of significance was set at $p < 0.05$. The study was conducted in accordance with international ethical guidelines for health-related research involving human subjects, developed by the Council for International Organizations of Medical Sciences in collaboration with the World Health Organization (CIOMS, 2016).

◆ Results and Discussion

An analysis of the results of a study of the motivational sphere of cybersecurity specialists has made it possible to identify a hierarchy of leading motives that determine their professional activity and focus. In first place are life support motives, aimed at material prosperity and health preservation. These motives directly affect earnings and are related to maintaining one's own health, which is especially important in conditions of intense mental activity (Bertash *et al.*, 2024). In second place is the motivation of social usefulness, associated with a sense of usefulness, responsibility, demand and respect in the team. Respondents feel satisfaction and a sense of authority in their professional environment, which increases their commitment to work. Creative activity ranks third – the desire to acquire new knowledge, innovations and inventions. Such respondents are motivated by discoveries in the course of their professional activities and derive satisfaction from this. They strive for innovation and the introduction of new technologies in the field of cybersecurity. Fourth place goes to social status – the desire for professional improvement and career growth. To this end, the individual is active in gaining authority among specialists in the organisation and participates in professional conferences and events. The fifth place in the ranking is occupied by the characteristics of the individual's general activity. Such individuals are focused on work, achieving success in life, learning, improving their qualifications, and obtaining new information. The sixth position is related to the desire for comfort, i.e., the ability to provide oneself with comfortable working conditions, as well as to relax and have fun. The seventh position in the ranking of the motivational structure of cybersecurity specialists belongs to communication. This means communication in informal and business settings to gain authority and recognition in the organisation, participation in certain meetings, conversations, communication with family members and friends. In terms of interest in certain types of professions, cybersecurity specialists have a clear preference for professions of the "human-symbol system" type, which manifests itself in working with numbers, symbols, information, developing programs for computing technology, searching for and correcting errors. At the average level, there is a pronounced inclination towards "human-technology" professions, which manifests itself in a tendency to process materials, construct, design and manufacture finished products. Interest in "human-human" professions was less pronounced. When studying the motives for professional activity, they are conditionally divided into four groups: motives for chosen work, motives for socially significant work, motives for self-affirmation in professional activity, and motives for professional mastery (Voitenko & Myronets, 2020). The motives for choosing a profession are manifested in curiosity about the process of professional activity, its results, and the opportunity to derive satisfaction from it. The motives for the social significance of work are manifested in the fact that the individual strives to benefit those around them through their work. It

has been found that, as a result, the most significant motives in the motivational profile of cybersecurity specialists are social usefulness and creative activity, while in the general life profile, the most significant are life support and social status. Figure 1 shows the results of the analysis of the temperamental characteristics of the participants, which made it possible to characterise individual differences according to the main typological indicators.

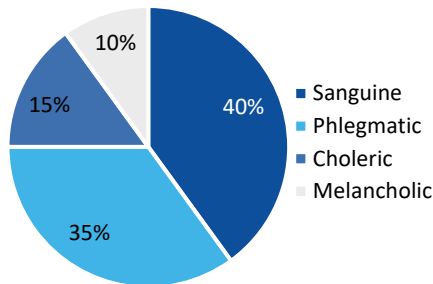


Figure 1. Results of the study
of temperamental characteristics of cybersecurity specialists
Source: compiled by the authors

The analysis of temperamental characteristics showed that among cybersecurity specialists, sanguine (40%) and phlegmatic (35%) temperament types predominate, while choleric (15%) and melancholic (10%) types are represented to a lesser extent. The obtained data indicate the dominance of temperament types that are considered the most adaptive for professional activity under conditions of increased cognitive load and responsibility. Sanguine individuals are characterised by balance, strength, and mobility of the nervous system; they adapt quickly, are initiative-taking and communicative. Such individuals adapt rapidly to changing conditions, are active, and are able to achieve their goals, thus possessing professionally important qualities required for cybersecurity specialists. Phlegmatic individuals have a balanced but inert nervous system, which manifests in diligence, the ability to perform prolonged routine work, and the capacity to complete tasks thoroughly. Such individuals adapt more slowly; however, their adaptation is stable and sustainable. Professionally important qualities in individuals with a phlegmatic temperament are expressed at a high level, enabling them to achieve their professional goals. As for individuals with a choleric temperament, they are characterised by a strong nervous system that is extremely unbalanced and highly mobile. Temperamental manifestations in choleric individuals depend on personality orientation, and under certain conditions they may achieve professional success. At the same time, these individuals are extremely active, emotionally unstable, irritable, and prone to frequent changes in decisions and plans. Activity and optimism are positive manifestations when combined with socially oriented goal-setting. However, such negative traits as impulsivity, irritability, instability, and affectivity are behavioural characteristics that may hinder the effective professional activity of

cybersecurity specialists (Korolchuk & Krainiuk, 2006). Individuals with a melancholic temperament were the least represented in the sample. Such individuals have a weak nervous system that is low in mobility and poorly balanced. They tend to be pessimistic, reserved, anxious, and vulnerable to obstacles, and are extremely sensitive to the problems of others. These temperamental characteristics do not contribute to effective professional activity in the field of cybersecurity (Teptyuk, 2021). Overall, the sanguine and phlegmatic temperament types were most frequently observed in the sample, which corresponds to the requirements of professional activity for cybersecurity specialists.

According to the Landolt Rings method, high and medium levels of information processing speed, productivity, accuracy, and endurance were identified among the participants. These indicators serve as criteria for professional and psychological selection (Bertash *et al.*, 2024). This method makes it possible to determine the main parameters of an individual's work capacity based on interpretative criteria such as the speed of information processing in the visual analyser, excitation strength, inhibition, and balance. A high level of functional characteristics of the respiratory and cardiovascular systems, as demonstrated by the results of the Stange and Genchi functional tests, determines an appropriate level of adaptive mobility in specialists (Udod, 2021). With regard to adaptive mobility indicators, the most pronounced characteristics were the ability to adapt to new living and working conditions, assume responsibility, switch tasks easily, and a tendency towards monotonous work. A high level of openness to new ideas, their implementation, a creative approach to problem-solving, and innovative transformation of tasks was also identified. The participants demonstrated readiness to solve urgent tasks quickly, resist destabilising influences, and maintain an orientation towards achievement and success. L.M. Karamushka *et al.* (2022) noted that the set of scale indicators reflects the diversity of individual adaptive characteristics depending on the capacity for rapid change and adjustment to activity conditions, acceptance of new ideas, and the ability to implement them. Such manifestations of adaptive capacity among the participants make it possible to assess personal readiness for adaptation in new conditions of professional activity. In general, it was established that, in terms of temperamental characteristics, individuals with pronounced sanguine and phlegmatic temperament types are the most suitable for cybersecurity activities. At the same time, given a high level of motivation, well-developed motivational qualities, and individual orientation towards socially significant goals, a positive assessment of professional and psychological suitability is also possible for individuals whose functional characteristics of the nervous system were found to be lower.

In the context of the cognitive component, a high level of analytical thinking was established among the respondents. Analysis, synthesis, comparison, generalisation of information, and formation of conclusions are professionally significant for the prevention and elimination of challenges

in the field of cybersecurity (Jachens, 2019). The high level of thinking is based on the analytical and synthetic function of mental operations, which provides the basis for the practical implementation of analytical conclusions in the professional activities of cybersecurity specialists. Practical thinking is considered an intellectual activity aimed at solving professional tasks. It cannot be carried out without mnemonic knowledge, skills, and the ability to memorise and activate professional information. For cybersecurity specialists, the skills of memorising symbolic digital information related to the causes and consequences of security incidents are professionally significant. At the same time, it is necessary to be able to filter professionally significant information to ensure the information security of the organisation. Preventing and counteracting information risks in the field of security is a professional necessity that determines the level of professionalism of a cybersecurity specialist in an organisation. All mental cognitive processes, states, and properties of education form a single whole. To solve practical problems of professional and psychological selection, a scientific and methodological approach makes it possible to identify and analyse each psychological component of the cognitive sphere separately (Korolchuk & Krainiuk, 2006). It is through thinking that the harmonious combination of individual cognitive processes of the cognitive sphere takes place, thus forming human intelligence, which ensures individual characteristics of manifestations in the process of learning and professional activity. A high level of analytical thinking, combined with developed long-term and working memory, enables specialists to make adequate decisions regarding security in an organisation. Thanks to a high level of analytical thinking, all professionally significant information for cybersecurity in the organisation, which is stored in long-term and working memory, enables specialists to make and propose adequate decisions regarding security in the organisation.

The following individual psychological characteristics have been established according to their degree of significance in accordance with Cattell's methodology. The most pronounced is the practicality factor (factor M), which characterises motivation for success, focus on practical tasks and generally accepted norms, interest in specific facts and circumstances, and focus on reality. The second most significant factor is firmness (I), which determines responsibility, integrity, realism, and understanding of practical circumstances. Such a person takes responsibility, relies on themselves, and acts in accordance with their understanding of immediate practical circumstances. The normativity factor (G) means persistence in achieving goals, willingness to adhere to social norms and overcome difficulties. Such a person is very persistent and determined in achieving their goals and is able to overcome difficulties. The self-control factor (Q4) characterises a high level of willpower, discipline, a desire to strictly comply with the requirements of the organisation and control emotions. Such a person has a high level of willpower, self-control, discipline, strives to accurately fulfil the social requirements of the organisation,

control their emotions, and care about their reputation in the organisation. The diplomacy factor (N) determines effective interaction, tact, understanding of people's mental states, and the ability to resolve conflicts. Such a person has trained self-control, aesthetic sense, tact, knows people's mental states and is able to regulate relationships and conflicts. In addition, such people are characterised by emotional stability, which is characterised by stress resistance and the ability to overcome difficulties. At the same time, with regard to openness and willingness to interact, caution and prudence are necessary in this case, and this is a professionally significant trait for cybersecurity specialists (Teptyuk, 2021). These results confirm the importance of volitional and regulatory qualities for professions of high responsibility, which is consistent with studies of individual psychological determinants of professional effectiveness (Kushnirenko, 2018). It has been determined that the most significant individual psychological components are practicality, which determines integrity, responsibility and professional motivation, as well as firmness, bringing matters to a logical conclusion; normativity, which determines perseverance, goal achievement and adherence to social norms.

Within the social component, according to Kokun's "Professional Resilience" methodology, it has been established that among the components of resilience, the level of professional control prevails, which indicates the ability of specialists to effectively regulate their own activities in a professional environment. For cybersecurity specialists, this is a professionally significant feature – constant control and mutual control contribute to the information security of the organisation. According to the author's interpretation of the methodology, when for certain reasons it becomes difficult or impossible to predict information challenges in advance in order to prevent them, such individuals believe that constant control and mutual control contribute to information security in the organisation. At the same time, cybersecurity professionals also believe that self-control for the organisation's cybersecurity is ultimately beneficial. The second most important factor is the level of professional acceptance of challenges, which consists of increasing responsibility and performance in non-standard situations. This is an important criterion of professionalism, which consists in the fact that the occurrence of non-standard situations at work increases a person's professional responsibility and does not reduce their performance, but rather increases their focus on success. The increased responsibility of each employee and the ability to organise personal and joint work to overcome cybersecurity challenges or threats in the organisation have a positive impact on the final result and security in the organisation. Cybersecurity specialists must be able to work continuously for long periods of time to eliminate threats, even in conditions of uncertainty. According to the author of the methodology, the characteristics of the level of professional involvement were less pronounced than those of professional control and professional challenges. At the same time, such individuals are characterised by an

average level of satisfaction with the work process, and they need to maintain and focus their attention on their professional responsibilities. The most pronounced components of resilience are motivational, professional and emotional. The motivational component manifests itself in the desire to be knowledgeable about security issues, to take personal responsibility, and to constantly monitor achievements in the field. It manifests itself in the desire to be constantly aware of all security issues in the organisation, focus on solving them, take personal responsibility, eliminate non-standard situations, and work to overcome and prevent them. To this end, there is a tendency to constantly monitor achievements in the field of cybersecurity and implement them in the organisation. The professional component is represented by a focus on verifying compliance with cybersecurity requirements and a desire for professional growth. It manifests itself in the focus of cybersecurity specialists on verifying compliance with the requirements set by the organisation for its cybersecurity and how they are implemented by employees, as well as the desire for professional growth in the field of IT security (Bertash *et al.*, 2024). The emotional component is characterised by the ability to function effectively in stressful conditions. Emotional stability as a component of a specialist's resilience is defined as a professionally significant feature for cybersecurity specialists, as it significantly affects the success of their activities, especially when there is a shortage of time, information, or work in stressful conditions (Voitenko & Myronets, 2020). In the professional activities of specialists, this manifests itself in situations of sudden unforeseen professional challenges, but their resolution does not cause irritation in the professional, but is accompanied by activity to overcome them, and it is this process that brings success and emotional professional satisfaction. The social component of resilience manifests itself in interaction with employees, the ability to mobilise colleagues at work, and direct them towards teamwork to overcome security challenges, which characterises the professionalism of a cybersecurity specialist. This is particularly evident in the ability of specialists to interact socially with colleagues in non-standard situations, as well as when it is necessary to quickly resolve unusual, non-standard issues.

According to Ryff's "Psychological Well-Being" methodology, a hierarchy of indicators has been established: life goals, meaningful life management, autonomy, personal growth, self-acceptance, and positive relationships with others. The highest rating for life goals means having clear life goals and a well-developed sense of purpose, awareness of one's direction in life and destiny. Meaningful control over one's life indicates the ability to effectively plan and control one's environment, organise one's life and feel in control of one's surroundings. Autonomy manifests itself in the ability to resist social pressure and make independent decisions, act independently of the influence of others, and feel a sense of internal control over one's personality. Personal growth consists of a sense of continuous self-development, self-improvement, and realisation of one's potential.

Self-perception is a positive attitude towards oneself, as well as positive recognition and acceptance of one's past and personal diversity with negative and positive characteristics (Karamushka *et al.*, 2022). A lower assessment of positive relationships with others may be professionally motivated – cybersecurity requires a certain degree of caution in relationships. Cybersecurity professionals must maintain restrained positive relationships and, at the same time, they must not go beyond the level of trusting, close relationships. Cybersecurity requires a certain degree of caution and suspicion in relationships with colleagues and others. These results are consistent with L. Jachens' (2019) study of professional well-being, which showed the specificity of its structure depending on the characteristics of professional activity. The results obtained allow to consider the psychogram of cybersecurity specialists as a system of five interrelated components. The combination of life support, social utility, and creative activity motives creates an optimal motivational profile for long-term effective activity in the field of cybersecurity. The significance of the psychophysiological component is consistent with the results of A. Drozdovski (2015), which demonstrated the determinism of professional suitability by the typological properties of the nervous system, in particular the strength, balance and mobility of nervous processes. The advantage of sanguine and phlegmatic temperament types is explained by the need to combine activity with attentiveness and consistency in information security work. The determination of the level of suitability is not limited to the general psychophysiological characteristics of a person's personality, but also includes motivation, activity, the level of cognitive sphere, individual psychological and typological characteristics of the personality. The typological properties of the nervous system are decisive for the work of a specialist in extreme conditions. The results obtained were consistent with the study of professional motivation by Ø. Jøsok *et al.* (2019), which showed the importance of internal motives for intellectual professions. A high level of cognitive component corresponds to the specifics of the activities of cybersecurity specialists, which belong to the "human-sign system" type of professions and require constant work with large amounts of information. An individual psychological profile with pronounced indicators of practicality, self-control and diplomacy ensures effective interaction in a professional environment and an adequate response to crisis situations. The structure of the social component, dominated by control and acceptance of challenges, reflects the specifics of the profession, which requires constant vigilance and readiness for non-standard situations. Features of psychological well-being with a lower rating of interpersonal relationships may be adaptive for a profession that requires a certain degree of caution in communication. As noted by J. Dawson & R. Thomson (2018), the social component in the system of professional and psychological selection of cyber specialists is of significant importance due to the fact that disposition, i.e., personality traits, influences a person's readiness for

consistent behaviour, effective interaction, achievement of goals, and well-being in a specific social and professional environment. In turn, in the study by V. Barko *et al.* (2020), the individual psychological characteristics of professionals were analysed within the framework of factor models of personality. The authors established the significant role of such traits as responsibility, normativity, self-control and emotional stability in ensuring professional effectiveness. A study of psychological selection for the National Guard of Ukraine by I. Dekhtyarenko (2022) showed that it is based on both qualitative and clearly defined quantitative criteria for assessing professional suitability, which ensures the effective performance of tasks, especially in conditions of martial law. In addition, the selection and support system provides for the protection of psychological health, minimisation of the impact of stress factors in combat operations, timely psychological correction work and support for the psycho-emotional state of military personnel.

◆ Conclusions

Based on empirical research, a psychogram has been developed that reveals the functional and dynamic structural components of the psyche that determine the effectiveness of their professional activities. Five key components of the psychogram have been identified: motivational, psychophysiological, cognitive, individual psychological, and social. The leading component is motivational, the structure of which is dominated by motives of life support, social usefulness, and creative activity with a pronounced interest in professions of the “human-sign system” type. The results also showed that the psychophysiological and temperamental characteristics of cybersecurity specialists meet the requirements of professional activity in conditions of increased cognitive load, with a predominance of sanguine and phlegmatic temperament types, high indicators of working capacity, adaptive mobility, and functional reserves of the organism. It was found that specialists with sanguine

and phlegmatic temperament types, high levels of information processing speed, productivity, accuracy and adaptive mobility are the most suitable in terms of psychophysiological characteristics. These indicators can be used as criteria for professional and psychological selection. The professional significance of the cognitive component, characterised by a high level of analytical thinking, long-term visual and working memory, which ensure quick and adequate decision-making regarding the elimination of information threats, is emphasised. The individual psychological profile of successful cybersecurity specialists has been determined, which includes practicality, firmness, normativity, emotional and volitional self-control, and diplomacy with the necessary caution in interpersonal relationships. The analysis confirmed that the social component is represented by a high level of psychological well-being with a predominance of life goals, meaningful life management and autonomy, as well as professional resilience with pronounced indicators of control, acceptance of challenges and a motivational component. Prospects for further research may focus on a more in-depth study of the dynamics of the structural components of the psychogram of cybersecurity specialists at different stages of professional development, as well as in the development and empirical testing of programmes for professional and psychological selection, training and psychoprophylaxis, taking into account the identified motivational, psychophysiological, cognitive, individual psychological and social determinants of effective professional activity.

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Психологічні детермінанти ефективності діяльності фахівців з кібербезпеки

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♦ **Анотація.** Професійна діяльність фахівців з кібербезпеки набуває особливої актуальності в умовах цифрової трансформації суспільства та зростанні кіберзагроз. Ефективність виконання ними професійних завдань значною мірою визначається сформованістю професійно важливих якостей особистості, що зумовлює потребу у науково обґрунтованому визначенні психологічних критеріїв професійно-психологічного відбору фахівців у сфері кібербезпеки. Метою дослідження було виявлення психологічних факторів, що впливають на ефективність професійної діяльності фахівців з кібербезпеки, через розробку психограми, яка відображає функціонально-динамічні структурні компоненти психіки, що забезпечують їх успішність у роботі. У дослідженні взяли участь 120 фахівців з кібербезпеки. Використано комплекс психодіагностичних методик, зокрема: методику «Мотиваційна структура особистості» Смірнова; методику «Визначення оптимального типу професії» Клімова; особистісний опитувальник Айзенка; модифіковану методику з кільцями Ландольта; методику адаптаційної мобільності Карамушки та Москальова; тест аналітичного мислення; методики оцінки тривалої зорової та оперативної пам'яті; 16-факторний опитувальник особистості Кеттелла; методику «Психологічне благополуччя» Ріфф; методику «Професійна життєстійкість» Кокуна. Для обробки результатів застосовано кореляційний та факторний аналіз. Встановлено п'ять ключових компонентів психограми фахівців з кібербезпеки: мотиваційний, психофізіологічний, когнітивний, індивідуально-психологічний та соціальний. Визначено, що провідним є мотиваційний компонент, у структурі якого переважають мотиви життєзабезпечення, соціальної корисності та творчої активності. За темпераментальними особливостями найбільш придатними виявилися особи з сангвінічним (40 %) та флегматичним (35 %) типами. Когнітивна сфера характеризується високим рівнем аналітичного мислення та професійної пам'яті. Індивідуально-психологічний профіль включає практичність, твердість, нормативність, самоконтроль та дипломатичність. Соціальний компонент представлений високим рівнем професійної життєстійкості, контролю та прийняття викликів. Розроблена психограма може використовуватись як науково обґрунтований інструмент для професійно-психологічного відбору та профорієнтації фахівців з кібербезпеки, дозволяє визначати рівні придатності кандидатів та прогнозувати успішність їхньої професійної діяльності

♦ **Ключові слова:** психограма; професійно-психологічний відбір; мотиваційний компонент; психофізіологічні властивості; когнітивна сфера; життєстійкість



Self-control and fear of death in seafarers' wives: The role of laughter as a regulatory factor

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◆ **Abstract.** The study's relevance is justified by the increased indicators of existential anxiety and death fear amid global instability, military conflicts, and increasing professional risks. These are manifest especially in the families of seafarers, whose wives for a long time remain in a state of uncertainty and emotional tension. This study aimed to investigate the manifestations of death fear, the level of psychological self-control, and the role of laughter as a resource for emotional regulation in the wives of seafarers. The study employed theoretical methods of analysis, systematisation, and generalisation of approaches to the problems of death fear and self-control, as well as empirical tools, including the Self-Efficacy Scale, the Locus of Control Scale, the Death Attitude Scale, the Spielberger Anxiety Scale, the Purpose-in-Life Test, the Personal Death Fear Questionnaire, and the Differential Loneliness Experience Questionnaire. The data were processed by calculating the mean, median, and mode, as well as the Shapiro-Wilk and Spearman statistical tests. The results show that the overall level of death fear in the majority of the respondents ranges from low to moderate, and is accompanied by relatively preserved psychological self-control and a high level of self-efficacy. An elevated level of background anxiety caused by long waiting and uncertainty was detected; however, an intense fear becomes relevant only in the context of specific danger. The use of laughter has been found to correlate with low levels of affective tension, high emotional stability, and a high ability for self-regulation. Laughter not only performs a regulatory function, but also a sense-making one, contributing to the inclusion of death fear into the general context of life values and maintaining psychological resilience. At the same time, a group at increased psychological risk has been identified, characterised by a high level of anxiety and low self-control. The practical significance of the research lies in the possibility of using its results in the development of a system of psychological support and consulting services for the wives of seafarers, aimed at enhancing self-control, resilience, and adaptive mechanisms of emotional regulation using laughter therapy

◆ **Keywords:** coping strategies; self-efficacy; locus of control; meaning in life; existential anxiety

◆ Introduction

The global processes of the present, such as military conflicts, growth in the level of uncertainty, instability of the security environment, and socio-economic crises, have led to increased stress among the broad masses of the population. All this has an especially pronounced impact on the families of persons in dangerous professions, in particular

seafarers, whose professional activity is associated with long periods of separation from the family, a high level of professional risk, and constant danger to life, as noted by A. Khodabakhshi-Koolaei *et al.* (2022). The wives of seafarers most often experience a long period of uncertainty, which increases emotional tension, forms certain

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mechanisms of psychological adaptation, and requires research in the context of modern psychological knowledge. One of the most important components of adaptation to stressful, existential situations is psychological self-control. In research by H. Katolyk (2022) and K.A. Kosenko (2020), it is understood as an integrative system of cognitive, emotional, and behavioural processes, due to which a person can regulate their emotional reactions, restrain their impulsiveness, and realise actions according to their internal purposes. Self-control has been shown to be crucial in preserving mental health under conditions of prolonged uncertainty and stress, which is typical for families of maritime professionals. No less important is the phenomenon of fear of death, the acuteness of which increases during the period of the crisis. The data obtained by Ye.V. Stepura (2022) and G. Pallotta *et al.* (2022) testify to the significant strengthening of the existential concern in the conditions of informational uncertainty, physical distance, and impossibility to control the situation. During the full-scale war in Ukraine, this anxiety becomes even more pronounced among civilians, especially women whose partners are exposed to dangerous conditions. According to M. Jezewska & I. Leszczynska (2023), fear of death in seafarers' wives may constitute a chronic background experience that affects both emotional state and mechanisms of self-regulation. Of particular scientific interest is the question of which psychological resources may mitigate the impact of fear of death on self-control mechanisms. P.T.P. Wong (2020) emphasises that positive emotions, including humour and laughter, promote cognitive flexibility, restoration of emotional balance, and a reduction in the effects of stress. Despite the extensive representation of fear of death and self-control in the international scientific literature, there is a notable lack of studies examining these phenomena specifically among seafarers' wives, that is, women who remain in a prolonged stress-inducing state due to their partners' professional activities. The problem of the potential influence of laughter on the effect of existential anxiety on the level of psychological self-control in this vulnerable group remains poorly understood. Another factor determining the relevance of the chosen topic is the complex of interrelated circumstances. Firstly, the topic is relevant due to the wartime situation in Ukraine, which dramatically aggravates the problems of experiencing mortality, increasing anxiety and psychological resilience among the civilian population (UNICEF, 2023). At the same time, a significant number of families of seafarers who traditionally live in the coastal regions of Ukraine, in particular, in the Odesa Region, form a specific social risk group that is exposed to increased psychological risk due to the long-term absence of partners and uncertainty about their safety. The relevance of the study is also caused by a relatively narrow range of scientific research focused on psychological resources contributing to coping with the consequences of prolonged uncertainty in the wives of seafarers. In addition, the contemporary psychological literature includes only a limited number of studies in which the

phenomena of self-control, fear of death, and laughter are considered within a single theoretical model, which further emphasises the scientific relevance of the chosen research direction. This study aimed to establish the relationship between the fear of death and the level of psychological self-control in the wives of seafarers, and to identify the role of laughter as a potential mechanism for regulating this relationship. To achieve this aim, the following objectives were formulated:

- 1) to analyse the modern theoretical ideas concerning the study of the fear of death, psychological self-control, and the role of laughter;
- 2) to study the level of manifestation of the above phenomena in the sample of wives of seafarers;
- 3) to evaluate the potential of laughter to overcome existential anxiety.

◆ Literature Review

Psychological self-control is a critical component of the individual's adaptive and regulatory resources, which provide the possibility of purposeful behaviour, emotional regulation, and behavioural conformity to social norms in critical and stressful situations. In the conditions of increased uncertainty and prolonged separation, which are inherent in the families of seafarers, self-control is of particular importance since it allows women to maintain inner balance, functional capacity, and behavioural consistency in the event that external conditions become threatening or unpredictable. Psychological self-control is viewed as a complex, multilevel construct integrating cognitive (awareness of one's emotions, planning one's actions), emotional (regulation of emotional states), and behavioural (control of impulsivity and formation of adaptive behavioural strategies) components. Due to its multilevel nature, it acts as an inner resource that enables the individual to reduce the negative impact of stressors, overcome increased anxiety, and process existentially significant experiences, including the fear of death. Well-developed self-control promotes psychological stability and translates destructive emotional energy into constructive behavioural forms aimed at achieving significant life goals. At the same time, the level of psychological self-control is directly related to the quality of self-attitude. L. Terletska & I. Kukhar (2020) emphasised that self-confidence and a positive self-perception are associated with a lower propensity towards fears and phobias. The emotional state of fear is produced by the instinct of self-preservation and is revealed in a sharp emotional experience caused by a real or imaginary threat. Fear is endowed with a negative emotional sign; the reasons for its occurrence may be subjective (motivational properties and features of emotional-volitional regulation) and objective (situational complexity and circumstances hindering activity). Within the theories of emotional regulation, fear is understood as a complex, multidimensional phenomenon distinguished by different degrees of intensity. The sequence "anxiety – alarm – apprehension – fear – terror – panic", proposed by

M.M. Movchan (2019), shows the complication of the assessment of the danger, the growth of the dynamics of emotional tension. Of particular importance is the need to distinguish fear from anxiety. Thus, R. Kindred *et al.* (2022) noted that anxiety is nonspecific, occurs when there is an indefinite threat, and is closely associated with imaginary interpretations of the future, while fear occurs in response to specific danger. For wives of seafarers, anxiety is often chronic, background, caused by the need for a long wait for news from their husbands and uncertainty about the real conditions of service. The occurrence of fear is caused by the arrival of threatening news – about a storm, an accident, a threat to the ship, or to the health of the crew members. Both states have an affective component, reduce the quality of self-regulation, and contribute to the exhaustion of internal resources.

The existential aspect of the fear of death is represented in the research of I.D. Yalom (1980) and V. Frankl (2023). According to V. Frankl, the ability to find meaning in life is the main mechanism for overcoming life's difficulties, especially in the conditions of limited experience. Death is comprehended not only as the end of biological life, but also as a threat of losing meaning, values, and one's own mission. Based on the results of empirical research, I.D. Yalom showed that the fear of death is not homogeneous, it consists of several components: fear of pain, the end of life plans, concern for loved ones, and uncertainty about what happens after death. For women whose husbands serve under conditions of increased risk, these components become especially relevant, since they are associated with a lack of control, the absence of direct influence on what is happening. In the context of identifying resources to overcome the fear of death and maintain self-control, the phenomenon of laughter is of particular relevance. Thus, O.S. Ivanova (2024) considers laughter as a reaction to a situation that contains elements of incongruity, absurdity, surprise, and as a mechanism for emotional recovery. From the psychophysiological perspective, laughter is associated with a change in facial expressions, muscle tension, posture, breathing and movement; from the psychological perspective, it is associated with the need for a change in the emotional state and a decrease in inner tension. The meanings of laughter at the personal level can be physiological (catharsis) or intellectual (reappraisal), which defines its regulatory nature. Laughter also has sociopsychological functions: it is a manifestation of openness, a way to communicate with others and to expose one's vulnerability. In uncertain and stressful situations, it strengthens the feeling of belonging and cooperation, contributes to the formation of a social support system, and decreases the feeling of psychological isolation. For wives of seafarers who, along with family obligations, experience ongoing concerns about the dangers encountered by their husbands, laughter can be a means to regain psychological energy, to relieve emotional strain and can be one of the mechanisms for coping with existential fear. From the cultural and psychological perspective, laughter is considered a universal reaction to the

world, which helps to unite contradictory experiences, to find a balance between the serious and the non-serious, to transcend everyday routine, and to maintain psychological integrity. According to O.S. Ivanova (2024), laughter can be a factor of making sense, a means of supporting inner freedom and a factor contributing to the development of spiritual openness. In the framework of this study, this presupposes the interpretation of laughter as a potential regulatory mechanism that weakens the influence of fear of death and promotes psychological self-control in wives of seafarers. In families of seafarers, laughter can have a special role:

- ✦ reduce levels of tension caused by prolonged uncertainty;
- ✦ maintain emotional contact between partners despite physical distance;
- ✦ mitigate the influence of fear of death and existential anxiety;
- ✦ contribute to shifting the focus of attention from threats to resources and opportunities;
- ✦ consolidate unity and mutual support in the family system.

From the perspective of making sense, laughter plays the role of an inner detonator that allows individuals to take a step back from interpretations of events that are saturated with threat, to restore a sense of inner freedom, and to resume contact with their inner values. This is particularly important for wives of seafarers who, in their daily lives, often combine a high sense of responsibility with emotional vulnerability due to the occupational hazards faced by their husbands. An analysis of the theoretical concepts presented above regarding psychological self-control, fear of death and the regulatory potential of laughter gives reason to state that these phenomena are systemically connected and influence the psychological functioning of wives of seafarers in a state of chronic uncertainty and high existential tension. Self-control serves as a basic mechanism for the regulation of emotions and behaviour, which enables the preservation of inner stability in conditions in which direct influence on dangerous or risky situations (related to the professional activities of the husband) is absent. Fear of death, as a complex and multifaceted phenomenon, is intensified by an information vacuum, environmental instability, and a perceived lack of control, which are inherent to the lives of families of seafarers. The experiential structures of wives in this professional group include both actualised fear (e.g. fear of the loss of a loved one) and background existential anxiety (related to potential threats and decreased feeling of security (Kastenbaum & Moreman, 2018)). Laughter here also plays the role of a significant adaptive resource and coping strategy that facilitates a decrease in psychological tension, return of the feeling of subjective control, enhancement of social support and revaluation of existential experiences. The emotional-cognitive and socio-psychological potential of laughter contributes to the attenuation of the fear of death and an increase in the adaptive potential of the individual.

Thus, the theoretical analysis demonstrates that laughter can be considered a crucial factor for the preservation of psychological self-control and overcoming the existential anxiety of seafarers' wives. Its inclusion in the system of psychological support of these women could promote the development of resilience, emotional stability and optimisation of adaptive processes.

◆ Materials and Methods

The study of psychological self-control, fear of death and the role of laughter as a regulatory factor in the sample of seafarers' wives was carried out in the framework of a comprehensive scientific research that included theoretical analysis, empirical research and quantitative and qualitative processing of the obtained data. The methodological basis of the research was directed at providing validity, reliability and reproducibility of the results by other scientists. The research consisted of three main stages. The first stage had a theoretical and analytical character and was aimed at a comprehensive study of the problems of self-control, fear of death and laughter as a coping resource in modern psychological science. At this stage, theoretical methods of analysis, synthesis, systematisation and generalisation of philosophical, pedagogical, psychological and physiological concepts related to the phenomenon of fear of death and self-control were used, as well as analysis of the scientific literature. In particular, the articles by I.D. Yalom (1980), J.E. LeDoux (1996), and V. Frankl (2023) were analysed, which made it possible to form the conceptual framework of the research and to identify the main variables for the subsequent empirical study.

The second stage of the research involved the preparation of psychodiagnostic instruments, the coordination of the empirical data collection procedure, and the formation of the sample. At this stage, psychodiagnostic questionnaires in accordance with the goals of the study were also selected, and their internal consistency was checked. In particular, the General Self-Efficacy Scale by Schwarzer and Jerusalem was used to assess self-efficacy as an individual's belief in their ability to organise and perform actions necessary to achieve the set goal. The scale consists of 10 items and allows for evaluating the beliefs of the respondents about their ability to act effectively in different life situations. The Rotter Locus of Control Scale (29 items) was used to assess the level of subjective control that individuals experience in different life situations. The Death Attitude Scale (32 items) was employed to assess individuals' beliefs about death: whether they believe in heaven and union with God after death, whether they are afraid of it, whether they consider it as an escape from the burdens of everyday, oppressive life, or as a natural inevitability. The Spielberger Anxiety Scale (40 paired statements) was used to assess situational and trait anxiety. Leontiev's Purpose-in-Life Test (PIL; 20 items) provided a comprehensive idea of how the individual perceives and evaluates the meaning of his life, which aspects are significant for him, and where are the possible difficulties or

discomforts that require attention and intervention. Osin and Leontiev's Differential Loneliness Experience Questionnaire (24 items) was employed by the authors to identify existential ideas about attitudes to loneliness. Since the PIL and the Differential Loneliness Experience Questionnaire have no normative standards for interpreting scores, they use a "high score – low score" scale to characterise the sample. For this study, the theoretical midpoint was used as a reference, calculated for each scale based on the maximum possible score a respondent could achieve:

- 1) overall PIL score – 70 points;
- 2) subscale 1 (goals) – 42 points;
- 3) subscale 2 (process) – 42 points;
- 4) subscale 2 (process) – 42 points;
- 5) subscale 2 (locus of control – self) – 28 points;
- 6) subscale 5 (locus of control – life) – 42 points;
- 7) overall loneliness experience – 16 points;
- 8) dependence on social interaction – 14 points;
- 9) positive loneliness – 18 points.

The overall score of the PIL indicates a relatively high level of life meaningfulness among the participants in the study (mean = 101, median = 105, mode = 110). The Personal Death Fear Questionnaire, consisting of 21 items, was used to identify different patterns of an individual's attitude towards death and to distinguish between positive, destructive, or neutral acceptance of death as an inevitability. The questionnaire was designed to assess fear of personal death and its structural components – cognitive, emotional, and interpersonal. The instrument measured the following indicators:

- 1) overall level of fear of death;
- 2) cognitive-existential fear:
 - a. consequences for the individual (loss of plans, integrity, or reasoning);
 - b. transcendental consequences (fear of the unknown or existence after death);
- 3) social and interpersonal fear:
 - a. fear of being forgotten (concern about being unnoticed or forgotten);
 - b. consequences for loved ones (how death would affect family and relatives);
- 4) bodily-physical fear (decay of the body, burial, etc.).

The third stage included the collection of empirical data, when its statistical processing and qualitative analysis of survey data, which supported quantitative data, allowed achieving a deeper understanding of the experiences of seafarers' wives. The study sample included 63 female respondents married to seafarers and living in the Odesa Region. The sample was formed using purposive convenience sampling, which is optimal for studying specific social groups with clearly defined inclusion criteria. Age distribution of the sample is provided in Figure 1.

The sample was predominantly composed of women aged 40 to 49 years. Fewer respondents were in the 31-39 age range, while the youngest group (18-27 years) and those aged 50-54 were least represented. The distribution of participants by educational level is presented in Figure 2.

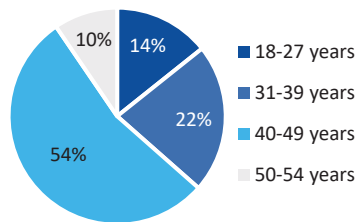


Figure 1. Age distribution of the sample

Source: developed by the authors

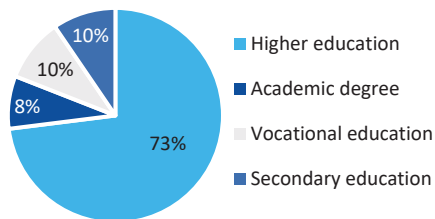


Figure 2. Educational level of respondents

Source: developed by the authors

With regard to education, the majority of participants held a higher education degree (73%). A small proportion (8%) had an academic degree, while women with secondary or vocational education were equally represented at 10% each. Seventy-eight per cent of respondents had children, and 71% were employed at the time of the study. To facilitate data collection, a specialised questionnaire was developed using the online tool Google Forms. The questionnaire incorporated items from all methods employed in this study, and participants were able to complete it at a time convenient to them, with strict adherence to confidentiality principles. Data were collected in 2025 at a psychological centre providing support to seafarers' families (details regarding its name and location are withheld for security reasons during the state of war in Ukraine). The research procedure complied with the ethical standards of the Helsinki Declaration, ensuring voluntary consent and the protection of participants (WMA, 2024). To minimise emotional strain, a brief psychological stabilisation session was conducted at the end of the procedure. The analysis of the obtained results was conducted using SPSS Statistics version 26.0 and the standard MS Excel package. The Shapiro-Wilk test was used to establish the degree of correlation, since it is more accurate when many ranked variables are concerned. Spearman's rank correlation coefficient

was used for variables with a broader range of scores. Results were considered statistically significant at $*p < 0.05$, $**p < 0.01$, and $***p < 0.001$. Confidence intervals were calculated using the "three-sigma" rule (Fig. 3).

The three-sigma (3σ) rule states that for values distrib-

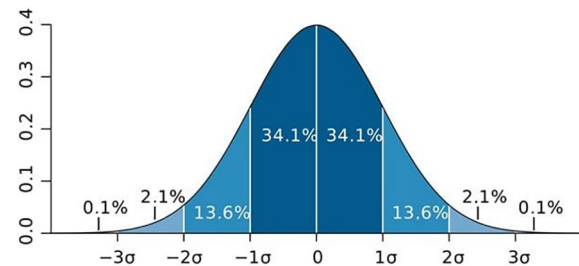


Figure 3. Visualisation of limits according to the "three-sigma" rule

Note: lower bound of the mean interval – $M - SD$; upper bound of the mean interval – $M + SD$

Source: developed by the authors

uted according to the normal (Gaussian) law, the majority of values (approximately 99.73%) fall within the interval from $\mu - 3\sigma$ to $\mu + 3\sigma$. For the interpretation of locus of control scores, normative intervals of empirical data were calculated. The normative intervals are as follows:

- 1) Externality: mean = 12.4, standard deviation = 3.79:
 - a. low level < 8.6;
 - b. average level 8.6-16.2;
 - c. high level > 16.2.
- 2) Internality: mean = 9.44, standard deviation = 3.47:
 - a. low level < 5.97;
 - b. average level 6-12.9;
 - c. high level > 13.

Results

Below are the results of the basic statistical processing of the scores obtained by the Self-Efficacy Scale by Schwarzer and Jerusalem (indicator: "self-efficacy"), by the Rotter Locus of Control Scale (indicators: "internality" and "externality") and by the Spielberger Anxiety Scale (indicators: "state anxiety" and "trait anxiety"). The assessment of the normality of the distribution of scores presented in Table 1 allowed for the conclusion that parametric methods could be used in subsequent analyses.

The distribution of scores of self-efficacy is symmetrical

Table 1. Descriptive statistics for self-efficacy, externality, internality, and anxiety

	Self-efficacy	Externality	Internality	State anxiety	Trait anxiety
N	63	63	63	63	63
Mean	30.9	12.4	9.44	45.5	45.3
Median	31	12	9	44	45
Mode	29.0	11.0	8.00	44.0	48.0
Standard deviation	4.43	3.79	3.47	8.09	8.38

Table 1. Continued

	Self-efficacy	Externality	Internality	State anxiety	Trait anxiety
Min	20	5	3	32	29
Max	40	20	17	72	70
Skewness	-0.124	-0.124	0.216	0.651	0.607
Standard error of skewness	0.302	0.302	0.302	0.302	0.302
Kurtosis	-0.352	-0.124	-0.215	0.653	0.999
Standard error of kurtosis	0.595	0.595	0.595	0.595	0.595
Shapiro-Wilk (W)	0.987	0.965	0.958	0.968	0.964
Shapiro-Wilk (p)	0.753	0.074	0.030	0.098	0.064

Source: developed by the authors

and lacks excessive skewness; the mean is 30.9, the median is 31, and the mode is 29; skewness is -0.124, and kurtosis is -0.352, which indicates a slight shift to the left and somewhat more “flat” distribution compared to a normal one. The result of the Shapiro-Wilk test ($W = 0.987$; $p = 0.753$) confirms that the distribution does not differ significantly from a normal distribution, and the variable is suitable for further parametric processing. Scores on externality are distributed approximately normally: the distribution is symmetrical (mean is 12.4, median is 12, and mode is 11); skewness is -0.0182, and kurtosis is -0.124. The result of the Shapiro-Wilk test ($W = 0.965$; $p = 0.074$) indicates that normality cannot be rejected, and the sample size ($N = 63$) supports the use of parametric processing. Scores of internality show signs of non-normality. Despite the proximity of mean (9.44), median (9), and mode (8), the distribution has multimodality. Skewness (0.216) indicates a slight positive shift. According to the normative intervals of the Schwarzer–Jerusalem Scale, mean and median testify that the “typical” respondent has above-average self-efficacy (Fig. 4).

As can be seen in Figure 4, the minimum value of

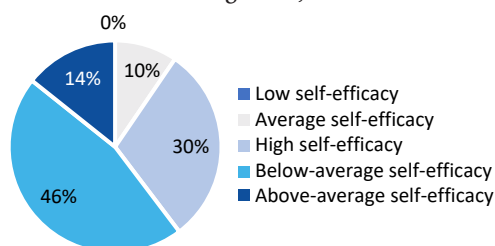


Figure 4. Percentage distribution of self-efficacy levels

Source: developed by the authors

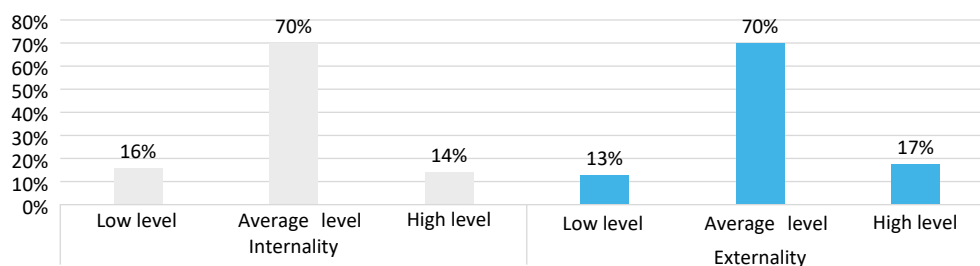


Figure 5. Percentage distribution of locus of control levels

Source: developed by the authors

the sample indicates the absence of respondents with low self-efficacy, but a small percentage (10%) may have some difficulties in trusting their own actions and a reduced belief in their ability to cope with difficult situations. Standard deviation is small, which indicates the stability of the measure. On the whole, respondents have a relatively high confidence in their own forces and a tendency to self-reliance in problemsolving. This points to good adaptive capacity, effective functioning in the conditions of stress, and predisposition to overcoming difficulties. Data from Table 1 and Figure 5 show that the majority of respondents have average levels of both internality and externality. This can be interpreted as a flexible locus of control: in situations where it is appropriate, individuals tend to take responsibility for them, but they also admit the role of chance or external factors. The equality of scale extent makes it possible to directly compare the average scores for externality and internality. The average score for externality is 12.4, and the average score for internality is 9.4, which indicates a greater tendency toward externality. This may indicate that the participants are more likely to attribute the most significant events of their lives to external factors – chance, actions of other people, or coincidence. The distribution of low and high values is relatively equal on both scales, also suggesting the rarity of extremely high scores among most respondents. However, a cluster with high externality might need some extra attention: sometimes a tendency to perceive control as external is related to low self-efficacy and the evasion of responsibility. The distribution of anxiety scores is presented in Figure 6.

As can be seen in Figure 6, the absolute majority of

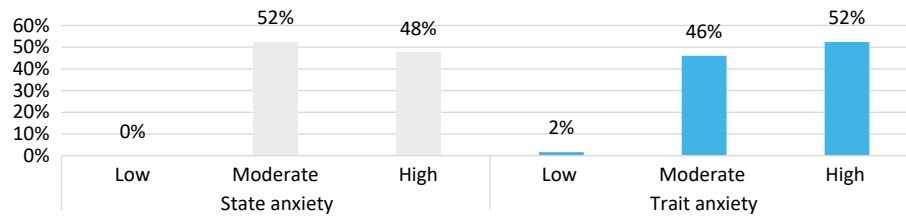


Figure 6. Percentage distribution of anxiety levels

Source: developed by the authors

the respondents demonstrate moderate or high levels of both state and trait anxiety. The mean values of the two types of anxiety are very similar: state anxiety = 45.5, trait anxiety = 45.3. These values lie at the lowest border of the high level. Dispersion for both scales is relatively small, which suggests that the sample tends to possess high anxiety levels both as a personality trait (trait anxiety) and as a situational reaction (state anxiety). This is not surprising, given the long-term character of the war. High levels of trait anxiety, combined with high levels of state anxiety, can be interpreted as fatigue of the nervous

system and increased sensitivity to stress.

Table 2 presents the results of the initial statistical processing of scores obtained using Leontiev's PIL (indicators: "overall score", "Subscale 1 – goals", "Subscale 2 – process", "Subscale 3 – result", "Subscale 4 – internal locus of control", "Subscale 5 – life locus of control") and Osin & D.A. Leontiev's Differential Loneliness Experience Questionnaire (indicators: "overall experience of loneliness", "dependence on communication", "positive loneliness").

Subscale 1 (goals; mean = 31.7), Subscale 2 (process;

Table 2. Descriptive statistics for life meaning orientations and loneliness experience

	Life meaning orientations						Loneliness experience		
	Overall score	Subscale 1 (goals)	Subscale 2 (process)	Subscale 3 (result)	Subscale 4 (internal locus of control)	Subscale 5 (life locus of control)	Overall loneliness experience	Dependence on communication	Positive loneliness
N	63	63	63	63	63	63	63	63	63
Mean	101	31.7	29.9	26.1	19.6	29.3	13.1	10.3	27.8
Median	105	32	31	27	20	30	12	10	28
Mode	110	39.0	33.0	24.0	19.0	33.0	10.0	8.00	27.0
Standard deviation	17.0	6.69	6.19	5.26	4.37	6.50	3.88	2.49	5.22
Min	52	12	12	10	5	15	8	6	13
Max	134	42	40	34	26	39	24	16	36
Skewness	-0.72	-0.59	-0.91	-0.97	-1.17	-0.60	0.77	0.29	-0.89
Standard error of skewness	0.302	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Kurtosis	0.50	-0.01	0.96	1.02	1.87	-0.56	0.09	-0.62	0.55
Standard error of kurtosis	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
Shapiro-Wilk (W)	0.95	0.95	0.93	0.92	0.91	0.93	0.93	0.96	0.93
Shapiro-Wilk (p)	0.02	0.02	0.003	0.001	<0.001	0.003	0.002	0.048	0.001

Source: developed by the authors

mean = 29.9), and Subscale 3 (result; mean = 31.7), although slightly below the theoretical middle of the scales, the empirical distribution is shifted towards the upper part of the scales. This suggests that generally the respondents do experience life goals, are satisfied with the process of life, and evaluate the results of life as relatively high, which indicates a rather positive attitude towards one's own life. The situation is similar with Subscale 4 (internal locus of control; mean = 19.6) and Subscale 5 (life locus of control; mean = 29.3), suggesting that respondents feel rather confident about their ability to control events, and they trust the controllability of life. Statistically, this is supported by the values of skewness (Table 2), all of which are signifi-

cant and indicate the clustering of scores in the upper part of the scale. Scores on the overall experience of loneliness suggest that most of the scores are concentrated in the lower part of the scale. This means that the majority of the respondents do not feel excessive emotional discomfort from experiencing loneliness (Table 2). The distribution of scores on dependence on communication is multimodal, but the majority of the scores are concentrated below the middle of the scale (<14 points), which means that the respondents do not demonstrate an excessive need for communication. "Positive loneliness", understood as an ability to use loneliness as a resource for reflection, self-searching, and personal growth, is characterised by the highest scores

(>18 points). These conclusions are supported by the results of the calculations of skewness: the values of skewness for the overall experience of loneliness and dependence on communication are positive, while the skewness for positive loneliness is negative.

The evaluation of the level of fear of death was also calculated. Because the diagnostic tools do not offer normative intervals, the strategy of evaluation and interpretation was similar to that used for the previous tools. To evaluate individual attitudes toward death, the Death Atti-

tude Scale was applied. This includes the following scales: fear of death, avoidance of the topic of death, neutral attitude, acceptance of death, and acceptance as escape. As seen from the obtained data in Table 3, it is not distributed normally (Shapiro-Wilk test, $p < 0.05$). The spread of scores points to the fact that the sample is mostly concentrated at the lower values. This fact is also confirmed by maximum scores, which are lower than the mean values of the scales described.

In general, the level of fear of death in the sample

Table 3. Descriptive statistics for fear of death assessed using the Death Attitude Scale

	Fear of death	Avoidance of the topic of death	Neutral attitude	Acceptance of death	Acceptance as escape
N	63	63	63	63	63
Mean	3.76	3.82	5.72	3.88	3.81
Median	3.29	3.80	5.80	3.90	3.80
Mode	3.29	4.80	5.80	3.80 ^a	4.00 ^a
Standard deviation	1.44	1.71	0.756	1.05	1.43
Min	1.14	1.00	4.00	1.60	1.00
Max	7.00	7.00	7.00	6.30	6.60
Skewness	0.428	0.0676	-0.545	-0.263	0.179
Standard error of skewness	0.302	0.302	0.302	0.302	0.302
Kurtosis	-0.740	-1.13	-0.0167	-0.301	-0.757
Standard error of kurtosis	0.595	0.595	0.595	0.595	0.595
Shapiro-Wilk (W)	0.956	0.957	0.950	0.975	0.969
Shapiro-Wilk (p)	0.026	0.027	0.012	0.228	0.118

Note: ^a – presence of multiple modes

Source: developed by the authors

is low. Respondents are not significantly afraid of their own death and do not possess defensive mechanisms such as repression of death-related thoughts. They consider death as something natural and unavoidable, which does not cause either anxiety or excessive romanticisation. At the same time, some of the respondents believe in an afterlife or possess religious and existential acceptance

of death; however, these are not leading factors. There is also no tendency to treat death as a release from hardships or sufferings, which points to the absence of risk of suicidal or euthanasia-related attitudes. The data of descriptive statistics of the mentioned indices are presented in Table 4.

According to Table 4, measurements of fear of death

Table 4. Descriptive statistics for fear of death assessed using the Personal Death Fear Questionnaire

	Personal Death Fear – Overall	Cognitive-existential fear	Consequences of death for the self	Transcendent consequences of death	Social and interpersonal fear of death	Fear of being forgotten	Consequences of death for close others	Bodily-physical fear of death
N	63	63	63	63	63	63	63	63
Mean	41.9	21.7	13.9	7.87	14.8	4.71	10.0	5.40
Median	38	20	13	7	14	4	10	5
Mode	21.0 ^a	11.0	7.00	4.00	7.00 ^a	3.00	13.0	3.00
Standard deviation	15.8	9.53	6.20	3.85	4.70	2.03	3.52	2.83
Min	21	11	7	4	7	3	4	3
Max	80	44	28	16	24	10	16	12
Skewness	0.502	0.502	0.419	0.655	0.131	1.02	-0.119	1.11
Standard error of skewness	0.302	0.302	0.302	0.302	0.302	0.302	0.302	0.302
Kurtosis	-0.776	-0.955	-1.00	-0.736	-0.731	-0.089	-1.06	0.272
Standard error of kurtosis	0.595	0.595	0.595	0.595	0.595	0.595	0.595	0.595
Shapiro-Wilk (W)	0.939	0.903	0.898	0.870	0.968	0.810	0.950	0.797
Shapiro-Wilk (p)	0.004	<0.001	<0.001	<0.001	0.105	<0.001	0.013	<0.001

Source: developed by the authors

using this instrument also deviate from a normal distribution ($p < 0.05$). The general level of fear of death is in a low range (mean = 41.9; median = 38), which means that, in general, respondents have a low level of fear and certain acceptance of death as a fact. The distribution is slightly skewed to the right (skewness = 0.50), which points to the presence of some of the respondents with a higher level of fear. However, most of the sample is concentrated in the lower range. The balance between intrapersonal and interpersonal aspects of fear of death was the following: cognitive-existential fear had a tendency to lower values. Scores slightly above the theoretical mean point to a moderate level of fear with a mild tendency to worry about the loss of meaning of life, plans, and control over one's own identity. This is also confirmed by the coincidence of mode and minimum. The subscales Consequences of death for the self (mean = 13.9) and Transcendent consequences of death (mean = 7.87) show a moderate (closer to low) level of fear of loss of one's own individuality and cognitive abilities, as well as fear of the unknown after death. The interpersonal (social and interpersonal fear) dimension is characterised by a mean = 14.8 (maximum possible = 49), median = 14, which points to relatively low levels: the respondents only slightly worry that death may influence the well-being or emotional condition of their significant others or that they may be forgotten. The subscale Fear of being forgotten (mean = 4.71) is the least pronounced compared to the other subscales. Fears of death's impact on significant others (mean = 10.0), that is, the possibility that death may hurt family and close people, are represented at a moderate level. Physical-bodily fear of death (mean = 5.40; maximum possible 21; median = 5) points to a low level of anxiety, which means that physical aspects of death (decomposition of the body, burial, etc.) are not the primary source of fear for most of the respondents. In general, the level of fear of death in the sample is relatively

low, which points to an adaptive attitude to the discussed topic. The major sources of human fears are cognitive-existential fears (loss of the meaning of life, uncertainty about what follows death) and interpersonal fears (importance for others), and the least manifested fears are bodily-physical fears. In brief, the sample is characterised by:

- ♦ a high level of life meaningfulness as an adaptive resource;
- ♦ a flexible locus of control, externally-oriented;
- ♦ elevated anxiety, reflecting both individual traits and specific socio-stress conditions (war, absence of the partner);
- ♦ a high level of life meaningfulness, serving as an adaptive resource;
- ♦ low distress from loneliness and the ability to use it as a resource;
- ♦ a relatively calm and accepting attitude towards death, without excessive fear or idealisation.

The sample specificity (wives of sailors) is the combination of high self-efficacy and life maturity with a heightened anxiety and partially external control attribution. It is a compromise between taking responsibility and realising the objectivity of uncontrollable situations. Thus, in the context of this study, it can be stated that the fear of death is not a leading destabilising factor for wives of sailors, and does not constitute a primary lever for self-control. It is present in a latent way through the cognitive-existential and interpersonal dimensions. Psychological self-control in this group is based more on a high self-efficacy, meaningful life orientations and ability to adapt to uncertain conditions rather than on the fear of death as such. Given that more than half of the variables had a non-normal distribution, the relationships between the variables were calculated using Spearman's rank correlation coefficient (Table 5).

The analysis of the interrelations between the various

Table 5. Correlations between components of fear of death

	Fear of death	Avoidance of the topic of death	Neutral attitude	Acceptance of death	Acceptance as escape
Personal death fear – overall	0.695***	0.560***	-0.409***	0.189	0.009
Cognitive-existential fear	0.717***	0.576***	-0.385**	0.194	0.022
Consequences of death for the self	0.705***	0.556***	-0.343**	0.259*	0.075
Transcendent consequences of death	0.658***	0.590***	-0.437***	0.073	-0.099
Social and interpersonal fear of death	0.550***	0.438***	-0.267*	0.187	0.048
Fear of being forgotten	0.577***	0.388**	-0.134	0.272*	0.123
Consequences of death for close others	0.411***	0.371**	-0.228	0.145	0.045
Bodily-physical fear of death	0.561***	0.504***	-0.474***	0.077	0.042

Source: developed by the authors

fear of death dimensions showed that all types of it (general, cognitive-existential, bodily-physical, social-interpersonal and others) correlate positively and highly with the general fear of death index ($r = 0.41-0.72$, $p = 0.001$), which testifies to the interconnectedness of fear-of-death dimensions and their contribution to an integral phenomenon. All the fear of death scales are associated with a desire to avoid the topic of death. The highest correlations

were found for the cognitive-existential fear ($r = 0.576$, $p < 0.001$) and transcendental consequences ($r = 0.590$, $p < 0.001$). Significant relationships with a desire to avoid the subject of death are also for the bodily-physical fear ($r = 0.504$, $p < 0.001$). This means that the stronger the respondents' fear of death of any type, the more they avoid conversations and reflections on the subject. A neutral attitude toward death is negatively correlated with all the

fear scales:

- ♦ bodily-physical fear ($r = -0.474$, $p < 0.001$);
- ♦ transcendental consequences ($r = -0.437$, $p < 0.001$);
- ♦ overall fear of death ($r = -0.409$, $p < 0.001$);
- ♦ cognitive-existential fear ($r = -0.385$, $p < 0.01$);
- ♦ consequences for the self ($r = -0.343$, $p < 0.01$);
- ♦ social and interpersonal fear ($r = -0.267$, $p < 0.05$).

It can be concluded on the basis of the obtained data that the more the fear of death is expressed, the less is the readiness to perceive death in a neutral way, as something natural and inevitable. Paradoxically, positive correlations were found between the acceptance-of-death scale and the subscales consequences for the self ($r = 0.259$, $p < 0.05$) and fear of being forgotten ($r = 0.272$, $p < 0.05$). In other words, the more the respondents fear the loss of individuality or oblivion, the more they show a tendency to accept death. It points to the ambivalence connected with the fear of death issue: on the one hand, death is recognised as a fact, and, on the other hand, there is anxiety about the meaning of life and the value of the self. It is worth mentioning that no significant relationships were found between the acceptance of escape and any of the fear of death variables. So, the awareness of death as a way of escape from difficulties and sufferings is not a characteristic coping strategy for the sample under study.

♦ Discussion

The results of the study provide an opportunity to compare the data on the psychological selfregulation, fear of death and related emotional conditions of the sailors' wives with empirical data obtained in other risk social groups. It is especially interesting that the combination of high anxiety and relatively low fear of death, which, apparently, reflects a certain adaptive strategy of behaviour developed under the conditions of constant uncertainty. The finding of a low overall level of fear of death is consistent with the conclusion of T. Pyszczynski *et al.* (2015; 2020), that prolonged exposure to the topic of death leads to adaptive desensitisation, as a result of which the fear of death is not the leading affect, but is transformed into more differentiated cognitive and interpersonal emotions. This is what was observed in the sample of the conducted study, in which the cognitiveexistential and social components of fear of death appeared to be the most sensitive. Negative relationships, which were obtained between a neutral attitude towards death and various dimensions of fear of death, are in line with the results of the studies by R.A. Neimeyer *et al.* (2014), which show that acceptance of death is associated with lower affective reactivity and greater cognitive integration of the topic of death into the narrative of one's own life. This makes it possible to consider a neutral attitude towards death not as a defence, but as a sign of psychological maturity. In this sense, the fear of death can be regarded as an existential basis of self-regulation. Classical studies by E. Becker (1973) and V. Frankl (2023) show that fear of death is the most pow-

erful factor determining human behaviour. The realisation of this fear sets the individual to search for meaning, while its denial causes anxiety, emotional stress and inadequate behaviour. According to V. Frankl, acceptance of one's own mortality is a necessary condition for spiritual maturity, as only by recognising the finitude of life, a person begins to appreciate their existence and learn to manage it. For the wives of sailors and military personnel, fear of death is often mediated – not for themselves, but for the potential loss of their loved ones. This phenomenon can be described as secondary fear of death, which causes mechanisms of hyper-control, increased emotional involvement and at the same time reduced flexibility of self-regulation. As a result, there is an internal conflict between the need for control and the impossibility of controlling the situation, which leads to exhaustion. Research by R.E. Menzies *et al.* (2024) confirmed that prolonged anxiety arising from fear for the life of a close person diminishes the capacity for emotional self-control and cognitive focus. Loss of a sense of security, in turn, stimulates the search for new regulatory strategies – those capable of both relieving tension and restoring a sense of meaning.

One of the most ancient, but at the same time the least formalised way of returning to balance is laughter. R.A. Martin (2010), in his research, pointed out that laughter performs not only a social but also a cognitive-regulatory function, since it allows the individual to ironise the threat. As a result, the attention is shifted from the uncontrollable danger to the possibility of adequate and meaningful actions. O.S. Ivanova (2023) calls laughter a phenomenon of meaning-making, which helps a person cope with a traumatic event through the creation of new meaning. The research data show that laughter unites somatic, emotional and spiritual levels of functioning and launches the natural mechanisms of self-regulation. Compared to other techniques of cognitive restructuring, laughter provides a “reframing” of emotional experience without the denial of pain, but rather with its translation into a socially acceptable form. Laughter has a physiological and hormonal nature. From the physiological point of view, it is a complex process that begins in the cerebral cortex, frontal and motor lobes, brain stem and involves the hippocampus, thalamus and limbic system. It acts on the emotional sphere and the whole organism through the spastic response that occurs during laughter. This response relieves tension, and, as studies show, involves the same brain structures as cocaine and cannabis. Thus, a person can relax, sleep, and overcome physiological overstrain without any external chemical assistance (Ivanova, 2023). According to R. Schwarzer (2024), self-control can be considered an integrative criterion of psychological maturity. Psychological self-control is not the suppression of emotions, but the ability of a person to consciously control their emotional experiences and behaviour in accordance with the values chosen by them. In the definition of Bratus, self-control is positioned at the junction of volitional and meaningful regulation, the level of self-awareness of

the individual is considered a criterion for its quality. Research by A.C. Samson & J.J. Gross (2012) found in their research that positive humour increases the efficiency of emotional regulation, decreases cortisol levels, and affects the prefrontal brain structures responsible for cognitive control. This fact speaks in favour of the idea that laughter can serve as a neuropsychological criterion for restoring self-control after experiencing stress. The study of Ye. Potapchuk & O. Mishchenko (2023) conducted a study on a sample of women who have passed through the combat zone, showing that positive humour and laughter are associated with a decrease in the symptoms of post-traumatic stress disorder. This suggests that laughter can be considered a criterion for psychological resilience, which helps to include the fear of death in the general semantics of life. Laughter as a resource for overcoming the fear of death in women of high-risk professions. For the wives of sailors and military personnel, laughter performs two functions:

1. Psychological (reducing tension, normalising physiological reactions of fear, decreasing the level of anxiety).
2. Social-communicative (restoring communication with loved ones, forming a supportive microenvironment).

Shared laughter in the family becomes a criterion for emotional recovery, since it testifies to trust, openness and readiness for cooperation. This is especially relevant for families whose spouse serves for a long time or is in a combat zone (Ivanova, 2023; Potapchuk & Mishchenko, 2023). Thus, therapy with laughter can be an effective way to restore psychological self-control through meaning, especially in extreme conditions when the fear of death enters the foreground of life experience. As J.E. LeDoux (1996) noted, the search for meaning is associated with the processes of neuroplasticity, i.e. the brain's ability to reorganise itself in response to new experience. When searching for meaning, neurotransmitters (i.e. chemicals that transmit signals from one neuron to another) are involved as well. Dopamine, serotonin, oxytocin and other chemicals affect mood, motivation and social behaviour. The high level of self-efficacy revealed in current research corresponds to the position of A. Bandura (1997) believes that faith in the effectiveness of one's actions is the key to self-regulation. Thus, the results of this research correspond to other scientific data and testify to the fact that the relationship between self-control, fear of death and laughter is of a systemic nature.

◆ Conclusions

The research data show that self-control is one of the key factors in emotional regulation of sailors' wives in terms of fear of death and existential anxiety. It was found that a high level of self-control is associated with effective coping with stress, minimisation of the effects of uncertainty, and coherence of behavioural and cognitive strategies in critical life situations. Fear of death, as shown in this study, is a multidimensional phenomenon and may manifest itself in the form of anxiety, panic, etc., depending on the intensity of the threat and individual psychological features. In the case of sailors' wives, the fear of death can be enhanced

due to the specifics of the husband's profession, duration of separation, risks, and loss of control over significant events in life. The second important conclusion is that laughter has a regulatory function. Using laughter as a coping behaviour allows reducing emotional tension, processing a negative experience, and maintaining social contacts that also serve as an additional resource for coping with existential fears. The results confirmed that laughter can be considered an effective psychological mechanism that mediates the relationship between self-control and fear of death. Thus, the combination of high self-control and the ability to use laughter creates an important adaptive potential of sailors' wives that provides psychological resilience and minimises the effect of existential anxiety. The level of fear of death in the research participants was low, which testifies to the ability to existentially accept the loss without creating a destructive anxiety, and thus points to a relatively mature attitude toward death. However, a tendency toward increased anxiety was revealed, which is typical of families of persons in high-risk professions associated with prolonged stress and uncertainty. The data on self-efficacy and locus of control testify to the general adaptability of the sample: the girls preserved the confidence in their abilities and control over the events of their lives, and at the same time recognised the importance of the external factors. High indicators of life-meaning orientations testify to the preservation of life goals and satisfaction with the lived experience and confidence in the manageability of one's own life, even in conditions of increased stress and existential threat. The majority of research participants did not demonstrate the tendency toward destructive loneliness, which means preservation of social contacts and the ability to use positive solitude as a resource for compensation and reflection. The data confirm that laughter performs a regulatory function within the structure of psychological functioning and contributes to the reduction of emotional tension, restoration of cognitive flexibility, and internal control and integration of fear and anxiety into the system of life meanings. These results confirm the idea that laughter therapy is an effective method of psychological support for sailors' wives, military wives, and other social groups that experience chronic stress and existential threat. Perspectives for further research may include the study of laughter as a mechanism of overcoming the fear of death and restoration of self-regulation, and the effectiveness of this mechanism within the framework of a complex of psychological support of families of persons in high-risk professions.

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Самоконтроль і страх смерті у дружин моряків: роль сміху як регулятивного чинника

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♦ **Анотація.** Актуальність дослідження зумовлена зростанням рівня екзистенційної тривоги та страху смерті в умовах глобальної нестабільності, воєнного контексту та підвищених професійних ризиків, що особливо гостро проявляється у сім'ях моряків, де дружини тривалий час перебувають у стані невизначеності та емоційного напруження. Метою дослідження було вивчення особливостей страху смерті, рівня психологічного самоконтролю та ролі сміху як ресурсу емоційної регуляції у дружин моряків. У дослідженні використано теоретичні методи аналізу, систематизації та узагальнення підходів до проблем страху смерті та самоконтролю; емпіричні методики: «Шкала самоефективності», «Шкала локус-контролю», «Ставлення до смерті», шкала тривоги Спілбергера, тест сенсожиттєвих орієнтацій, опитувальник «Страх особистої смерті» та диференційний опитувальник переживання самотності. Для обробки даних застосовано розрахунок середнього, медіани, моди та критерії Шاپіро-Уїлка і Спірмена. Результати дослідження засвідчили, що загальний рівень страху смерті у більшості респонденток перебуває в межах низьких і помірних значень, що поєднується з відносно збереженим психологічним самоконтролем та високими показниками самоефективності. Виявлено підвищений рівень фонові тривожності, пов'язаний із тривалим очікуванням та невизначеністю, тоді як інтенсивний страх актуалізується у відповідь на конкретні загрозливі події. Отримані дані свідчать, що використання сміху корелює зі зниженням афективної напруги, покращенням емоційної стабільності та підвищенням здатності до саморегуляції. Сміх виконує не лише регулятивну, а й сенсотворчу функцію, сприяючи інтеграції страху смерті у ширший контекст життєвих цінностей і підтриманню психологічної стійкості. Разом із тим встановлено наявність групи підвищеного психологічного ризику, для якої характерні високі показники тривожності та знижений самоконтроль. Практична цінність дослідження полягає у можливості використання результатів для розробки програм психологічної підтримки та консультування дружин моряків, спрямованих на розвиток самоконтролю, резилієнтності та адаптивних стратегій емоційної регуляції за допомогою сміхотерапії

♦ **Ключові слова:** копінг-стратегії; самоефективність; локус контролю; сенс життя; екзистенційна тривога



Justification of the minimum threshold for reaching the target audience in order to spread ideas and exert psychological influence

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◆ **Abstract.** The relevance of the article lies in the evolution of the Ukrainian army in 2014-2025, in particular the development of the means and technologies of the Special Operations Forces of the Armed Forces of Ukraine in the field of information and psychological counteraction to attacks by the Russian Federation, taking into account current challenges. The aim of the article was to study the theoretical aspects of justifying the minimum threshold for reaching the target audience in order to spread certain ideas and exert psychological influence. The research was based on systematic and interdisciplinary approaches using synergistic principles to study complex social and information networks. The extrapolation of scientific results was used to integrate Ukraine's experience of fighting the Russian Federation into the modern scientific paradigm. It was established that the minimum threshold for engaging the target audience to spread ideas and exert psychological influence is $\approx 3.5\%$. At the same time, the effectiveness of relevant measures is determined by the interaction of favourable factors, in particular the presence of a developed interactive network, active agents of influence and prior destabilisation of the socio-political situation, as well as restraining factors related to the incompatibility of the proposed narratives with the interests of the target audience or their contradiction with its values and moral guidelines. To determine the minimum threshold for engaging the target audience, it is advisable to apply a coefficient of counteraction to information and psychological influence $\times 3$ for audiences with a high level of counter-influence, which sets the threshold at around $\approx 10.5\%$, in particular when planning psychological measures targeting the population of states with an authoritarian type of government. The practical value of the study lies in optimising fundamental approaches to the activities of the Ukrainian Defence Forces in the field of information and psychological counteraction in the context of the Russian-Ukrainian war, taking into account the practical experience of performing combat (special) tasks by the Special Operations Forces of the Armed Forces of Ukraine

◆ **Keywords:** psychological operations; information and psychological counteraction; agents of influence; interactive networks; information space

◆ Introduction

Modern military conflicts have taken on a hybrid form, encompassing new sectors of socio-political relations. The experience of the Russian Federation's armed aggression against Ukraine has demonstrated the critical role of information and psychological countermeasures and the need to further build up the capabilities of the Armed Forces (AF) of Ukraine to conduct warfare in physical and information spaces. The range of methods used to exert psychological

influence is constantly expanding and requires the use of special technical means, integration with the media, and the use of all available channels for disseminating information. According to the United States Department of the Army (2025) guidelines, psychological operations units carry out the process of influence through the development, production and distribution of visual, audio, audiovisual, multimedia and print products and other materials of

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influence, as well as psychological actions. These actions are planned as a series, and influence materials are disseminated through various means, including cyberspace, aircraft, ammunition, loudspeakers and other equipment, and face-to-face meetings, with the aim of influencing the behaviour of the target audience. Thus, the study of mechanisms for engaging target audiences in order to spread certain ideas or narratives, taking into account complex social dynamics and heterogeneous levels of activity of social communities, is a relevant area of contemporary scientific discourse. J. Jetten *et al.* (2020) considered the possibilities of influencing social dynamics through the prism of understanding the depth of the mechanisms of formation and development of socio-political and economic processes. J. Jetten *et al.* emphasised that a proper understanding of how social and economic inequality can divide society, creating new intergroup dynamics, is important for understanding deep social movements. The issue of involving active minorities to influence the formation of public opinion was considered by T. Wu *et al.* (2022). The researchers noted that active organised minorities can have a significant impact on the dynamics of opinion formation and dissemination within a large population. Two groups of representatives of convinced minorities, polarised by two competing ideas, can lead to constant indecision and uncertainty throughout the community. Similarly, the majority of the community may remain undecided for a long time when individuals regularly change their minds based on changing individual beliefs rather than social responsibility.

Certain methodological aspects of influencing large populations and mass culture in the context of the development of global information networks were examined by M. Zhylin *et al.* (2023). A distinctive feature of the study was the integration of provisions of social theory, activity psychology, social philosophy, critical global studies, in particular, and the concepts of social deliberativeness and social subsidiarity for the analysis of large social processes. The publication by O.V. Harmatiy *et al.* (2021) on the prospects of engaging a target audience in order to spread a certain idea in society was based on an analysis of socio-political movements and the organisation of social protests. O.V. Harmatiy *et al.* emphasised the importance of taking into account the historical, socio-political and economic context when retrospectively analysing social transformations of varying intensity. A. Hager *et al.* (2022) considered the possibility of exerting social influence through the prism of the actualisation of resistance movements. According to A. Hager *et al.*, many social movements face resistance in the form of counter-movements. Thus, when deciding to become politically active, a supporter of a movement must take into account the activity of both their own movement and the resistance movement of their opponents. The above authors examine the decision of a movement supporter to participate or not to participate in a protest when faced with a counter-protest. The researchers concluded that the size of the opposition group does not affect the protest intentions of supporters. However, in

the presence of strong ideological motives, demonstrators who remain in the minority become even more willing to demonstrate and defend their position. D. March-Pons *et al.* (2025) analysed the deep cognitive dimension of decision-making processes in large groups with the aim of optimising the time required to reach consensus and make decisions, as well as the factors that influence this process. The researchers proved that the formation of a complex network and the consideration of multi-vector interaction actually speeds up the achievement of consensus and reduces the time spent on discussion. However, this improvement comes at the cost of reduced accuracy in determining the best option. I. Iacopini *et al.* (2022) showed that, when complex group dynamics and interactions in groups of arbitrary size are taken into account, the critical mass of individuals capable of effectively spreading a new idea in society can be less than 10%, provided that they are highly active and convinced of the need to spread the idea. A significant common phenomenon that unites all of the above-mentioned contemporary scientific studies is the fact that the vast majority of scientists give general recommendations, describe certain ways to optimise the involvement of the target audience in order to spread a certain idea in society, describe aspects that need to be taken into account to protect against psychological influence. However, none of these studies offers a concrete answer to the question of what the minimum threshold of community member engagement should be in order to achieve a defined goal and exert psychological influence. Thus the outlined topic requires further development, an interdisciplinary approach, and in-depth retrospective analysis, including taking into account the current experience of the Special Operations Forces of the Armed Forces of Ukraine, given the specifics of their activities in the context of information and psychological counteraction to the enemy in the conditions of the Russian-Ukrainian war. The aim of the study was to examine and systematise theoretical approaches to determining the minimum threshold for reaching the target audience in psychological influence processes.

◆ Materials and Methods

The research was conducted on the basis of a systematic approach and a holistic paradigm, taking into account the need for a comprehensive study of the outlined problem and improving the overall effectiveness of activities aimed at organising the implementation of measures for the preparation, comprehensive support, development, application and management of the Armed Forces of Ukraine. An interdisciplinary approach, combined with the method of extrapolating scientific research results, allowed to focus considerable attention on identifying the theoretical provisions that determine the conceptual nature of existing approaches to the formation and development of interactive networks as a sphere for actualising the behaviour of specific target audiences and clarifying the essential aspects underlying them. The systemic-structural method made it possible to identify the epistemological aspects of actualising

complex behavioural dynamics, which, in combination with the historical method, made it possible to trace the genesis of the development of the subject of research in static and dynamic dimensions. The methodological apparatus of the study included the principles of synergetics in terms of analysing complex, multidimensional nonlinear systems, such as modern society and interactive social and information networks. In order to justify the minimum threshold for reaching the target audience, a comprehensive assessment of the PHIA (Probability of Harm Impact Assessment) and PMESII (Political, Military, Economic, Social, Information, Infrastructure) methodologies was carried out. A SWOT matrix was visualised and analysed to systematise strengths, weaknesses, opportunities and threats in the context of information and psychological influence. Based on the analysis, recommendations for calculating the minimum coverage threshold were formulated. An overview of trends in the development of psychological influence mechanisms in a dynamic social space and an assessment of the prospects for the evolution of social relations led to the use of sociometry, social forecasting and theoretical modelling methods. The study used NATO and US doctrinal documents and guidelines relevant to the research area (United States Department of the Army, 2021; 2025; NATO Standard AJP-3.19, 2025). In order to prevent the dissemination of sensitive information, the article deliberately does not analyse guiding documents that reveal the current structures, forms and means of psychological influence of the Armed Forces of Ukraine on the enemy and the peculiarities of information and psychological counteraction to hostile aggression in the physical and information space.

◆ Results and Discussion

Along with classic forms of military action, the aggressor country purposefully uses a whole range of means to exert hybrid pressure, including destructive information campaigns and psychological operations aimed at exerting powerful informational and psychological influence through the use of disinformation, international political corruption and manipulative technologies. It is important for the Armed Forces of Ukraine to understand the mechanics of these operations in order to organise interactive countermeasures and achieve their own goals in the context of armed struggle. The author of the classic threshold theory, M. Granovetter (1978), noted that each person has their own “threshold of involvement” – an understanding of what proportion of their environment must support an idea for them to join it. When informational influence is exerted with these thresholds in mind in a structured social network, a critical mass emerges that triggers a self-reinforcing process. However, the actual threshold for mass change can vary significantly between communities. During the 20th century, researchers V. Pareto (1916), H.P. Becker (1957) and T. Kuran (1995), who studied the processes of changing social norms and empirical thresholds of engagement at the level of individuals and social communities, noted that the actual “minimum threshold”

for changing community behaviour varies depending on the level of education, sphere of activity and orientation of community members and is equal to $\approx 20\text{--}25\%$ of active supporters. However, the above-mentioned authors considered, for the most part, the natural process of spreading ideas and did not take into account the capabilities of modern information networks, information and communication technologies, and means of informational and psychological influence. At the beginning of the 21st century, R. Nelson & P.A. Bancel (2011) completed a long-term experiment designed to assess the possibility of correlations in data flows generated during major world events. The project demonstrated that the behaviour of different types of systems can be changed by directed mental intention and synchronised activity, showing subtle changes associated with group coherence. In turn, L. Oleinyk (2024) described the risks that increase the possibility of effective manipulation of public consciousness and the intensification of informational and psychological influence on target audiences in connection with the globalisation of information processes and the active development and mass application of information technologies.

A target audience is a group of people (individuals) united on the basis of certain criteria and indicators (gender, age, income, education, place of residence, profession, etc.) at whom certain measures of influence are directed (NATO Standard AJP-3.19, 2025). The ability to influence the attitudes of certain target audiences towards specific events, actions of the leadership and the state as a whole, and ultimately the decisions based on these attitudes, through direct and/or indirect communication, is a key feature of psychological influence. The effectiveness of psychological influence can be assessed using certain groups of indicators, among which the indicators of target audience coverage are of particular importance. E. Rogers' (2009) work explained the peculiarities of the spread of new ideas, technologies and practices through social systems. E. Rogers also considered the role of agents of change and critical mass. According to this concept, $\approx 16\%$ is sufficient for the spread of any idea in society, of which 2.5% are opinion leaders and 13.5% are early followers. J. Xie *et al.* (2011) concluded that in the process of achieving social consensus, the prevailing opinion of the majority of the community can be quickly changed by a small group of a convinced minority. J. Xie *et al.* proved that $\approx 10\%$ of convinced representatives of a particular community (people who sincerely support a new idea) can ensure the rapid establishment of consensus in favour of the acceptance and support of this new idea by the unconvinced majority, provided that these agents are not subject to reverse influence. In their simulations, the authors calculated the critical value of the minimum number of a committed minority capable of effectively spreading a new idea among the unconvinced majority of a given community from within, which is 9.79%. The numerical value $\approx 10\%$ is used as a rounding of this number. J. Xie *et al.* emphasised that if the convinced minority in a community does not reach the

threshold of $\approx 10\%$, its influence will spread very slowly, but as the proportion of the convinced minority increases above $\approx 10\%$, the time to full acceptance of the idea in the community decreases dramatically. M. Turalska *et al.* (2013) analysed the cooperative decision-making model (CDMM) to study the influence of a convinced minority on group behaviour during a crisis. It has been proven that in times of crisis, when there is ambiguity about a particular social issue, a very small but convinced minority can bring about significant changes in social consensus. The CDMM model showed that during a “crisis” when the network is unstable, even a very small ($\approx 5\%$) convinced minority can have a significant effect in multidimensional networks due to a temporarily increasing correlation in the network. D. Mistry *et al.* (2015) concluded that an active, committed minority (which more often initiates social contacts itself) can reduce the critical minimum number of the target audience needed to spread a new idea among the unconvinced majority to $\approx 7\%$.

E. Chenoweth (2020) proposed a rule regarding the level of target audience participation necessary for the success of a resistance movement, calling it the “3.5% rule.” According to this rule, if approximately 3.5% of the population is actively involved in the movement, significantly broader public support can be expected. In the long term, such sympathy can transform into growing political pressure. Among the successful campaigns that E. Chenoweth identified as complying with the 3.5% rule are the Singing Revolution (Estonia, Latvia, Lithuania, 1987-1991), the Velvet Revolution (Czechoslovakia, 1989), the Rose Revolution (Georgia, 2003), the Cedar Revolution (Lebanon, 2005), the Egyptian protests of 2012-2013, and the protests in Sudan in 2019. The 3.5% rule was named as a goal by climate activists, who argued that if enough people joined the movement, change would happen. However, this level of public engagement is currently far from being achieved (Serhan, 2021). In 2025, the 3.5% rule became prominent in protests against Donald Trump, particularly in opposition to US immigration policy. Activists from the 50501 movement initiated nationwide protests under the slogan “Hands Off” on 5 April 2025. In a widely circulated statement, the organisers emphasised that this action was the fourth nationwide day of action and was seen by them as part of a long-term strategy. The movement’s goal is to build peaceful civil resistance and achieve a level of engagement that, according to historical examples, is about 3.5% of the population and is capable of bringing about significant socio-political transformations (Cone, 2025). Despite the widespread popularity of the “3.5% rule” in the scientific community, E. Chenoweth has repeatedly pointed out that this rule does not apply to political leadership, strategic planning, organisational capacity or sustainable development. According to the researcher’s estimates, the effectiveness of both non-violent and armed resistance in the world has been declining since 2010, as a result of authoritarian regimes learning from their own historical experience, coordinating their actions and training their

security forces to prevent any manifestations of civil disobedience. Accordingly, E. Chenoweth advised civil activists and resistance movements to take these changes into account and adjust their tactics accordingly.

F. Daza (2022) analysed Ukrainian non-violent civil resistance to Russian occupation during the active phase of the Russian-Ukrainian war between February and June 2022. In his work, the researcher identified 235 non-violent acts of resistance across the country related to the organisation and implementation of the resistance movement against the Russian invaders and conducted 55 interviews with Ukrainian political and social leaders, scholars and activists. F. Daza concluded that widespread public mobilisation and organisation crystallised into hundreds of non-violent protests (148 cases), refusals to cooperate (51 cases) and non-violent interventions (36 cases). Geographically, most of these actions took place in the southern regions (Kherson and Zaporizhzhia), demonstrating the resilience of non-violent resistance in the occupied regions. In February and March 2022, public protests temporarily dominated, but their number decreased dramatically at the end of March due to increased repression and abductions of activists in the occupied territories. Starting in April, non-violent resistance transformed into “invisible” communication actions, refusal to cooperate, and non-violent interventions that created parallel self-government structures. Non-violent resistance in Ukraine in 2022 was analysed using M.A. Beer’s (2021) classification, according to which non-violent methods are divided into three categories:

- 1) protest (an act of active expression of will): mainly symbolic actions aimed at persuading opponents or third parties to change their policies or to express their rejection or disagreement with them;

- 2) refusal to cooperate (act of evasion, sabotage): based on refusal to support or obey the opponent’s practices at the political, social or economic level;

- 3) non-violent intervention (act of engagement): when an activist group takes a more active role in intervention to prevent an opponent from achieving their goals or to create parallel structures of self-sufficiency or governance that marginalise the opponent’s actions and at the same time meet the needs of the population.

The study by L. Krymets *et al.* (2023) also addressed the impact of the Russian-Ukrainian war on the psychological resilience of Ukrainians and their willingness to continue active resistance, as well as mechanisms for protecting the population from external influences. In the process of countering Russian aggression from 2014 to 2025, all components of the Ukrainian army, and especially the means and technologies possessed by the Special Operations Forces of the Armed Forces of Ukraine in the context of information and psychological counteraction to the enemy, underwent significant transformations. During 2022-2025, the Armed Forces of Ukraine in general and the Special Operations Forces of the Armed Forces of Ukraine in particular are actively developing a system for studying and implementing experience (SIE). The SIE system is designed

to collect, summarise and analyse information on problematic issues (best practices), identify their main causes and solutions (repetition), as well as to disseminate and implement experience in the activities of the Armed Forces of Ukraine in order to improve the effectiveness of training and application, and ensure the actualisation of the development of the capabilities of the troops (forces). It defines effective techniques and methods for studying and implementing experience in the Armed Forces of Ukraine, which reduces the risk of repeating mistakes and increases the chances of achieving a positive result. In accordance with modern scientific approaches based on the analysis of practical experience in performing combat (special) tasks, a psychological operation is considered as a set of coordinated and interrelated psychological actions, activities, series and measures of influence in terms of purpose, task, place and time. These measures are carried out by specific forces and means of the Armed Forces of Ukraine and other components of the defence forces according to a single concept and plan. They are aimed at influencing the mentality, moral state and cognitive abilities of specific target audiences, as well as changing their behaviour patterns in order to create favourable conditions for achieving political, strategic and operational goals and the use of defence forces and means (Krymets *et al.*, 2023). The attitude of the target audience towards the information received in the communication process is formed at the level of its awareness, acceptance or rejection, rethinking and further transmission. The nature of these processes is determined by the completeness, reliability, relevance, significance of the information and the way it is obtained. In the special operations units of the US Armed Forces, the structural unit that interacts directly with the target audience and motivates it to behave in a certain way is the psychological operations detachment (United States Department of the Army, 2025). Detachments often require external support for the production, distribution and dissemination of certain influence materials. A detachment may carry out a wide range of missions aimed at influencing a target audience, including:

- 1) conduct tactical disinformation activities in support of friendly unit manoeuvres;
- 2) conduct operations using loudspeakers in support of kinetic actions;
- 3) conduct aerial information dissemination activities;
- 4) support non-combatant evacuation operations;
- 5) develop the resistance potential of foreign security and defence forces;
- 6) carry out psychological influence to provide information support for combat operations;
- 7) plan and implement interaction with opinion leaders, etc.

Analysing the target audience for psychological influence requires military personnel to search for and process large amounts of information. Typically, the situation was assessed using the PMESII method through comprehensive monitoring of the information space of a specific target audience. During the analysis, among other things, “centres of

gravity” are identified: critically important objects (institutions, communities, leaders) for the stability or change of the socio-political or economic context. “Centres of gravity” are very diverse. They can be local leaders, criminal groups or important infrastructure objects. To assess potential “centres of gravity”, a tool such as SWOT analysis is used. SWOT analysis is a planning tool used by NATO countries at all levels (strategic, operational, and tactical) to assess situations where an organisation or individual must make decisions to achieve a goal (United States Department of the Army, 2021). The SWOT analysis matrix is shown in Figure 1.

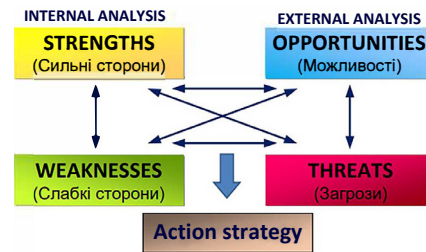


Figure 1. SWOT analysis matrix

Source: NATO Standard AJP-3.19 (2025)

The matrix is named after the first letters of the priority areas that need to be researched: strengths and weaknesses, favourable factors or opportunities and threats. Strengths – the characteristics of the target audience, factors and facts that give an advantage over the enemy when conducting a military operation, as a result of implementing an influence measure or conducting an action. Weaknesses – characteristics of the target audience, factors, facts that put the task or troops at a disadvantage. When researching the weaknesses of the target audience, it is advisable to take into account the potential vulnerability to socio-political and economic influence of members of the target audience. Favourable factors or opportunities – elements (subjects) of the target audience that the military command can use (engage) in its interests. Threats – elements of the target audience that can cause problems for the execution of combat (special) tasks. Among the threats are: censorship, possible countermeasures by the authorities, the likelihood of blocking channels of information dissemination, the threat of public refutations by official structures. The overall conclusion should assess whether the state of the target audience environment contributes to the effective performance of special tasks by units, and in the event of a negative result, identify the factors that will have the greatest impact on their implementation. The effectiveness of a psychological operation is assessed by the degree to which tasks are performed to achieve the desired psychological effects among the target audience. Effectiveness indicators are not the same for each operation (campaign, action, influence measure) and are formed during the analysis of target audiences.

The practice of information and psychological countermeasures by the Armed Forces of Ukraine, in particular

the Special Operations Forces, confirms the relevance of E. Chenoweth's (2021) approach to determining the minimum threshold for reaching the target audience at 3.5% for the success of information campaigns, public actions and resistance movements. It is important to note that in the context of psychological operations, when analysing the level of coverage of target audiences, it is advisable

to take into account a number of conditions that directly or indirectly affect the minimum threshold for engaging the target audience in order to spread a certain idea and exert psychological influence. The results presented in Table 1 are derived from the experience of performing special tasks in the Special Operations Forces of the Armed Forces of Ukraine.

Table 1. Conditions affecting the minimum threshold for attracting the target audience

Condition	Impact on threshold/effectiveness
Dynamic interactive networks	Positive impact on the promotion of specific narratives
High activity of influential agents	Positive impact on the promotion of specific narratives
Destabilised situation	Mostly positive impact on the promotion of specific narratives, provided that there are agents of influence and support from information networks
Contradictory ideas that do not correspond to the interests or moral norms of the target audience	Negative impact on the promotion of specific narratives. The threshold should be higher (x2)
Limited resources (time, funds and personnel constraints)	Negative impact on the promotion of specific narratives. The threshold should be higher (x2)
Counter-influence (counter-action, counter-propaganda)	Negative impact on the promotion of specific narratives. The threshold will be significantly higher (x3). Agents of influence may lose their influence and be attacked

Source: developed by the author

As shown in Table 1, and according to the results of the study, the minimum threshold for engaging the target audience in order to spread a certain idea and exert psychological influence on mentality, moral state, cognitive abilities, and behaviour under favourable conditions is $\approx 3.5\%$. The favourable factors that together make it possible to set the minimum threshold for engaging the target audience at $\approx 3.5\%$ are:

- 1) the existence (formation, maintenance) of an interactive social and information network;
- 2) the presence of active agents of influence and/or influence groups that help to disseminate (promote) the necessary ideas, messages, and narratives in the information space;
- 3) the prior destabilisation of the situation also has a positive impact on the promotion of certain narratives in society, but only if active information networks and the permanent activity of agents of influence are present (supported).

Unfavourable factors that significantly affect the minimum threshold for engaging the target audience during psychological influence measures are:

- 1) low activity of the information network;
- 2) contradictory ideas that need to be disseminated (messages, narratives that do not correspond to the interests of the target audience or contradict its moral norms);
- 3) limited resources (restrictions in time, material and technical support, and the number of performers).

All these negative factors together require a doubling of the minimum threshold for engaging the target audience ($\approx 7\%$). To clarify the feasibility of such an increase, it is recommended to conduct an impact analysis using the PHIA probability scale (Ministry of Defence of Ukraine, 2025). The most significant factor that could jeopardise the overall success of the influence operation is the presence of active countermeasures and/or counter-propaganda by the adversary. Under favourable circumstances, this factor can only be partially offset by the sum of favourable factors,

but it cannot be completely neutralised, so it must be taken into account. In conditions of active information countermeasures to psychological influence measures, the minimum threshold for engaging the target audience should be increased threefold and fixed at $\approx 10.5\%$. Summarising the above scientific approaches and practical experience of the Armed Forces of Ukraine in performing combat (special) tasks in the context of the Russian-Ukrainian war, it can be generalised that in order to spread certain ideas and exert psychological influence on specific target audiences, it is sufficient to convince and/or encourage approximately 3.5% of its composition to take active action. Provided that there is minimal opposition to this active group in its location, it is highly likely that its influence will quickly spread to the general public, which will ensure the achievement of socio-political or military goals. It is important to emphasise that when calculating the recommended number of target audience members to be engaged, factors that positively contribute to and hinder the exertion of psychological influence must be taken into account (Table 1).

The results of the study are consistent with the conclusions of L. Lucchini *et al.* (2022), who demonstrated that interaction between a committed minority and the majority of the community is a determining factor in the success of collective action even in complex social environments, as it influences the behavioural attitudes of large groups and the final outcome of collective processes. At the same time, N. Koudenburg *et al.* (2025) emphasised the ability of ideological minorities to initiate the transformation of social norms by forming new ideas about the identity of the majority, which directly affects group behaviour. In the context of implementing measures of informational and psychological counteraction to enemy influence with the aim of spreading ideas and forming attitudes that determine the mentality, moral and psychological state, and cognitive characteristics of the

Ukrainian population, the results obtained correlate with the conclusions of S. Galam & F. Jacobs (2007), according to which the absence of organised counteraction to psychological influence creates conditions under which even a small but highly motivated group of agents of influence is capable of ensuring the rapid formation of a consensus in favour of supporting certain ideas by the majority of the population. Similarly, according to D.J. Watts & P.S. Dodds (2007), the activity of a small group of agents of influence can significantly reduce the critical threshold value of the target audience share required to spread ideas in society. In view of this, the implementation of systematic resistance and organised counteraction to hostile information and psychological influence, in particular the neutralisation of its agents, is of strategic importance for the Armed Forces of Ukraine in the context of the Russian-Ukrainian war. The conclusions of F. Daza (2022) are also important for justifying the minimum threshold of target audience coverage for the purpose of spreading ideas, modifying behavioural patterns and creating favourable conditions for achieving the set goals. These conclusions demonstrated the decisive influence of organised counteraction to Russian propaganda and political repression on reducing the resilience of the resistance movement in the temporarily occupied territories of Ukraine in 2022, which led to a significant reduction in the intensity of radical resistance by pro-Ukrainian activists. Taking into account the practical experience of implementing measures of influence and the results of the above-mentioned studies, in which a convinced minority is considered resistant to reverse influence, it is advisable to determine the critical minimum threshold for engaging the target audience, taking into account current factors of influence. In real conditions, psychological, economic and socio-political pressure can significantly alter the behaviour of audiences, which requires an adaptive approach to its fixation. When calculating the minimum threshold for engaging the target audience during the planning of psychological influence measures, it is recommended to take into account the coefficient of counteraction to information and psychological influence at a rate of $\times 3$ for the target audience that is subject to significant systemic, organisational, and informational counter-influence from the media, agents of influence, and other means of the adversary. However, it should be taken into account that in the context of information counteraction and the implementation of psychological influence measures on target audiences who are members of authoritarian regimes, they, in turn, are permanently subjected to significant psychological pressure from state authorities and pro-government propaganda. Thus, taking into account the risks on the way to achieving goals and exerting psychological influence on target audiences that are subject to information and propaganda countermeasures, the approximate minimum amount of target audience engagement should increase in proportion to the increase in counter-pressure on it from propaganda.

◆ Conclusions

The study confirmed that each target audience has unique characteristics and is influenced by different events, factors, incentives, and previous experiences. Correctly determining quantitative and qualitative characteristics, understanding the specific conditions and vulnerabilities of the target audience, selecting high-quality channels for disseminating information and methods of argumentation make it possible to achieve an effective psychological impact on its behaviour. According to the results of the study, the minimum threshold for engaging the target audience in order to disseminate a certain idea and exert psychological influence on their mentality, moral state, cognitive abilities, and behaviour should be $\approx 3.5\%$. However, when calculating the overall effectiveness of engaging the target audience, it is necessary to take into account factors that contribute to and hinder the implementation of influence measures. It has been established that the effectiveness of the implementation of measures is facilitated by the presence of a developed interactive network, the involvement of active agents of influence, as well as prior destabilisation of the situation. At the same time, the effectiveness of these measures is limited by the low level of activity of the target audience, the presence of conflicting ideas and narratives that do not correspond to its interests or conflict with moral and ethical norms, as well as a shortage of available resources. The most significant factor that could jeopardise the overall success of an influence operation is the presence of active countermeasures and/or counter-propaganda by opponents. According to experience in carrying out special tasks and the results of modern scientific research, this factor can only be partially offset by the sum of the favourable factors listed above, but cannot be completely neutralised.

To calculate the minimum threshold for engaging the target audience, it is recommended to take into account the coefficient of counteraction to information and psychological influence at a rate of $\times 3$ for a target audience with a significant level of counter-influence. The level of counter-influence should be determined on a case-by-case basis, taking into account the current situation, in the process of analysing the target audience during preparation for the influence event. As a result, the minimum threshold for engaging the target audience in order to spread certain ideas, exert psychological influence and change behaviour patterns should be set at $\approx 3.5\%$ for audiences with no (minimal) level of counter-influence, $\approx 10.5\%$ for target audiences with a significant level of counter-influence. Given that the population of states with authoritarian types of government is under the permanent aggressive influence of state institutions and propaganda, when planning psychological influence measures, it is advisable to take into account a fixed minimum threshold for engaging the target audience at $\approx 10.5\%$. Promising avenues for further research include studies aimed at analysing the effectiveness of psychological influence measures on various target audiences in the context of information and psychological confrontation under conditions of modern military conflicts.

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Обґрунтування мінімального порогу охоплення цільової аудиторії з метою поширення ідей та здійснення психологічного впливу

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♦ **Анотація.** Актуальність статті зумовлена еволюцією складових українського війська у 2014-2025 рр., зокрема розвитком засобів і технологій Сил спеціальних операцій Збройних Сил України у сфері інформаційно-психологічної протидії атакам Російської Федерації з урахуванням сучасних викликів. Метою статті було дослідження теоретичних аспектів обґрунтування мінімального порогу охоплення цільової аудиторії задля поширення визначених ідей та здійснення психологічного впливу. Дослідження базувалося на системному та міждисциплінарному підходах із застосуванням синергетичних принципів для вивчення складних соціально-інформаційних мереж. Застосовано екстраполяцію наукових результатів для інтеграції досвіду боротьби України з Російської Федерації у сучасну наукову парадигму. Встановлено, що мінімальний поріг залучення цільової аудиторії для поширення ідей та здійснення психологічного впливу становить $\approx 3,5\%$. Водночас результативність відповідних заходів зумовлюється взаємодією сприятливих чинників, зокрема наявністю розвиненої інтерактивної мережі, активних агентів впливу та попередньої дестабілізації соціально-політичної обстановки, а також стримувальних факторів, пов'язаних із невідповідністю запропонованих наративів інтересам цільової аудиторії або їх суперечністю її ціннісним і моральним орієнтирам. Для визначення мінімального порогу залучення цільової аудиторії доцільно застосовувати коефіцієнт протидії інформаційно-психологічному впливу $\times 3$ для аудиторій із високим рівнем контрвпливу, що зумовлює фіксацію порогу на рівні близько $\approx 10,5\%$, зокрема під час планування психологічних заходів щодо населення держав з авторитарним типом управління. Практична цінність дослідження полягає в оптимізації фундаментальних підходів до діяльності Сил оборони України у сфері інформаційно-психологічної протидії в умовах російсько-української війни з урахуванням практичного досвіду виконання бойових (спеціальних) завдань Силами спеціальних операцій Збройних Сил України

♦ **Ключові слова:** психологічні операції; інформаційно-психологічна протидія; агенти впливу; інтерактивні мережі; інформаційний простір



Psychological and pedagogical features of using interactive learning technologies in the process of professional development of teachers

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◆ **Abstract.** The relevance of the topic is conditioned by the growing role of interactive learning technologies in the development of pedagogical skills of teachers and the need to clarify the conditions for their effective use. The purpose of the study was to investigate the conditions for the effective use of interactive training technologies in the process of advanced training of teachers of higher military educational institutions. The methodological basis of the research was a combination of theoretical and experimental methods, which allowed substantiating the theoretical provisions and investigating the real conditions for using interactive technologies in the process of improving the pedagogical skills of scientific and pedagogical workers of higher education institutions. The paper analysed the specifics of organising educational activities of adults, in particular, teachers of higher military institutions. It was revealed that the personalisation of the educational process, the development of practical skills, and increasing motivation for learning contributes to the use of interactive learning technologies based on the active interaction of educational applicants with educational material, the teacher, and among themselves. The requirements for successful training using interactive technologies were justified: positive relationship, non-targeted interaction, individual responsibility, development of joint work skills, work assessment. The paper summarised the organisational, pedagogical and psychological conditions for the effective use of interactive training technologies in advanced training of teachers of higher military educational institutions. It was established that the effectiveness of using interactive technologies in the process of improving the pedagogical skills of teachers of higher military educational institutions increases under the condition of a holistic organisation of educational interaction, which was based on the subject-subject nature of training, a favourable psychological climate, motivational readiness of students, and professional significance of educational tasks. Important performance factors included consideration of the experience and professional stereotypes of students, focusing on overcoming the fear of failure, reflexive understanding of the results of educational activities, and proper methodological and organisational readiness of course teachers. The practical significance of the research lies in the possibility of using reasonable organisational, pedagogical and psychological conditions, forms and methods of interactive learning to improve the pedagogical skills of teachers of higher military educational institutions in the system of their professional development and advanced training

◆ **Keywords:** adult education; andragogy; interactive interaction; psychological and pedagogical conditions; pedagogical skills

◆ Introduction

The current stage of higher education development requires dynamic changes due to the introduction of digital technologies, the globalisation of knowledge, the innovative

nature of activities, and the growing requirements for training specialists in a competence-based approach. Conventional teaching methods are gradually losing their

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effectiveness, as they often do not provide an appropriate level of interaction in the “teacher-educational applicant” format, the development of critical thinking, creativity, and communication skills among educational applicants. Interactive learning technologies are based on the active interaction of educational applicants with educational material, the teacher, and among themselves. The use of multimedia tools, virtual simulators, adaptive learning platforms, interactive forms and methods of teaching in the educational activities of higher education applicants opens up new opportunities for improving the quality of knowledge acquisition, motivation for learning, development of practical skills, critical thinking. Research and teaching staff are faced with the task of improving the methods of teaching academic disciplines with a focus on a student-centred approach. The problem of adult education development was analysed by O.A. Dubasenyuk & O.A. Samoilenko (2020), who studied current trends in the management and organisation of adult education. The researchers analysed the essence, subject and tasks of andragogy as a branch of scientific knowledge about adult learning, and characterise an adult person as a subject of learning. A. Lytvynchuk *et al.* (2023) found that the effectiveness of distance education in Ukraine depends on a combination of conventional and innovative approaches, proper technical and legislative support, modernisation of information infrastructure, and continuous improvement of the system at all levels of education, which ensures the stability and continuity of the educational process. O.H. Hubar *et al.* (2023) focused on the impact of the use of interactive technologies on the quality of education of future teachers in higher education institutions. Professionalisation of teaching staff in the field of adult education in the context of formal and non-formal education was investigated by O.V. Anishchenko *et al.* (2022). The researchers analysed the psychological aspects of professionalisation of andragogs, the essence and features of the development of andragogical competence of teaching staff. A. Yermolenko (2022) identified the features of the subject-subject learning model, which contributes to self-improvement, self-realisation of the creative personality, and is a condition for the comprehensive development of the individual, identification and development of its creative potential. A. Yermolenko systematised approaches to the principles, features, technologies, and methods of interactive learning; organisation of training in cooperation and expansion of opportunities for interactive learning technologies in the educational procession based on the conclusions of A.V. Marchuk (2020), adult learning technology can be interpreted as a way to implement the content of adult education based on the interaction of content, procedural, motivational, organisational components, taking into consideration the competencies and professional experience of the course participant. Technical development puts the adult person in front of the need to get rid of outdated experience in order to acquire new ones. If life and professional experience is not relevant, it

can be an obstacle to professional growth. N.A. Frolenko & M.O. Stupnytska (2020) identified global educational trends in the development of the system and content of learning in the modern world: orientation to the active development of cognitive activity by a person; orientation of learning to the individual, providing opportunities for its self-disclosure; mass nature of education and its continuity as a new quality; significance of education for the individual and society; adaptation of the educational process to the needs of the individual. The analysis of scientific papers on the problem under consideration gave grounds to assert that the research and substantiation of psychological and pedagogical conditions for the effective use of interactive technologies in adult education, in particular, when organising courses to improve the pedagogical skills of teachers of higher military educational institutions, remain without attention of researchers. The purpose of the study was to analyse the psychological and pedagogical conditions for the effective use of interactive learning technologies in advanced training of teachers of higher military educational institutions. The objectives of the study included the definition and theoretical substantiation of psychological and pedagogical conditions for the effective implementation of interactive technologies in the system of professional development of teachers of higher educational institutions, and the analysis of the results obtained to determine the requirements for the teaching staff of advanced training courses using interactive learning technologies.

◆ Materials and Methods

The theoretical basis of the study was research in the field of andragogy by I.V. Maslianikova (2020), A. Samko (2021) and M. Pashchenko *et al.* (2023). The subject of the analysis also included approaches of I.I. Bilous *et al.* (2022) on the forms of organising advanced training courses using interactive technologies. To develop the programme of pedagogical skills courses, the experience of organising advanced training courses for research and teaching staff was investigated. Generalisations and conclusions were based on direct participation in teaching at advanced training courses for research and teaching staff with the active use of interactive learning technologies to improve efficiency and pedagogical skills. The material base of the study was made up of educational and methodological complexes of advanced training courses, in particular Curriculum of the certificate programme in pedagogical skills for teachers of higher military educational institutions from 2025, curricula of interactive classes, and the results of students' activities – projects developed by them, presentations, cases and reflexive reports that are stored by the authors and are not available in open sources. The analysis of such a material base allowed substantiating theoretical provisions on the use of interactive training technologies, the organisation of advanced training and summarising the results of research on the problem of professional development of scientific and pedagogical workers.

The study of psychological and pedagogical features of the use of interactive learning technologies in the process of professional development was conducted in 2023–2025 during the organisation of courses for 27 scientific and pedagogical workers (methodologists and teachers of higher educational institutions) on the pedagogical skills of higher military educational institutions. The age range of participants ranged from 30 to 72 years, which allowed studying the specific features of perception and application of interactive technologies by specialists with different pedagogical experience. The pedagogical experiment had a formative character and provided for the introduction of a complex of interactive technologies: technologies of cooperative learning (working in pairs, “Two-four-all together”, “Carousel”, “Aquarium”, working in small groups); technologies of collective and group learning (discussion of the problem in the general circle, “Microphone”, “Unfinished sentences”, “Brainstorming”, “Jigsaw”, “Decision tree”); technologies of situational modelling (business and simulation games, playing the situation by role); technologies of working out discussion issues (“PRES method”, “Take a position”, “Change your position”, “Continuous scale of thoughts”, discussion, evaluation discussion). Targeted observation, surveys, and conversations in the process of organising advanced training courses helped to identify effective interactive learning technologies in adult education. The certificate programme on pedagogical skills of teachers of higher military educational institutions provided for the development of four modules with a volume of 94 classroom hours lasting 80 minutes each. Pedagogical observation was carried out during eight hours of lectures and 18 hours of practical classes with training elements and 6 hours of group discussions of the module “Pedagogical technologies as a component of the teacher’s pedagogical skill” in order to track the activity, level of interaction, manifestations of cooperation, and self-reflection of students. The study followed the ethical standards of the Helsinki Declaration of the World Medical Association (WMA, 2024).

◆ Results and Discussion

In the conditions of war and post-war reconstruction, when the training of qualified personnel becomes particularly relevant, it is also important to pay considerable attention to improving the skills of scientific and pedagogical workers of higher educational institutions. Higher education teachers need to develop professionally important personal qualities that will ensure the organisation of educational activities in the specific conditions of martial law; the development of a motivational sphere of personality in such circumstances; the development of a reflective culture associated with the ability to self-analyse, awareness of professional difficulties, and the search for ways to overcome them (Zadorozhna-Kniahnytska *et al.*, 2024). In the organisation of advanced training courses for scientific and pedagogical workers, it is important to take into consideration modern approaches and innovative

pedagogical technologies that provide for the development of creative potential of teachers, changes in the ways of activity, and thinking style of participants in the educational process. Professional development of teachers can take various formats: courses, internships, certificate programmes, etc. Comparison of different types of training helps to determine their distinctive features: with the conventional approach, the teacher transmits specific information to the education applicant, and education applicants must learn it and confirm the high level of acquired knowledge; with a programmable type of training, the educational material is reported and assimilated using programmable textbooks, computer technology; the problem type of training is characterised by creating problematic tasks for learning new things, discussing ways to solve these problems; interactive (dialogue) type of training is aimed at developing the creativity of the education applicant through the use of interactive technologies. L.Z. Rebukha (2022) distinguished between the concepts of “learning technology” and “pedagogical technology”. Accordingly, the training technology reflects the trajectory of assimilation of educational material. M. Pashchenko *et al.* (2023) defined the concept of “innovative pedagogical technologies” as a purposeful, systematic and consistent implementation in practice of original, innovative methods, techniques of pedagogical actions and means from goal definition to expected results”. The main current trends in the development of learning technologies at the present stage of modernisation of contemporary education include the development of personality-oriented learning; the use of learning technologies with elements of problems, scientific research, interaction of students; the creation of conditions for self-realisation, self-affirmation, and self-determination of the individual; the introduction of their own teaching and learning methods, etc. (Rebukha, 2022).

In the context of organising professional development courses for teachers, the conclusions of A. Yermolenko (2022) regarding the characteristics of interactive adult learning are relevant: structuring the educational process taking into consideration interests and requests, experience, and partner interaction. Interactive educational activities contribute to the development of social, emotional, and intellectual competence, increase motivation, involvement in solving educational problems, experience of dialogical cognitive activity, flexibility in evaluating the results of educational activities, the ability to simulate the realities of practical activities. For the effectiveness of organising advanced training courses, it is important to adhere to andragogical principles (Boyarska-Komenko, 2019; Tymchuk *et al.*, 2021). Among the principles of organising courses for improving pedagogical skills, continuity, ambientness, the value of living, the use of active forms of learning, reflexive support, modular structure, awareness of learning, reliance on subject experience, practicality and motivation were highlighted (Fig. 1).

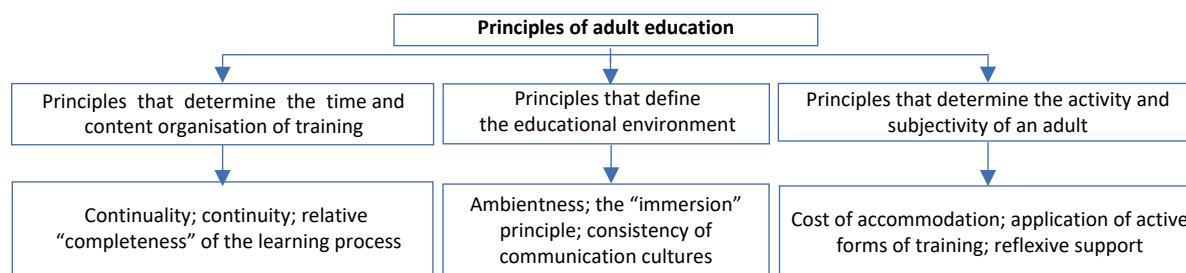


Figure 1. Principles of adult education

Source: developed by the author based on O.A. Dubasenyuk & O.A. Samoilenko (2020)

In accordance with the principle of continuity, the teacher in the process of active participation in the development of new things gets the experience of being in new mental states, a new social role. The principle of continuity involves lifelong learning and gaining new experiences. The principle of ambientness is implemented through the creation of a favourable educational environment for the effectiveness of obtaining new knowledge. In order to create conditions for positive self-realisation in the process of improving the skills of teachers, it is necessary to adhere to the principle of value living through modelling situations that will allow students to understand the specifics of the values of educational subjects, accept them at the personal level, in the process of understanding and conscious learning. Compliance with the principle of using active forms of training contributes to the rejection of certain stereotypes of professional activity, in particular, through participation in group interactive forms of educational activities. The process of professional development of research and teaching staff using active forms of training will be effective if there are positive attitudes and a general atmosphere of creativity based on subject experience. In order to reflect the personal role of course participants, objective planning, and analysis of educational activities, it is necessary to adhere to the principle of reflexive support for each course session, their practical nature, and the motivation of participants. I.V. Maslianikova (2020) and A. Samko (2021) summarised the provisions of andragogy that were taken into consideration for the effective implementation of the certificate programme for advanced training of teachers of higher military educational institutions:

1. The role of the teacher of advanced training courses in identifying, systematising, and formalising the personal experience of the course student, correcting and replenishing his knowledge.
2. Motivation for mastering new knowledge through its practical orientation and innovation, the ability to apply the results of training for professional growth and improving the quality of educational activities.
3. The use of interactive learning technologies is mainly innovative in nature through the exchange of knowledge, actions, and organisation of discussions in micro-groups/audiences.
4. Consideration of experience and certain stereotypes of professional activity, since some students are not ready

for changes. This is conditioned by the fear of being incompetent, anxiety about own authority.

5. Consideration of the availability of presentation and various professional areas of students in the selection of information for processing in the courses; the versatility of consideration of the material by both the teacher and students; flexibility in presenting the material; critical perception of the content, forms, and methods of teaching by students; selection of tasks to identify and reveal the personal potential of students.

6. Consideration of the individual learning style of students. For the development of subject-subject interaction, it is important to rely on an individual teaching style, including adult learning styles.

7. Dependence of the effectiveness of educational activities on temporal, spatial, everyday, professional, and social conditions.

In the development of the certificate programme on pedagogical skills of teachers of higher military educational institutions, it is also important to consider the following approaches to the use of interactive technologies: intensification of educational activities, increased motivation, involvement in solving educational problems, experience of dialogical cognitive activity, flexibility in evaluating the results of educational activities, the ability to simulate the realities of practical activities. The purpose of professional development in a higher education institution should be the development of skills and abilities of psychological implementation of pedagogical activity, its systematic vision, assistance in enriching the pedagogical experience of teachers, deepening knowledge on the theoretical foundations of pedagogy and psychology, innovative pedagogical technologies, culture of pedagogical communication; development and deepening of practical skills and teaching skills. Achieving the goal of professional development involves familiarisation with the theoretical foundations of the psychology of pedagogical skills of a higher school teacher; psychological features of pedagogical technology; and the skill of pedagogical communication. The curriculum of the certificate programme on pedagogical skills for teachers of higher military educational institutions provides for the study of the following modules: "Educational environment: challenges of the present" (lectures – 24 hours, practical classes – 8 hours), "Pedagogical technologies as a component of pedagogical skill of the teacher" (lectures – 8 hours,

practical classes – 20 hours), “Psychological foundations of pedagogical communication” (lectures – 6 hours, practical classes – 4 hours), “Psychological determinants of optimisation of educational activities” (lectures – 18 hours, practical classes – 6 hours). During the development of the

module “Pedagogical technologies as a component of the teacher’s pedagogical skill”, interactive technologies for organising educational activities were used, which allowed testing and generalising the effectiveness of their use in adult education (Table 1).

Table 1. Use of interactive technologies during professional development

No.	Title of the lesson topic	Name of the interactive technology
1	Methods of preparing and giving lectures: experience in updating educational activities	“Continuous scale of thoughts”, “Unfinished sentences”, “Brainstorming”
2	Forms and methods of updating educational activities	Working in pairs, “Microphone”, “Brainstorming”
3	Problem lecture: features of preparation and conduct	“Continuous scale of thoughts”, “Brainstorming”, “Decision tree”
4	Preparation and conduct of a seminar (practical) lesson	“Carousel”, “PRES” method, work in pairs
5	Educational and methodological support of the seminar (practical) lesson	Discussion of the problem in the general circle, “Microphone”
6	Teacher’s communicative behaviour style and its impact on class success	“Decision tree”, case method, “Microphone”
7	Organisation of a discussion on a specific topic as the main task of the head of the seminar session	“Take a position”, “Change your position”, evaluation discussion
8	Innovative pedagogical technologies	Case method, “PRES” method, “Snowball”
9	Attention, imagination and observation as the basis of innovation activity in a higher education institution	“Continuous scale of thoughts”, acting out the situation by role
10	Interactive technologies in teaching	Case-method, “Brainstorming”
11	Discussion “Conditions for effective use of interactive technologies”	Discussion, evaluation discussion
12	Didactic bases of diagnostics and quality control of the educational process	Case method, “Microphone”
13	Diagnostics of students’ mental activity, motivation to get a specific speciality. Evaluation criteria and evaluation motivation	“Aquarium”, “Take a position”, “Change your position”
14	Discussion “How assessment affects the effectiveness of the educational process”	“Six hats” technology

Source: developed by the author

One of the conditions for choosing methods of organising training is to consider the psychophysiological characteristics of students, their life experience, cognitive and educational style of activity. The activity and productivity of participation in the proposed interactive forms and methods of activity is determined by the needs, goals, motives of students, and the level of development of communicative, organisational, didactic, design (diagnostic and prognostic) skills. When organising classes with students of advanced training courses, it is important to adhere to a problem strategy. During the organisation of advanced training courses for teachers of higher military educational institutions, technologies of cooperative training; collective-group training; situational game modelling; technologies for working out discussion issues (Khomiuk *et al.*, 2020). Among the effective methods of discussion, students of the courses identified technologies of cooperative learning: working in pairs (91% of students), “Two-four-all Together” (67%), “Carousel” (95%), “Aquarium” (94%), working in small groups (92%); technologies of collective-group learning: discussion of the problem in a common circle (89%), “Microphone” (96%), “Unfinished sentences” (95%), “Brainstorming” (96%), “Jigsaw” (84%), case method (92%), “Decision tree” (84 %); situational modelling technologies: business and simulation games, acting out the situation by role (70%); technologies for working out discussion issues: “PRES method” (97%), “Take a position” (77%), “Change your position” (78%), “Continuous scale of thoughts” (68%), discussion (95%), evaluation discussion (82%). The use of interactive

technologies requires an appropriate training structure. 10% of the total time – announcement of the topic and expected results of activities; motivation for participation. 10-15% of the lesson time is information about forms and methods, which allows students to complete practical tasks in the shortest possible time. 65-70% – interactive interaction to solve the tasks set and presentation of the results. 10% – reflection of results, which allows evaluating achievements and summarising the results of individual tasks or classes as a whole. Observation of students of advanced training courses gives grounds to agree with the conclusions that an adult student as a subject of learning is characterised by the need to know, self-awareness, experience, readiness to learn, orientation in learning, internal motivation, which is implemented in such andragogical principles as awareness of learning, self-orientation, reliance on subject experience, contextuality of learning, practicality, and motivation, respectively (Tymchuk *et al.*, 2021). The analysis of the participation of teaching staff in the implementation of the course programme became the basis for generalising the features of teaching and research and teaching staff during their lifetime. These include the use of accumulated life experience for educational purposes, critical understanding of the content, forms, and methods of teaching, awareness of personal independence and the desire for self-realisation, taking into consideration time, spatial, everyday, professional and social conditions, independent choice of educational programme, applied utilisation of acquired knowledge and skills, disclosure of personal potential and solving specific life tasks.

The level of activity and involvement of students of advanced training courses in interactive activities is significantly affected by the development of professional competence of the teacher. Among its key components, cognitive, activity, and personal competence are highlighted. The cognitive criterion implies a high level of knowledge of didactic knowledge, argumentation skills, and eloquence. The activity criterion is characterised by the development of organisational skills, teaching skills, adequate self-assessment of the importance of a favourable educational environment in the organisation, the ability to adjust behaviour in accordance with the situation; the ability of the teacher to create an atmosphere of partnership, interaction, creativity in the classroom. The degree of development of professionally important qualities of the teacher's personality determines the personal criterion. Among these qualities are creativity, intellectual and emotional maturity, diligence, energy, authority, openness and friendliness. According to the conclusions of L.O. Nesterenko *et al.* (2022), the active use of interactive technologies in the implementation of the certificate programme on pedagogical skills of teachers of higher military educational institutions has become the basis for determining the conditions for their effective use. These conditions include organisational, psychological, and pedagogical ones. Organisational conditions include physical and hygienic conditions for organising educational activities, knowledge of regulatory documents on the organisation of courses and requirements for professional competence of the teacher; availability of a professional development system; professional competence. Psychological conditions: the ability of a person to implement their own internal changes, neutralise negative psychological attitudes and activate positive ones, readiness for interaction in a group; the ability to plan internal thinking activities, master the components of psychological adaptation in the course of interactive activities; the ability to implement internal dialogue, skills, and abilities to coordinate personal motives; group dynamics, beliefs, attitudes, perception stereotypes, value orientations. Pedagogical conditions: the level of education, cultural and moral values, the scope of professional activity, knowledge of the content of the subject of teaching, knowledge of the methods of organising, and conducting various forms and methods of educational activities.

Analysis of the use of interactive technologies in improving the skills of scientific and pedagogical workers confirmed that their effectiveness depends on subject-subject interaction, positive psychological climate, motivational readiness of students, relevance and professional content of tasks, and methodological and organisational readiness of teachers. The results of this study are consistent with the findings of I.I. Bilous *et al.* (2022), who considered interactive learning technologies as an organised approach to the development of an educational environment, which involves active interaction between all its participants to achieve educational goals and objectives. S. Sysoieva (2011) noted that effective active learning involves the transformation of a pupil (student) from an object to a subject of activity through

its inclusion in joint group work, and the need to take into consideration the individual characteristics of each student (temperament, character, abilities, interests, status in the group) when organising the educational process, so that tasks correspond to their potential and role in the team. The results also correlate with opinion of O. Druhanova & V. Bilyk (2024) regarding the fact that the effectiveness of adult education significantly depends on the ability of the teacher to create an atmosphere of partnership, interaction, creativity in the classroom; on the ability to model educational situations in which adults will be able to apply the acquired professional and social experience. As the authors noted, an important role is played by the teacher's ability to apply innovative technologies that ensure the acquisition of important and necessary knowledge, the development of new skills, other professional and communicative competencies, and contribute to the development of critical thinking and creativity. N. Volkova (2018) emphasised the role of game technologies as an effective means of professional training of students, which promotes active assimilation of knowledge, development of professional thinking, self-study, and forecasting of pedagogical impact, while reducing the time for studying disciplines and forming practical and ethical social experience through modelling real situations and decision-making. Thus, the comparison of the results of the study with the conclusions of the above-mentioned researchers confirmed that the effectiveness of interactive training and professional development of scientific and pedagogical workers is determined by active subject-subject interaction, positive psychological climate, motivational readiness of students, considering individual characteristics, the use of innovative game and interactive technologies, modelling of real educational situations, and the development of professional, communicative, and creative competencies.

◆ Conclusions

The analysis of the use of interactive technologies in professional development has identified the key conditions for their effectiveness: a focus on the practical application of knowledge, consideration of professional and personal experience, consideration of competing interests, overcoming stereotypes and preferences regarding learning styles, the use of a variety of activities, development of information processing and self-control skills, creation of a comfortable and safe atmosphere, overcoming fear of failure and difficulties in interpersonal interaction, and organisation of an information and educational environment for discussing tasks, ways to solve them and reflecting on the results at different stages of learning. In the course of the study of effective conditions for the use of interactive learning technologies in courses of improving the pedagogical skills of teachers, the effectiveness of using interactive technologies in improving the skills of research and teaching staff depends on certain conditions for their organisation and involvement of teaching staff was confirmed. It was established that the use of interactive technologies in educational activities had a significant impact on the level of

interest, involvement in activities, and perception of new things. The use of interactive technologies will be effective in the conditions of creating subject-subject interaction, a positive psychological climate, motivational readiness of students for interactive interaction, relevance and professional content of tasks, consideration of the experience of students, methodological and organisational readiness of course teachers. For successful learning in the interactive technology mode, the following requirements are identified: positive relationship, non-targeted interaction, individual responsibility, development of collaboration skills, and work evaluation. During the implementation of the programme of courses for improving the pedagogical skills of teachers, the activity and effectiveness of students' participation in learning new things through various kinds of

interactive interaction was traced. Prospects for further research are aimed at empirical study of the use of effective forms and methods of interactive learning, improvement of the content of the certification programme in pedagogical skills for teachers of higher military educational institutions using innovative interactive technologies.

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Психолого-педагогічні особливості використання інтерактивних технологій навчання у процесі підвищення кваліфікації викладачів

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♦ **Анотація.** Актуальність теми зумовлена зростанням ролі інтерактивних технологій навчання у розвитку педагогічної майстерності викладача та потребою уточнення умов їх ефективного застосування. Метою статті було дослідження умов ефективного використання інтерактивних технологій навчання у процесі підвищення кваліфікації викладачів вищих військових закладів освіти. Методологічну основу дослідження становило поєднання теоретичних і експериментальних методів, що дало змогу обґрунтувати теоретичні положення та вивчити реальні умови використання інтерактивних технологій у процесі підвищення педагогічної майстерності науково-педагогічних працівників закладу вищої освіти. Проаналізовано особливості організації освітньої діяльності дорослих, зокрема викладачів вищих військових закладів освіти. Виявлено, що персоналізації освітнього процесу, розвитку практичних навичок і підвищенню мотивації до навчання сприяє використання інтерактивних технологій навчання, що ґрунтуються на активній взаємодії здобувачів освіти з навчальним матеріалом, викладачем і між собою. Обґрунтовано вимоги для успішного навчання із застосуванням інтерактивних технологій: позитивний взаємозв'язок, неопосередкована взаємодія, індивідуальна відповідальність, розвиток навичок спільної роботи, оцінка роботи. Узагальнено організаційні, педагогічні та психологічні умови ефективного використання інтерактивних технологій навчання під час підвищення кваліфікації викладачів вищих військових закладів освіти. Встановлено, що ефективність використання інтерактивних технологій у процесі підвищення педагогічної майстерності викладачів вищих військових закладів освіти зростає за умови цілісної організації освітньої взаємодії, яка ґрунтується на суб'єкт-суб'єктному характері навчання, сприятливому психологічному кліматі, мотиваційній готовності слухачів і професійній значущості навчальних завдань. Водночас важливими чинниками результативності є урахування досвіду та професійних стереотипів слухачів, орієнтація на подолання страху невдачі, рефлексивне осмислення результатів освітньої діяльності, а також належна методична й організаційна підготовленість викладачів курсів. Практична цінність дослідження полягає в можливості використання обґрунтованих організаційно-педагогічних і психологічних умов, форм та методів інтерактивного навчання для підвищення педагогічної майстерності викладачів вищих військових закладів освіти в системі їх професійного розвитку та підвищення кваліфікації

♦ **Ключові слова:** освіта дорослих; андрагогіка; інтерактивна взаємодія; психолого-педагогічні умови; педагогічна майстерність



The psychosemantic structure of the image of a “law-abiding citizen” in the legal consciousness of law enforcement officers

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◆ **Abstract.** The aim of the study was to examine the key differences in the semantic dimensions of law enforcement officers' perceptions of lawful behaviour by citizens. To achieve this aim content analysis methods were used to develop a conceptual psychosemantic model, and empirical assessments of law enforcement officers were used to identify the key elements of the image of a “law-abiding citizen” in the legal consciousness of law enforcement officers. The proposed conceptual model viewed legal consciousness as a multi-component structure that included cognitive, emotional-evaluative, value-motivational, and volitional-regulatory elements. The formation of the legal consciousness of employees of the justice system largely depended on their age and professional experience ($M = 6.43$ for employees with less than 5 years of experience versus $M = 6.07$ for employees with more than 5 years of experience), as well as activity values ($M = 5.74$ versus $M = 5.32$); This meant that the formation of the image of a “law-abiding citizen” in the legal consciousness of law enforcement officers was determined by aspects of social activity and initiative. Gender differences were less noticeable, which allowed to conclude that there are universal standards for the formation of the image of a “law-abiding citizen” in the law enforcement sphere. In the legal consciousness of the segment's employees, a clear differentiation was also found between the images of law-abiding, conditionally convicted and convicted citizens. The image of a “law-abiding citizen” was defined as the standard of moral responsibility and normative behaviour, while the images of conditionally convicted and convicted persons circulated in the legal consciousness of law enforcement officers as potentially resocialised/capable of social activity and socially/normatively negative, respectively. The results obtained could be used in planning professional training and retraining of employees to strengthen public confidence in the national justice system

◆ **Keywords:** regulatory component; normative behaviour; gender analysis; psychosemantic approach; volitional element

◆ Introduction

In the context of the transformation of the rule of law and increased public attention to the activities of law enforcement agencies, the issue of legal awareness among their employees is becoming increasingly relevant. The image of a “law-abiding citizen” that is formed in the professional consciousness of law enforcement officers not only reflects normative ideas about law and order, but also significantly influences the style of professional interaction, decision-making and assessment of citizens' behaviour. Psychosemantic analysis of this image reveals hidden

meanings, stereotypes and value orientations that can both strengthen trust between the state and society and give rise to risks of bias. Based on this, the study of the psychosemantic structure of the image of a “law-abiding citizen” in the legal consciousness of law enforcement officials is scientifically and socially significant. The issue of consciousness as a subject of philosophical reflection and scientific analysis has been reflected in previous works, in particular by A. Seisekenova *et al.* (2024), who explored key academic approaches to the study of consciousness in the 20th and

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21st centuries. According to the authors, consciousness has a social nature, as it arises as a consequence of living in society and is a prerequisite for building an individual's relationship with the world. H. Pae (2025) studied selected theories of consciousness, in particular the global workspace theory, integrated information theory, and predictive coding theory. Based on an analysis of key provisions, the researcher proposed a phenomenologically grounded structure that clarifies the explanatory scope of each theory, thus demonstrating the feasibility of an interdisciplinary approach to the study of consciousness. An analysis of individual theoretical approaches – integrated information theory, global workspace theory, higher-order theory, and representational theories of consciousness – was also conducted in the work of P.K. Sahu & A.C. Jena (2024). According to the authors, one of the challenges remains understanding the subjective perspective of consciousness, which requires an in-depth study of its evolutionary, cultural, and philosophical dimensions. Similar to H. Pae, P.K. Sahu & A.C. Jena advocated an interdisciplinary approach to studying individual aspects of consciousness, in particular its impact on the development of artificial intelligence. Specific philosophical challenges in the study of consciousness were considered in the work of S.D.F. Araujo (2011), who focused on the study of the so-called "hard problem" of consciousness, the solution to which could explain why decades of neuroscientific mapping have failed to bridge the explanatory gap between objective brain states and subjective experience. According to the author, the main philosophical challenges in this issue remain cracks in the materialistic foundation and a crisis of integration in the study of consciousness.

O. Bazayev (2024) explored the philosophical question of consciousness in the narrower context of legal consciousness. The researcher emphasised the absence of a single, comprehensive model that would highlight the multi-level structure of legal consciousness. After analysing previous studies, the author concluded that legal consciousness is an integrated socio-legal category that is not limited to philosophical and legal discourse, but also includes psychological and social aspects. Certain aspects of legal consciousness are also reflected in the work of S. Naoumowa (2024), who studied this phenomenon in the context of Professor A. Podguretsky's sociological theory of law. According to the chosen theory, the structure of legal consciousness includes such key elements as knowledge of current legal norms, assessment of mandatory laws, and postulates that help to define individual laws as good or desirable. Understanding these elements determines the empirical and socio-legal analysis of legal consciousness. The importance of studying legal consciousness was also emphasised by M. Hertogh (2024), who stressed that scientific research mainly focuses on citizens' compliance with the law, rather than on the public perception of these laws. After analysing the experience of clients of Dutch social security services, the author concluded that the relationship between legal consciousness and compliance with the norms of current legislation is not a unitary phenomenon, i.e. it must be considered in relation

to specific laws and social hierarchies. The link between legal awareness and society's willingness to comply with legislation and changes in the socio-legal sphere was also examined by V. Lomaka *et al.* (2024). The survey confirmed the link between Ukraine's European integration and the formation of legal awareness among its citizens. At the same time, the study found that this connection is formed under the influence of external factors such as the media; that is, it is advisable to conduct further correlation analysis based on the Media Trust Index and the Rule of Law Index. The influence of external factors on the formation of legal awareness was also proven by R. Vysochanskyi (2024), who studied socio-legal changes in Ukrainian society after the start of the full-scale invasion on 24 February 2022. The author argued that the escalation of the military conflict led to a transformation of public consciousness, which took the form of a renewal of value orientations. These updates are manifested in an increased number of volunteer and public initiatives, as well as an expanded set of digital participation tools that help strengthen trust in state institutions and increase the legal resilience of society. In this context, legal awareness serves to adapt the legal system to the challenges of wartime and the processes of European integration.

Based on an analysis of previous studies, it was concluded that the issue of public consciousness, including legal consciousness, had been sufficiently studied. At the same time, insufficient attention has been paid to the analysis of the legal consciousness of law enforcement officials, whose activities determine the level of public trust in state institutions. The aim of the study was to examine the psychosemantic structure of the image of a "law-abiding citizen" in the legal consciousness of law enforcement officials. The following objectives contributed to the achievement of this aim: to investigate the theoretical and methodological foundations of the study of legal consciousness of the individual and to analyse the psychosemantic features of legal consciousness of the individual in different life environments.

◆ Materials and Methods

The aim of the study was achieved through the application of a combination of theoretical and empirical methods, with content analysis serving as the principal approach. This method was employed to substantiate the conceptual model of the psychosemantic structure of the image of a "law-abiding citizen". The analytical material consisted of scholarly publications in social psychology and law addressing issues of legal consciousness, law-abiding behaviour, social representations, professional identity, and professional deformation among law enforcement personnel. Only sources meeting the criteria of relevance and scientific credibility were included in the sample. In particular, the publications by L. Zahrai & O. Fedoruk (2020), H. Fedoryshyn (2023), and the review by S. Martin (2023) were examined. Based on the results of the content analysis, a comparison was conducted between Eastern and Western philosophical approaches to defining consciousness across the following categories: "understanding of consciousness",

“boundaries between the self and the world”, “levels of functioning”, “dynamics of change”, and “ultimate purpose of interpretation”. The content analysis materials were also used to examine psychosemantic approaches to the academic study of consciousness, considered through key parameters of content and methodological contribution.

At the second stage, the identified categories were compared and generalised in order to reveal stable semantic constructs. The findings of the content analysis provided the basis for the operationalisation of the concept under study and for the development of empirical instruments, particularly a system of bipolar scales: “socially active-passive”, “initiative-inert”, “ready for cooperation-isolated”, “engaged in public life-detached”, “reliable-unreliable”, “fair-unfair”, and “honest-dishonest”, which were subsequently used for psychosemantic analysis. The empirical study was conducted among law enforcement officers working in criminal procedure, operational and investigative services, forensic and expert units, and public security divisions. A total of 30 participants took part in the study, including 15 men and 15 women, with a mean age of 35.6 years. The balanced distribution across age groups and length of professional experience enabled an unbiased understanding of the influence of age- and gender-related factors on the formation of the image of a “law-abiding citizen” within the legal consciousness of law enforcement personnel. Participants were eligible if they had at least one year of professional experience in the law enforcement system and provided informed consent. The study was conducted online using the Google Forms platform in accordance with the ethical standards of the American Sociological Association (2025). Participants were also asked to evaluate certain aspects of the legal consciousness of representatives of such legal professions as judges, defence lawyers, and prosecutors. Given the methodological limitations of directly surveying law-abiding citizens, probationers, and convicted individuals, an indirect expert-projective approach was applied. Law enforcement officers participating in the study were asked to assess generalised images of the respective social groups, formed on the basis of their professional experience, service observations, and repeated interactions with individuals from these categories in the course of law enforcement practice. The resulting evaluations were treated not as individual characteristics of specific persons, but as reflections of latent psychosemantic structures representing perceptions of the legal consciousness of these social groups within the professional awareness of law enforcement

personnel. This approach made it possible to reconstruct semantic models of group images of legal consciousness under conditions of limited access to direct respondents.

During the evaluation process, law enforcement officers used scales developed on the basis of the preliminary content analysis of academic sources and taking into account the classical three-factor model of meaning proposed by C.E. Osgood *et al.* (1957), which distinguishes the dimensions of “evaluation”, “potency”, and “activity”. In accordance with this model, the set of scales included characteristics reflecting the evaluative dimension of the image. Assessments were made using a seven-point scale, where the extreme values corresponded to the poles of the bipolar traits. Individual ratings were aggregated into group indicators, enabling the construction of a semantic space of the image of a “law-abiding citizen”. Further statistical processing was carried out using exploratory factor analysis in order to identify latent semantic dimensions within the psychosemantic structure of the image. The analysis included variables represented by mean group scores across all bipolar semantic differential scales. Factor extraction was performed using the principal components method followed by orthogonal Varimax rotation, which allowed for the achievement of a simple and interpretable factor structure.

◆ Results and Discussion

Theoretical and methodological foundations of research into legal consciousness. The problem of consciousness is traditionally considered fundamental in philosophy, psychology, and the humanities in general. It is regarded as a key category that mediates human interaction with the world and determines the ways of cognition, interpretation of reality, and regulation of behaviour. At the same time, within the framework of empirical psychological and legal research, consciousness cannot be reduced to an abstract metaphysical construct detached from the practice of social interaction, normative regulation, and the real behavioural choices of the subject. Consciousness in this sense is not a static structure, but functions as an open system that is constantly changing under the influence of social experience, communication, and normative expectations. This position can be traced in both Western and Eastern philosophical traditions, which emphasise the inseparable connection between consciousness and practice, action and context. A comparative analysis of philosophical approaches to defining and explaining consciousness is presented in Table 1.

Table 1. Comparative analysis of Eastern and Western approaches to defining consciousness

Criterion	Western philosophy of consciousness	Eastern philosophy of consciousness
Understanding consciousness	A relatively autonomous structure or property of the subject	Procedural, comprehensive and insubstantial
The boundaries between the “self” and the world	Clearly delineated, partially permeable	Conditional, changeable or absent
Levels of functioning	Hierarchical (neural → psychological → social)	Simultaneous and interpenetrating
The dynamics of change	Dialectical, often conflictual	Gradual, harmonising
The ultimate goal of understanding	Explanation and rational mastery of reality	Awareness of unity and liberation from illusions

Source: compiled by the author based on A.R. Booth *et al.* (2024), P.C. Mocombe (2024), A.K. Mukhopadhyay (2024), R.K. Verma (2024), C. Song & M. Wu (2025), A. Fuchs *et al.* (2025)

A comparative analysis has shown that Western and Eastern philosophical traditions offer different traditions of penetrating the boundaries of consciousness. The Western paradigm assumes the existence of relatively stable boundaries between the subject and the world, which allows for the analytical differentiation of different consciousnesses and the management of their interaction. Eastern philosophy, on the other hand, interprets consciousness as a continuous flow in which boundaries are conditional and can be removed through the practice of awareness. The use of the metaphor of boundary penetration, borrowed from hydrodynamics, allows to consider the analysed approaches not as mutually exclusive, but as different modes of describing the large-scale workings of consciousness. This opens up the possibility for integrative models capable of combining neural, psychological and cultural levels of analysis within a single theoretical framework. At the same time, within the scope of this study, philosophical concepts did not perform a self-sufficient explanatory function, but rather a methodological role: they created the basis for considering consciousness as a multi-level, contextually determined system of meanings that can be empirically reconstructed using psychological methods. An analysis of contemporary philosophical approaches to the problem of consciousness allows to identify a number of propositions that have direct methodological value for psychological and legal research. In particular, non-dualistic concepts of consciousness (Mukhopadhyay, 2024; Verma, 2024) emphasise its integrity and primacy over individual cognitive, emotional or bodily processes. This opens up the possibility of analysing legal meanings not only as a product of rational thinking, but as integrated meaningful formations that combine cognitive, emotional and volitional components. Methodological analysis has shown that the Eastern philosophical tradition treats consciousness as a procedural, dynamic formation that is constantly changing under the influence of individual experience. Within the scope of the study, this allowed to conclude that legal consciousness is not a constant feature of personality, but is formed and transformed depending on the social context, the nature of legal practice and the professional path of the subject. In contrast, Western materialistic and socio-critical approaches (Song & Wu, 2025; Mocombe, 2024) provided grounds for considering legal consciousness as a socially determined phenomenon that is formed through language, legal discourse and the functioning of institutions. The generalisation of these approaches has made it possible to substantiate an integrative methodological position, according to which legal consciousness appears

as a procedural system of meanings that combines individual psychological and socio-normative dimensions, ensuring a conceptual transition to its psychosemantic analysis.

In the study, legal consciousness was considered as a specialised subsystem of general consciousness, reflecting and regulating the interaction of the individual with legal reality. It includes not only knowledge of the law and legal norms, but also an emotional and evaluative attitude towards them, a system of value orientations, and a readiness for lawful or unlawful behaviour. This approach is consistent with the position of V.Yu. Shvachka (2019), who emphasised the multi-component nature of legal consciousness and the presence of intellectual, emotional, and volitional elements in its structure. At the same time, unlike purely normative or legal approaches, this study focused on the psychological mechanism of internalisation of legal norms. In this context, law appears not only as an external regulator of behaviour, but also as a system of meanings that acquires personal significance for the subject. The effectiveness of legal regulation depends to a large extent not only on the level of legal knowledge, but also on the formation of internal beliefs, ethical attitudes and a sense of professional and social responsibility. This means that legal consciousness cannot be reduced to the sum of knowledge about the law. It is a complex psychosocial formation that develops through processes of socialisation, professional activity and personal experience of interaction with legal institutions. This approach explains the discrepancy between formal knowledge of legal norms and actual behaviour in legal situations. The results of the study indicate that the application of the psychosemantic approach made it possible to reconstruct the internal semantic organisation of legal consciousness. It was found that the perception of legal reality is structured by a system of latent meanings, semantic oppositions and cognitive-emotional coordinates that are not captured by traditional survey methods and extend beyond declared attitudes. The object of psychosemantic analysis in this article is the legal consciousness of the individual, and the units of analysis are meanings, evaluations, and semantic dimensions associated with basic legal categories such as "law", "justice", "responsibility" and "offence." The logic of the analysis lies in the reconstruction of those semantic structures that mediate the subject's attitude to law and determine his behavioural strategies. A summary of the approaches to psychosemantic analysis relevant to this study is presented in Table 2 below and demonstrates the difference in approaches to defining consciousness in Ukrainian and foreign academic discourse.

Table 2. *The psychosemantic approach to the study of consciousness in academic literature*

Author	Brief summary	Methodological contribution
H. Fedoryshyn (2023)	Psychosemantic representation and analysis of the semantic structures of marital and family relationships in young people's consciousness	Psychosemantic reconstruction of meanings within real social contexts
L. Zahrai & O. Fedoruk (2020)	Empirical study of psychosemantic constructs of leadership in young people's consciousness, considering the gender dimension	Psychosemantic methods, including the semantic differential and the sentence completion technique
K. Vasyuk (2024)	Psychosemantic analysis of perceptions of a profession and the motivational meanings of learning	Systematisation of psychosemantic foundations and semantic structures

Table 2. Continued

Author	Brief summary	Methodological contribution
X.D. Arsiwalla (2024)	Study of the semantic nature of the phenomenal content of consciousness and its relationship to phenomenal experience	Formalisation of meaning as the basis of phenomenal experience
T. Niikawa (2020)	Mapping and systematisation of research directions in consciousness studies: ontology, phenomenology, and semantics	Methodological framework for classifying approaches to the study of consciousness
S. Martin (2023)	Analysis of the role of awareness in clinical psychology and psychotherapy through a review of key concepts	Presentation of the current discourse on self-awareness and meaning-making

Source: compiled by the author

An analysis of the materials presented in Table 2 shows that the psychosemantic approach in contemporary academic literature is used to study various types of semantic formations, ranging from everyday social representations and professional images to fundamental structures of conscious experience. The empirical studies presented demonstrate the potential of psychosemantic methods in reconstructing the semantic structures of socially significant concepts and identifying their gender, motivational, and value dimensions. Theoretical and review works, in turn, expand the methodological boundaries of psychosemantics, integrating it with phenomenological, semantic, and cognitive approaches to the analysis of consciousness. Taken together, these works confirm the feasibility of using psychosemantic analysis as a universal tool for studying consciousness, capable of combining empirical reconstruction of meanings with conceptual understanding of their place in the structure of individual and social experience. Based on the analysed philosophical and psychological approaches, the study created an author's conceptual

model of consciousness, according to which consciousness is viewed as a multi-level system of meaningful formations functioning in the interaction of four interrelated components: cognitive, value-emotional, regulatory-behavioural, and volitional-regulatory. These components do not exist in isolation but are in constant dynamic interaction, ensuring the integrity of subjective experience. Legal consciousness within this model appears as a specialised form of consciousness in which these components are filled with legal content. The cognitive component includes ideas about legal norms, principles and institutions; the emotional-affective component reflects the individual's subjective attitude towards law, laws and legal institutions; the value-motivational component combines internal values and motives that determine the legal orientation of the individual; and the volitional-regulatory component represents the individual's ability to consciously control their behaviour in accordance with legal norms. The structure and indicators of legal consciousness within the author's model were summarised in Figure 1.

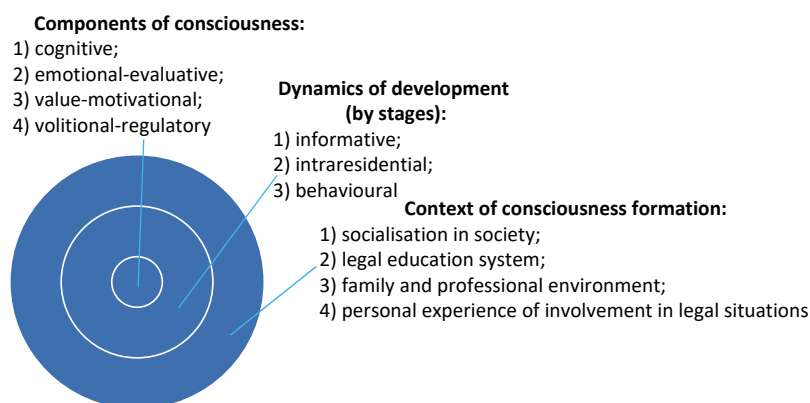


Figure 1. Conceptual model of the structure and development of legal consciousness of an individual

Source: compiled by the author based on V.Yu. Shvachka (2019), L. Spytska (2024)

An analysis of the integrative model of legal consciousness presented in Table 3 confirms its multidimensional nature and combination of structural and procedural approaches. The identification of cognitive, emotional-evaluative, value-motivational, and volitional-regulatory components allows for a comprehensive understanding of both the internal psychological mechanisms and external manifestations of legal consciousness. The proposed step-by-step logic of formation, covering the informative, internalisation and behavioural stages, reflects the dynamics of the transition

from the acquisition of legal knowledge to its practical implementation in behaviour. The inclusion of formation factors emphasises the role of the social environment, education and personal experience in the development of legal consciousness. Overall, the model creates a methodological basis for the empirical analysis of legal consciousness as a holistic, dynamic and socially conditioned system. A key feature of the proposed model is the combination of structural and stage approaches. Legal consciousness is viewed not only as a set of components, but also as a process that

goes through informative, internalisation and behavioural stages (Spytska, 2024). This allows to explain why the presence of legal knowledge does not always translate into lawful behaviour, as well as to outline the psychological mechanisms of the transition from knowledge to action. Thus, the theoretical and methodological analysis has made it possible to substantiate the understanding of consciousness as a procedural, multi-level system of meaningful formations, which is formed in the interaction of individual psychological and socio-normative factors. A comparative understanding of Eastern and Western philosophical approaches has created the methodological prerequisites for an integrative view of legal consciousness as a dynamic psychosocial phenomenon that cannot be reduced to either a set of legal knowledge or formal compliance with norms. The author's proposed model of legal consciousness serves as a theoretical basis for further empirical analysis and operationalisation of its structural and procedural components within the framework of psychosemantic research.

Results of an empirical study of legal consciousness of individuals. Analysis of average values across all bipolar scales revealed a clear tendency towards positive polarisation of the image, manifested in a stable shift of assessments towards socially acceptable, normatively desirable and psychologically attractive characteristics. In general, the image of a “law-abiding citizen” appears as ethically positive, normatively reliable and socially acceptable, which indicates its high symbolic status in the legal consciousness of the professional group under study. At the same time, the structure of this image is not homogeneous: different dimensions of the semantic space have unequal semantic saturation and functional weight, which determines the expediency of their separate analysis. The evaluative dimension, according to the model by C.E. Osgood *et al.* (1957), reflects the overall emotional and moral assessment of the object and is an indicator of its social attractiveness, as can be seen in Table 3.

Table 3. Average values for the evaluative dimension of a “law-abiding citizen”

Bipolar scale	M	SD
Responsible-irresponsible	6.42	0.63
Reliable-unreliable	6.18	0.71
Fair-unfair	6.05	0.77
Honest-dishonest	6.31	0.66
Respectable-disrespectable	6.48	0.58

Note: M – median value; SD – standard deviation

Source: compiled by the author

The results obtained indicate the dominance of positive moral attribution of the image. A law-abiding citizen is associated primarily with responsibility, honesty and fairness, which indicates a close connection between lawful behaviour and moral categories in the minds of law enforcement officers. The analysis also revealed that the evaluative dimension is characterised not only by high average values, but also by a low level of dispersion,

which indicates a consensus of views within the group. This allows to consider the evaluative component as a stable core of the image, which serves as a value benchmark in the perception of citizens by law enforcement officials. The normative-status dimension reflects the perception of the object through the prism of social norms, controllability and compliance with legal requirements, as shown in Table 4.

Table 4. Average values by normative-status selection

Bipolar scale	M	SD
Law-abiding-prone to violations	6.71	0.49
Controllable-uncontrollable	6.02	0.82
Disciplined-undisciplined	6.36	0.61
Socially responsible-irresponsible	6.44	0.55
Norm-oriented-ignores norms	6.58	0.52

Source: compiled by the author

Based on Table 4, the normative-status dimension is polarised, which allows to draw conclusions about its central role in the structure of the image of a law-abiding citizen. Based on the data obtained, it was concluded that a law-abiding citizen is a subject with predictable behaviour based on an internal perception of legal norms. The table also shows that the bipolar scale “controllable-uncontrollable” received lower average values compared to other

scales, which suggests an ambivalent attitude towards external control. “Controllability-uncontrollability” is seen as a necessary element of law and order, but excessive controllability can be seen as a restriction of personal autonomy. When studying the activity dimension, the emphasis was placed on perceptions of the dynamic characteristics of the subject, their social inclusion and initiative. The values obtained are documented in Table 5.

Table 5. Average values for the activity dimension

Bipolar scale	M	SD
Socially active-passive	5.62	0.88
Initiative-taking-inert	5.41	0.91
Ready to cooperate-isolated	5.78	0.84
Engaged in social life-detached	5.55	0.87

Source: compiled by the author

Unlike previous measurements, the activity component is characterised by less pronounced positive polarisation and greater variability in responses. This indicates that social activity is not clearly integrated into the image of a law-abiding citizen in the legal consciousness of law enforcement officers. Thus, law-abidingness is perceived as passive-normative rather than as an active civic position. This interpretation may be related to a professional attitude towards maintaining order and stability, where

initiative is not always identified with desirable behaviour. In order to identify latent semantic structures, a factor analysis was performed using the principal component method with varimax rotation. As a result, three factors were identified – moral and ethical reliability (factor 1), discipline and legal orientation (factor 2), and social activity and civic engagement (factor 3) – which together explain 68.4% of the total variance; these factors are presented in Table 6.

Table 6. Factor structure of the image of a “law-abiding citizen”

Scales	Factor 1	Factor 2	Factor 3
Responsible-irresponsible	0.81	0.24	0.18
Reliable-unreliable	0.78	0.31	0.21
Honest-dishonest	0.84	0.19	0.14
Respectable-disrespectable	0.76	0.28	0.22
Law-abiding-prone to violations	0.34	0.82	0.19
Disciplined-undisciplined	0.41	0.79	0.23
Controllable-uncontrollable	0.29	0.74	0.31
Socially active-passive	0.18	0.26	0.83
Initiative-taking-inert	0.22	0.19	0.81
Engaged in social life-detached	0.27	0.33	0.76

Source: compiled by the author

Interpretation of the results of factor analysis showed that the psychosemantic structure of the image of a “law-abiding citizen” in the legal consciousness of law enforcement officers has a clearly expressed multidimensional organisation, within which three relatively autonomous but at the same time substantively interrelated latent factors are distinguished. The leading factor in terms of specific weight was the evaluative-moral factor, which explains 29.7% of the total variance and combines characteristics related to ethical evaluation, social attractiveness and moral reliability of the image. Within this factor, a law-abiding citizen appears as a responsible, honest, fair person who inspires trust and respect. This interpretation indicates that, in the minds of law enforcement officers, lawful behaviour is closely linked to moral qualities and is perceived not only as formal compliance with norms, but as a manifestation of inner ethical maturity. The evaluative-moral factor thus serves as the emotional and value basis of legal consciousness, setting a generally positive framework for the perception of the image. The second most important factor is the normative-regulatory factor, which explains 22.1% of the variance and represents the perception of law-abidingness as an internally accepted normative position that ensures discipline, predictability and controllability of behaviour. The structure of this factor

is dominated by characteristics related to compliance with legal norms, rule orientation and the ability to self-regulate. This dimension was considered the semantic core of the image, as it directly reflects the perception of law as a basic mechanism of social regulation and order. The high saturation of this factor emphasises the professionally determined orientation of law enforcement officers towards normativity and control as key conditions for the stability of the social system. The third factor, social activity, which explains 16.6% of the total variance, reflects the perception of the degree of involvement of a law-abiding citizen in social life, their initiative and willingness to cooperate. At the same time, the relatively lower weight of this factor indicates that social activity is not a mandatory or decisive component of the image of law-abidingness in the legal consciousness of law enforcement officers, but rather performs a secondary, auxiliary function.

Thus, the psychosemantic structure of the image of a “law-abiding citizen” in the legal consciousness of law enforcement officers is characterised by a clear hierarchy of semantic dimensions, dominated by normative-regulatory and evaluative-moral components. The active component plays a secondary role and is not an essential part of the concept of law-abidingness. The results obtained allowed to conclude that in the professional consciousness, a

law-abiding citizen appears primarily as a bearer of norms and rules, rather than as an active subject of civic initiative, which has important implications for understanding the interaction between the state and civil society.

Age and gender aspects of the psychosemantic structure of an individual's legal consciousness. The results showed that younger employees with less experience demonstrate a more polarised and idealised psychosemantic structure of the image of a law-abiding citizen. In particular, the average values for the assessment measure in this group are higher ($M = 6.43$) than in the group of more experienced employees ($M = 6.07$). A similar trend can be observed in the activity component: younger employees associate law-abiding behaviour with social activity and initiative ($M = 5.74$), while in the group with more than 5 years of experience, these characteristics receive lower ratings ($M = 5.32$). This indicates a tendency among younger employees to equate lawful behaviour with moral integrity and active citizenship, which can be interpreted as a manifestation of a normative-idealistic perception of law, characteristic of the early stages of professional development. In contrast, in the group of more experienced employees, legal awareness has a more differentiated and pragmatic structure. They are characterised by an increase in the importance of the normative-regulatory dimension, with an average value of $M = 6.48$, while in the younger group this indicator is slightly lower ($M = 6.21$). At the same time, there is a decrease in the significance of the activity component, which indicates a reorientation of the concept of a law-abiding citizen from an active social subject to a normatively predictable and disciplined participant in legal relations. This dynamic indicates a gradual rationalisation of legal perceptions under the influence of professional experience and practical encounters with various forms of offences.

The results obtained partially coincide with previous studies, in particular by N. Kitoshvili (2023), who investigated the evolution of legal consciousness among certain categories of citizens. According to the author, the formation of legal consciousness occurs under the influence of worldview as a set of social relations in society; perception, which is an interpretation of events in society; and conclusions about events that have occurred. Based on an understanding of the essence of worldview, it was concluded that the formation of legal consciousness is a prolonged process. R. Harding & A. Keeling (2024) emphasised in their work that the evolution of legal consciousness occurs under the influence of social structures and hierarchies, the formation and development of which requires a certain amount of time. The cited study allowed to conclude that there is a relationship between the complexity and development of social hierarchies and the degree of formation of legal consciousness. Despite partial correspondence with previous works, the presented study contributes to the understanding of the peculiarities of the formation of legal consciousness, as it focuses on a previously under-studied group of subjects – law enforcement officers belonging to different age groups.

Gender analysis revealed moderate but relatively stable differences in the structure of the psychosemantic image. Female respondents were slightly more likely to give higher ratings to the moral and ethical characteristics of a law-abiding citizen, particularly on the "honest-dishonest" ($M = 6.52$ versus $M = 6.21$ for men) and "respectable-disrespectable" ($M = 6.61$ versus $M = 6.39$). Men, in turn, placed greater emphasis on normativity, discipline and controllability of behaviour, which is reflected in higher mean values on the normative-regulatory dimension ($M = 6.46$ versus $M = 6.31$ for women). At the same time, the differences between gender groups are not pronounced, which allows to conclude that professional factors dominate over gender factors in the formation of the psychosemantic structure of the legal consciousness of law enforcement officers. The conclusions made in the course of the study were only partially confirmed in previous works, in particular by O. Chumak (2023), who studied the peculiarities of the formation and development of gender worldview. According to the author, studying these features allows to understand the influence of gender consciousness on the harmonisation of various spheres of life, in particular social and political ones. G. Kozak-Isik (2025) explored the relational nature of legal consciousness and emphasised that it is formed, among other things, through the social relationships of individuals. The cited results allowed to conclude that gender worldview, as an integral part of social relations, influences the formation of legal consciousness. Unlike previous works, this study has a narrowly specific focus on law enforcement officers. The absence of pronounced differences between gender groups allows to conclude that there is a relatively unbiased approach to the formation of professional consciousness among law enforcement officers. Summarising the results of the age and gender analysis, it can be concluded that the psychosemantic structure of the legal consciousness of law enforcement officers is formed primarily under the influence of professional experience and processes of professional socialisation, while age and gender factors are secondary and modulating in nature. Employees with less than 5 years of work experience were more inclined to a normative-idealistic perception of the image of a law-abiding citizen, combining it with moral integrity and an active civic position, while with the growth of professional experience, there is a rationalisation and differentiation of legal ideas with a strengthening of the normative-regulatory component. Gender differences are moderate and do not have a systemic significance, which indicates the dominance of professional standards and a common legal field over individual gender characteristics. Overall, the results confirm the dynamic nature of legal consciousness and its sensitivity to the long-term inclusion of the subject in the institutionalised legal environment of law enforcement activities.

Comparative psychosemantic study of legal consciousness among representatives of various legal professions. The results showed that in the legal consciousness of law enforcement officers, the image of a law-abiding

citizen has a much more pronounced evaluative and moral component compared to the images of professional lawyers. Thus, the average value for the evaluative dimension for the image of a law-abiding citizen is $M = 6.29$, while for judges this indicator is $M = 5.84$, for prosecutors – $M = 5.76$, and for lawyers – $M = 5.68$. This indicates that law-abiding citizens are associated primarily with internally accepted moral qualities – responsibility, honesty and dignity – while professional legal activity is perceived more neutrally from an emotional and value perspective. At the same time, the normative-status dimension proved to be dominant for images of representatives of the legal professions. In particular, the average values for this dimension are $M = 6.62$ for judges, $M = 6.54$ for prosecutors, and $M = 6.21$ for lawyers, while for the image of a law-abiding citizen this indicator is slightly lower ($M = 6.41$). This allows to conclude that the legal consciousness of law enforcement officers clearly distinguishes between the internally motivated law-abidingness of citizens and the formalised, role-determined legal behaviour of professional lawyers, which is viewed primarily through the prism of institutional norms, status and official powers. In addition, the activity dimension of perceptions of law-abiding citizens is characterised by greater variability in assessments compared to professional images of lawyers. Thus, the average value of the activity dimension for the image of a law-abiding citizen is $M = 5.57$ with relatively high dispersion, while for judges ($M = 5.12$), prosecutors ($M = 5.08$) and lawyers ($M = 5.19$) this indicator is lower and more homogeneous. This indicates less certainty about expectations regarding the social activity of citizens in the legal field and, at the same time, more clearly regulated ideas about the activity of representatives of the legal professions, which is perceived as limited by professional roles and regulatory frameworks.

The results obtained partially coincide with the conclusions of previous studies, in particular, the work of A. Romanova (2024), who investigated the moral and ethical aspects of the activities of political communities. According to the author, the ethical standards of conduct of law enforcement officers are regulated by relevant rules and are largely determined by disciplinary requirements. Similar to the present study, A. Romanova's work confirmed that the specifics of professional activity have an impact on the formation of the legal consciousness of law enforcement

officials. The main difference, though, is that A. Romanova focused on the moral and ethical sphere, which is just one aspect of legal awareness. The specifics of how legal awareness is formed in law enforcement officers were also studied by Y. Kozar *et al.* (2024), whose conclusions pretty much match the results of this study. According to the cited author, the legal awareness of law enforcement officers varies depending on their level of professional education and training. Accordingly, the legal awareness, or at least its subjective perception, of lawyers may differ from that of employees of, for example, the prosecutor's office. The key feature of this study, however, is its focus on the subjective perception of the legal awareness of lawyers, judges and prosecutors by individual representatives of law enforcement agencies. In the context of Ukrainian realities, the need for such research is due to the connection between the level of legal awareness of law enforcement officials, the quality and transparency of their work, and public trust in individual state bodies and institutions. Thus, the results confirm that the legal consciousness of law enforcement officials structurally distinguishes between the image of a law-abiding citizen and the image of professional lawyers, assigning them different semantic emphases: moral and value-based in the first case and normative and status-based in the second.

Psychosemantic characteristics of law-abiding, convicted and conditionally convicted persons in the legal consciousness of law enforcement officers. The results obtained show that a clear hierarchy of images is formed in the psychosemantic space of the legal consciousness of law enforcement officers: from a normatively and morally positive law-abiding citizen to a negatively marked image of a convicted person with a transitional position of persons on probation. Table 7 reflects the psychosemantic assessments of law-abiding citizens, conditionally convicted persons and convicted persons obtained from law enforcement officers based on their professional experience and observations of the behaviour of these groups. The assessments reflect the evaluative, normative-regulatory and active components of legal consciousness, allowing to reconstruct latent semantic structures and compare levels of legal consciousness. This approach is justified by the expert validity of observations, when direct questioning of convicts may be limited or insufficiently informative.

Table 7. Psychosemantic characteristics of law-abiding, convicted and conditionally convicted persons in the legal consciousness of law enforcement officers

Image of a social entity	Evaluation	Potency	Activity
Law-abiding citizen	6.29	6.41	5.57
Conditionally convicted	4.28	4.12	4.34
Convicted	2.63	2.41	2.78

Source: compiled by the author

Based on Table 7, the image of a law-abiding citizen is characterised by high scores on all three dimensions, reflecting a combination of moral reliability, internal discipline and social activity. Conditionally convicted persons occupy

an intermediate position in the psychosemantic space: their image combines elements of normative deviation with the potential for resocialisation, which is reflected in average scores for the evaluative ($M = 4.28$), normative-regulatory

($M = 4.12$) and activity ($M = 4.34$) components. The image of a convicted person has a sharply negative polarisation, which is reflected in low average ratings: evaluative $M = 2.63$, normative-regulatory $M = 2.41$, activity $M = 2.78$, which indicates that these individuals are perceived as uncontrollable, prone to violating norms and with limited capacity for social activity and self-regulation.

The results obtained only partially correlate with the conclusions of previous studies, given the rather specific emphasis on reconstructing the perception of convicts and conditionally convicted persons in the legal consciousness of law enforcement officials. S.X. Liu (2025), in particular, studied the interpretation of hate crime victims of relevant laws and the peculiarities of interaction with the law enforcement system. The studies selected for comparison show that the legal awareness of parties involved in law enforcement in one way or another determines the level of their trust in each other and the effectiveness of their interaction. A significant difference, however, lies in the subjects whose legal awareness was chosen as the object of study. A partial correspondence was also found between this study and the work of T.G. Crump (2024), who examined the characteristics of legal awareness in a sample of 3,500 citizens who were unlawfully convicted in the United States between 1989 and 2024. One of the findings of T.G. Crump’s work is the conclusion that certain categories of citizens have a low level of trust in the impartiality of the national justice system. In the context of the study, the identified connection is significant, as it allowed to understand the influence of law enforcement officers’ attitudes towards convicts and probationers on the formation of their legal consciousness, including their willingness to cooperate and avoid recidivism. Thus, the results of the study confirmed that the legal consciousness of law enforcement officers structurally distinguishes three categories of social actors in the legal field, assigning them different semantic emphases. The image of a law-abiding citizen emerges as a benchmark of moral responsibility and normative behaviour; those on probation are perceived as potentially resocialised and capable of social activity; convicts are perceived as socially and normatively negatively marked. This demonstrates a professionally conditioned system of categorisation of the hierarchy of legal and social statuses in the psychosemantic consciousness of law enforcement officers.

◆ Conclusions

The use of the psychosemantic approach has made it possible to identify consciousness as a multidimensional system of semantic structures formed under the influence of individual, social, and cultural meanings. The influence of cultural meanings determines the existence of different approaches to the definition and interpretation of consciousness in Western and Eastern philosophical traditions. Consciousness takes various forms, including legal consciousness, the key components of which are cognitive, emotional-evaluative, value-motivational,

volitional-regulatory, behavioural and reflective. The model proposed in the study suggests that legal consciousness is formed as a result of three phases – informative, internalisation and behavioural – under the influence of factors such as socialisation, legal education, family and professional environment, as well as personal experience of legal situations. According to the results of empirical assessments by law enforcement officials, the psychosemantic structure of the image of a “law-abiding citizen” includes a hierarchy of semantic dimensions dominated by normative-regulatory and evaluative-moral components, while the activity dimension plays a secondary role, since not all respondents perceived active citizen involvement in society as a sign of legal awareness.

An analysis of the influence of demographic characteristics showed that the formation of the image of a “law-abiding citizen” in the legal consciousness of law enforcement officials is influenced by their professional experience and certain processes of professional socialisation. The younger and less experienced group recorded higher average scores both in terms of the evaluative dimension ($M = 6.43$ versus $M = 6.07$ among more experienced employees) and the active dimension ($M = 5.74$ versus $M = 5.32$), which indicates a stronger connection between the image of law-abidingness and social activity and initiative. This configuration reflects the tendency of younger employees to interpret lawful behaviour through the prism of moral ideals and active civic engagement, which is typical for the early stages of professional development. Gender differences, however, were much less noticeable, which allowed to conclude that there are universal professional standards for forming the image of a “law-abiding citizen” in the legal consciousness of law enforcement officers. The study also revealed different semantic emphases in the images of a law-abiding citizen and a law enforcement officer – moral-value and normative-status, respectively. The results of the study also confirmed the existence in the legal consciousness of law enforcement officers of three categories of subjects in the legal field: law-abiding citizens, convicted citizens, and citizens on probation. The image of a law-abiding citizen serves as a benchmark for moral responsibility and normative behaviour, while the images of citizens on probation and convicted citizens serve as potentially resocialised and capable of social activity or socially and normatively negative, respectively. Thus, in the legal consciousness of law enforcement officers, there is a clear hierarchy of legal and social statuses of different categories of citizens. In further studies, this limitation could be overcome by expanding and diversifying the sample to include different categories of law enforcement officers. It would also be useful to conduct a comparative analysis of the psychosemantic image of a “law-abiding citizen” in the legal consciousness of law enforcement officers in Ukraine and other countries.

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Психосемантична структура образу «законослухняного громадянина» у правовій свідомості працівників правоохоронних органів

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✦ **Анотація.** Метою дослідження було вивчення ключових відмінностей у смислових вимірах уявлень працівників правоохоронних органів про правомірну поведінку громадян. Для досягнення мети були використані методи контент-аналізу, обраного для розробки концептуальної психосемантичної моделі, та метод емпіричних оцінок співробітників правоохоронних органів для виявлення ключових елементів образу «законослухняного громадянина» у правовій свідомості правоохоронців. Запропонована концептуальна модель розглядала правову свідомість як багатокомпонентну структуру, що включала когнітивний, емоційно-оцінний, ціннісно-мотиваційний та вольово-регулятивний елементи. Формування правової свідомості співробітників системи правосуддя великою мірою залежало від їхнього віку та професійного стажу ($M = 6,43$ у працівників зі стажем менше 5 років проти $M = 6,07$ у працівників зі стажем більше 5 років), а також активнісних цінностей ($M = 5,74$ проти $M = 5,32$); і це означало, що формування образу «законослухняного громадянина» у правовій свідомості співробітників правоохоронних органів було обумовлене аспектами соціальної активності та ініціативності. Гендерні відмінності були менш помітними, що дозволило зробити висновок про існування універсальних стандартів формування образу «законослухняного громадянина» в правоохоронній сфері. У правовій свідомості співробітників сегменту була також виявлена чітка диференціація між образами законослухняних, умовно засуджених та засуджених громадян. Образ «законослухняного громадянина» був визначений як еталон моральної відповідальності та нормативної поведінки, тоді як образи умовно засуджених та засуджених осіб циркулювали у правовій свідомості працівників правоохоронних органів як потенційно ресоціалізовані/здатні до соціальної активності та соціально/нормативно негативні, відповідно. Отримані результати можуть бути використані при плануванні професійної підготовки та перепідготовки працівників для зміцнення довіри суспільства до національної системи правосуддя.

✦ **Ключові слова:** регулятивний компонент; нормативна поведінка; гендерний аналіз; психосемантичний підхід; вольовий елемент



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Psychological mechanisms and behavioural strategies for the social adaptation of military personnel in wartime

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◆ **Abstract.** The relevance of the topic is determined by the need for scientific understanding of behavioural adaptation strategies, identification of resources and risks that affect the mental health of military personnel, as well as the development of practical recommendations for psychologists, commanders and social workers on supporting personnel, preventing post-traumatic disorders and forming stable behaviour patterns in wartime. The aim of the article was to analyse the psychological mechanisms and behavioural strategies of social adaptation of military personnel, identify key factors affecting its effectiveness, and outline scientific approaches to assessing the adaptive potential of individuals in wartime conditions. The study used a set of methods covering emotional, motivational, behavioural, and interpersonal aspects. The Life Style Index, Rogers-Diamond Self-Perception Assessment, Cattell's 16 Personality Factor Questionnaire, Ritchie-Martin's motivational profile, and the Leary test made it possible to assess lifestyle, level of adaptation, motivational attitudes, and personality traits. The formation of the lifestyle of servicemen of the Armed Forces of Ukraine was considered as a multi-component process of socio-psychological adaptation, covering internal psychological mechanisms and external social influences. Factor and factual components were identified, as well as types

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of lifestyles in accordance with psychological defence mechanisms. A high level of development of adaptive components was found in most respondents, as well as the presence of destructive interpersonal traits in some military personnel, which requires psychological correction. Correlation analysis showed a close relationship between defence mechanisms and lifestyle, which broadens the understanding of the adaptive potential of the individual in the context of military service. The data obtained open up prospects for further research into the motivational sphere, emotional intelligence and interpersonal interaction of military personnel. The practical value of the study lies in establishing a relationship between lifestyle and social adaptation, which allows these concepts to be used as a tool for diagnosing and correcting adaptation processes in the military environment

◆ **Keywords:** stress resistance; lifestyle; individual characteristics; psychological stability; Armed Forces of Ukraine

◆ Introduction

In conditions of full-scale war, military personnel face extreme challenges that go beyond physical endurance and professional training, requiring the mobilisation of internal resources and the ability to adapt socially in a flexible manner. The constant threat to life, high levels of stress, isolation from loved ones, the need to make quick decisions and perform official duties in risky conditions create a deep internal conflict between the instinct for self-preservation and military discipline. In this context, social adaptation is a key factor in psychological resilience, ensuring not only survival but also the effective functioning of military personnel in a combat environment. In 2020-2025, there was a significant increase in attention to the problem of psychological adaptation of military personnel in the context of modern combat conflicts. A study by A.P. McGuire *et al.* (2025) showed that among younger veterans aged 22 to 49, the prevalence of post-traumatic stress disorder (PTSD) reaches 14.7%, while in the older group (50-65 years) it is 4.9%. T. Carlton (2025) emphasised that the key risk factors are interpersonal conflicts, social isolation and feelings of loneliness, which exacerbate psychological discomfort. B. Hazan-Liran & O. Walter (2025) noted that social support and effective communication with others reduce the risk of chronic psychotraumatic reactions. In Ukraine, S. Shevchenko & H. Varina (2025) emphasised the importance of psychoeducational programmes to support adaptation after returning to civilian life, while B.M. Fogle *et al.* (2020) and I. Klymenko *et al.* (2025), in turn, emphasised the need for a comprehensive assessment of the psychological state of military personnel throughout their service. The publication by O. Kokun *et al.* (2021) systematises methods for diagnosing the psychological readiness of military personnel for service in peacekeeping units, covering cognitive, emotional and motivational components. The authors emphasised the need for a comprehensive assessment of personal characteristics that ensure effective functioning in conditions of increased risk, uncertainty and intercultural interaction. O. Kokun *et al.* (2021) defined social adaptation as the process of adjusting to the social environment, which includes the assimilation of norms, roles, values, and the development of behavioural strategies that allow effective functioning even in crisis conditions. S.S. Puhach *et al.* (2023) highlighted important aspects of psychological assistance and adaptation of military personnel in combat conditions. Legal awareness is considered

as an internal regulator of behaviour that influences the moral stability of an individual. The above-mentioned developments form the scientific basis for understanding the adaptation processes of military personnel and developing effective models of psychological support. Of particular importance is the formation of stable behaviour patterns that promote teamwork, the prevention of post-traumatic disorders, and successful reintegration into peaceful life. Social adaptation is a key factor that allows military personnel not only to survive but also to perform their duties in wartime. It forms psychological stability, ensures integration into the combat team and contributes to the preservation of personal integrity. The aim of the article was to study the psychological mechanisms and behavioural strategies of social adaptation of military personnel and to identify the factors of the effectiveness of an individual's adaptive potential in wartime conditions.

◆ Materials and Methods

At the theoretical stage of the study, an analysis and systematisation of scholarly publications devoted to the problem of the socio-psychological adaptation of military personnel were carried out, as well as the role of emotional and motivational components in the formation of their psychological resilience. The source base of the study comprised the works of O.M. Kokun *et al.* (2011), S. Junger (2023) and V. Osiodlo (2025). In the empirical part of the research, a set of psychodiagnostic methods was used, aimed at examining behavioural and interpersonal characteristics of personality. In particular, the Life Style Index (LSI), the Rogers-Diamond Self-Perception Assessment (SPA) for socio-psychological adaptation, Cattell's 16 Personality Factor Questionnaire (16PF), the Ritchie-Martin motivational profile and Leary's interpersonal relations test were applied. This set of instruments ensured a comprehensive assessment of lifestyle, level of adaptation, motivational orientations and leading personality traits of the respondents. The sample consisted of 100 respondents selected on a voluntary basis from among military personnel of two structural units of the Armed Forces of Ukraine. The inclusion criteria were: age between 18 and 35 years, current military service, and the absence of medical contraindications to participation in the survey. Additionally, two age groups were distinguished: 18-25 years (conscription service and the beginning of a professional

military career) and 25-35 years (individuals with service experience). The exclusion criteria were the presence of severe mental or somatic illnesses that could have affected the results. The survey was conducted in electronic format on the secure platform Google Forms. Respondents were provided with standardised instructions and, where necessary, consultative support from the researcher. Methods of mathematical statistics were used for statistical processing of the results. In particular, Pearson's χ^2 criterion ($p = 0.01$) was applied to test the statistical significance of data distributions, along with descriptive statistics (means and standard deviations). For graphical presentation of the data, the software SPSS Statistics and Microsoft Excel were used, which made it possible to construct charts and tables for a clear illustration of adaptive trends. In addition, data typologisation was carried out using the Values and Lifestyles (VALS) model, which made it possible to identify adaptive tendencies and lifestyle types of military personnel in accordance with their value orientations and motivational attitudes. The study was conducted in compliance with the principles of confidentiality and ethical standards defined in the Code of Integrity and Professional

Ethics of the Ministry of Defence of Ukraine (2017). For security reasons, the places of service of the respondents are not disclosed. Data visualisation methods were also applied to present the results of the empirical study and to compare the indicators obtained.

◆ Results and Discussion

Within the framework of classical approaches to the typology of lifestyles, which focus on moral unity and commonality of actions, in particular in the study by J.E. Schwarz (1983), the VALS model developed by A. Mitchell was analysed. It is based on a systematic classification of lifestyles according to value orientations and motivational attitudes. This approach, based on Maslow's hierarchy of needs theory, provides a better understanding of which internal needs determine an individual's behaviour in society, particularly in the context of military service. In the context of the activities of the Armed Forces of Ukraine, the model allows to identify types of military personnel according to their level of activity, desire for self-realisation, risk-taking behaviour, need for stability, as well as social and professional motivation (Table 1).

Table 1. Model of lifestyle types of military personnel of the Armed Forces of Ukraine (adapted from VALS)

VALS category	Lifestyle type	Key characteristics	Adaptive resources
Actualisers	Service-oriented	A high level of patriotism, moral responsibility and a strong valuing of the collective	Emotional resilience and social support
Makers	Career-oriented	A striving for professional growth, status and leadership	High motivation and strategic thinking
Experimenters	Experience-oriented	The search for new challenges, openness to change and behavioural flexibility	Creativity, adaptability and intellectual curiosity
Defenders	Stability-oriented	A need for security, adherence to rules and discipline	Self-regulation and routine efficiency
Survivors	Survival-oriented	Minimal resources, a focus on preserving basic needs and avoidance of risk	Physical endurance and instinctive response
Creators	Self-actualisation-oriented	High intrinsic motivation, a drive for development and self-expression through service	Psychological maturity and reflexivity
Conformists	Compliance-oriented	An orientation towards others' opinions, adherence to norms and a need for social acceptance	Social flexibility and the capacity for integration
Integrators	Balance-oriented	The integration of personal goals with service requirements and a striving for harmony	A high level of self-awareness and emotional regulation

Source: compiled by the authors

According to Table 1, the lifestyle and social adaptation of military personnel are interrelated categories that determine their behaviour, value orientations, and interaction with the social environment. Adapting the VALS model of lifestyles to the Ukrainian military context allows for a comprehensive assessment of the impact of event and factor components on psychological stability and effective team interaction. This creates a structured typology of the lifestyles of Ukrainian Armed Forces servicemen, which takes into account individual and sociocultural factors, while also allowing for the prediction of the level of socio-psychological adaptation. This is important for the development of psychological support programmes, personnel management, and improving the combat effectiveness of personnel. The system of external factors covers the social, cultural, economic and natural conditions in which an individual functions. S. Junger (2023) argued that these

factors create the context in which an individual develops, their behavioural patterns, lifestyle and adaptive responses are formed. External influences can be both positive, promoting development, motivation and socialisation, and negative, capable of provoking stress, maladjustment and frustration. In a military environment, such factors may include service conditions, team culture, social support, level of danger, access to resources, etc. According to research by O. Kokun *et al.* (2011), internal factors are psychological determinants that are formed in the process of individual development in the context of learning, upbringing, experience, and reflection. They include motivational attitudes, emotional stability, cognitive patterns, level of self-regulation, and ability for self-development. It is these internal resources that determine how a person responds to external challenges, particularly in crisis situations typical of military service. The VALS model shows that each segment

has unique behavioural patterns and life strategies. In the context of military service, this means that military personnel differ not only in terms of social background or professional training, but also in terms of their level of internal resources – their ability to mobilise psychological, physical and socio-economic resources to overcome difficulties, make decisions and plan their lives. Thus, a servicemember's lifestyle is shaped by the intersection of external conditions and internal resources, and their adaptive capacity depends on the balance between these factors. Understanding this interaction is key to developing effective psychological support programmes, improving combat readiness and maintaining the mental health of personnel. In the context of scientific research by S.O. Chyzhevskiy (2023), the term “social adaptation” is defined as the process of adapting the individual to the demands of the social environment, which includes integration into social groups,

assimilation of norms and values, and the formation of effective interaction strategies. The event component of lifestyle is identified as a set of life events and situations that shape individual experience and influence the choice of behavioural strategies (e.g., military service, career changes, social crises). The event component of the lifestyle of military personnel, as noted by B.M. Fogle *et al.* (2020), is a set of significant life events and situations (military service, participation in combat operations, professional changes, social crises) that shape individual experience and influence the choice of behavioural strategies and adaptation models. Thus, adapting VALS to the military environment allows not only to classify lifestyles, but also to identify potential risks and resources for the socio-psychological support of personnel. Generalised definitions of lifestyle characteristics according to the above approaches are presented in Table 2.

Table 2. Scientific approaches to the assessment of the adaptation of military personnel

Characteristic	Content
Lifestyle	Daily habits, rituals, behavioural patterns
Behavioural strategies	Adaptive and maladaptive responses to stress
Individual characteristics	Temperament, anxiety level, motivation
Social connections	Support from peers, family, commanders

Source: compiled by the authors

Table 2 reflects the key components of military personnel adaptation: lifestyle determines daily habits and behavioural patterns, behavioural strategies show reactions to stress, individual characteristics reflect psychological characteristics, and social ties provide support from the environment. Together, these factors provide a comprehensive picture of the level of socio-psychological adaptation of military personnel. Thus, the socio-psychological adaptation of military personnel is a dynamic process of integrating the individual into the military environment, which involves the assimilation of social norms, roles and values, the formation of effective behaviour patterns, emotional stability and the ability to interact constructively with the environment. This process ensures the preservation of mental health, professional effectiveness and the ability to self-regulate in conditions of increased stress, risk and social tension characteristic of military service. The rationale for classifying the lifestyles of Ukrainian Armed Forces servicemen based on

types of psychological defence is based on the provisions of psychodynamic personality theory, which considers defence mechanisms to be key regulators of behaviour in conditions of stress, tension and adaptation. Each type of psychological defence (reactive formation, intellectualisation, displacement, projection, compensation, regression, denial, repression) reflects a specific way of responding to internal conflicts and external threats. Accordingly, lifestyle acquires specific characteristics: in particular, a style associated with intellectualisation involves rationalising experiences and emotional distancing; a projection-oriented style manifests itself in a tendency to attribute one's own experiences to others; the compensation style is characterised by the desire to overcome internal insecurity through achievements or demonstrations of strength (Puhach *et al.*, 2023; Vizniuk, *et al.*, 2024). The results of empirical research showed the presence of individual variations in the lifestyles of military personnel (Fig. 1).

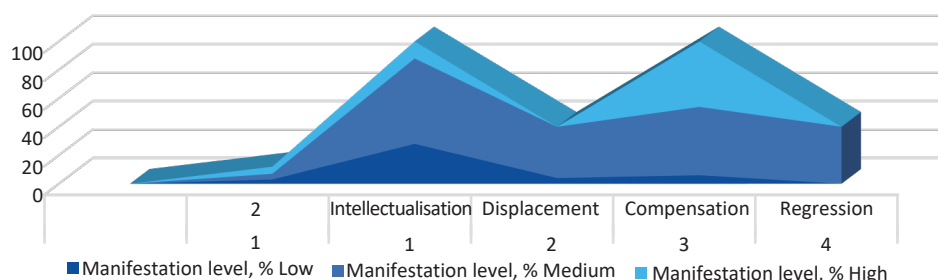


Figure 1. Results of the respondent survey according to the LSI methodology

Source: compiled by the authors

The results of the survey using the LSI methodology revealed specific features in the manifestation of psychological defence as a component of the lifestyle of military personnel. Variability in adaptive strategies was identified, reflecting individual behavioural models under conditions of military service. The LSI findings indicate that servicemen of the Armed Forces of Ukraine predominantly demonstrate constructive psychological defence mechanisms that shape corresponding lifestyles. The identified components (“intellectualisation”, “displacement”, “compensation” and “regression”) reflect adaptive strategies that enable individuals to maintain internal balance in the context of military service. The presence of “intellectualisation” as a dominant mechanism among a significant proportion of respondents (12% at a high level and 60% at a medium level) indicates the ability of military personnel to rationalise emotionally charged situations through logical thinking and analysis, which is a marker of psychological maturity and a potential for constructive conflict resolution. The “compensation” component also demonstrates a high level of adaptive activity: 46% of respondents showed high scores and 48% medium scores. This trend may be associated with a striving for professional self-affirmation, career advancement and the fulfilment of internal needs through achievement, which compensates for inner insecurity or tension. At the same time, the absence of pronounced manifestations of such mechanisms as “reaction formation”, “projection”, “repression” and “denial” may indicate a low prevalence of maladaptive forms of defence among the respondents. This confirms the general tendency towards the formation of more mature and socially acceptable lifestyles that promote effective socio-psychological adaptation in military service. Thus, the study results demonstrate the predominance of adaptive defence mechanisms that shape constructive lifestyles among military personnel, characterised by the capacity for self-regulation, professional development and effective interaction with the social environment. The identified lifestyles were classified according to several criteria: value typologies, problematic behavioural patterns, features of everyday choice, as well as dominant social roles – manipulative or leadership-oriented. Such an approach makes it possible not only to describe behavioural patterns of military personnel, but also to predict their adaptive capacity, stress resistance and effectiveness in the performance of official duties.

The results obtained using the Rogers-Diamond SPA are based on its ability to provide a comprehensive assessment of the level of an individual’s integration into the social environment, the degree of emotional comfort, self-acceptance and acceptance of others, as well as the effectiveness of interpersonal interaction. The methodology makes it possible to identify key psychological characteristics that determine the adaptive potential of military personnel, particularly under conditions of heightened stress, disciplinary pressure and social tension characteristic of military service. The indicators presented in Figure 2 demonstrate individual variations in levels of adaptation, reflecting respondents’ capacity for emotional stability, openness to

social contact, self-acceptance and constructive resolution of interpersonal conflicts.

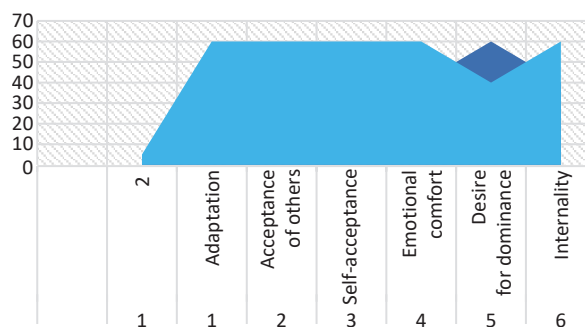


Figure 2. Results of the respondent survey according to the Rogers-Diamond SPA methodology

Source: compiled by the authors

According to Figure 2, the majority of military personnel demonstrated medium and high levels of socio-psychological adaptation, indicating positive trends in life construction and team interaction. The components of “internality”, “emotional comfort”, “self-perception”, “acceptance of others” and “adaptation” showed a high level of development in 60% of respondents and a medium level in 40%. The identified psychological characteristics are important for understanding how military personnel perceive themselves within the system of social relations, how prepared they are for cooperation, support and interaction within the collective, and how they respond to external challenges. This, in turn, makes it possible to assess the level of their socio-psychological adaptation and to determine the need for additional psychological support or corrective interventions. The results obtained using Cattell’s 16PF indicate a high level of individual maturity and psychological readiness of servicemen of the Armed Forces of Ukraine to perform their official duties (Fig. 3). The identified medium and high levels of personal characteristics, such as character traits, inclinations and interests, indicate the formation of internal resources necessary for effective professional activity. The absence of low levels in these components is a positive marker, confirming the stability of the personality structure and its compliance with the requirements of military service. This result indicates the ability of military personnel to behave responsibly, actively participate in public life and make consistent decisions in complex situations. The time perspective indicator demonstrates the respondents’ ability to think in a broad temporal context, covering both the past and the future, which indicates a high level of cognitive activity, strategic thinking, and awareness of life goals. In situations of risk and choice, military personnel demonstrate productivity, which is an important sign of their psychological readiness to act in conditions of uncertainty. The results obtained using the Richie-Martin motivational profile assessment method were based on the ability to comprehensively assess the structure of the motivational sphere, which determines

behavioural activity, professional orientation, and the adaptive potential of the individual. In a military context, motivation plays a key role, as it ensures internal readiness to perform official duties, overcome difficulties and achieve goals in conditions of increased risk. The acceptable level of the motivational profile among servicemen of the Armed Forces of Ukraine indicates the presence of

sufficient internal resources for effective professional activity, which includes such components as the desire for achievement, responsibility, result orientation, the need for self-realisation and social recognition. A balanced motivational structure is an indicator of psychological maturity, which contributes to stable behaviour, high productivity and the ability to self-regulate (Fig. 4).

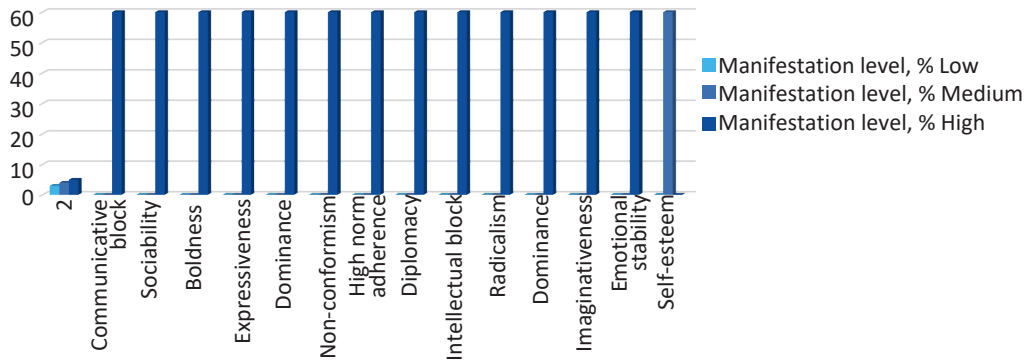


Figure 3. Results of the respondent survey according to Cattell's 16PF methodology

Source: compiled by the authors

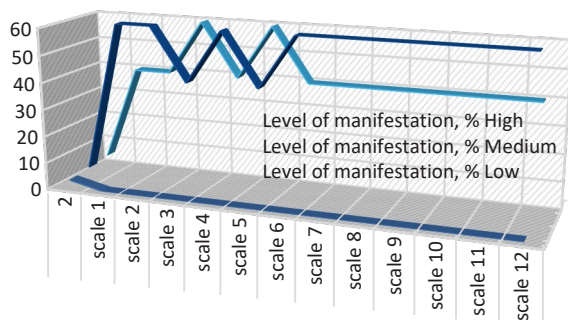


Figure 4. Results of the respondents' survey using the Ritchie-Martin methodology

Source: compiled by the authors

The data presented in Figure 4 also confirmed that the motivational profile of military personnel corresponds to the requirements of military service, where discipline, initiative, endurance and readiness for teamwork are of key importance. The identified balanced motivational profile

of servicemen of the Armed Forces of Ukraine indicates the presence of internal resources that ensure professional effectiveness. The results obtained using Leary's test revealed the presence of destructive traits in a proportion of military personnel of the Armed Forces of Ukraine, which significantly affects the quality of socio-psychological adaptation and the effectiveness of team interaction. The identified manifestations – suspiciousness, aggressiveness, egocentrism and authoritarianism – observed in 60% of respondents, indicate tension in interpersonal relationships, which may complicate communication, reduce levels of trust and undermine team cohesion. These destructive characteristics, also confirmed by previous methodologies, point to the presence of lifestyles that do not facilitate constructive adaptation to the conditions of military service. In particular, 40% of respondents demonstrated a high level of destructive evaluative indicators, reflecting psychological features of their behaviour, such as a tendency towards dominance, emotional tension and conflict-proneness (Fig. 5).

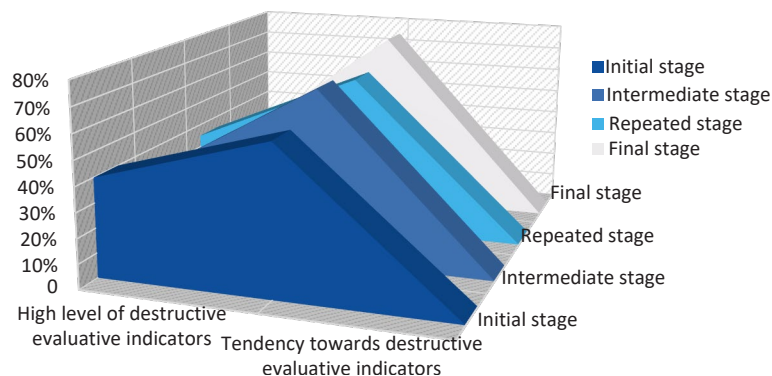


Figure 5. Dynamics of the distribution of destructive evaluative indicators among military personnel

Source: compiled by the authors

This distribution demonstrated the predominance of the group with a tendency towards destructive evaluations, which may be relevant for the further development of programmes of psychological support and the prevention of negative trends in the military environment. The noticeable decrease in the proportion of high indicators from 40% to 25% at the final stage, accompanied by a corresponding increase in the tendency from 60% to 75%, indicates a general trend towards the mitigation of destructive manifestations. In the military environment, especially under wartime conditions, such traits may pose a threat to the effective performance of tasks, where mutual respect, support, cohesion and team spirit are critically important. Thus, the results of the study emphasise the need for targeted psychological work with personnel, the development of emotional intelligence, cooperation skills and the correction of destructive behavioural models, which will make it possible to enhance the level of socio-psychological adaptation and ensure stability within military collectives. The identified manifestations of aggressiveness, suspiciousness and authoritarianism indicate a need for psychological correction and the development of emotional intelligence. The correlation analysis conducted made it possible to identify significant relationships between certain aspects of psychological defence and indicators characterising the lifestyle of servicemen of the Armed Forces of Ukraine. Both high and medium levels of correlation were established, indicating close interaction between internal psychological mechanisms and external behavioural manifestations under conditions of military service. In particular, the most pronounced relationship was found between the “intellectualisation” component and the adaptation indicator ($r = 0.922$), which indicates the ability of military personnel to effectively adjust to complex service conditions through rational comprehension of situations. Such a lifestyle contributes to the formation of a responsible attitude to duties and increases levels of self-regulation and stress resilience. The “compensation” component also demonstrated high correlations with adaptation ($r = 0.910$), the communicative block ($r = 0.924$) and the need for influence ($r = 0.916$), which confirms that military personnel use compensatory mechanisms to express leadership qualities, strive for self-affirmation and engage effectively in team interaction. This lifestyle facilitates the development of managerial skills and the formation of an active position within the collective. At the same time, a high correlation was identified between the “displacement” scale and the “authoritarianism” indicator ($r = 0.892$), which may indicate a tendency of some military personnel to dominate, complicating equal interaction within the unit. Such a lifestyle may create tension in teamwork, especially under conditions that require cohesion, mutual respect and collective decision-making. Overall, the results of the correlation analysis confirmed that the lifestyle of military personnel is shaped by psychological defence mechanisms that are closely related to adaptive, communicative and power-related personality

characteristics. This opens priorities for targeted psychological support and the development of effective behavioural models in the context of military service.

The correlation analysis revealed strong relationships between psychological defence mechanisms and adaptive indicators among military personnel, and such results are rare in previous studies, which highlights the uniqueness of the applied approach to analysing adaptive potential. In the work of L.M. Prudka & O.M. Pasko (2024), attention was focused on the psychological mechanisms of adaptation of military personnel, emphasising the role of social support, emotional stability and individual resources. In the present study, a factor-based component (values, motivational attitudes, psychological defence mechanisms) and an event-based component (life situations, social interactions, professional experience) were distinguished, which refines the approach of L.M. Prudka & O.M. Pasko, who concentrated primarily on general psychological resources. Ultimately, social support is integrated into the lifestyle of a service member as part of the event-based component. In turn, V. Osiodlo (2025) emphasised a systemic approach to psychological support for military personnel, which corresponds with conclusions regarding the need for comprehensive adaptation programmes. I.O. Cherezova (2016) examined the formation of psychological readiness of military personnel to perform tasks in the process of combat cohesion training, highlighting the importance of adaptive mechanisms, group cohesion, emotional stability and the capacity for self-regulation as key factors in successful integration into the combat environment. The results obtained are consistent with the findings of I. Prykhodko *et al.* (2022), who applied the Rogers-Diamond methodology to assess the adaptation of military personnel. Their study demonstrated that a high level of emotional stability and self-acceptance are key factors in successful socio-psychological rehabilitation of veterans with PTSD symptoms. Comparative analysis showed that in the sample of the present study, 60% of respondents demonstrated a high level of development of adaptation components, which corresponds with the data of I. Prykhodko *et al.* (2023), where the majority of veterans with high emotional stability successfully integrated into the social environment. High indicators of cognitive activity, strategic thinking and time perspective identified in the present study are consistent with the conclusions of S. Fierro-Suero *et al.* (2020) and O.A. Morgunov (2022), who considered these characteristics as markers of psychological readiness to act under conditions of uncertainty. Thus, the data obtained not only align with existing research but also demonstrate the specificity of Ukrainian military personnel, for whom the combination of emotional comfort and social integration is decisive in the process of adaptation.

◆ Conclusions

The formation of the lifestyle of Ukrainian Armed Forces servicemen is a multi-component process that involves the interaction of internal psychological mechanisms and external

social influences. The study identifies two key components of this process: a factor component, which includes psychological defence mechanisms, motivational attitudes and individual character traits, and an event component, which covers life situations, social interactions and the professional and personal experience of military personnel. Events that influence the formation of lifestyle have both personal and social origins, in particular interaction with family, colleagues, friends, and other members of the social environment that create the context of his life. An analysis of types of psychological defence has identified several models of behaviour, including intellectualisation, substitution, compensation, regression, reactive formations, projection, denial and repression, each of which characterises a specific way of responding to stress, internal conflicts and social challenges. It has been established that these styles directly influence the nature of the socio-psychological adaptation of military personnel, determining their ability to self-regulate, interact effectively in a team, and form stable patterns of behaviour in the conditions of military service. The study also covered the essential features of the concepts of “lifestyle” and “social adaptation.” Lifestyle is defined by the characteristics of social stability of behavioural practices, individualisation, cultural context, compensatory mechanisms, and communication activity. Social

adaptation, in turn, is considered as a process of integration into the environment, individualisation of realisation, and functional inclusion in social structures. It has been established that these two phenomena are interdependent: lifestyle acts as a formula for the development of social adaptation, determining its direction, depth, and effectiveness. Prospects for further research in the field of lifestyle formation among servicemen of the Armed Forces of Ukraine are related to a deeper understanding of the mechanisms of interaction between internal psychological processes and external social influences. One of the directions is a more detailed analysis of the influence of various types of psychological defence on socio-psychological adaptation, in particular, identifying the links between specific behaviour patterns and the effectiveness of interaction in a team, the ability to self-regulate and resistance to stressful situations.

◆ Acknowledgements

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◆ Funding

None.

◆ Conflict of Interest

None.

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Психологічні механізми та поведінкові стратегії соціальної адаптації військовослужбовців в умовах війни

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✦ **Анотація.** Актуальність теми зумовлена потребою у науковому осмисленні поведінкових стратегій адаптації, виявленні ресурсів і ризиків, що впливають на психічне здоров'я військових, а також розробці практичних рекомендацій для психологів, командирів та фахівців соціальної сфери щодо підтримки особового складу, профілактики посттравматичних розладів і формування стійких моделей поведінки в умовах війни. Метою статті був аналіз психологічних механізмів та поведінкових стратегій соціальної адаптації військовослужбовців, визначення ключових чинників, що впливають на її ефективність, а також окреслення наукових підходів до оцінки адаптаційного потенціалу особистості в умовах війни. У дослідженні застосовано комплекс методик, що охоплюють емоційні, мотиваційні, поведінкові та міжособистісні аспекти. Life Style Index, Self-Perception Assessment Роджерса-Даймонда, 16 Personality Factor Questionnaire Кеттела, мотиваційний профіль Річі-Мартіна та тест Лірі дозволили оцінити стиль життя, рівень адаптації, мотиваційні установки та особистісні риси. Розглянуто формування стилю життя військовослужбовців Збройних Сил України як багатокomпонентний процес соціально-психологічної адаптації, що охоплює внутрішні психологічні механізми та зовнішні соціальні впливи. Виокремлено факторну та фактичну складові, а також типи стилів життя відповідно до механізмів психологічного захисту. Виявлено високий рівень сформованості адаптаційних компонентів у більшості респондентів, а також наявність деструктивних міжособистісних рис у частини військових, що потребує психологічної корекції. Кореляційний аналіз засвідчив тісний зв'язок між захисними механізмами та стилем життя, що розширює уявлення про адаптаційний потенціал особистості в умовах військової служби. Отримані дані відкривають перспективи для подальших досліджень мотиваційної сфери, емоційного інтелекту та міжособистісної взаємодії військовослужбовців. Практична цінність дослідження полягає у встановленні взаємозв'язку між стилем життя та соціальною адаптацією, що дозволяє використовувати ці поняття як інструмент для діагностики та корекції адаптаційних процесів у військовому середовищі

✦ **Ключові слова:** стресостійкість; стиль життя; індивідуальні особливості; психологічна стійкість; Збройні Сили України



The relationship between decision-making and the professional motivation of military personnel

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◆ **Abstract.** The relevance of this study is determined by the need to examine the psychological mechanisms of decision-making by military personnel under combat stress, since cognitive, emotional, and motivational factors directly determine the effectiveness of the performance of combat duties. The aim of the study was to establish correlations between the decision-making styles of military personnel and their professional motivation. The research methods were based on the comprehensive application of standardised psychodiagnostic techniques and statistical procedures, in particular the Melbourne decision-making questionnaire for assessing decision-making styles (vigilance, hypervigilance, avoidance, procrastination), V. Osodlo methodology for studying professional motivation on the scales of professional aspirations and professional interests and values, as well as Spearman's rank correlation coefficient for analysing the relationships between ordinal scale variables. The study was conducted on a sample of 50 male military personnel aged 26 to 48 in controlled conditions of a military unit, in compliance with ethical principles and confidentiality. The results showed that the dominant decision-making style was vigilance (42% of respondents), characterised by the ability to analyse alternatives, predict consequences and make responsible decisions. Hypervigilance was observed in 26% of military personnel and manifested itself in increased anxiety and impulsivity, while avoidance and procrastination were less common (18% and 14%, respectively), indicating the presence of unproductive behavioural strategies in stressful conditions. Analysis of professional motivation showed high levels of ambition and conscious interest in most participants (48-56%), which correlated with an adaptive vigilant decision-making style. Significant inverse correlations were observed between avoidance and procrastination styles and professional motivation indicators, indicating the influence of motivational insufficiency on the formation of maladaptive choice strategies. The practical value of the study lies in the possibility of using its results to develop psychological training programmes and workshops aimed at forming adaptive decision-making styles, developing professional motivation and increasing the stress resistance of military personnel, which will contribute to the growth of efficiency and safety in the performance of service duties

◆ **Keywords:** dominant decision-making styles; professional aspirations; values; cognitive determinants of choice; self-regulation

◆ Introduction

In modern conditions, scientists are increasingly interested in the problem of psychological mechanisms of decision-making in a military environment, since the effectiveness of official actions largely depends on the cognitive, emotional and motivational characteristics of military

personnel. As noted by R.I. Klymkiv *et al.* (2025), cognitive and emotional resources play an important role in decision-making under combat stress, ensuring adaptability and psychological resilience. The authors emphasised that under conditions of intense stress, it is the ability to

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regulate emotions and maintain concentration that reduces the risk of impulsive and irrational decisions. The study showed that developed cognitive strategies for processing information, in particular analytical thinking and predicting consequences, are associated with higher tactical effectiveness of military personnel. It was also found that a combination of emotional stability and cognitive flexibility contributes to the formation of resistance to combat stress and reduces the manifestations of behavioural disorganisation in critical situations. N.M. Sekel *et al.* (2023) demonstrated that the effectiveness of tactical decisions in a military context largely depends on psychological resilience and mindfulness, which form an adaptive, vigilant decision-making style. Resilience allows military personnel to recover quickly from stressful influences, while mindfulness helps to maintain clarity of thought and evaluate alternatives. The combination of these characteristics ensures prudence, responsibility, and a willingness to take reasonable risks in difficult situations. C. Roanghesi (2024) found that avoidance and anxiety in military personnel are associated with low emotional stability and complicate the analysis of alternatives when making choices. The study also found that the development of emotional regulation and tolerance for uncertainty promotes a transition from maladaptive to more vigilant decision-making styles. A systematic review by S. Lioupi & V. Karamanoli (2025) demonstrated a significant relationship between self-efficacy and decision-making outcomes under pressure in a military environment. R. Qiu *et al.* (2023) showed how self-efficacy and resilience affect the ability to solve complex tactical tasks. A study by V.M. Filonenko (2024) found that the tendency of military personnel to postpone decisions and shift responsibility to others is associated with personality traits such as impulsivity and insufficient cognitive resources.

The study by V. Teslyuk & V. Tkachov (2024) analysed the phenomenon of combat stress in military personnel as a complex psychophysiological state that arises under the influence of extreme factors in a combat situation. The authors noted that high levels of combat stress are accompanied by cognitive narrowing, impaired concentration, increased impulsivity, and a tendency to use maladaptive decision-making strategies. At the same time, a sufficient level of stress resistance and psychological preparedness contributes to maintaining vigilance, adequate risk assessment, and the ability to act in conditions of uncertainty. The study emphasised that the decision-making style is not an isolated personal characteristic of a service member, but is formed under the influence of combat experience, level of motivation and the severity of post-stress reactions, which further substantiates the need for a comprehensive analysis of motivational and cognitive determinants of behaviour in military activity. A systematic analysis of scientific sources has shown that the effectiveness of decision-making in a military environment is determined by the interaction of cognitive styles, emotional regulation, and professional motivation, but also highlighted the insufficient integration of motivational factors

into comprehensive models of military psychology, particularly in terms of the relationship between motivation, decision-making styles, and their functional consequences. The relevance of the study was determined by the need for empirical research into the systemic relationships between decision-making styles in the military and their professional motivation in real combat and service conditions. This will contribute to the constructive development of approaches to the psychological training of military personnel, increasing their adaptability and effectiveness in conditions of uncertainty. The aim of the study was to identify and analyse the correlations between the characteristics of decision-making styles among military personnel and their level of professional motivation. The research objectives were to identify the leading decision-making styles and characteristics of professional motivation among military personnel; clarifying the links between decision-making styles and components of professional motivation (professional aspirations, interests and values).

◆ Materials and Methods

The study involved 50 male military personnel aged between 26 and 48 years. Participants were selected on a voluntary basis in accordance with the following inclusion criteria: active military service, absence of acute mental disorders, and consent to participate. Exclusion criteria included the presence of severe somatic illnesses, being in a state of acute psychological crisis, and withdrawal from the study at any stage. The research was conducted within a military unit, which ensured uniform service conditions for the participants. For reasons of personal security, disclosure of the unit's name and the locations of the personnel is unacceptable. Before the start of the study, respondents were informed about the purpose of the study, confidentiality guarantees, and the possibility of refusal without negative consequences. Written informed consent was obtained from each participant. The study was conducted in accordance with the ethical requirements of the World Medical Association's Declaration of Helsinki (WMA, 2024). The Melbourne decision-making questionnaire (MDMQ, n.d.) was used to study decision-making styles. The methodology allowed to identify the dominant styles: vigilance, hypervigilance, avoidance, and procrastination. The questionnaire statements were rated on a scale from low to high agreement, and the results were summarised for each individual scale. To study professional motivation, V. Osodlo's methodology was used, in particular two scales: the scale of professional aspirations and the scale of professional interests and values (Dykun *et al.*, 2023). Each scale consists of 16 statements aimed at assessing the level of activity, perseverance, desire for success, as well as the significance of professional activity for the personality of a military serviceman. The results were calculated as a percentage of the maximum possible score, which made it possible to classify the levels of indicators as low, medium and high. The survey was conducted in a group format in a psychological training room. Respondents first completed the MDMQ,

then moved on to the professional motivation assessment methodology. The average time to complete the entire set of methodologies was approximately 40-50 minutes. The researcher was present during the testing to provide instructions and clarify any unclear questions without influencing the respondents' answers.

Statistical data processing was carried out in several stages. At the first stage, the dominant decision-making styles were determined by comparing the indicators on the MDMQ scales. At the second stage, descriptive statistics of the results were performed based on professional motivation indicators. Next, Spearman's rank correlation coefficient was used to identify the relationships between decision-making styles and motivational indicators, since the data were presented on ordinal scales and did not correspond to a normal distribution. The statistical significance of the results was determined at the level of $p < 0.01$. Correlation relationships are presented in the form of a table, which allows to clearly demonstrate the interdependencies between variables. The study combines the principles of activity-based, person-centred and cognitive approaches. The starting point is the idea that decision-making style is formed through the interaction of individual psychological characteristics, conditions of activity and the motivational structure of a military serviceman's personality. The use of standardised psychodiagnostic methods ensured the validity and reliability of the results obtained, and the application of non-parametric statistical criteria ensured the correctness of conclusions regarding the relationships between the variables studied. The methodology used allows the study to be replicated in similar samples of military personnel using the same questionnaires, testing procedures, and statistical approaches to data processing. This creates a basis for further longitudinal and comparative studies in the field of decision-making psychology in a military environment.

◆ Results and Discussion

Systematic reviews and empirical studies have demonstrated that decision-making is not only a cognitive process of analysing alternatives, but also a complex interaction of motivational and emotional components that can either facilitate or hinder adaptive choice. Thus, F. Del Missier *et al.* (2012) proved that cognitive personality traits determine personal decision-making styles and information processing strategies. A.M. Parker & B. Fischhoff (2005) investigated decision-making competence and demonstrated how individual psychological differences affect the quality of choice in standardised behavioural psychology tasks. K.C. Appelt *et al.* (2011) also drew attention to individual differences in decision-making processes and argue that decision-making style is a stable psychological characteristic of personality associated with motivational, cognitive, and emotional factors. S. Sümer & O.B. Büttner (2022) emphasised the role of impulsivity and procrastination in impairing choice effectiveness. Research by D. Miao *et al.* (2024) demonstrated how self-awareness supports the stability

of mental processes, and a review by D.S. Levine (2022) integrated emotional and cognitive aspects into a single decision-making model. D.M. Yee's (2024) computational neurocognitive approach revealed the mechanisms of motivational influence on choice. Together, these studies confirm that awareness of motivation, emotional regulation, and cognitive evaluation are important components of adaptive decision-making in complex and stressful conditions. The MDMQ was used to determine the dominant decision-making style of each respondent. The distribution of military personnel across the scales is shown in Figure 1.

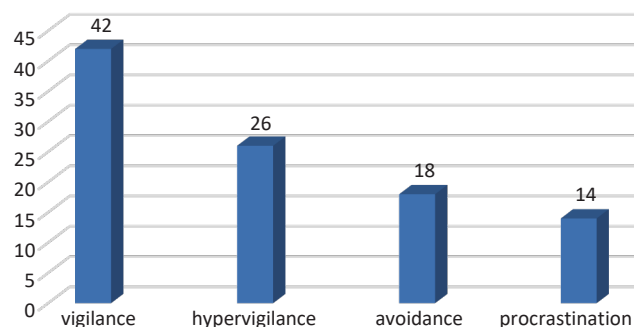


Figure 1. Results of the study of decision-making styles among military personnel according to MDMQ (%)

Source: developed by the author

The results showed that the most common decision-making style among military personnel is vigilance, which was recorded in 42% of respondents. This style is characterised by the ability to adequately assess the situation, recognise risks, analyse alternatives and make decisions taking into account possible consequences. The predominance of vigilance indicates a sufficient level of psychological maturity, responsibility, and self-regulation skills, which are professionally important qualities for military activities in difficult and dangerous conditions. At the same time, 26% of respondents were found to have an hypervigilant decision-making style. This style manifests itself in increased anxiety, hastiness, a chaotic search for a way out of a situation, and a tendency to make impulsive decisions under time pressure and stress. This proportion of hypervigilance may be due to the chronic stress experienced by military personnel, the impact of combat stress, and the high level of responsibility for the consequences of their decisions. Although hypervigilance indicates the mobilisation of mental resources, it also increases the risk of erroneous or ill-considered actions. The avoidance style was observed in 18% of military personnel. It manifests itself in the desire to postpone decision-making, shift responsibility to others, or downplay the significance of a problematic situation. The presence of this style in the subjects may indicate emotional exhaustion, fear of making mistakes, or insufficient psychological readiness to act in situations of high uncertainty. In the context of military service, avoidance can negatively affect the efficiency and effectiveness of managerial and tactical decisions. The

smallest number of military personnel (14%) demonstrated a tendency towards procrastination. This style is characterised by a tendency to delay decision-making even when the necessary information is available. Procrastination in a military environment may be associated with internal conflicts, doubts about one's own abilities, or reduced confidence in the correctness of one's choices. Although this style is the least common, its presence requires special attention from psychological support. Overall, the results of the study showed that adaptive or conditionally adaptive decision-making styles prevail among most military personnel, but a significant proportion of unproductive coping strategies (avoidance, procrastination, hypervigilance) indicate the influence of stressful service conditions.

The results coincide with the conclusions of D. Crivelli *et al.* (2024), who emphasised the role of effective integration of cognitive and emotional processes in decision-making. The data obtained confirmed that a sufficient level of executive functions and the formation of self-regulation skills allow military personnel to make informed decisions even under stressful conditions. The hypervigilance style in this study proved to be a significant indicator of the impact of combat stress on the decision-making process. As noted by G. Gautam *et al.* (2025), affective states, particularly anxiety, can accelerate decision-making while increasing the risk of erroneous actions. The results of the study on the hypervigilance style of military personnel are consistent with theoretical findings on the relationship between decision-making styles and stress. In particular, C.M. Allwood & I. Salo (2012) showed that decision-making styles associated with avoidance and emotional tension correlate with high levels of psychological stress and reduced decision quality. These findings are consistent with the results of the study, which indicates that excessive anxiety and haste in stressful conditions can increase the risk of making wrong decisions. According to the data obtained, the avoidance style is associated with the desire to downplay the significance of a problematic situation or shift responsibility. This result correlates with the findings of M. Gärtner *et al.* (2022), who showed that an individual's information processing style determines the degree of involvement in prosocial or responsible behaviour. In a military context, avoidance can slow down tactical decision-making, confirming the importance of psychological support and the development of cognitive resilience. The lowest percentage was for procrastination, which is characterised by delayed decision-making even when the necessary information is available. This trend correlates with the findings of K. Stanovich *et al.* (2013), who showed that low levels of rational thinking and increased cognitive bias increase the risk of postponing decisions. Although procrastination is less common, its presence indicates possible internal conflicts and doubts about one's own abilities. A meta-analysis by T. Mechera Ostrovsky *et al.* (2022) confirmed that cognitive abilities influence decision errors but do not determine risk propensity. This study confirmed that vigilant military personnel make fewer mistakes, while hypervigilant and avoidant groups demonstrate

an increased frequency of erroneous choices. Thus, adaptive or conditionally adaptive decision-making styles prevail in most military personnel, but a significant proportion of unproductive strategies (hypervigilance, avoidance, procrastination) indicate the influence of stressful service conditions. In general, a comparison of the data obtained with other studies allowed to conclude that decision-making effectiveness is formed in a complex way: cognitive abilities, executive functions, affect, and information processing style interact.

Using the methodology for studying professional motivation developed by V. Osodlo, presented in V.H. Dykun *et al.* (2023), an analysis of the professional aspirations, professional interests and value orientations of military personnel was carried out using the corresponding scales. The scale of professional aspirations contains 16 statements and assesses the desire for success and perseverance. High scores (more than 70% of the maximum possible score) were observed in 24 participants (48%). This indicates that almost half of the respondents show determination in achieving goals, willingness to take responsibility, active participation in professional tasks, and the ability to overcome difficulties. Eighteen military personnel (36%) had average scores (40-70%), indicating a moderate level of ambition and responsibility. Eight people (16%) received low scores (< 40%), characterised by caution, less persistence and a weak willingness to overcome difficult situations. The average score on the professional aspirations scale was 67% of the maximum possible, reflecting a fairly high level of professional motivation among most participants. The professional interests and values scale contains 16 statements and assesses personally significant motives and value orientations in professional activity. High scores (70-100%) were found in 28 participants (56%), demonstrating a strong interest in professional activity and the perception of work as important and meaningful for self-realisation. Average scores (40-70%) were shown by 15 people (30%), who have a moderate level of professional interest and value motivation. Low scores (< 40%) were observed in 7 military personnel (14%), for whom professional activity is not significant. The average score on the scale of professional interests and values was 72% of the maximum possible, which indicates a high level of conscious interest in professional activity among the majority of respondents. The results of the study of professional motivation of military personnel are shown in Figure 2.

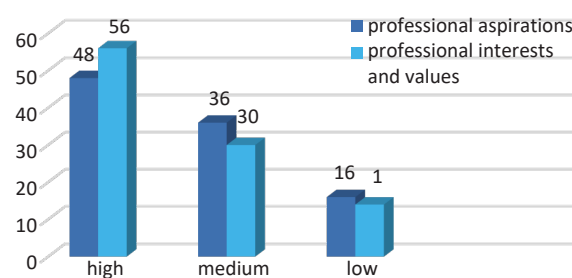


Figure 2. Results of the study of professional motivation according to V. Osodlo's method (%)

Source: developed by the author

Thus, most military personnel demonstrate a high level of ambition, determination and perseverance. This indicates their readiness to act effectively in difficult and stressful conditions, which is particularly important for decision-making in military activities. A small proportion of respondents with low scores may need additional motivational support. The high level of professional interest and value motivation among most participants indicates their internal orientation towards professional self-realisation. Military personnel with high scores are more inclined towards a constructive approach, initiative and engagement in their work. Low scores in some individuals signal the need for professional counselling or the development of value orientations to increase motivation. The results indicate that most military personnel are predominantly internally motivated to achieve professional goals and have a high value orientation towards service. These indicators are important for assessing the psychological characteristics of decision-making in difficult conditions, as they reflect the willingness to take responsibility, show perseverance and act effectively under pressure. O.M. Borysiuk (2024) studied the motivational component of the managerial competence of future officers and determined that they are dominated by internal motives and the desire for success,

and also established correlations between high professional motivation and behavioural effectiveness, which is consistent with data on high indicators of professional aspirations and interests. That study included a broader range of motivational factors (such as life goals, social desirability and overall activity in the work of police cadets), rather than only aspirations and interests, which were examined in the present research. This indicates the difference between the specialised approach of this study and broader motivational models. In their own study, O. Nykonenko & V. Horiatchka (2025) analysed the motivational sphere of military personnel during wartime using several motivation techniques. It was confirmed that the motivation of military personnel is multidimensional and related to stress, burnout, and value orientations, which partly resonates with the findings of this study regarding internal motives and the importance of professional interest. Spearman's rank correlation coefficient was used to establish links between decision-making styles and indicators of professional motivation, as the variables under study are represented by ordinal scales and do not meet the requirements of parametric statistics. The results of the analysis showed statistically significant links between decision-making styles and individual components of professional motivation, as presented in Table 1.

Table 1. Correlations between decision-making styles and the professional aspirations, as well as the professional interests and values, of military personnel

Decision-making styles	Vigilance	Hypervigilance	Avoidance	Procrastination
Professional aspirations	+0.47	+0.12	-0.38	-0.42
Professional interests and values	+0.52	+0.09	-0.41	-0.45

Source: developed by the author

The most pronounced direct correlations were found between vigilance style and indicators of professional aspirations and professional interests. This means that military personnel with a high level of ambition, responsibility and focus on professional growth tend to make decisions based on all available information, analysing possible consequences and weighing alternatives. The hypervigilant style also showed a positive correlation with professional aspirations, but this correlation was moderate. This result can be interpreted as evidence that high self-expectations and achievement orientation may be accompanied by increased anxiety, excessive control, and a tendency to doubt when making decisions. At the same time, the relationship between overachievement and professional interests and values was weak or statistically insignificant. The inverse correlations between avoidance and procrastination styles and indicators of professional motivation were particularly pronounced. A decrease in the level of professional aspirations and the value significance of activities is associated with a tendency to avoid responsible decisions, shift them to others, or postpone decision-making indefinitely. These results indicate that insufficient internal motivation and low belief in one's own abilities lead to the formation of maladaptive behavioural strategies in situations of choice. Summarising the data obtained, it can be argued

that there are systemic interrelationships between the decision-making styles of military personnel and the characteristics of their professional motivation. High professional aspirations, conscious interests, and meaningful value orientations are associated with the formation of an adaptive, rational decision-making style – vigilance. On the other hand, low levels of professional motivation are associated with avoidance and procrastination styles, which complicate responsible behaviour in complex and risky service conditions. The results also agree with psychological ideas about the role of motivation in regulating behaviour: higher levels of conscious professional aspirations and values contribute to the formation of more adaptive forms of decision-making, while motivational insufficiency is associated with avoidance of responsibility and procrastination in making choices. Thus, V. Osodlo (2025), analysing the motivation of military personnel, showed that conscious internal motivation is closely related to psychological readiness to act in military conditions, which is consistent with the conclusions about the importance of high aspirations for adaptive decision-making styles. N. Shortland *et al.* (2020) showed that individual differences affect the complexity and speed of choice, which also resonates with the data from this study on the moderate relationship between hypervigilance and motivational indicators, where excessive

demands for achievement can complicate decisions under pressure. S.G. Scott & R.A. Bruce (1995) identified different decision-making styles (rational, intuitive, unique, etc.), which allows to compare the categories of vigilance, hypervigilance, avoidance, and procrastination with the typical international classification of styles and confirm that decision-making styles are related to motivational characteristics of personality. The results obtained emphasised the importance of developing professional motivation as a psychological resource that ensures more effective and balanced decisions in the activities of military personnel.

◆ Conclusions

The study identified systemic relationships between military personnel's decision-making styles and their professional motivation. The most common style was identified as vigilance (42% of respondents), characterised by the ability to analyse alternatives, predict consequences and make informed decisions, indicating a high level of psychological maturity, responsibility and well-developed self-regulation skills. Hypervigilance was observed in 26% of military personnel, accompanied by increased anxiety, impulsiveness, and a tendency to make hasty decisions, which highlights the impact of combat stress on cognitive processes. Avoidance (18%) and procrastination (14%) styles are associated with insufficient internal motivation, low self-confidence, and limited ability to make responsible choices in difficult situations. An analysis of professional motivation showed high levels of ambition and conscious interests in most participants (48-56%), which directly correlates with an adaptive vigilant

decision-making style. Inverse correlations between avoidance and procrastination styles and professional motivation indicators showed that motivational insufficiency contributes to the formation of maladaptive choice strategies. The results of the study emphasised the importance of internal motives, value orientations, and conscious striving for professional development as key factors that ensure rational and effective decision-making in the military environment. Thus, the effectiveness of decision-making in the military depends on cognitive abilities, emotional self-regulation, and the level of professional motivation. The results confirmed the conceptual importance of integrating cognitive, emotional, and motivational aspects into the psychological training of military personnel. The limitations of the study are related to the selection of only men aged 26-48 and the conduct of the experiment in the homogeneous conditions of a single military unit, which may limit the generalisation of the results to broader groups of military personnel. Further research may focus on studying the dynamics of decision-making styles during combat training, including representatives of various military specialties, and analysing the influence of additional motivational and emotional factors.

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◆ Conflict of Interest

None.

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Взаємозв'язок прийняття рішень із професійною мотивацією військовослужбовців

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♦ **Анотація.** Актуальність дослідження зумовлена потребою вивчення психологічних механізмів ухвалення рішень військовослужбовцями в умовах бойового стресу, оскільки когнітивні, емоційні та мотиваційні чинники безпосередньо визначають ефективність виконання службово-бойових завдань. Метою дослідження було встановлення кореляційних зв'язків між стилями ухвалення рішень військовослужбовцями та їхньою професійною мотивацією. Методи дослідження ґрунтувалися на комплексному застосуванні стандартизованих психодіагностичних методик і статистичних процедур, зокрема Melbourne decision making questionnaire для оцінювання стилів ухвалення рішень (пильність, надпильність, уникнення, прокрастинація), методики В. Осьодло для вивчення професійної мотивації за шкалами професійних домагань і професійних інтересів та цінностей, а також рангового коефіцієнта кореляції Спірмена для аналізу взаємозв'язків між змінними порядкових шкал. Дослідження проводилось на вибірці з 50 військовослужбовців чоловічої статі віком від 26 до 48 років у контрольованих умовах військової частини, із дотриманням етичних принципів та конфіденційності. Отримані результати показали, що домінуючим стилем ухвалення рішень була пильність (42 % респондентів), що характеризується здатністю аналізувати альтернативи, прогнозувати наслідки та приймати відповідальні рішення. Надпильність спостерігалася у 26 % військовослужбовців і проявлялась підвищеною тривожністю та імпульсивністю, тоді як уникнення та прокрастинація були менш поширені (18 % та 14 % відповідно), що засвідчило про наявність непродуктивних стратегій поведінки у стресових умовах. Аналіз професійної мотивації показав високі рівні домагань та усвідомлених інтересів у більшості учасників (48-56 %), що корелювало з адаптивним пильним стилем ухвалення рішень. Значущі обернені кореляції спостерігалися між стилями уникнення та прокрастинації і показниками професійної мотивації, що вказує на вплив мотиваційної недостатності на формування дезадаптивних стратегій вибору. Практична цінність дослідження полягає у можливості використання його результатів для розробки програм психологічної підготовки й тренінгів, спрямованих на формування адаптивних стилів ухвалення рішень, розвиток професійної мотивації та підвищення стресостійкості військовослужбовців, що сприятиме зростанню ефективності й безпеки виконання службових завдань

♦ **Ключові слова:** домінантні стилі ухвалення рішень; професійні домагання; цінності; когнітивні детермінанти вибору; саморегуляція



Existential challenges of war: The role of spirituality, meaning of life and value orientations in the psychological recovery of military personnel who have participated in combat operations

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◆ **Abstract.** The relevance of the study is determined by the growing psychological challenges associated with combat trauma among military personnel and the complexity of their post-war adaptation. The aim of the study was to determine the role of spirituality, awareness of the meaning of life and value orientations in the psychological recovery of military personnel who have participated in combat operations, as well as to substantiate practical recommendations for integrating existential factors into psychological support programmes. The methodological basis of the study was the provisions of existential and humanistic psychology, concepts of spiritual development of the individual, and modern models of post-traumatic adaptation. The study used theoretical analysis and generalisation of sources, content analysis, questionnaires, semi-structured interviews, and statistical data processing. The empirical part included standardised psychodiagnostic methods for assessing spirituality – the Daily Spiritual Experience Scale (DSES), meaning in life – the Meaning in Life Questionnaire (MLQ), value orientations – Portrait Values Questionnaire (PVQ), psychological recovery and stress resistance – Connor-Davidson Resilience Scale (CD-RISC), and post-traumatic manifestations – PTSD Checklist for DSM-5 (PCL-5). The results of the study showed that spirituality, awareness of the meaning of life, and stability of value orientations have a significant impact on the effectiveness of psychological recovery of military personnel. Positive correlations were found between the level of spirituality and overall psychological well-being, as well as between the formation of value orientations and the ability to adapt socially. Awareness of the meaning of life proved to be a significant predictor of post-traumatic growth and the formation of adaptive strategies for coping with stress. The data obtained confirmed the synergistic effect of combining spiritual and value-meaning resources in the process of psychological recovery after combat experience. The practical value of the study lies in the possibility of using its results in the development of comprehensive psychological support programmes for military personnel, aimed at restoring internal resources, increasing resilience and successful social reintegration in the post-war period

◆ **Keywords:** life meaning orientations; self-regulation; combat stress; post-traumatic adaptation; war veterans

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♦ Introduction

The modern world order is characterised by high dynamism, uncertainty and constant socio-economic challenges, which exert significant pressure on an individual's mental health. In the context of military service and participation in combat operations, these factors are significantly exacerbated by extreme situations, constant threats to life, the loss of comrades and chronic stress. In this regard, the issue of psychological recovery of military personnel after participating in combat operations has become a matter of global importance and the subject of active interdisciplinary research. One of the key components of psychological resilience is the value-meaning sphere of the individual, which encompasses a system of life values, awareness of the meaning of life, and spiritual guidelines. As noted by I.C. Fischer *et al.* (2020), it is these components that ensure a person's ability to self-regulate, form internal resources and adapt positively in the context of traumatic experiences. It is emphasised that the loss or transformation of the meaning of life after combat can act as a factor of psychological maladjustment, while its restoration can act as an important resource for post-traumatic growth. I. Kira *et al.* (2021) found that spirituality and a sense of purpose in life correlate with a reduction in symptoms of post-traumatic stress disorder, depression, and anxiety.

Positive spiritual strategies, such as reinterpreting traumatic experiences, religious or existential support, and the ability to forgive and accept, are associated with better mental health and quality of life indicators among veterans. At the same time, negative spiritual coping, manifested in feelings of abandonment, loss of faith, or deep value conflicts, is associated with a higher risk of depressive disorders and suicidal behaviour (Sukharieva *et al.*, 2025). In this context, the concept of moral trauma, which describes deep internal conflicts associated with the violation of basic moral beliefs during war, becomes particularly relevant. An important area of contemporary research is also the study of post-traumatic growth, which is seen as a positive psychological transformation that can occur as a result of overcoming extreme experiences. N. Kucherenko & I. Prykhodko (2025) emphasised that spiritual and value-meaning changes are central components of this process and contribute to the formation of new life priorities, the strengthening of personal power and the deepening of social ties. The publication by V. Aleshchenko & O. Kokun (2025) emphasises the need to assess psychological functioning both before participation in combat operations and after returning from the combat zone, which allows for the timely identification of risks of developing acute stress reactions and post-traumatic disorders. An important aspect of psychological support is also maintaining mental health, preventing maladaptive reactions, and building resilience to prolonged combat stress. A summary of the above approaches has demonstrated the advisability of integrating spiritual and existential components into psychological support programmes for military personnel. N. Ennis *et al.* (2021) believed that the most effective models of assistance are

multidisciplinary ones that combine psychotherapeutic, social, and spiritually oriented interventions aimed at restoring meaning to life, overcoming moral trauma, and developing post-traumatic growth. Despite numerous studies, the problem of systemic integration of value-meaning factors into the process of psychological recovery of military personnel remains insufficiently studied. Previous works are mostly fragmentary or focus on individual aspects of spirituality, without taking into account the holistic structure of personality, and most studies concerned military personnel who performed tasks on the territory of other states. Ukrainian military personnel, on the contrary, defend their own independence, territorial integrity and sovereignty in response to an unprovoked attack, which forms a specific psychological and emotional reaction that can be defined as the "Ukrainian syndrome", combining traditional manifestations of post-traumatic stress disorder with the unique existential and spiritual challenges of war on their own territory (Shykovets & Karamushka, 2024). This necessitates further theoretical reflection and empirical study of the role of spirituality, meaning of life, and value orientations in post-war adaptation. The aim of the study was to analyse the significance of spirituality, meaning of life and value orientations in the psychological recovery of military personnel who have participated in combat operations. The objectives of the study included analysing contemporary theoretical and empirical approaches, assessing the impact of value-meaning factors on mental health and developing practical recommendations for specialists.

♦ Materials and Methods

The theoretical research was conducted in several stages and was based on a comprehensive approach that combined systemic, existential-humanistic, and axiological approaches. At the first stage of the research, an analysis and generalisation of contemporary scientific publications on the problems of the psychology of war, post-traumatic stress disorder, existential psychology and psychological recovery of military personnel was carried out. The source base included, in particular, the works of S. Tomek *et al.* (2015), C.L. Park *et al.* (2017) and K.A. Krotiuk (2024). The criteria for selecting sources were their scientific validity, relevance to the research topic, clearly defined methodology, and indexing in the international scientometric databases Scopus and Web of Science. The literature review was conducted using methods of theoretical analysis, synthesis, comparative analysis, content analysis and conceptual modelling, which made it possible to identify the key factors of psychological recovery, the role of spirituality, meaning of life and value orientations in the formation of military personnel resilience, as well as to form the methodological basis for the empirical stage of the study.

The empirical study was conducted between March and October 2024. The sample consisted of 60 individuals aged 20 to 50 who had direct experience of combat operations and gave their voluntary informed consent to participate

in the study. The sample included 40 military personnel on active duty and 20 veterans after demobilisation; among the participants were 52 men and 8 women. The sample was stratified, which ensured representativeness in terms of age, service status and length of combat experience. A set of standardised psychodiagnostic techniques was used to operationalise key concepts: spirituality was assessed using the Daily Spiritual Experience Scale (DSES), meaning in life was assessed using the Meaning in Life Questionnaire (MLQ), value orientations were assessed using the Portrait Values Questionnaire (PVQ), and psychological recovery and stress resistance were assessed using the Connor-Davidson Resilience Scale (CD-RISC). The PTSD Checklist for DSM-5 (PCL-5) was used to assess post-traumatic manifestations. In addition to quantitative methods, semi-structured interviews were used, based on the methodological approaches of O. Gulbs & A. Kobets (2021) and adapted to the objectives of this study. The interviews were conducted in an individual format (online or offline, based on participants' preferences) following a standardized protocol and included blocks of questions aimed at exploring the subjective experience of the meaning of life, spiritual resources, value orientations, and processes of psychological recovery. The survey was conducted at a military unit (the unit number and address are confidential); prior to the testing, a conversation was held to identify the most vulnerable category of individuals for the purpose of screening them out. Qualitative data were analysed using thematic analysis, identifying recurring semantic categories and interpretative patterns. Quantitative data processing included descriptive statistics, Pearson's correlation analysis, and regression analysis ($p < 0.01$; $p < 0.05$). To ensure the reliability and reproducibility of the results, standardised methods with proven psychometric indicators were used, as well as inter-expert agreement in the analysis of interviews. The study was conducted in accordance with the ethical principles of psychological science in accordance with the provisions of the World Medical Association's Declaration of Helsinki (WMA, 2024).

◆ Results and Discussion

The psychological recovery of military personnel after participating in combat operations is a complex multidimensional process that encompasses emotional, cognitive, behavioural, and existential aspects of personality functioning. In modern psychological science, increasing attention is being paid not only to a symptom-oriented approach to overcoming post-traumatic disorders, but also to the study of internal resources that ensure adaptation, resilience and post-traumatic growth. Among these resources, spirituality, awareness of the meaning of life, and a system of value orientations occupy a special place. Within existential and humanistic psychology, spirituality is viewed as an integrative phenomenon that includes experiences of meaning, inner integrity, connection to transcendent or supra-personal values, and the ability of the individual to transcend traumatic experiences (Park *et al.*, 2017). The

work of H.G. Koenig *et al.* (2020) showed that spirituality contributes to the formation of adaptive cognitive patterns, increased tolerance to uncertainty, and reduced intensity of destructive emotional reactions in situations of extreme stress. For military personnel, spirituality can serve as an internal stabiliser, helping to integrate traumatic experiences into a broader life context. Closely related to spirituality is the concept of meaning in life, which in existential psychology is considered a basic condition for psychological well-being. According to the concept of meaning-making, awareness of meaning allows individuals to interpret traumatic events not only as a source of suffering, but also as an experience that has the potential for personal growth. Empirical research by R.G. Tedeschi & L.G. Calhoun (2009) has shown that a high level of meaning in life is associated with lower levels of post-traumatic stress, depressive and anxiety symptoms, as well as increased psychological resilience and motivation for social reintegration.

Value orientations are another key factor in psychological recovery, as they determine life priorities, moral guidelines and ways of making decisions in difficult situations. In the context of military experience, values can undergo significant transformation due to experiences of loss, moral dilemmas and existential crises. A stable and integrated value system contributes to the preservation of identity, the restoration of a sense of control over life, and the formation of constructive adaptation strategies (Kira *et al.*, 2021; Krotiuk, 2024). The interaction between spirituality, meaning of life, and value orientations is synergistic. Spirituality creates a basis for rethinking life experiences, meaning in life provides direction and motivation for further activity, and value orientations regulate specific behavioural and social manifestations of adaptation. Together, these factors can act as a buffer between traumatic experiences and the development of psychopathological symptoms, reducing the risk of chronic post-traumatic stress and promoting post-traumatic growth (Tomek *et al.*, 2015). Particular attention should be paid to the cultural context within which the content of spirituality and values is formed. For Ukrainian military personnel, spirituality often takes on non-religious, individualised forms and is associated with the concepts of dignity, responsibility, freedom and defence of the homeland. This specificity necessitates a culturally sensitive approach to psychological support that takes into account the national, historical, and social characteristics of military experience, as noted by I. Prykhodko *et al.* (2023). Thus, theoretical analysis has provided grounds for considering spirituality, meaning of life, and value orientations as interrelated psychological resources that play a leading role in the psychological recovery of military personnel. This position became the conceptual basis for further empirical research. The level of spirituality, awareness of the meaning of life, and stability of value orientations significantly influence the psychological recovery of military personnel who have participated in combat operations. Questionnaires and interviews showed that respondents with a high level of spirituality had

significantly lower levels of post-traumatic stress symptoms and more effective adaptive behavioural strategies. The level of awareness of the meaning of life correlated with the ability to self-regulate, optimistic cognitive patterns, and

positive motivation for social integration after demobilisation. The results are summarised in Table 1, which shows the average values for spirituality, value orientations, awareness of the meaning of life, and post-traumatic stress levels.

Table 1. Main indicators of psychological recovery and existential resources of the study participants

Indicator	Mean $\pm$ SE	Minimum	Maximum
Spirituality	4.28 $\pm$ 0.12	2.1	5.0
Meaning in life	4.15 $\pm$ 0.15	1.9	5.0
Value orientations	4.02 $\pm$ 0.10	2.0	5.0
Post-traumatic stress	2.35 $\pm$ 0.14	1.0	4.8

Note: SE – standard error

Source: developed by the authors

Analysis of the data presented in Table 1 showed a high level of existential resources in the sample of respondents. In particular, the spirituality indicator has the highest average value ($M = 4.28 \pm 0.12$), which indicates its significant role in the structure of psychological recovery of military personnel. At the same time, the minimum value of 2.1 indicates interindividual variability and uneven actualisation of spiritual resources among different participants. The level of awareness of the meaning of life is also elevated ($M = 4.15 \pm 0.15$), but is characterised by a slightly higher standard error, which may reflect a wider range of individual differences in life orientations caused by combat experience and the process of adaptation after it. The minimum values of this indicator (1.9) indicate the presence of a group of respondents with a significantly reduced sense of life prospects, which potentially increases the risk of psychological maladjustment. Value orientations show relatively stable indicators ($M = 4.02 \pm 0.10$) with the smallest standard error among existential variables, which allows to be interpreted as a more structured and stable component of psychological personality organisation even in conditions of traumatic experience. Unlike existential resources, the level of post-traumatic stress is moderate ($M = 2.35 \pm 0.14$), but is characterised by a wide range of values (from 1.0 to 4.8), indicating significant heterogeneity in the manifestations of post-traumatic symptoms in the sample. The combination of a moderate average level of post-traumatic stress with high levels of spirituality, meaning of life and value orientations confirms the assumption about their buffering function with regard to the psychological consequences of combat experience. Overall, the results in Table 1 confirmed that existential resources are important factors in the psychological recovery of military personnel, reducing the intensity of post-traumatic manifestations and contributing to the formation of adaptive coping strategies. The study confirmed that the level of spirituality, awareness of the meaning of life, and stability of value orientations have a significant impact on the psychological recovery of military personnel who have participated in combat operations. The results showed that respondents with higher levels of spirituality were characterised by less intense symptoms of post-traumatic stress and more effective adaptive coping strategies.

The study also identified a strong positive correlation between spirituality, awareness of the meaning of life, and the level of psychological recovery, confirming the importance of integrating existential resources into the practice of psychological support for military personnel. At the same time, it was found that Ukrainian military personnel exhibit culturally specific forms of spiritual development and rethinking of values that differ from Western models, emphasising the need to adapt psychological support programmes to take into account national characteristics. This is consistent with the concept of spirituality as an internal resource for self-regulation and psychological resilience. Correlation analysis confirmed a strong positive relationship between spirituality and the overall level of psychological recovery ($r = 0.63$, $p < 0.01$), as well as between the stability of value orientations and the ability to adapt to the social environment ($r = 0.57$, $p < 0.01$). In addition, awareness of the meaning of life proved to be a significant predictor of post-traumatic growth ($\beta = 0.42$, $p < 0.05$), indicating the key role of existential factors in the process of adaptation after combat experience. These results confirm the propositions of existential psychology, according to which meaningful orientations enable individuals to integrate traumatic experiences into a coherent life story.

The data obtained are consistent with the results of V. Sukharieva *et al.* (2025). The authors showed that a high level of spiritual engagement and reflection on life experiences is associated with a reduction in symptoms of post-traumatic stress disorder and an increase in psychological resilience in combat veterans. Similar conclusions are presented in the study by A.V. Shvets *et al.* (2023), where meaning in life is considered a mediator between traumatic experience and psychological well-being. The researchers also emphasised the positive impact of value-meaning strategies on the social adaptation and reintegration of veterans into civilian life. Religious faith can also be a powerful resource for support, but the results of the study and conclusions of N.R. Nugent *et al.* (2014) pointed to the possible risks of its uncritical integration. An excessive focus on fatalistic attitudes or an internal conflict between religious beliefs and military duty can complicate the adaptation process, as noted by M.S. Kopacz *et al.* (2016). In the context of the war in Ukraine, this issue

has become particularly relevant, as military personnel are forced to combine existential experiences with the realities of combat operations. The provisions regarding the influence of spirituality and religious faith on mental health (in particular, military personnel participating in combat operations) are consistent with the conclusions of K.I. Pargament *et al.* (2000). This study confirmed that spirituality, awareness of the meaning of life, and stability of value orientations play a key role in the psychological recovery of military personnel participating in combat operations. O. Prokofieva *et al.* (2024) found that a high level of spirituality correlates with a reduction in post-traumatic stress symptoms, while awareness of the meaning of life and established value orientations increase the effectiveness of adaptation strategies and promote post-traumatic growth. Thus, the results of the study showed that the integration of existential resources into psychological support programmes for military personnel increases the effectiveness of their psychological recovery and contributes to the formation of sustainable strategies for overcoming the consequences of combat operations.

◆ Conclusions

The study found that the psychological state of military personnel after participating in combat operations is characterised by significant variability, which depends on the level of development of internal personal resources. Analysis of the data obtained showed that spirituality, which is an integrative characteristic of personality, is closely related to psychological recovery and the ability to overcome the consequences of traumatic experiences. People with a high level of spirituality tend to demonstrate greater emotional stability, better adaptability, and a greater ability to rethink past events, which allows them to cope more effectively with stressful situations. The study also showed that awareness of the meaning of life plays an important role in the formation of constructive strategies for coping with stress. Military personnel who maintain

or restore a sense of meaning and purpose in life show lower levels of maladaptive behaviour and a greater capacity for post-traumatic growth. The study found that higher levels of spirituality and awareness of the meaning of life are associated with lower intensity of post-traumatic stress symptoms and more effective adaptive strategies for coping with stress. At the same time, it was found that Ukrainian military personnel demonstrate culturally specific forms of spiritual development and rethinking of values, which emphasises the need to adapt psychological support programmes to national characteristics. The stability of value orientations is an additional factor in psychological resilience, providing internal support in conditions of extreme experience. The results obtained emphasised the need for a more in-depth study of these aspects and their impact on the adaptation process of military personnel. Further research may focus on long-term observation of changes in the level of spirituality, awareness of the meaning of life and value orientations in the process of adaptation to civilian life. In addition, an important area of focus is the evaluation of the effectiveness of psychological interventions that integrate existential components into veteran rehabilitation programmes, which will help to create more personalised and effective psychological support strategies.

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◆ Conflict of Interest

None.

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Екзистенційні виклики війни: роль духовності, сенсу життя та ціннісних орієнтацій у процесі психологічного відновлення військовослужбовців – учасників бойових дій

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♦ **Анотація.** Актуальність дослідження зумовлена зростанням психологічних викликів, пов'язаних із бойовою травматизацією військовослужбовців та складністю їх післявоєнної адаптації. Метою дослідження було визначення ролі духовності, усвідомлення сенсу життя та ціннісних орієнтацій у процесі психологічного відновлення військовослужбовців – учасників бойових дій, а також обґрунтування практичних рекомендацій щодо інтеграції екзистенційних чинників у програми психологічної підтримки. Методологічну основу дослідження становили положення екзистенційної та гуманістичної психології, концепції духовного розвитку особистості та сучасні моделі посттравматичної адаптації. У дослідженні застосовано теоретичний аналіз та узагальнення джерел, контент-аналіз, анкетування, напівструктуровані інтерв'ю та статистичну обробку даних. Емпірична частина включала стандартизовані психодіагностичні методики для оцінки духовності – Daily Spiritual Experience Scale (DSES), сенсу життя – Meaning in Life Questionnaire (MLQ), ціннісних орієнтацій – Portrait Values Questionnaire (PVQ), психологічного відновлення та стресостійкості – Connor-Davidson Resilience Scale (CD-RISC) і посттравматичних проявів – PTSD Checklist for DSM-5 (PCL-5). Результати дослідження засвідчили, що духовність, усвідомлення сенсу життя та стабільність ціннісних орієнтацій мають істотний вплив на ефективність психологічного відновлення військовослужбовців. Встановлено наявність позитивних кореляцій між рівнем духовності та загальним психологічним благополуччям, а також між сформованістю ціннісних орієнтацій і здатністю до соціальної адаптації. Усвідомлення сенсу життя виявилось значущим предиктором післятравматичного зростання та формування адаптивних стратегій подолання стресу. Отримані дані підтвердили синергетичний ефект поєднання духовних і ціннісно-смыслових ресурсів у процесі психологічного відновлення після бойового досвіду. Практична цінність дослідження полягає у можливості використання його результатів під час розробки комплексних програм психологічного супроводу військовослужбовців, орієнтованих на відновлення внутрішніх ресурсів, підвищення стійкості та успішну соціальну реінтеграцію у післявоєнний період

♦ **Ключові слова:** смисложиттєві орієнтації; саморегуляція; бойовий стрес; посттравматична адаптація; ветерани війни



Gender determinants of psychological well-being among psychologists of the State Emergency Service of Ukraine

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◆ **Abstract.** In conditions of martial law, psychologists of the State Emergency Service of Ukraine (SES) experience increased professional stress, the course and consequences of which are significantly modified by gender-determined models of emotional regulation, professional socialisation, and expectations regarding roles and resilience. Gender determinants influence access to support resources, ways of coping with cumulative trauma, and risks of emotional exhaustion, which directly affect professional resilience and the effectiveness of psychological assistance. The aim of the study was to theoretically substantiate and systematise the gender factors of psychological well-being among psychologists of the SES, as well as to analyse the mechanisms of their influence on the professional functioning of specialists in conditions of martial law. The study used theoretical analysis and generalisation of scientific sources and a comparative-analytical method to compare approaches to studying gender aspects of well-being in the helping professions. It also uses structural-functional analysis and an integrative approach that combines the eudaimonic concept of well-being, the model of professional requirements and resources, and the theory of resource conservation. It is substantiated that the psychological well-being of psychologists of the SES is a dynamic, multidimensional process that is formed in the interaction of individual-personal, professional-operational and sociocultural factors. It is shown that gender is not a direct causal factor, but a contextual moderator of the relationship between professional requirements, resources, and psychological consequences of activity. A conceptual model was proposed, within which gender determinants are realised at the individual-personal, professional-operational and sociocultural levels, determining the specifics of emotional regulation, the nature of emotional labour and the availability of social support. The practical value of the study lies in the possibility of using the theoretical provisions obtained as a methodological basis for the development of differentiated, gender-sensitive programmes of psychological support and prevention of professional burnout among psychologists of the SES. The results can be applied in the system of psychological support, training and professional development of psychologists, as well as in further empirical studies of the problems of professional well-being of subjects of extreme activity

◆ **Keywords:** mental health; traumatic experience; emotional regulation; extreme conditions of activity; professional demands; psychological resources

◆ Introduction

The conditions of martial law in Ukraine have significantly transformed the professional activities of civil protection specialists, greatly complicating the performance of their duties. Constant threats to life, massive destruction of

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infrastructure, significant human losses and prolonged uncertainty have led to a sharp increase in psychological stress for all participants in rescue operations, including psychologists from the State Emergency Service of Ukraine (SES). SES psychologists are involved in the elimination of the consequences of emergencies, within which they perform the functions of psychological support for emergency rescue operations, provide emergency psychological assistance to the affected population and support personnel. These tasks are carried out in conditions of high-intensity professional activity, emotional overload and regular contact with traumatic experiences, which, as emphasised by L. Piankivska (2022), significantly increases the risks to the mental health of the specialists themselves. In such a situation, SES psychologists find themselves in a position of double vulnerability: on the one hand, they are providers of psychological assistance, and on the other, they themselves are under the influence of powerful psychotraumatic factors of emergency situations, which significantly increases the risks of emotional exhaustion, secondary traumatic stress and professional deformation. Research by I.V. Ponomarenko (2024) has shown that in conditions of prolonged crises, the psychological well-being of specialists in helping and extreme professions ceases to be a stable individual characteristic and acquires a procedural, dynamic character, reflecting the balance between growing professional demands and available recovery resources. At the same time, H. Varina & S. Shevchenko (2024) noted that it is gender-determined models of professional socialisation, emotional regulation and resource use that significantly modify this balance, determining individual trajectories of preservation or depletion of psychological well-being in extreme conditions of activity. The gender dimension of the psychological well-being of SES psychologists is particularly relevant, as gender roles and professional expectations influence ways of experiencing stress, cognitive interpretation of danger, the nature of emotional labour, and willingness to acknowledge one's own vulnerability and seek psychological help. A. Alexeeva (2020) found that men and women in the civil protection system differ not so much in their level of psychological stress as in the ways they regulate it: men more often use strategies of emotional restraint and distancing, while women make greater use of social and emotional resources, while remaining more vulnerable to cumulative emotional exhaustion.

In the work of O.V. Zavorodnia & M.V. Shepelova (2025), psychological well-being was considered as an integral indicator of positive personality functioning, covering the meaningful, emotional, social and professional dimensions of life. For psychologists of the SES during wartime, this phenomenon is of particular importance, as it mediates not only the preservation of the mental health of the specialist, but also the quality of the psychological assistance provided. In this context, gender determinants act as systemic regulators of access to well-being resources, modifying the implementation of such components as professional autonomy, self-efficacy, meaningful engagement

and the ability to self-regulate, as emphasised by R. Fida *et al.* (2023). Resource and organisational-psychological approaches play an important role in explaining the gender specificity of psychological well-being, within which professional burnout is interpreted as a consequence of an imbalance between the intensity of demands and the availability of resources. Under martial law, this imbalance is compounded by gender-differentiated organisational expectations, norms of professional behaviour, and informal demands for "endurance", which affect men and women differently. V. Bosniuk *et al.* (2025) emphasise that the effectiveness of resource-oriented psychological support programmes largely depends on taking into account gender-specific patterns of experiencing stress and seeking help.

Thus, a synthesis of contemporary scientific approaches allows to conclude that the psychological well-being of SES psychologists is shaped by a complex interplay of professional demands, resources, and sociocultural norms, among which gender plays a key role in moderating professional resilience and vulnerability. At the same time, the problem of gender determinants of psychological well-being of psychologists of the SES in conditions of martial law remains insufficiently conceptualised, which determines the relevance and scientific expediency of this study. The aim of the study was to conceptually analyse and systematise gender-determined factors of psychological well-being among psychologists of the SES, as well as to identify ways in which they influence the effectiveness of professional activity in conditions of martial law. In accordance with the aim, the following objectives were set: to theoretically analyse contemporary approaches to the study of the psychological well-being of specialists in extreme situations from a gender perspective; to conceptualise the gender determinants of the psychological well-being of psychologists of the SES at the individual-personal, professional-operational and sociocultural levels; to substantiate the resource and organisational mechanisms for maintaining the psychological well-being of psychologists of the SES, taking into account gender characteristics in conditions of martial law.

◆ Materials and Methods

The work was theoretical and analytical in nature and focused on the systematisation and conceptual analysis of gender-determined factors of psychological well-being of SES psychologists in the context of martial law. The chosen research design was determined by the complexity and multidimensionality of the phenomenon under study, as well as the need to integrate multi-level theoretical approaches to the analysis of psychological well-being in extreme conditions of professional activity. The methodological basis was provided by interdisciplinary provisions of modern psychology of well-being, extreme and crisis psychology, psychology of professional activity, as well as gender psychology. Psychological well-being was considered as a dynamic, procedural and multidimensional phenomenon, formed in the interaction of individual-personal, professional-operational and sociocultural factors and mediated

by gender-determined models of professional socialisation, self-regulation and resource use. The research materials included scientific publications on psychological and professional well-being, quality of professional life, emotional burnout, secondary traumatisation, and gender aspects of the functioning of specialists in helping and extreme professions, in particular A.B. Bakker & E. Demerouti (2007), B.H. Stamm (2010) and N.V. Volynets (2020). Particular attention is paid to works representing the eudaimonic approach to psychological well-being, in particular the concept of C.D. Ryff (1989), according to which well-being is defined as the integration of the meaningful, emotional and social dimensions of positive personality functioning. The study also employed the theoretical principles of the Job Demands-Resources model, which made it possible to interpret professional well-being as the result of dynamic interaction between the intensity of professional demands and the availability of support resources. The source base also included S.E. Hobfoll's (1989) conservation of resources theory, within which psychological well-being is viewed as a process of loss, mobilisation and restoration of personal and social resources in response to prolonged stressors. An additional conceptual basis was provided by the Professional Quality of Life (ProQOL) model, which covers both the positive and negative consequences of professional activity in the field of care. To achieve the set goal, a set of theoretical methods appropriate to the tasks and nature of the study was applied. The method of theoretical analysis and a comparative-analytical approach were used to comprehend contemporary concepts of psychological well-being, professional quality of life, and gender determinants of activity in extreme conditions. Structural and functional analysis, as well as methods of generalisation and conceptualisation, were used to identify the levels of implementation of gender factors and to form the author's vision of the psychological well-being of psychologists working for the SES.

◆ Results and Discussion

The theoretical study showed that the issue of psychological well-being in modern psychological science occupies a special place in connection with the transformation of ideas about professional effectiveness, mental health and resilience of specialists whose activities are carried out in conditions of increased danger. In conditions of martial law, this issue becomes particularly relevant for psychologists of the SES, who are under double pressure – as providers of professional assistance and as participants in a shared traumatic experience. Psychological well-being is increasingly interpreted not as a static characteristic or the sum of positive states, but as a complex multidimensional process that is formed through the interaction of individual resources, environmental demands and the sociocultural context (Hupalovska, 2010). One of the most influential theoretical approaches is the eudemonistic concept of psychological well-being proposed by C.D. Ryff (1989), in which well-being is interpreted as the realisation of personal potential and includes components such as autonomy,

purposefulness, positive relationships, personal development, self-acceptance and control over the environment. For specialists in extreme situations, this model is methodologically significant because it allows to go beyond the narrow understanding of well-being as the absence of symptoms of exhaustion or distress. At the same time, in the context of prolonged stress, cumulative trauma and emotional labour, the resource-oriented approach presented in S.E. Hobfoll's (1989) conservation of resources theory is becoming increasingly important. According to this approach, stress arises from the loss, threat of loss, or insufficient restoration of significant resources, and psychological well-being is viewed as a dynamic balance between the processes of resource mobilisation and depletion. In the professional activities of SES psychologists, such resources include emotional stability, professional identity, a sense of purpose, social support, and organisational conditions of service. Even with a high level of job satisfaction, psychologists of the SES remain vulnerable to emotional burnout and secondary traumatic stress, especially when exposed to traumatic experiences for a long time (Stamm, 2010). Short-term effective strategies of emotional distancing or depersonalisation reduce the intensity of experiences, but when used for a long time, they contribute to professional deformation and a decrease in the quality of psychological assistance. Gender-determined models of professional socialisation modulate the implementation of these resources: a focus on control and restraint increases the subjective feeling of manageability, but reduces the willingness to recognise one's own limitations and seek support; a focus on emotional openness and interpersonal interaction increases access to social resources, but increases the risk of emotional exhaustion.

The imbalance between “effort invested” and “rewards received”, as well as tension in the “psychological field of life time” – the assessment of the past, present, and future, particularly in professional terms – are additional predictors of a decline in subjective stability and a sense of control (Volynets, 2020). This is especially true for psychologists working for the SES, whose activities during wartime are associated with chronic uncertainty and delayed rewards in a broad sense – from recovery and safety to the predictability of work results. Under such conditions, the classic logic of “demands – resources” is complicated by a prolonged lack of time for recovery and social pressure for continuous professional involvement, creating a chronic background of tension even in the presence of internal resources. According to N.V. Volynets (2020), in addition to individual resources, the key link in regulating psychological well-being is the organisational context: satisfaction with the content of work and achievements, organisational culture of relationships, relationships with management and colleagues, working conditions and management practices that can either support resourcefulness or increase feelings of exhaustion. For psychologists of the SES, this means that professional resilience depends not only on individual training, but also on organisational service

regimes and the availability of systemic recovery mechanisms. In addition, gender and age, in combination with length of service and official status, modify the components of well-being – self-efficacy, harmony, competence, motivation, development and achievement – and, accordingly, the structure of the experience of well-being in professional communities with high normativity and risk exposure. At the professional-operational level, gender determinants adjust the relationship between the intensity of emotional labour, cumulative trauma, and professional functioning resources. A significant addition to these approaches are contemporary gender-sensitive interpretations of psychological well-being, in particular G. Goren *et al.* (2025) and C. Palomino-Suárez & M.E. Aparicio García (2025). Within these approaches, gender is considered not as a formal socio-demographic indicator, but as a socio-culturally determined factor that determines acceptable ways of experiencing stress, regulating emotions, seeking help, and performing professional roles. This is particularly important for civil protection specialists, as the professional environment of the SES is traditionally characterised by high expectations of resilience, self-control and emotional restraint. Thus, the analysis of contemporary theoretical approaches has allowed to conclude that the psychological well-being of SES psychologists should be viewed as a procedural, contextually sensitive phenomenon that is formed

at the intersection of individual, professional, and sociocultural factors and undergoes significant transformations in conditions of martial law.

Based on the theoretical analysis and generalisation of contemporary scientific approaches within the framework of this study, the author has developed a concept of the psychological well-being of psychologists working for the SES, which is based on understanding it as a gender-mediated, multi-level dynamic system. The proposed concept allows to overcome reductionist approaches to well-being and reflect the complex interaction between professional requirements, resources, and the psychological consequences of activities in conditions of martial law. The central position of the concept is the idea of psychological well-being as an unstable balance between professional effectiveness and the risks of psychological exhaustion. In conditions of prolonged danger, high-intensity emotional labour and cumulative trauma, this balance cannot be considered a stable state, but rather a dynamic process of constant renewal, compensation and adaptation. Gender in this system acts as a moderator that determines the available strategies for regulation, interpretation of professional experience and use of resources. Within the developed concept, gender determinants of psychological well-being were systematised at three interrelated levels (Fig. 1).

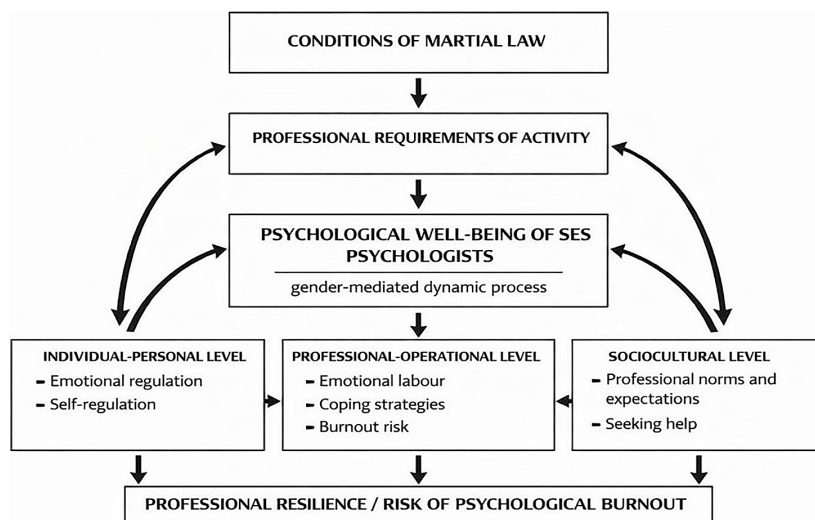


Figure 1. Structural model of psychological well-being of psychologists of the SES in conditions of martial law

Source: developed by the authors

Figure 1 demonstrates a model of the impact of martial law conditions and professional requirements on the psychological well-being of SES psychologists, taking into account three levels of this impact: individual-personal, professional-operational, and sociocultural. At the individual-personal level, gender differences manifest themselves through the characteristics of emotional regulation, self-regulation strategies, and attitudes towards psychological vulnerability. In particular, internal prohibitions on showing weakness or emotional fatigue can complicate the timely restoration

of resources and contribute to the accumulation of tension. At the professional-operational level, gender determinants are related to the specifics of performing emotional labour, the choice of coping strategies, and the risks of developing emotional burnout and secondary traumatic stress. The vulnerability of SES psychologists in this context is due to the need to be in prolonged contact with the traumatic experiences of others while having limited resources for recovery. At the sociocultural level, gender determinants are mediated by norms of professional behaviour, expectations

of resilience, and the acceptability of seeking psychological help in the workplace. It is at this level that the social context is formed, which either supports the psychological well-being of specialists or increases their vulnerability by stigmatising the need for support. Organisational conditions of professional activity, in particular service regimes, the degree of standardisation of activities, management practices and the availability of recovery resources, occupy a special place in the concept. It has been established that the effectiveness of mobilising these resources largely depends on gender-determined models of professional socialisation, which act as systemic moderators of the interaction between professional requirements and the psychological consequences of activity. Thus, the psychological well-being of SES psychologists is a gender-mediated, multi-level dynamic system that is formed as a result of the interaction of professional requirements, resources, and psychological consequences of activities and determines the professional stability and effectiveness of specialists' work.

The results of the study on the impact of gender factors confirm and expand on the findings of previous studies, emphasising their importance for the professional resilience and effectiveness of SES psychologists. A.B. Bakker & E. Demerouti (2007) emphasised that the psychological well-being of SES psychologists during a period of martial law has a processual, dynamic and multidimensional character, and is formed through the complex interaction of individual-personal, professional-operational and sociocultural determinants. According to B.H. Stamm (2010), the military context leads to a significant increase in professional demands related to cumulative trauma, high intensity of emotional labour and a shortage of recovery resources, which directly affects the level of psychological well-being. The results of a study by D. Gómez-Baya *et al.* (2018) also confirmed that in conditions of prolonged crisis, well-being ceases to be a stable characteristic and acquires the features of an unstable balance between professional effectiveness and increasing psychological exhaustion. An important empirical confirmation of the multi-level nature of well-being among security and defence sector professionals is the publication by N.V. Volynets (2019), dedicated to the personal well-being of the personnel of the State Border Service of Ukraine, in which well-being is operationalised as a holistic subjective reflective experience of the positivity and significance of one's own "self-existence" as a whole, as well as through the prism of life fulfilment in professional activity and the organisational environment. The proposed focused-holistic model with three focuses (personal, professional and organisational) is methodologically consistent with the thesis of the multidimensionality of psychological well-being and at the same time clarifies the role of the organisational context as an independent dimension in the maintenance or depletion of resources. Empirical data from M.V. Horenko & K.P. Radzivil (2023) further confirmed that the military context exerts powerful psychological pressure even on individuals who are only preparing for professional activity in the field of psychology, which

indicates the systemic nature of the destructive impact of war on the well-being of helping professionals at various stages of professional development. The multifactorial nature of psychological well-being was also emphasised by M.I. Marushchak *et al.* (2025), who viewed it as a central link in personal potential, determined by a combination of external, personal, interpersonal and subjective-personal factors. In this process, gender determinants are of particular importance, acting as systemic regulators and determining how professional stress is transformed into psychological consequences – the preservation of well-being, the development of exhaustion or the formation of professional deformation. This conclusion is consistent with the findings of R.K. Purvanova & J.P. Muros (2010). It has been found that gender differences in the helping professions manifest themselves not so much in levels of stress or burnout as in ways of experiencing it, coping strategies, and attitudes towards psychological help. At the individual and personal level, gender determinants manifest themselves through the characteristics of emotional regulation, the nature of self-regulation strategies, the level of empathic involvement, and ways of experiencing professional responsibility (Cilar Budler, 2025). In the context of the eudaimonic approach, professional autonomy, a sense of self-efficacy and life purpose are of key importance for SES psychologists, as they ensure the preservation of professional identity and meaningful engagement in conditions of danger and uncertainty. According to T.V. Danylchenko (2021), the professional dimension of well-being can be specified by indicators of professional competence and self-actualisation, professional and organisational motivation, professional development and achievements; at the same time, the very structure of the experience of well-being differs in different professional communities depending on the specifics of the activity and its psychological "weight" in the life of the individual. Such typological differentiation is also important for understanding psychologists of the SES as a separate professional group within the extreme profile.

◆ Conclusions

The theoretical and analytical study conducted made it possible to conceptually deepen the understanding of the psychological well-being of SES psychologists as a complex, multidimensional and dynamic phenomenon that is formed in conditions of martial law under the influence of a combination of individual-personal, professional-operational and sociocultural factors. It is argued that the military context significantly transforms the conditions of professional activity of psychologists of the SES, increasing the intensity of emotional labour, the level of responsibility and cumulative trauma. Under such conditions, even a high level of professional motivation, job satisfaction and meaningful engagement is not a sufficient guarantee of psychological well-being in the absence of systematic resource restoration. The key theoretical result of the study was the substantiation of the role of gender determinants as systemic moderators of the psychological well-being of SES

psychologists. Gender in the proposed conceptual model was not considered a direct causal factor of well-being, but it determines the ways of experiencing professional stress, the nature of emotional regulation and self-regulation strategies, the willingness to seek psychological help, as well as the availability of social and internal resources. It is shown that gender-determined models of professional socialisation mediate the choice of coping strategies and determine differences in the trajectories of resource preservation or depletion under conditions of prolonged stress. Conceptually, three interrelated levels of realisation of gender determinants of psychological well-being have been identified. At the individual-personal level, well-being is supported by professional autonomy, self-efficacy, and meaningfulness of activity, but their implementation may be limited by socially approved norms of restraint, over-responsibility, or increased emotional involvement. At the professional-operational level, the vulnerability of SES psychologists to the development of emotional burnout and secondary traumatic stress in conditions of prolonged contact with traumatic experiences and a lack of time for recovery is conceptually justified; in this context, short-term effective defensive

strategies of emotional distancing may, in the long term, increase the risks of professional deformation and a decline in the quality of psychological assistance. At the sociocultural level, norms and expectations regarding the acceptability of vulnerability, open discussion of psychological difficulties, and seeking support are crucial, as they directly influence the availability of social support and the quality of professional interaction within groups. The generalisations obtained open up prospects for further research on the development of resource-oriented and gender-sensitive support programmes for SES psychologists for the systematic restoration of resources, the development of self-regulation and the optimisation of organisational conditions of service.

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Гендерні детермінанти психологічного благополуччя психологів ДСНС

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✦ **Анотація.** В умовах воєнного стану психологи Державної служби України з надзвичайних ситуацій (ДСНС) зазнають підвищеного професійного стресу, перебіг і наслідки якого суттєво модифікуються гендерно зумовленими моделями емоційної регуляції, професійної соціалізації та очікувань щодо ролей і витривалості. Гендерні детермінанти впливають на доступ до ресурсів підтримки, способи переживання кумулятивної травматизації та ризики емоційного виснаження, що безпосередньо позначається на професійній стійкості й ефективності психологічної допомоги. Мета дослідження полягала у теоретичному обґрунтуванні та систематизації гендерних чинників психологічного благополуччя психологів ДСНС, а також аналізі механізмів їх впливу на професійне функціонування фахівців в умовах воєнного стану. У дослідженні застосовано теоретичний аналіз і узагальнення наукових джерел та порівняльно-аналітичний метод для зіставлення підходів до вивчення гендерних аспектів благополуччя в допомагаючих професіях. Також використано структурно-функціональний аналіз і інтегративний підхід, що поєднав евіденційну концепцію благополуччя, модель професійних вимог і ресурсів та теорію збереження ресурсів. Обґрунтовано, що психологічне благополуччя психологів ДСНС є динамічним, багатовимірним процесом, який формується у взаємодії індивідуально-особистісних, професійно-діяльнісних і соціокультурних чинників. Показано, що гендер виступає не прямим каузальним чинником, а контекстуальним модератором взаємозв'язку між професійними вимогами, ресурсами та психологічними наслідками діяльності. Запропоновано концептуальну модель, у межах якої гендерні детермінанти реалізуються на індивідуально-особистісному, професійно-діяльнісному та соціокультурному рівнях, визначаючи специфіку емоційної регуляції, характер емоційної праці та доступність соціальної підтримки. Практична цінність дослідження полягає у можливості використання отриманих теоретичних положень як методологічного підґрунтя для розробки диференційованих, гендерно чутливих програм психологічного супроводу та профілактики професійного виснаження психологів ДСНС. Результати можуть бути застосовані у системі психологічного забезпечення, підготовці та підвищенні кваліфікації психологів, а також у подальших емпіричних дослідженнях проблем професійного благополуччя суб'єктів екстремальної діяльності.

✦ **Ключові слова:** військовослужбовці; бойова психічна травма; когнітивна сфера; пізнавальні процеси; психічні стани



From stigma to norm: Representation of mental health in Ukraine during wartime in Facebook memes

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◆ **Abstract.** The paper presents a study on internet memes as a form of digital discourse that plays an important role in destigmatising mental health problems in the context of the protracted war in Ukraine. The relevance of the work is due to the growing psychological burden on the population and the need to find informal, socially acceptable ways to understand and verbalise psychological distress. The purpose of the study was to identify the destigmatising potential of memes of the Ukrainian-speaking segment of the social network Facebook and characterise the communication strategies through which they contribute to the acceptance and understanding of mental health problems in war conditions. The empirical material consisted of a corpus of 114 text memes collected in two publicly available Facebook communities – Psychology in memes, Meme therapy – in 2025. The study was based on the use of reflexive thematic analysis, providing for the identification of repetitive semantic patterns, discursive strategies, and latent meanings in the representation of psychological distress. The analysis focused solely on the verbal component of memes. The results of the study showed that memes form a socially safe discourse for discussing mental health issues. Within its framework, the following leading strategies are identified: normalisation of psychological difficulties as a component of everyday experience; ironic and self-ironic reflection of symptoms; criticism of social norms of productivity and emotional self-regulation; discursive legitimisation of seeking psychological help without its normative imposition; formation of collective identification through inclusive language constructions; use of humour as a defence mechanism in conditions of chronic stress. It is established that humour does not devalue psychological problems and mental disorders, but reduces their symbolic threat, weakens the processes of self-stigmatisation and contributes to a sense of social solidarity. The results showed that internet memes in social networks perform not only an entertainment but also a socio-cultural regulatory function, supporting psychological adaptation and resilience of communities in the context of a prolonged social crisis and limited access to formalised psychological assistance resources

◆ **Keywords:** memetic digital practices; social marginalisation; network communication; humour; psychological distress

◆ Introduction

Armed conflicts and wars have a complex and long-term impact on society, going far beyond the physical destruction of infrastructure and direct human losses. S.M.Y. Ararat & S. Hossain (2025) stressed that wars are accompanied

by a significant increase in psychological stress, which affects both individuals and social groups in general. In Ukraine, in the face of prolonged fighting, millions of people face daily threats of violence, forced displacement,

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loss of loved ones, economic instability, and uncertainty about the future. The combination of these factors creates a substantial, but often hidden, burden of mental health problems among the civilian population and military personnel. As noted by S.M.Y. Arafat & S. Hossain, low- and middle-income countries are particularly vulnerable in this context, where mental health support systems are initially characterised by limited resources, a shortage of specialists, and insufficient funding. In such circumstances, the impact of war exacerbates existing structural problems, in particular, limited access to psychological assistance and a high level of stigmatisation of people with mental health problems. The destruction or overload of health systems in conflict zones creates additional barriers to psychological support, leaving a great number of people without proper care after experiencing traumatic events. Military personnel are a separate group at increased risk for mental health problems due to the specifics of military experience. A study by A. Finnegan & R. Randles (2023) determined that exposure to combat injuries, repeated contact with death, physical and emotional exhaustion, and prolonged separation from family create conditions for the formation of severe mental and psychological difficulties, specifically, symptoms of post-traumatic stress disorder. After returning to civilian life, military personnel also face high levels of stress associated with social adaptation, which can negatively impact the quality of life, family relationships, and their ability to perform professionally. Despite this, a major part of military personnel do not receive timely medical and psychological assistance, which indicates both institutional and social barriers to access to support. The civilian population in war conditions also experiences an immense negative impact on mental health. Shelling of populated areas, rising civilian casualties, forced migration, and economic losses contribute to increased levels of anxiety, depression, and general psychological distress, as stated by A. Tedla *et al.* (2024). The economic crisis, unemployment, and precarious living conditions further exacerbate stress and vulnerability, especially among socially vulnerable groups. Thus, the war in Ukraine creates a situation of mass psychological tension, covering both persons directly involved in military operations and those who experience their consequences in civilian life.

Against the background of the growing burden of mental health problems, the phenomenon of stigmatisation is becoming especially important. According to E.B. Waxenbaum & K.C. Pope (2025), negative public attitudes about psychological difficulties reduce people's willingness to recognise the existence of a problem and seek professional help. Stigma, in the view of T. DeAngelis (2024), can manifest itself both at the level of public perception and in the form of self-stigmatisation, when individuals try to avoid labels related to mental health problems for fear of judgment, shame, or the risk of losing social status. In times of war, these mechanisms become particularly acute since the recognition of psychological vulnerability is often perceived as socially undesirable or incompatible with expectations of

endurance, resilience, and the ability to "hold on". Self-stigmatisation greatly affects people's behaviour, reducing their willingness to recognise the presence of psychological problems and seek professional help, even with severe symptoms. T. DeAngelis emphasised that the desire to avoid the "label" of a person with mental health problems is one of the reasons for postponing or completely refusing treatment. In a publication of M.A. Crockett *et al.* (2025), reducing the stigma of people with mental health problems was viewed as one of the public health priorities at the global level. However, in wartime, traditional institutional mechanisms for destigmatisation are often limited due to the destruction of infrastructure, overloading of health services, and a shortage of specialists. In this context, the importance of alternative communication channels is growing, among which social networks occupy a special place, as underlined by S. Shahwan *et al.* (2022). Social networks in Ukraine during the war function as an important space for information exchange, mutual support, and public discussion of socially significant topics. A study by H. Zhang & A. Firdaus (2024) established that open conversations about mental health, sharing educational content, and sharing personal experiences can help reduce stigmatisation and create a more acceptable and empathic attitude to mental and psychological difficulties. The low threshold of access and the possibility of horizontal communication make social networks especially important for military personnel, veterans, and civilians who, for various reasons, do not turn to formalised sources of psychological assistance.

Thus, the relevance of the exploration of the potential of social networks in overcoming the stigmatisation of people with mental health problems in the conditions of war in Ukraine is due to a combination of several factors: the large-scale spread of mental and psychological problems among military personnel and civilians, the high social sensitivity of the subject of mental and psychological vulnerability, and the growing role of digital platforms as a space for public dialogue. The analysis of these processes will allow for a deeper understanding of the social mechanisms of stigmatisation and destigmatisation in the context of armed conflict and will create the basis for the development of more effective and socially sensitive approaches to maintaining psychological well-being. The study aimed to examine the destigmatising potential of memes of the Ukrainian-speaking segment of Facebook and analyse the mechanisms of their communication strategies that contribute to the acceptance and formation of a critical understanding of mental health problems in the context of war.

◆ Literature review

Stigma as a social phenomenon is a persistent system of negative attitudes, assessments, and practices directed at individuals or groups that are perceived as "different" from the dominant social norm (Tushe, 2025). S. Gyamfi *et al.* (2025) defined stigma as a multi-stage social process involving labelling, stereotyping, prejudice, and subsequent discrimination, resulting in loss of social status and social

isolation of stigmatised groups. This process is not formed in isolation, but is integrated into a broader cultural and institutional context, reflecting unequal power relations and dominant social norms. Mental health stigma is one of the most common and persistent forms of stigma. It is based on negative public beliefs and distorted perceptions of the nature of mental disorders, resulting in people with these conditions often being perceived as dangerous, unpredictable, irrational, or socially incompetent (Tushe, 2025). Unlike most somatic diseases, mental health problems are often interpreted as a manifestation of personal weakness or lack of self-control, which increases the tendency to blame the person themselves for their condition (DeAngelis, 2024). Such interpretations create a social environment in which discussing mental and psychological difficulties becomes taboo, and seeking professional help becomes socially risky.

S. Gyamfi *et al.* (2025) identified different types of mental health stigmatisation that function at different levels of social reality to systematise this phenomenon. One of the basic forms is social stigma, which reflects a set of widespread stereotypes, biases, and discriminatory practices against people with mental health problems. It, as noted by J. Mora-Ríos & M. Ortega-Ortega (2021), manifests itself in negative statements, social avoidance, limiting trust, and supporting discriminatory decisions in employment, education, and social life. Social stigma creates a normative context in which discriminatory attitudes can be perceived as socially justified or “natural”. Self-stigma occurs when people with mental health problems internalise social biases and begin to apply them to their own personality. This process is accompanied by a decrease in self-esteem, the formation of feelings of shame, guilt, and helplessness, along with a loss of faith in the possibility of recovery and full social functioning (Gyamfi *et al.*, 2025; Tushe, 2025). This form of stigma manifests itself through social distance, negative judgements and restrictions faced by people associated with mental illness or psychiatric services. As a result, families can hide their mental health problems, avoid seeking professional help, and limit social contact, which increases isolation and reduces access to support resources. Structural stigma, according to the findings of H. Elraz & J. Remnant (2026), is anchored at the level of social institutions, policies, and organisational practices and manifests itself in systematic inequality in access to health care, discrimination in employment, restrictions on social protection, and insufficient funding for mental health services. H. Elraz & J. Remnant noted that institutional and cultural biases at the societal level lead to the exclusion of people with mental health problems from the labour market, deterioration of their living conditions, and limited access to quality medical resources. These processes contribute to the reproduction of social vulnerability and inequality, especially in the context of crises and armed conflicts. The analysis of the above-mentioned publications provided for identifying three interrelated areas of research that are relevant to the subject of this work: socio-cognitive and structural approaches to stigmatisation

of mental health problems; the role of social networks as a space for reproduction and overcoming stigma; the use of humour as an auxiliary communication resource.

Within the framework of the socio-cognitive approach, stigma is considered as a process based on stable patterns of interpretation, through which psychological vulnerability is marked as socially undesirable. Special attention of S. Gyamfi *et al.* (2024) was paid to the structural measurement of stigma. Institutional practices and social policies can reproduce stigmatisation even in the context of declared support for psychological well-being. In contrast to cognitively oriented models, the authors demonstrate that without the transformation of institutional conditions, destigmatisation remains fragmented. An empirical study by A. Hajizadeh *et al.* (2024) confirmed the association of stigma with reduced social functioning. The authors noted that social conditions, including stigma, increase psychological distress and contribute to social maladaptation. Comparing these works allows concluding that modern socio-cognitive approaches are increasingly integrated with structural analysis, forming a multi-level understanding of stigma as a social process. In times of war, these mechanisms are strengthened, as the requirements for “psychological stability” become normative, and the recognition of vulnerability becomes socially problematic.

The second area of research is related to the analysis of social networks as a key media space for the formation of public ideas about mental health problems. J.A. Naslund *et al.* (2020) emphasised that digital platforms create new opportunities for social support and sharing experiences, reducing feelings of isolation. Therewith, the authors noted that the destigmatising potential of social networks depends on the nature of communication and social dynamics within online communities. A. Budenz *et al.* (2022) presented the duality of the role of social networks: increasing the visibility of psychological difficulties may contribute to their normalisation, while also increasing the risk of negative social assessment. B.C.L. Yu *et al.* (2021) focused on user narrative strategies. The authors state that personal stories and empathic interactions help reduce stigma, while the effect depends on the cultural context and the moderation of discourse. C. Capogrosso *et al.* (2024) underscore that in times of crisis, social media is becoming particularly important as a space for informal support. According to H. AbouWarda & G. Miscione (2025), for communities with limited access to offline resources, social networks can perform a compensatory function, reducing social isolation.

The third area of study considers humour as an additional resource of destigmatisation. According to the conclusions drawn by A. Dionigi *et al.* (2023), humour can reduce emotional stress and increase audience engagement. Results of a study by A. Kucharski (2023) determined that the effect of humour depends on the form and context of its use. F. Battisti & L. Dalvit (2025) noted that supportive humour can promote empathy, while aggressive humour increases stigma. In general, the authors agree that

humour is not an independent strategy of destigmatisation, but can complement more systematic approaches. N. Steinfeld *et al.* (2025) demonstrate that during collective trauma, social media platforms, particularly TikTok, serve as a space for broadcasting humour that promotes psychological resilience and stress management. Humour acts as a defence mechanism, and its functions differ between the civilian population and the military. A. Wagner & L.J. Temmann (2025) presented that humorous internet memes dedicated to depression mostly reflect the subjective experiences and individual difficulties of people with mental disorders, presenting them as uncontrollable and overwhelming to the individual. Treatment and survival strategies are presented as ineffective or counterproductive, and the memes themselves criticise misconceptions about mental disorders and unrealistic social expectations. Thus, the stigma of mental health appears as a multi-level social process, formed at the intersection of individual ideas, social practices, and structural conditions, and in war conditions is reinforced by the normative psychological stability, limiting the ability to recognise vulnerability and receive support.

◆ Materials and Methods

The study material was a corpus of memes posted in the Ukrainian-language online Facebook communities: Psychology in memes (n.d.) and Meme therapy (n.d.). Both communities are publicly accessible: any user can view the list of members and publications without access restrictions. According to the rules of these groups, it is allowed to publish witty or ironic memes, quotes, and short text fragments related to psychological topics, specifically, psychological states, the experience of seeking psychological help, and the professional activities of psychologists and psychotherapists. Any form of harassment and derogatory statements based on race, religion, culture, sexual orientation, gender, or identity are prohibited in communities, which creates a relatively safe communication space for discussing sensitive topics. As part of the study, 114 memes published in 2025 were selected. The choice of the time period was determined by the social and psychological context of the protracted phase of the full-scale war in Ukraine, which is characterised by chronic stress and emotional exhaustion. For reasons of research ethics, all personal data of users (names, photos, nicknames and other identifying features) were deleted. This is in line with the generally accepted ethical principles of the Helsinki Declaration of the World Medical Association (WMA, 2024) on working with digital data in qualitative research, in particular, the requirements for anonymity and minimising potential harm to members of online communities. The analysis in this study was conducted exclusively in relation to the text part of memes. The visual component was deliberately excluded from the analysis, as the focus of the study is on discursive strategies for destigmatising individuals with mental health problems, which are implemented through language

structures, ironic utterances, and narrative constructions. The use of visual analysis would require the application of separate methodological tools and could erode the analytical integrity of the study. In this regard, in the article, the term “meme” is used exclusively as a designation for its text component, disregarding the visual design.

Thematic analysis in the reflexive model of V. Braun & V. Clarke (2023) was chosen as the main method of research since its methodological advantages allow adequately analysing digital texts of everyday communication, identifying hidden structures of meaning and mechanisms of destigmatisation in the conditions of a protracted war in Ukraine. The thematic analysis procedure was conducted as an iterative and reflexive process, which included several interrelated stages. In the first stage, an in-depth introduction to the body of text data was performed. The texts of the memes were reread several times, with initial analytical notes on recurring linguistic constructions and ways of articulating psychological states being recorded. This enabled the identification of dominant semantic and latent meanings, through which psychological distress is presented as an element of everyday experience. During the second stage, primary inductive encoding was performed, aimed at isolating significant text fragments. Coding combined manual analysis with limited use of artificial intelligence tools, which were used as an auxiliary tool for organising a text array and identifying repetitive lexical and semantic patterns. In the third stage, the codes were grouped into thematic groups that summarised repetitive patterns of textual representation of mental health problems. As a result, the following thematic groups were distinguished: “normalisation of psychological distress as an everyday experience”, “ironic reflection of psychological states and symptoms”, “criticism of social expectations and productivity norms”, “discursive legitimization of seeking psychological help”, “collective identification”, “humour as a mechanism of symbolic protection”. These groups were seen as interrelated procedural forms of destigmatisation, rather than as static categories. The fourth stage included evaluation of thematic groups for internal consistency, analytical clarity, and compliance with the data body, which provided for repeated reference to the texts of memes and reflexive clarification of the boundaries of topics. The final stage included the interpretation of thematic groups in the theoretical context of research on the stigmatisation of people with mental health problems, digital communication practices, and the socio-psychological consequences of war. This allowed identifying latent destigmatising mechanisms implemented through everyday language, irony, and collective recognition of experience. Summarising the results allowed us to present thematic groups as elements of a broader process of rethinking psychological distress. The methodology used allowed tracing how memes function as a tool for gradual destigmatisation in a protracted war, helping to reduce the stigmatising potential of public discourse on mental health issues. The study had a number of limitations that should be considered when interpreting

the results obtained. Firstly, the analysis concentrated exclusively on the text component of memes, without accounting for their visual design. Secondly, the empirical material is limited to two Ukrainian-speaking communities of the social network Facebook, which narrows the possibilities of generalising results to other platforms or language contexts. Thirdly, the meme sample covers a specific time period associated with a particular phase of the war, so the identified discursive strategies may vary depending on the dynamics of the social and psychological context. In addition, the use of qualitative thematic analysis involves research interpretation, which can influence the selection and interpretation of topics. Finally, the results of the study do not allow drawing causal conclusions about the effectiveness of memes as a tool for psychological support, but rather outline their potential within the framework of everyday communication practices.

◆ Results and Discussion

In contrast to the initial stages of the war, when public discourse focused mainly on acute traumatic events and

mobilisation narratives, in 2025, there was a shift towards reflection on the long-term psychological consequences of the war, in particular, exhaustion, apathy, anxiety, and emotional numbness. It is in the conditions of prolonged military confrontation that digital communications, in particular, memes, begin to perform not only a compensatory or emotional discharge function but also become a space for everyday understanding of psychological states, including through irony and self-irony (Khraban, 2022; 2023). As a result of the study, the formation of stabilised discursive practices for discussing mental health problems was established, which appear not as a reaction to a one-time crisis, but as a response to a long stay in conditions of uncertainty, danger, and social tension, while the analysis of memes shared during the study period showed that in the digital space there is a process of destigmatisation of psychological distress, within which the appeal to humour and informal language practices functions as one of the key mechanisms for adaptation and maintaining psychological stability. The results of the thematic analysis are shown in Table 1.

Table 1. Summarising the results of thematic analysis of memes about mental health

Thematic group	Characteristics of the thematic group	Destigmatising function	Examples
Normalisation of psychological distress as an everyday experience	Psychological distress is presented as a common and widespread condition, integrated into everyday life without sensationalism	Weakening of ideas about mental difficulties as a deviation from the norm; reducing external and internal stigmatisation	"My mental state at the end of the year – I was talking to myself... A fight broke out"; "You have to suffer a little to find the strength to suffer a little more"; "I'm living just in case everything works out"
Irony reflection of psychological states and symptoms	Psychological states and symptoms are interpreted through metaphor, hyperbole, and self-irony	Reducing the threatening nature of symptoms, rejecting the pathologisation of identity	"There are not two wolves inside me. Inside me, there are about five to ten Chihuahuas, and they take turns screaming and pissing themselves"; "I'm only 30+, but I've already achieved what not everyone achieves at 60+: back problems, knees that twist with the weather, forgetfulness, anxiety"; "Four out of five voices in my head want to sleep. The latter wants to know if penguins have knees"
Criticism of social expectations and productivity norms	Memes undermine the normative requirement for constant efficiency, self-development, and control	Legitimation of fatigue, exhaustion, and non-functionality; reduction of self-stigmatisation	"Work on myself is now at this stage: everything has been unearthed, half the area is without water, a couple of hard workers are smoking and looking thoughtfully into the pit, but in general, it is clear that by spring they will not do much"; "They ask me how I manage to keep up with everything. The secret is very simple – I don't"; "Today was a productive day – I ate a lot of food"
Discursive legitimization of seeking psychological help	The appeal to a psychologist, psychiatrist, and medical care is presented in a humorous, everyday way	Reducing fear and social taboos around professional care	"Hello, I need antidepressants! - Do you have a prescription? - Is the passport of a citizen of Ukraine no longer enough?"; "Should I see a psychiatrist? – I asked myself. Opinions are divided..."; "I went to the hairdresser's in the morning. I said that I wanted to get my head in order before the holidays. And they tell me: "That's not our job, go see a psychiatrist"
Collective identification	Individual psychological experiences are presented as a general experience of the group	Reducing feelings of isolation; forming a sense of belonging and support	"Who are we? – Passive-aggressive! – What do we want? – "You could have guessed!" – "When do we want it?" – "We don't want anything anymore!"; "Look, brain! I found a new joy to support myself in some way. – A new joy, huh? I'll give you half a dose of dopamine." – "Last time it was three!" – "Times change. Don't forget – we have depression"; "Someone: surround yourself with people with a similar mental state. My friends: "How much does your psychologist charge?"
Humour as a symbolic defence mechanism	Humour is used as a form of distancing from existential and psychological stress	Reducing the emotional threat of the topic of mental distress; maintaining agency status	"Sooner or later, everything will come true. But it will be too soon... or too late"; "Why is my life saturated only with carbohydrates?"

Source: compiled by the authors on the basis of *Psychology in memes* (n.d.), *Meme therapy* (n.d.)

In the analysed body of memes, the destigmatisation of people with mental health problems begins with the process of normalisation, that is, with the consistent inclusion of psychological distress in the space of everyday, socially recognisable, and collectively shared experience. Memes perform a key function of reducing stigma by undermining the perception of psychological difficulties as a deviation from the norm, an individual “malfunction” or a socially undesirable state. In the analytical dimension, normalisation is manifested through the use of descriptive strategies that do not appeal to the pathologisation of internal states and allow representing psychological distress outside the discourse of normative deviation. Memes avoid clinical or expert vocabulary and use everyday language that allows articulating a problem without labelling it as extreme. Thus, in the meme “people are afraid that I might tell someone their secrets... I try to remember why I opened the refrigerator”, cognitive distraction and reduced concentration are presented as a universal and socially recognisable experience. In the context of destigmatisation, this means shifting attention from assessing the condition to its social prevalence. It is important to emphasise that such normalisation is not limited to trivialising mental health problems. On the contrary, memes record the presence of trouble, but change the framework of its interpretation: experiences of fatigue, apathy, or cognitive overload appear as acceptable reactions to everyday and crisis conditions, instead of signs of personal failure. This shift in the interpretation framework reduces the pressure of social evaluation and, accordingly, reduces the risk of self-stigmatisation. An additional mechanism of normalisation is the collectivisation of experience, in which individual experiences are presented as typical for many. Memes involve the audience’s recognition of the described states, and therefore their rejection as grounds for social distancing. This contributes to the formation of a symbolic “we”, within which mental health problems cease to perform an isolating function. In the context of destigmatisation, this effect is particularly significant, since stigma is largely based on feelings of loneliness and social exclusion. From a methodological standpoint, normalisation in memes should be considered as the first and necessary stage of destigmatisation. It creates prerequisites for further forms of rethinking, providing for public, albeit indirect, statements about psychological distress. In the context of the war in Ukraine, where the experience of chronic stress is widespread, normalisation through memes contributes to the formation of a more tolerant and empathic social perception of psychological difficulties as a component of collective experience.

If normalisation makes psychological distress socially acceptable, then ironic reflection of subjective States takes destigmatisation to the next level – the level of symbolic control and active rethinking. In the analysed corpus of memes, anxiety, emotional instability, obsessive thoughts, and internal tension are understood through self-mockery, absurdity, and hyperbole, enabling their articulation publicly without accepting a stigmatised identity. A typical example is the meme “Four out of five voices in my head

want to sleep. The last wants to know if penguins have knees”. In this case, anxiety appears not as a dominant and threatening state, but as one of the elements of internal experience included in the ironic dialogue. In terms of destigmatisation, this means deirarchisation of the symptom: it ceases to be the central marker of “abnormality” and turns into an object of reflection. It is analytically important that the irony in memes is not aimed at denying or devaluing the experience. On the contrary, it captures their presence, but changes the way they are symbolically represented. Memes help distance oneself from the symptom, take it beyond the identity of the subject, and thus weaken self-stigmatisation. In contrast to discourse, in which psychological distress is understood according to the “I am” model, ironic reflection offers an “it happens to me” model. A comparison of memes from this group shows that irony also performs an important communicative function. It implies a common cultural code and a collective understanding, so that statements about psychological difficulties become socially safe. The audience does not expect confession or justification, but is involved in the recognition game. In this way, memes form a space where discussing mental health issues is possible without fear of judgment. From the point of view of the destigmatisation process, ironic reflection enhances the normalisation effect, translating it from passive recognition to active rethinking. While normalisation reduces social distance, irony reduces the symbolic threat associated with the very fact of recognising the problem. In the context of the war in Ukraine, where direct expression of vulnerability can be perceived as socially risky, irony appears as an adaptive cultural tool that allows addressing anxiety, fatigue, and internal tension indirectly, but publicly.

The third thematic group of memes presents a critical rethinking of social norms of productivity, self-regulation, and functionality as an important tool for destigmatising mental health problems. In the analysed body of memes, these norms appear not as something neutral, but as an active source of self-stigmatisation since they form the expectation of constant activity, emotional stability, and the ability to “overcome difficulties” regardless of circumstances. Memetic discourse systematically undermines these expectations, thereby weakening the link between psychological distress and negative moral assessment of the individual. From the standpoint of destigmatisation processes, it is fundamentally important that the memes of this group shift the explanation of the problem from the individual level to the social one. In the meme, “Work on myself is now at this stage: everything has been unearthed, half the area is without water, a couple of hard workers are smoking and looking thoughtfully into the pit, but in general, it is clear that by spring they will not do much”, irony is directed at the discourse of “constant work on yourself” instead of the subject. Psychological difficulties are symbolically legitimised here as a supposed consequence of chaotic, prolonged, and unstructured demands, rather than as a sign of personal inefficiency. An analytical comparison of the memes of this group shows that

performance criticism serves the function of disarming stigma. While stigmatising discourse links a person's value to their performance, memes consistently break that connection. Fatigue, decreased activity, and emotional exhaustion no longer need to be justified through achievement and begin to be understood as socially acceptable states. Thus, memes not only record problems but also rethink the criteria for social "normality". An important element of destigmatisation is also the undermining of the imperative of duty, which often underlies self-stigmatisation. In the analysed memes (at the level of repeated meanings, without direct citation), there is a stable motif of conflict between the internal state and the external demand "it is necessary". Ironic distancing from this imperative allows the subject to abandon the internalisation of guilt for not meeting expectations, which reduces the level of self-stigmatisation and emotional pressure. Comparing this strategy with previous thematic groups, it can be noted that criticism of performance standards enhances their destigmatising effect. Normalisation of psychological distress gets a social explanation, and ironic reflection of symptoms gets a structural support. Memes cease to be just a form of individual expression and begin to function as a collective discourse of resistance to the stigma embedded in everyday social expectations. This mechanism of destigmatisation becomes particularly important in the context of the war in Ukraine. Chronic stress, instability, and the need for constant adaptation make regulatory requirements for effectiveness and emotional stability virtually unattainable. Memes that contradict the cult of resilience legitimise the right to reduced activity, psychological vulnerability, and temporary dysfunctionality. Thus, they contribute to the formation of a more flexible and empathic social perception of mental health problems, lowering the risk of both external stigmatisation and self-stigmatisation in a prolonged crisis.

The fourth thematic group reflects the process of destigmatisation associated with rethinking the request for psychological assistance as a socially acceptable and discussed practice. In the analysed corpus of text memes, the psychologist, psychotherapy, psychiatric care and medical support are transferred from the space of taboo and marginal in the sphere of everyday humorous utterance. This helps to reduce the symbolic burden that traditionally accompanies the topic of professional psychological assistance. It is analytically important that in the material of this thematic group, the request for help is not presented either as an absolute norm or as an object of imposition. Instead, memes capture the ambivalence, doubt, and resistance that accompany the very idea of contacting a specialist, thus socially legitimising these experiences. As such, in the statement "I'm not going to a psychiatrist, lest it turn out that now I have to buy pills as well", the request for help is problematised out of fear of consequences, and not out of denial of the very possibility of help. In the logic of destigmatisation, this reduces the pressure of normative expectations of the "right" attitude to therapy. A number of memes ironically make sense of the institutional

discourse of psychological assistance. In the example, "Hello, I need antidepressants! – Do you have a prescription? – Is the passport of a citizen of Ukraine no longer enough?", the object of irony is a bureaucratic procedure, while the need for support is presented as self-evident. Thus, there is a symbolic shift in focus: it is not the request for help itself that looks problematic, but the difficulty of accessing it. An important destigmatising mechanism is also the inclusion of psychological assistance in everyday narratives, rather than exclusively in crisis scenarios. In the meme "I went to the hairdresser's in the morning. I said that I wanted to get my head in order before the holidays. Psychological help is ironically equated with the practice of self-care, which reduces its symbolic distance from everyday life. Some of the memes demonstrate a critical attitude to the cultural expectation that seeking help should lead to a "change" of personality. In the meme, "I don't want to go to a psychotherapist because what if he cures me and I will lose my charisma", the irony is directed at the fear of losing one's identity. Within the framework of destigmatisation, this is fundamental since the meme does not deny help, but refuses to present it as a normalising or unifying mechanism. Notably, in memes of this thematic group, psychologists or psychotherapy often appear as elements of internal dialogue rather than external control. For example, in the meme "Psychologist: your sarcasm is an unconscious desire to offend people. – It is conscious..." therapeutic discourse is included in the game interaction, within which the subject retains agency and the right to ironic distance. This reduces the risk of self-stigmatisation associated with an apparent loss of autonomy. From the point of view of destigmatisation processes, this thematic group completes the logical chain started in the previous groups. Normalisation (thematic group 1) makes psychological distress socially acceptable, ironic reflection (thematic group 2) reduces the symbolic threat of symptoms, and discursive legitimization of assistance translates destigmatisation into the plane of potential action, without imposing it as mandatory. Memetic texts form a space in which seeking psychological support is possible without losing social status and without having to meet the normative expectations of the "right patient". In the context of the war in Ukraine, memetic discourse allows speaking of psychological assistance as an acceptable reaction to extreme conditions, and not as a sign of weakness.

The fifth thematic group of memes is associated with the formation of a collective identity, within which psychological distress is presented not as an individual deviation, but as a common, shared experience. The analysed corpus regularly uses generalised forms of utterance, dialogic constructions, and plural pronouns that create the effect of a symbolic community. The destigmatising potential of this strategy is to reduce social isolation and destroy the idea of psychological difficulties as a private, hidden problem of the individual. The meme "Who are we? – Passive-aggressive! – What do we want? – "You could have guessed!" – "When do we want it?" – "We don't want anything anymore!" is indicative. The dialogical form and use of the

collective “we” transform individual emotional states into signs of group identity, removing personal responsibility for their “abnormality”. It is important to note that collective identification in memes does not require direct self-identification as “a person with mental health problems”, but is based on indirect recognition. In this manner, in the meme “Someone: surround yourself with people with a similar mental state. My friends: how much does your psychologist charge?”, the psychological difficulties are presented as a group norm, not an exception. From an analytical point of view, the “we” effect performs a key anti-stigmatisation function, blurring the line between “normal” and “abnormal” and reducing the risk of self-stigmatisation.

The sixth thematic group of memes presents the use of humour as a form of symbolic protection in conditions of chronic stress and uncertainty. In the analysed corpus, humour does not serve as a denial or displacement of psychological problems, appearing as an alternative language for their expression, providing for addressing anxiety, depression, and emotional exhaustion without direct vulnerability. From the standpoint of destigmatisation, this strategy minimises the risk of social sanctions and makes statements about problems safer. Revealing is the meme “My mental state at the end of the year – I was talking to myself... A fight broke out”, in which the absurdisation of internal conflict translates a potentially threatening topic into a comic register. The meme does not negate psychological stress, but emphasises its intensity, while ensuring that the subject is distanced from stigmatising identification. A similar function is performed by the meme “There are not two wolves inside me. There are about five to ten Chihuahuas, and they take turns screaming and pissing themselves”, where hyperbole and zoometaphor reduce the symbolic threat of internal instability and replace the pathologising description with a figurative and ironic one. The humour in these memes is not aimed at making fun of mental disorders. On the contrary, it helps articulate experiences without requiring immediate empathy, explanation, or treatment. Analytically, humour as a symbolic defence does not directly eliminate stigma, but diminishes its impact on the level of everyday communication. Memetic texts create a space in which psychological difficulties can be voiced without the risk of moralisation or pathologisation, which is especially important in a war environment where open recognition of vulnerability is often perceived as socially undesirable. Thus, humour in memes functions as an adaptive cultural mechanism that provides psychological and symbolic stability. It complements other destigmatising strategies – normalisation, collectivisation, and ironic reflection – by forming a flexible and socially acceptable language for discussing mental health in a prolonged crisis.

The data obtained correlate with the conclusions of A.L. Stangl *et al.* (2019), who considered stigmatisation not only as a set of negative attitudes but as a complex social mechanism that forms barriers to access to support, recreates social inequality, and influences behavioural strategies in crises and armed conflicts, proposing a conceptual model

of stigma as a dynamic interaction of cognitive representations, interpersonal practices, and structural conditions, and emphasising that its reduction to the individual level ignores the institutional dimension of this phenomenon. In the course of the study, it was confirmed that internet memes can perform a destigmatising function in relation to psychological distress, thereby specifying the mechanisms of this influence in a protracted war. In contrast to much of the previous research, which focused mainly on the entertaining or emotionally draining potential of memes, the analysis demonstrates their role as an everyday discursive tool for understanding mental vulnerability. M. Dynel & F.I.M. Poppi (2023) viewed memes as a form of digital humour that promotes the formation of temporary communities through shared recognition of ironic codes. The authors stressed the communicative function of humour, but do not analyse its impact on stigmatisation processes. The results obtained in this study extend these findings, showing that shared recognition of psychological states in memes both creates a sense of group affiliation and reduces the symbolic threat associated with recognising psychological difficulties. As a result, memes become not only a means of constructing intra-group identity but also an effective discursive tool for weakening self-stigmatisation. In the context of discussing memes as tools for forming and rethinking socially significant topics in digital public communication, the findings of M.-G. Mihăilescu (2024) are indicative, having considered the self-reflection of meme creators as new actors in public communication. Meme creators are aware of their ability to shape narratives, influence collective perceptions, and set the agenda, viewing memes as tools of social influence and symbolic mobilisation rather than just as humorous products. Although the paper of M.-G. Mihăilescu focuses on political communication in the Romanian socio-political context, and its results are methodologically and conceptually important for interpreting the data obtained in this study. In particular, meme creators’ conscious ability to teach, interpret, and persuade memes correlates with the role of memetic texts identified in this study in creating a socially acceptable discourse on mental distress. In the analysed Ukrainian-speaking communities, memes also function as a means of rethinking sensitive topics through irony and strategic framing, but instead of political mobilisation, they are aimed at reducing the symbolic threat of psychological vulnerability. It is important that M.-G. Mihăilescu underscores the ethical reflexivity of meme creators and their awareness of the risks of manipulation and misinformation. This observation is consistent with the results of this study, where humour in memes does not serve as a devalue or propaganda function, but rather acts as a tool for responsible symbolic mediation between individual experience and collective understanding. S. Merrill *et al.* (2024) dedicated their study to analysing the role of taboos and breaking taboos in the internet memes of the r/DankLeft community, which is also valuable for interpreting the emotional and discursive potential of memes. Based on a combination of thematic analysis, multimodal critical discourse analysis,

and computerised analysis of the emotional response of comments, the authors show that taboo and taboo-destructive memes systematically elicit more intense affective responses and correlate with higher popularity scores. Although the study concentrates on a political memetic context, its results are of conceptual value for understanding the mechanisms of meme influence in a broader field of socially significant topics. In comparison with the data obtained, this clarifies that the emotional intensity of memes can be caused not just by the violation of political or cultural taboos but also by the delicate articulation of socially sensitive experiences. Unlike r/DankLeft, where taboo destruction is often used as a strategy of mobilisation and confrontation, the analysed Ukrainian-language memes about mental health show a different logic: they reduce emotional tension through irony and normalisation, without turning into a provocative violation of taboos. However, the results of S. Merrill *et al.* confirmed the more general conclusion that memes are affectively saturated discursive forms that can intensify collective emotional responses. This correlates with the function of humour identified in the study as a symbolic defence mechanism that activates the audience's emotional involvement without escalating conflict or stigmatisation. The results obtained in this study partially confirm the conclusions of the cognitive-anthropological analysis of E. Godwin *et al.* (2025), in which internet memes are interpreted as cultural representations that perform a stabilising function in online communities. An analysis of Ukrainian-language memes on Facebook showed that repeated memetic forms contribute to maintaining collective cohesion and reducing symbolic tension in conditions of prolonged social instability. The data obtained clarify these conclusions, demonstrating a different orientation of the stabilising function of memes. While in the conspiracy communities analysed by E. Godwin *et al.*, memes contribute to the consolidation of rigid worldview schemes and the internal border between "us" and "others", in the Ukrainian-speaking communities under study, memes about mental health perform the opposite function—they contribute to the normalisation of psychological vulnerability and the weakening of stigmatised ideas about mental distress. Thus, a comparison of the results showed that the stabilising potential of memes is confirmed in different social contexts, while its social consequences depend on what cultural meanings and norms are reproduced in memetic discourse.

◆ Conclusions

The stigmatisation of mental health in the conditions of war in Ukraine is a multi-level social process that covers external (social and structural) stigmatisation and self-stigmatisation and greatly limits the readiness of both military personnel and civilians to recognise psychological vulnerability and seek help. In the context of mass traumatic experiences, stigma becomes particularly acute, as expectations of psychological stability, self-control, and functionality are reinforced and transformed into a regulatory requirement. The results demonstrated that memes

on the Facebook social network function as a substantial resource for destigmatising mental distress. They form an alternative communicative space in which psychological difficulties can be articulated outside of clinical, moralising, or pathologising discourse. This is especially important in a war situation where access to institutional forms of psychological assistance is limited, and public recognition of vulnerability remains socially sensitive. The identified thematic groups of memes demonstrated that destigmatisation is implemented through a set of interrelated strategies. Normalisation of psychological distress translates anxiety, fatigue, and emotional exhaustion into the category of socially acceptable and shared experiences. Ironical reflection of symptoms reduces their symbolic threat, allowing for distancing oneself from the experience without denying it. Criticism of the norms of productivity and self-regulation undermines the moral link between the value of the individual and its functionality, thereby weakening the mechanisms of self-stigmatisation. Of particular importance is the discursive legitimisation of seeking psychological help, presented in memes as a possible, discussed, and ambiguous practice that does not require the rejection of autonomy or identity. Memetic discourse does not impose therapy as a normative solution, but reduces the symbolic barriers surrounding the very idea of help. The formation of collective identification through the pronoun "we" and dialogic constructions destroys the logic of isolation underlying stigma and promotes a sense of symbolic solidarity. Humour, in turn, serves as a symbolic defence, providing a socially safe language for expressing vulnerability in conditions of chronic stress. Thus, memes in social networks can be considered not only as a form of entertainment but also as an element of everyday cultural regulation of mental distress. They help reduce both external stigmatisation and self-stigmatisation, forming a more flexible, empathic, and inclusive perception of psychological difficulties. It was proved that in the context of the war in Ukraine, memetic practices acquire special social significance, acting as an accessible mechanism for destigmatisation of mental health in the digital public space. A promising area of further research is the expansion of the empirical base through the analysis of memes of other language segments and social platforms, in addition to the comparison of memetic discourse with institutional communications in the field of mental health. Special attention should be paid to the examination of the perception of memes by different social and age groups and the analysis of changes in their destigmatising potential at different stages of the war and in the post-war period.

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Від стигми до норми: репрезентація ментального здоров'я в Україні в умовах війни в межах соціальної мережі Facebook

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✦ **Анотація.** У статті представлено дослідження інтернет-мемів як форми цифрового дискурсу, що відіграє важливу роль у дестигматизації проблем ментального здоров'я в умовах затяжної війни в Україні. Актуальність роботи зумовлена зростанням психологічного навантаження на населення та необхідністю пошуку неформальних, соціально прийнятних способів осмислення й вербалізації психологічного неблагополуччя. Метою статті було виявлення дестигматизуючого потенціалу мемів українськомовного сегмента соціальної мережі Facebook та характеристика комунікативних стратегій, за допомогою яких вони сприяють прийняттю й осмисленню проблем ментального здоров'я в умовах війни. Емпіричний матеріал становив корпус із 114 текстових мемів, зібраних у двох загальнодоступних Facebook-спільнотах – Psychology in memes, Meme therapy – у 2025 р. Дослідження ґрунтувалося на застосуванні рефлексивного тематичного аналізу, який дозволив ідентифікувати повторювані семантичні патерни, дискурсивні стратегії та латентні смисли в репрезентації психологічного неблагополуччя. Аналіз зосереджувався виключно на вербальному компоненті мемів. Результати дослідження показали, що меми формують соціально безпечний дискурс обговорення проблем ментального здоров'я. У його межах виокремлено такі провідні стратегії: нормалізація психологічних труднощів як складника повсякденного досвіду; іронічна та самоіронічна рефлексія симптомів; критика соціальних норм продуктивності й емоційної саморегуляції; дискурсивна легітимація звернення по психологічну допомогу без її нормативного нав'язування; формування колективної ідентифікації через інклюзивні мовні конструкції; використання гумору як механізму захисту в умовах хронічного стресу. Встановлено, що гумор не знецінює психологічні проблеми та психічні розлади, а знижує їхню символічну загрозу, послаблює процеси самостигматизації та сприяє відчуттю соціальної солідарності. Отримані результати засвідчили, що інтернет-меми в соціальних мережах виконують не лише розважальну, а й соціокультурну регулятивну функцію, підтримуючи психологічну адаптацію та стійкість спільнот в умовах тривалої суспільної кризи й обмеженого доступу до формалізованих ресурсів психологічної допомоги

✦ **Ключові слова:** меметичні цифрові практики; соціальна маргіналізація; мережева комунікація; гумор; психологічне неблагополуччя

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