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Psychological maladaptation of youth: A continuum-based approach**Iryna Varis***

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Abstract. The study is determined by the growing manifestations of psychological instability among young people during the transition to adulthood and the fragmented nature of contemporary scholarly approaches to explaining psychological maladaptation in this age period. Increased variability in psychological functioning under conditions of intensive developmental changes, social uncertainty, digital transformation of interpersonal interaction, and rising social expectations highlights the need for an integrative conceptual approach capable of combining individual and contextual determinants. The purpose of the article was to refine the concept of psychological maladaptation in youth and to substantiate a continuum approach to its understanding. The study was based on a theoretical and conceptual design involving systematic analysis, comparison, and synthesis of contemporary interpretations of maladaptation, as well as interpretation of empirical findings concerning psychological functioning in early adulthood. A conceptual synthesis of perspectives on the interaction between individual-dispositional characteristics, self-regulation resources, and socio-psychological contexts was conducted. An authorial definition of youth psychological maladaptation has been formulated as a processual, non-clinical, and gradational phenomenon arising from a mismatch between developmental challenges and available personal resources together with supportive environmental conditions. The continuum of psychological functioning “adaptation – strained adaptation – maladaptation” has been substantiated, allowing avoidance of both pathologising normative age-related difficulties and underestimating their significance. Theoretical approaches to explaining maladaptation have been systematised and their specificity in youth has been clarified. The practical value of the study lies in providing a theoretical basis for operationalising criteria of the psychological functioning continuum, developing tools for early identification of strained adaptation, and designing preventive psychological support programmes for youth under conditions of social instability

Keywords: strained adaptation; emerging adulthood; individual-dispositional factors; socio-contextual determinants; self-regulation; psychological well-being in youth

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Introduction

The transition to adulthood is one of the most psychologically demanding periods in human development. Young people increasingly face an unprecedented combination of challenges: accelerating social change, digitalisation of interpersonal communication, economic uncertainty, and mounting social expectations regarding professional and personal achievement. These conditions collectively heighten the risk of psychological maladaptation among youth – a phenomenon that, despite its growing prevalence, remains insufficiently understood due to the fragmented nature of existing theoretical frameworks. Addressing this gap requires an integrative conceptual approach that captures both individual and contextual determinants of maladaptation within a unified explanatory model.

J. Wirkner & E.-L. Brakemeier (2024) documented rising rates of emotional instability, anxiety, difficulties in self-regulation, and uncertainty regarding life trajectories among individuals in the emerging adulthood age group. This developmental period is marked by intensive personal and social transformations that place considerable demands on adaptive capacities (Lancôt & Poulin, 2024). At the same time, B.J. Clarke (2024) demonstrated that the development of self-compassion and social support substantially shapes life satisfaction and psychological well-being among young adults. Contemporary research indicates that psychological difficulties in youth cannot be attributed solely to situational factors. W. Bleidorn *et al.* (2021) drew attention to individual-dispositional characteristics, particularly the stability and change of personality traits during early adulthood. A decade-long review of identity development conducted by S. Branje *et al.* (2021) further confirmed that this period is associated with heightened variability in self-concept and emotional regulation. Additionally, A. Mushtaq *et al.* (2022) found that psychological maladaptation may mediate the relationship between personality characteristics and subjective well-being in young adults.

An additional dimension of the problem emerges from the digital environment, which has become an integral part of young people's socialisation. A.M. Khalaf *et al.* (2023), in a systematic review, revealed a complex and inconsistent relationship between social media use and mental health outcomes. Furthermore, L. Fassi *et al.* (2025), drawing on large-scale samples, showed that the impact of digital platforms varies depending on the presence of psychoemotional difficulties and is not universally negative. These findings reinforce the need to understand maladaptation as the product of an interaction between individual and socio-contextual factors. The educational and regulatory context of young people's lives warrants particular attention. K. Elizondo *et al.* (2023) found that self-regulation difficulties, procrastination, and motivational control deficits correlate with indicators of psychological

instability among university students. Thus, adaptive difficulties manifest not only in emotional well-being but also in academic and professional functioning. Within contemporary Ukrainian psychological scholarship, N. Prorok *et al.* (2021) emphasised the importance of terminological precision, distinguishing between adaptation as a process, maladaptation as a state, and clinical adjustment disorders. I. Orlenko (2023) highlighted social maladaptation as a multi-component phenomenon shaped by both internal and external factors. V. Sodolevska (2025), in a randomised controlled trial conducted in Ukraine, demonstrated that targeted psychological interventions aimed at strengthening resilience effectively reduced maladaptive symptoms among war-exposed young adults. However, a review of the existing literature reveals that, despite a substantial body of empirical research, the integration of diverse theoretical approaches to explaining psychological maladaptation, particularly among young people, remains insufficiently conceptualised.

A fragmentation of approaches thus characterises the field as of the mid-2020s. Some studies focus on personal determinants, others on social or digital contexts, yet an integrative model accounting for the interaction of these factors within a continuum-based understanding of maladaptation remains underdeveloped. The purpose of this article was to refine the concept of psychological maladaptation in youth and to construct an integrative conceptual model of its explanation, incorporating individual-dispositional and socio-contextual factors within a continuum-based approach. To achieve this aim, the study systematically analyses contemporary theoretical approaches, compares empirical findings on psychological functioning during emerging adulthood, and synthesises these perspectives into an integrative explanatory framework.

Materials and Methods

This study adopted a theoretical and conceptual design, aiming to refine the concept of psychological maladaptation in youth and to construct an integrative explanatory model within a continuum-based framework. The study involved no primary empirical data collection; instead, it drew on scholarly publications in personality psychology, developmental psychology, social psychology, and mental health psychology. The literature search employed the following academic databases: PsycINFO, Scopus, Web of Science, PubMed, and Google Scholar, as well as open-access scholarly resources. Publications from 2000 to 2025 were considered, with priority given to works published between 2014 and 2025. Classical foundational works published before this period were included, where they established the conceptual basis for contemporary theoretical frameworks. The search was conducted using the following keywords in both Ukrainian and English: psychological maladaptation,

emerging adulthood, dimensional approach, mental health, social context, digital environment, identity development. The analysis incorporated peer-reviewed journal articles, systematic reviews, meta-analyses, and conceptual works relevant to the research problem. Source selection criteria included relevance to the research problem of psychological maladaptation and development during emerging adulthood, a clearly described methodology for empirical studies, publication in peer-reviewed scholarly journals, and conceptual significance for the construction of the integrative model.

The study comprised four interrelated stages, each building upon the findings of the preceding one. The first stage involved a theoretical analysis and systematisation of existing approaches to interpreting psychological maladaptation, encompassing the stress-adaptive, developmental, socio-contextual, and personality-dispositional perspectives. Through theoretical analysis and comparison, the explanatory priorities and conceptual limitations of each approach were identified. This systematisation established the analytical framework for the subsequent stage by defining the key dimensions – individual-dispositional and socio-contextual – along which empirical evidence would be examined. The second stage entailed a comparative study of current empirical data on the characteristics of psychological functioning during emerging adulthood. Drawing on the theoretical framework developed in the first stage, the method of interpretation of scholarly data was applied to examine how contemporary research reflects the identified dimensions of maladaptation. This stage clarified empirical trends, confirmed the multi-determined nature of maladaptation in youth, and provided the evidential basis for moving toward an integrative synthesis. The third stage involved a conceptual synthesis of the findings accumulated across the preceding stages. Using the method of generalisation and conceptual modelling, a generalised model of the interaction between individual and socio-contextual factors of maladaptation was constructed (Table 1; Figure 1). The logic of this transition was grounded in the recognition that neither individual-dispositional nor socio-contextual approaches alone were sufficient to account for the full range of maladaptive manifestations in youth, thereby necessitating their integrative combination within a continuum-based framework. The concluding stage employed theoretical synthesis to develop an original definition of youth psychological maladaptation and to substantiate its continuum-based nature. This definition was formulated based on the conceptual positions analysed across all preceding stages and in direct response to the identified gap in existing frameworks.

The chosen methodological strategy ensured transparency in the analytical procedure. It allowed the study's logic to be reproduced, enabling other researchers to replicate the selection and interpretation

of sources under analogous conditions. The present study acknowledges certain limitations. Its theoretical nature does not permit definitive conclusions regarding the mechanisms of interaction between individual and social factors. Several aspects require empirical verification: the boundaries between stages of the continuum, the validity of the proposed maladaptation criteria for Ukrainian youth, and the role of protective factors, including self-compassion, social support, and digital literacy.

Results and Discussion

Conceptualisation of psychological maladaptation in youth: A processual and continuum-based perspective

In psychological theory and practice, the term “psychological maladaptation” refers to disturbances in personal functioning whereby an individual loses the capacity to engage productively with their environment and maintain inner stability under the pressure of external circumstances. Critically, this phenomenon extends beyond the medical paradigm: maladaptation does not equate to a psychiatric diagnosis. Instead, it constitutes a psychological state whose intensity and duration vary according to situational and individual factors. Against this background, psychology has developed a range of explanatory models that differ in their emphasis on the mechanisms underlying maladaptive states. Theoretical interpretations of maladaptation vary considerably in focus. Scholars working within the socio-psychological tradition, including J.J. Arnett *et al.* (2014), understood maladaptation as a conflict between the individual and the social environment when their interaction becomes unbalanced. B.E. Compas *et al.* (2017), by contrast, focused on deficits in emotional control and the ineffectiveness of stress-coping strategies. A third analytical direction – the personality-typological – is represented in the work of W. Bleidorn *et al.* (2021), who located explanations in stable, person-specific psychological characteristics that shape responses to challenges.

The empirical base of maladaptation research reveals its multifaceted nature. D. Raccanello *et al.* (2023), in a meta-analysis covering data on children and adolescents – early age groups in which foundational coping patterns develop – identified a clear pattern: those who actively seek problem solutions and turn to others for support adapt more successfully, whereas a tendency to avoid difficulties or passively await their resolution correlates with maladaptive states. A. Mushtaq *et al.* (2022) found that maladaptation functions as a mediator between personality characteristics and subjective life satisfaction among young adults. R.P. Rohner *et al.* (2019) found, in a cross-cultural study, that emotional rejection within the family leads to maladaptation regardless of the cultural context in which a person is raised. Ukrainian psychological scholarship has engaged with the problem of maladaptation alongside

international discourse, treating it as a multi-component phenomenon. A.M. Hrys & V.O. Holubnyuk (2016) interpreted it as the individual's response to socio-psychological tension arising from a mismatch between environmental demands and the resources available to the person. N. Prorok *et al.* (2021) emphasised terminological precision, calling for a clear distinction between adaptation as a process, maladaptation as a state, and clinical adjustment disorders. I. Orlenko (2023) examined the internal psychological mechanisms and interpersonal processes that constitute social maladaptation as a complex psychological construct.

A synthesis of the theoretical and empirical positions outlined above suggests that no single approach fully captures the phenomenon of maladaptation. Each illuminates a distinct aspect of the problem; however, explaining the specific nature of maladaptation in youth requires their integrative combination. This need formed the foundation for the original conceptualisation proposed in the present study. It is particularly relevant for a youth sample, where developmental tasks, social expectations, and individual traits frequently converge and mutually reinforce one another. Drawing on the conceptual positions analysed and on the age-specific characteristics of the group under study, the present article proposes an original definition. Youth psychological maladaptation is understood as a processual, non-clinical phenomenon arising from a mismatch between the challenges of the emerging adulthood stage and the individual-typological resources and coping strategies available to the person. This phenomenon manifests as a deterioration of psychological functioning across various life domains and displays a gradual character of expression. Understanding maladaptation as a distinctly youth-specific phenomenon is theoretically significant for several reasons. Emerging adulthood constitutes a period of heightened vulnerability precisely because developmental demands – identity formation, professional self-determination, establishment of intimate relationships – converge simultaneously, placing exceptional strain on adaptive resources that are still consolidating. Unlike other life periods, emerging adulthood combines normative instability with social expectations of autonomous functioning, creating conditions in which even moderate resource deficits may trigger maladaptive responses.

The proposed definition synthesises ideas from several theoretical traditions and highlights three key aspects. It establishes the non-clinical nature of the phenomenon, thereby precluding the erroneous

equation of normative adaptive difficulties with psychopathological states. It further reflects the dynamic relationship between age-specific developmental tasks – career path determination, formation of close relationships, and identity consolidation – and the individual's psychological profile. Crucially, it underscores the continuum-based nature of maladaptation, rejecting the view of it as a dichotomous category. The age-specific significance of this conceptualisation lies in the fact that young people are disproportionately represented at the intermediate stages of the continuum – strained adaptation – where difficulties are real and functionally impairing yet fall below clinical thresholds and therefore frequently go unrecognised and unsupported. This interpretation fundamentally reframes the way boundaries between normality and disturbance are understood. If maladaptation is processual in nature, it is more appropriately conceived not as a discrete category, but as a continuum of psychological functioning. This transition can be represented schematically as: adaptation → strained adaptation → psychological maladaptation. Such a continuum model serves a dual function: on the one hand, it guards against the unwarranted pathologisation of adaptive difficulties; on the other, it establishes a theoretical foundation for investigating risk factors, among which individual-typological characteristics assume particular significance during youth.

Systematisation of theoretical approaches to psychological maladaptation:

Stress, development, context, and personality

Conceptualising maladaptation as a processual, situationally conditioned, and multidimensional construct calls for a systematic review of the theoretical models that explain its genesis and dynamics. Contemporary psychological thought has moved away from the search for a single universal explanatory principle, instead offering a plurality of conceptual frameworks, each focusing on a particular cluster of determinants underlying disrupted adaptive functioning. These determinants span a broad spectrum – from stress load and normative developmental crises to the influence of the social environment and stable personality traits. The present study systematises theoretical perspectives on maladaptation according to their explanatory priorities. For analytical clarity, the study organises the approaches by their dominant explanatory factor: stress-adaptive, developmental, socio-contextual, and dispositional. Table 1 presents the results of this systematisation.

Table 1. Conceptual approaches to interpreting psychological maladaptation

Conceptual approach	Central constructs	Understanding of maladaptation mechanisms
Stress-Adaptive	Stress factors, coping strategies, self-regulatory capacities	Maladaptation emerges as a result of the breakdown of adaptive processes under conditions of chronic or intensive stress, leading to a weakening of coping strategy effectiveness and emotional regulation mechanisms

Table 1. Continued

Conceptual approach	Central constructs	Understanding of maladaptation mechanisms
Developmental	Normative crises, identity formation, age-related transformations	Maladaptive phenomena are interpreted as complications of normative ontogenesis, associated with identity destabilisation, transformation of social roles, and increasing emotional demands during particular life periods
Socio-Contextual	Social environment, interpersonal processes	Maladaptation is understood as a consequence of the disruption of equilibrium between the individual and the social environment, manifesting through conflictual interaction, alienation, and insufficient social support
Personality-Dispositional	Character traits, behavioural styles	Maladaptive states are linked to stable individual-psychological characteristics, typical response patterns, and personality traits that elevate the risk of disrupted adaptive functioning

Source: synthesised from the works of K. Lewin (1951), E.H. Erikson (1968), U. Bronfenbrenner (1979), R. Lazarus & S. Folkman (1984), P.T. Costa & R.R. McCrae (1992), H. Eysenck (1998), J.J. Arnett (2000), W. Bleidorn *et al.* (2021)

Within the stress-adaptive approach, maladaptation is understood as the breakdown of adaptive processes under chronic or intense stress. According to the transactional model of stress developed by R. Lazarus & S. Folkman (1984), adaptive disruption occurs when the individual's subjective perception of environmental demands exceeds their available coping capacities, resulting in a weakening of coping strategy effectiveness. Building on this logic, B.E. Compas *et al.* (2017) demonstrated that inflexible or ineffective coping strategies under prolonged stress can consolidate into stable maladaptive patterns – a tendency particularly pronounced in young people. From the perspective of the developmental approach, maladaptive phenomena are complications of normative ontogenesis that arise as individuals navigate developmental crises and transitions between life stages. E.H. Erikson (1968) regarded maladaptive states as the product of unresolved identity crises, while J.J. Arnett *et al.* (2014) identified a particular vulnerability during the emerging adulthood stage, characterised by the destabilisation of social roles, value ambivalence, and increasing emotional demands. Within this framework, maladaptation is not interpreted as a pathological condition but as a situational response to the complexities of developmental processes.

Within the socio-contextual approach, primary attention is directed to the role of the social environment in shaping psychological maladaptation. Drawing on K. Lewin's (1951) field theory and U. Bronfenbrenner's (1979) ecological model of development, maladaptation arises from disharmony between the individual and the social contexts in which they function. R.P. Rohner *et al.* (2019) empirically confirmed that a deficit of emotional support, interpersonal conflict, and experiences of social alienation substantially elevate the risk of maladaptive psychological states, particularly during youth and early adulthood. For young people specifically, the socio-contextual approach reveals how the simultaneous convergence of family expectations, peer group dynamics, and institutional demands creates a particularly dense field of potential maladaptive

triggers at a developmental stage when individual regulatory capacities are still consolidating. The absence or insufficiency of social support at this stage does not merely complicate adaptation – it may fundamentally alter the trajectory of personality development.

The personality-dispositional approach centres on individual psychological characteristics as factors predisposing individuals to maladaptation. Within this framework, stable personality traits, typical response patterns, and ways of making sense of experience are treated as central determinants of adaptive outcomes. The classical typological models of H.J. Eysenck (1998), together with the empirical findings of P.T. Costa & R.R. McCrae (1992), indicate that high neuroticism, impulsive behaviour, and emotional instability correlate with an elevated risk of maladaptation. These conclusions are supported by the work of W. Bleidorn *et al.* (2021), who demonstrated that the developmental trajectories of personality traits in young people substantially determine their resilience or susceptibility to maladaptive states.

A synthesis of the approaches presented in Table 1 allows psychological maladaptation to be conceptualised as a multi-determined phenomenon shaped by the interaction of individual and environmental factors. This perspective establishes a theoretical foundation for further analysis of personality characteristics as risk factors for psychological maladaptation, providing a natural transition to the following section of the study. Despite differences in explanatory emphasis, the approaches converge in acknowledging the situational and age-related conditionality of maladaptive states. It is therefore appropriate to proceed to an analysis of the characteristic manifestations of psychological maladaptation, specifically in youth. Young people display a heightened susceptibility to psychological maladaptation, driven by the convergence of developmental tasks, dynamic personality transformations, and mounting pressure from social expectations. Early adulthood requires individuals to define themselves across professional, interpersonal, and values-related domains, thereby intensifying adaptive strain. J.J. Ar-

nett *et al.* (2014) emphasised that the fluctuation of life trajectories and the instability of role repertoires characteristic of this developmental phase create fertile ground for maladaptive responses when internal or external supportive resources are insufficient. A central precondition for psychological maladaptation in youth is identity instability, manifesting through fluctuations in self-esteem, ambivalence regarding one's own potential, and uncertainty about life direction. S. Branje *et al.* (2021) demonstrated that identity formation during adolescence and early adulthood follows a non-linear dynamic and includes phases of temporary destabilisation, which can complicate psychological adaptation to shifting social demands.

A characteristic feature of maladaptive manifestations in young people is emotional instability combined with heightened sensitivity to social evaluation. Young adults display intense reactions to acceptance or rejection by significant others, giving rise to anxiety, emotional tension, and states of frustration. These patterns reflect age-related reorganisation of emotional reactivity and regulation systems, as highlighted by both L. Steinberg (2008) and L.H. Somerville (2013), who examined risk-taking behaviour in youth through a social neuroscience perspective, as well as by the synthesis of coping research offered by D. Raccanello *et al.* (2023), who drew attention to young people's vulnerability to emotional exhaustion under conditions of chronic stress. In the domain of interpersonal interaction, maladaptation may manifest as difficulties forming trusting relationships, instability in emotional attachments, oscillation between social withdrawal and excessive dependence on significant others, and the use of indirect or manipulative communication strategies. R.P. Rohner *et al.* (2019) demonstrated that psychological maladaptation functions as a mediator between early experiences of emotional rejection and subsequent social functioning and feelings of loneliness in adulthood.

In the academic and professional domain, maladaptive manifestations in young people are frequently associated with reduced organisational effectiveness,

difficulties in strategic planning, procrastination, and fluctuations in professional motivation. K. Elizondo *et al.* (2023) interpreted such phenomena as behavioural markers of strained adaptation or maladaptation in the context of growing autonomy and responsibility within the student environment. Crucially, maladaptive manifestations in youth often carry a latent quality, concealing themselves beneath normative age-related difficulties and thereby hindering their timely identification and correction. For this reason, the analysis of psychological maladaptation in young people requires integrating a developmental perspective with due consideration of individual-typological parameters and available social support resources.

The interaction of socio-psychological factors and personal resources in the formation of psychological maladaptation in youth

The maladaptive manifestations identified in young people do not arise in isolation, nor can they be reduced exclusively to individual developmental characteristics. Their genesis unfolds within a specific social environment in which the young person pursues personality development, professional self-determination, and the construction of interpersonal relationships. Psychological maladaptation takes shape not only under the influence of individual characteristics, but also as the product of a complex interaction between the person and their social context. In youth, this interaction reaches particular intensity, as social environments simultaneously serve as sources of support, bearers of demands, and potential stressors. Contemporary socio-psychological frameworks interpret maladaptation as a consequence of imbalance between the needs of the social environment and the individual's adaptive potential – a position consistent with K. Lewin's (1951) theoretical account of the interdependence of person and situation, as well as with U. Bronfenbrenner's (1979) ecological model of development. Figure 1 presents a schematic representation of the interaction between key socio-psychological factors and individual personal resources in the formation of psychological maladaptation.

Socio-Psychological factors	Interaction with the individual	Individual resources	Adaptive outcome
• family environment • educational context • social expectations • digital environment • social instability	• subjective perception of demands • available adaptive resources • level of social support	• self-regulation • response styles • coping strategies	• psychological adaptation • strained adaptation • psychological maladaptation

Figure 1. Interaction of socio-psychological factors and individual resources in the formation of psychological maladaptation

Source: compiled by the authors based on K. Lewin (1951), U. Bronfenbrenner (1979), R.P. Rohner *et al.* (2019), A. Mushtaq *et al.* (2022)

The model operates on the principle that socio-psychological factors – including family environment, educational context, social expectations, and the digital environment – do not directly determine maladaptive outcomes. Instead, their influence is mediated by the individual's available resources: self-regulation capacities, coping strategies, and personal resilience. When environmental demands exceed these resources, the individual moves along the continuum from adaptation toward strained adaptation and, potentially, toward more pronounced maladaptive states. Conversely, adequate personal resources can buffer the impact of adverse socio-contextual conditions, sustaining adaptive functioning even under significant external pressure. The interaction between these two dimensions is dynamic and bidirectional: personal resources shape how socio-contextual pressures are perceived and processed. At the same time, the quality of the social environment simultaneously influences the development and consolidation of those very resources.

To illustrate how this interaction operates in practice: a young person facing high academic pressure – a socio-contextual factor – may either develop effective time-management and help-seeking strategies, thereby maintaining adaptive functioning, or, in the absence of sufficient self-regulatory resources and social support, progressively move toward strained adaptation characterised by emotional exhaustion, procrastination, and motivational decline. Similarly, experiences of emotional rejection within the family environment may lead to maladaptive interpersonal patterns in adulthood when not buffered by the individual's capacity for self-compassion or access to alternative sources of support. These examples illustrate the conditional, resource-dependent nature of socio-contextual influences and underscore the explanatory value of the integrative model proposed in the present study.

Among the family determinants of psychological maladaptation in youth, parenting strategies, the quality of emotional contact, and the trajectory of support or rejection experiences play a central role. R.P. Rohner *et al.* (2019) demonstrated that a lack of emotional acceptance in the family environment correlates with elevated psychological maladaptation, which subsequently affects interpersonal relationships and emotional well-being. At the same time, N. Prorok *et al.* (2021) noted that family conditions do not exert a straightforward, deterministic influence, as the young person's adaptive resources substantially moderate their effects. The educational environment plays a significant role in the genesis of maladaptive manifestations, serving as a space for many young people of heightened expectations, competitive pressure, and social comparison. Academic overload, uncertainty about professional prospects, and the gap between expectations and actual capacities can lead to emotional exhaustion, anxiety, and a decline in motivation. S.D. Maksymenko (2016)

emphasised that it is the subjective interpretation of educational demands, rather than their objective intensity, that determines whether they function as a catalyst for development or for maladaptation.

Equally significant are the social expectations surrounding the necessity of achieving “success”, autonomy, and professional self-realisation within compressed timeframes. J.J. Arnett *et al.* (2014) noted that during early adulthood, social standards are frequently contradictory and unstable, which intensifies internal tension and complicates adaptive processes. Under conditions of uncertainty, young people are compelled to construct their own life trajectories independently, a circumstance that, in the absence of support, may facilitate maladaptive responses. The influence of the digital environment warrants separate consideration, as it has become an integral component of contemporary youth socialisation. Digital communication simultaneously expands opportunities for social interaction while heightening the risks of social comparison, identity fragmentation, and information overload. E. Kross *et al.* (2013) demonstrated that intensive social media use may be associated with elevated anxiety and reduced psychological well-being; however, these effects are not universal and are substantially shaped by individual strategies for using digital resources.

In the broader social context, psychological maladaptation among youth is exacerbated by social turbulence, economic uncertainty, and rapid societal transformation. S.D. Maksymenko (2016) emphasised that prolonged exposure to social instability elevates levels of existential anxiety and hinders the consolidation of a sense of life direction among young people. At the same time, even under identical external conditions, young people display heterogeneous adaptive trajectories. Critically, socio-psychological factors do not operate in isolation; the individual-typological parameters of the person mediate their influence on psychological maladaptation. Identical family, educational, or social conditions may produce either adaptation and personal growth or the formation of maladaptive states, depending on the individual's self-regulation capacities, response styles, and personal resources. It is precisely this interaction between social context and individual characteristics that establishes the theoretical foundation for further empirical investigation of psychological maladaptation in youth.

Comparison of the continuum model of psychological maladaptation in youth with contemporary empirical research: Risks and protective mechanisms

The interaction between individual and socio-contextual factors outlined above calls for examination alongside current empirical data on psychological functioning during emerging adulthood, particularly evidence bearing on continuum-based models and age-specific

risks and resources. A central theoretical question concerns the nature of maladaptation – whether it should be understood as a subclinical condition or as a form of variability within normative functioning. The present study adopts a continuum-based approach, which partially aligns with contemporary dimensional models of psychopathology. C. Monaghan & B. Bizumic (2023) highlighted the advantages of a continuum-based measurement of personality disorders over categorical approaches, emphasising its greater sensitivity to individual differences. This position directly supports the conceptual framework proposed in the present study. Like Monaghan & Bizumic (2023), it was argued that discrete categorical boundaries fail to capture the graduated nature of adaptive disruption, and that a spectrum model offers superior explanatory adequacy for youth populations specifically. Applying this logic to youth psychological maladaptation allows it to be described as a spectrum of states, ranging from relatively stable adaptation to strained functioning to more pronounced maladaptive manifestations. This approach guards against both the excessive pathologisation of age-related difficulties and their underestimation.

Accepting the continuum-based nature of psychological functioning naturally raises the question of how this continuum manifests during emerging adulthood. Current empirical research provides grounds for identifying heightened vulnerability in this particular age group. J. Wirkner & E.-L. Brakemeier (2024), in a longitudinal study, demonstrated that even in the absence of clinical diagnoses, a considerable proportion of young adults experience persistent symptoms of anxiety and depression, which may be interpreted as manifestations of strained adaptation. The trajectory of indicators across multiple waves of the study indicates instability in psychological well-being during this developmental period, confirming the processual nature of maladaptation. These findings are consistent with the present study's conceptualisation of strained adaptation as a distinct, functionally significant stage of the continuum – one that is empirically detectable yet falls below clinical thresholds. The longitudinal instability documented by J. Wirkner & E.-L. Brakemeier (2024) corroborates theoretical claim that maladaptation in youth is a process rather than a static state.

Emerging adulthood cannot, however, be regarded as a period of heightened risk in any straightforward sense. J. Lanctôt & F. Poulin (2024), examining cumulative life transitions, revealed their ambivalent nature: multiple changes may simultaneously intensify psychological burden and stimulate the development of autonomy and adaptability. This ambivalence aligns with and further refines the present model: the proposed continuum is not unidirectional, and movement toward strained adaptation does not inevitably progress toward maladaptation. Lanctôt & Poulin's (2024) findings support the emphasis on the resource-dependent

nature of adaptive outcomes, reinforcing the theoretical centrality of protective factors within the proposed framework. In this context, B.J. Clarke's (2024) findings are particularly significant: self-compassion and social support buffer the impact of psychological distress on life satisfaction. B.J. Clarke's (2024) results converge with the present study's theoretical position that socio-contextual resources – particularly social support – function not merely as correlates of well-being but as active moderators of maladaptive trajectories. The picture, therefore, concerns not only the presence of risks, but equally the potential of protective mechanisms.

Conditions of social unrest – most notably the ongoing war in Ukraine – may substantially reshape the structure of risks and resources available to young people, making empirical validation of the proposed model in the Ukrainian context both necessary and urgent. The role of the digital environment warrants separate analysis. A.M. Khalaf *et al.* (2023), in a systematic review, identified a link between social media use and indicators of depression and anxiety in young people, yet emphasised its heterogeneous nature. L. Fassi *et al.* (2025), in a larger-scale study, demonstrated that the relationship between social media activity and mental health depends substantially on individual differences and prior psychological state. Both findings are consonant with the integrative logic of the present study: rather than treating the digital environment as an independent causal factor, the proposed model positions it as a moderating context whose effects are contingent on the individual's dispositional resources and prior psychological state. This interpretation diverges from simpler causal accounts of social media harm and aligns with the interactionist framework developed throughout the present article. The digital environment thus functions more as a moderator or catalyst of pre-existing vulnerabilities than as an independent cause of maladaptation. The issue of maladaptation becomes particularly salient in the context of stressful events and crisis-driven change. D. Raccanello *et al.* (2023), in a meta-analytic study, demonstrated that the effectiveness of coping strategies is directly associated with the level of psychological adaptation. In contrast, avoidance and passive responses correlate with maladaptive states. In this regard, C. Monaghan & B. Bizumic (2023) argued against rigid distinctions between normality and pathology, instead proposing a continuum-based approach to understanding psychological functioning.

The findings of the present study, taken together, point to several interconnected theoretical conclusions. Psychological maladaptation in youth is best understood not as a discrete clinical category but as a graduated, processual phenomenon shaped by the dynamic interaction of individual-dispositional characteristics and socio-contextual conditions. The continuum model – adaptation → strained adaptation → maladaptation – provides a theoretically coherent and empirically

grounded framework for capturing this gradation, avoiding both the pathologisation of normative developmental difficulties and their dismissal. The systematisation of stress-adaptive, developmental, socio-contextual, and personality-dispositional approaches demonstrates that no single theoretical perspective suffices to account for the full complexity of maladaptive phenomena in this age group; an integrative framework is therefore both justified and necessary. The practical implications of these conclusions extend to the operationalisation of continuum criteria, the development of early identification tools for strained adaptation, and the design of preventive psychological support programmes tailored to the specific conditions of social instability facing Ukrainian youth.

Conclusions

The theoretical and conceptual study conducted has allowed for refining the concept of youth psychological maladaptation and delineating its place within contemporary scholarly discourse. The findings demonstrate that maladaptation defies reduction to a clinical disorder or an isolated personal deficit. It emerges as a multidimensional, processual phenomenon shaped by the interaction between individual dispositional characteristics and socio-contextual developmental conditions. An analysis of current empirical research reveals that the period of emerging adulthood displays heightened variability in psychological functioning. Identity instability, the intensity of social expectations, the cumulative nature of life transitions, and the influence of the digital environment create conditions for both personal growth and strained adaptation or maladaptive states. Maladaptation in this context represents not a universal consequence of age-related transformations, but rather the outcome of a convergence of risk factors and a deficit of adaptive resources. The continuum-based approach to understanding psychological

maladaptation has been theoretically substantiated. The proposed model – adaptation → strained adaptation → maladaptation – allows for avoiding both the excessive pathologisation of normative age-related difficulties and their dismissal. The continuum-based logic aligns with contemporary dimensional approaches in personality and mental health psychology, opening the possibility of a more flexible interpretation of the boundaries between normality and disturbance.

The study has produced an integrative conceptual model of the interaction between individual and socio-psychological factors of youth maladaptation, bringing together the stress-adaptive, developmental, socio-contextual, and personality-dispositional approaches. This synthesis establishes a theoretical foundation for further empirical analysis of the mechanisms of maladaptation and their specific manifestations within the contemporary Ukrainian socio-cultural context. The proposed integrative framework thus offers both a theoretically grounded reconceptualisation of youth psychological maladaptation and a foundation for evidence-based preventive practice. Future research should focus on the empirical validation of the proposed model on samples of Ukrainian youth, the operationalisation of continuum criteria, and the development of practically oriented psychological support programmes that account for the specific features of the contemporary Ukrainian socio-cultural context.

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Conflict of Interest

None.

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Психологічна дезадаптація молоді: континуальний підхід

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Анотація. Актуальність дослідження зумовлена зростанням проявів психологічної нестабільності у молоді в період становлення дорослості та фрагментарністю сучасних наукових підходів до пояснення психологічної дезадаптації в цьому віці. Підвищена варіативність психологічного функціонування в умовах інтенсивних розиткових змін, соціальної невизначеності, цифровізації міжособистісної взаємодії та зростання соціальних очікувань актуалізує потребу в інтегративному концептуальному підході, здатному поєднати індивідуальні й контекстуальні чинники. Метою статті було уточнення змісту поняття психологічної дезадаптації молоді та обґрунтування континуального підходу до її розуміння. Методологічною основою дослідження виступив теоретико-концептуальний дизайн, що передбачав системний аналіз, порівняння й узагальнення сучасних підходів до інтерпретації дезадаптації, а також інтерпретацію емпіричних даних щодо особливостей психологічного функціонування у період ранньої дорослості. Здійснено концептуальний синтез уявлень про взаємодію індивідуально-диспозиційних характеристик, ресурсів саморегуляції та соціально-психологічних контекстів. У результаті сформульовано авторське визначення психологічної дезадаптації молоді як процесуального, неклінічного та градуального явища, що виникає внаслідок невідповідності між розвитковими викликами й наявними особистісними ресурсами та підтримувальними можливостями середовища. Обґрунтовано континуум психологічного функціонування «адаптація – напружена адаптація – дезадаптація», який дозволяє уникнути як патологізації нормативних вікових труднощів, так і їх знецінення. Систематизовано теоретичні підходи до пояснення дезадаптації та конкретизовано їх специфіку у молодіжному віці. Практична цінність дослідження полягає у створенні теоретичного підґрунтя для операціоналізації критеріїв континууму психологічного функціонування, розроблення інструментів ранньої діагностики напруженої адаптації та проєктування програм превентивної психологічної підтримки молоді в умовах соціальної нестабільності

Ключові слова: напружена адаптація; становлення дорослості; індивідуально-диспозиційні чинники; соціально-контекстуальні детермінанти; саморегуляція; психологічне благополуччя молоді

Personality sensory restructuring of forced migrants: Neuropsychology and psychotherapy of adaptation

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Abstract. The aim of the article was to examine the features of sensory adaptation in forcibly displaced Ukrainians, drawing on data from neuropsychology and psychotherapeutic practice. The study employed critical analysis to compare group outcomes with published evidence, psychoeducational and stabilization techniques during meetings with respondents, analytical observation and systematization methods to describe participants' reactions and changes, as well as Hedges' *g* calculations to assess effect sizes. At the initial stage of therapeutic work, respondents demonstrated impairments in predictive brain mechanisms, including decreased concentration, intensified shame associated with reduced personal autonomy, diminished cognitive flexibility and episodic memory, and a tendency toward isolation. A review of the literature indicated that the most effective approach for restoring these mechanisms is the multimodal stimulation framework, integrating visual, auditory, and tactile inputs. Observations revealed that approximately 70% of participants, before therapy, and about 25% afterward, exhibited elevated spatial-cognitive dissociation, indicating an initial disruption in the accurate processing of sensory signals. Among temporarily displaced individuals, muted or absent dreaming reflected a reduction in one of the key neuropsychological mechanisms for processing adverse experiences. Lateral neurophysiological differences between the mother's and adolescent child's brain functioning, under conditions of maternal anxiety, may contribute to the development of OCD-like symptoms in the child. Overall, the sensory adaptation of displaced individuals shows notable parallels with early developmental processes during the first 3–24 months of life, underscoring the depth and complexity of this reorganization. The practical significance of the findings lies in providing a foundation for developing sensory-informed therapeutic strategies and psychosocial support protocols for Ukrainian displaced persons

Keywords: dissociation; thalamocortical pathways; neuroplasticity; traumatic experience; psychosomatics; sensory integration

Introduction

Forced population displacement caused by the war in Ukraine generated unprecedented challenges for understanding the psychological (emotional adaptation, socialisation, stress resilience, etc.) and neuropsychological (cognitive regulation, sensory adaptation, etc.) processes of adaptation among internally displaced persons and refugees. Unpredictable migration created extremely complex conditions for the psyche and intensified sensory prediction errors. The discrepancy between expected and actual sensory or cognitive outcomes constituted a key element of adaptive processes, the formation of new behavioural patterns, and emotional regulation.

Sensory reorganisation of the personality reflected a process of altered human responses to the surrounding environment. Among emerging challenges, when the sensory system functioned as the primary "detector" of a new reality, the subsequent stage involved a turn towards the theoretical foundations of neuropsychological adaptation. Based on knowledge of neurophysiological mechanisms, the first link of the adaptive chain -sensory recalibration -was examined by A.E. Dogan *et al.* (2025). At the intersection of the thalamus and the primary sensory cortex, a new sensory grid began to emerge, capable of "learning" to perceive an unfamiliar environment as its own. Sensory systems

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responsible for receiving, processing, and sorting incoming signals – visual, auditory, tactile, olfactory, and thermal – under conditions of altered sensory fields (new country, language, urban rhythm, etc.) encountered the necessity of reappropriating space. The process of sensory recalibration was analysed by O.O. Borysova (2024) from the perspective of changes in sensory information processing through the inclusion of new connections between the thalamus, the primary sensory cortex, and the prefrontal network. The thalamus, as the central sensory “filter”, transmitted information to the cortex via thalamocortical pathways, which updated the sensory grid within human consciousness.

Polish studies of acute stress disorder (ASD) among refugees recorded exceptionally high levels of traumatising, affecting not only emotional and cognitive mechanisms but also sensory adaptive processes. The study by P. Kordele *et al.* (2024) identified 93.5% probable cases of ASD among Ukrainians, with decisive factors being not physical displacement itself but exposure to attacks, lack of resources, and feelings of loneliness in host countries. These conditions generated a state of disconnection between internal bodily sensations and the external environment, increasing sensory disintegration and reinforcing a phenomenon in which the body became “anchored” in a new space while mental processes remained connected to Ukraine. The high prevalence of ASD, combined with a fragmented bodily-sensory focus, formed a foundation for subsequent manifestations of dissociation and somatisation, confirming the necessity for programmes of sensory reconfiguration and early psychological support. Data reported by N. Khailenko & A.M. Bacon (2024) demonstrated that unique coping strategies mediated the relationship between reduced resilience and intense post-traumatic symptoms among Ukrainian refugee women and internally displaced persons, forming a model of detached-dissociative response, in which the psyche reduced contact with internal signals, and the sensory system lost integration with contextual reality. This mechanism closely corresponded to the phenomenon “the body is here, the thoughts are in Ukraine”, and reinforced the assumption that dissociative adaptive strategies developed as a lower-level response, when resilience was depleted or inaccessible.

The study by A. Yefimova (2025) established that social and economic integration gradually increased; however, clinically significant emotional distress persisted among displaced persons several months after migration. These findings indicated that integration did not guarantee automatic psychological recovery and required long-term support. Similar results were obtained in the study by V. Abdullayeva (2025), which revealed that later waves of arriving refugees reported poorer overall health, but slightly lower levels of psychological distress compared to those who arrived earlier. Acute stress reactions immediately following traumatic

events, were associated with activation of the hypothalamic–pituitary–adrenal axis, which affected emotional dysregulation. Additionally, Y. Slipetska & S. Bula (2025) identified the influence of cultural and linguistic barriers on integration processes, and demonstrated that adaptive strategies depended on environmental characteristics and the availability of psychological services. These findings emphasised the necessity of a culturally sensitive approach in psychosocial support.

While examining interoception and predictive coding as fundamental mechanisms of adaptation, the study by G. Taskasaplidis *et al.* (2024) indicated that the accuracy of perceiving internal bodily signals influenced an individual’s capacity for emotional regulation and stress coping. The authors demonstrated that reduced interoceptive accuracy was associated with increased severity of trauma-related symptoms and the development of psychosomatic disorders. Researchers A.M. Pinto *et al.* (2023) described that a prediction error emerged, when an expected sensory signal failed to correspond to the actual input. In a novel sensory environment, prediction errors led to experiential fragmentation, loss of perceptual coherence, and states of depersonalisation. Taken together, these findings explained why displaced persons experienced disruption of the “self-body” connection and difficulties in adaptation.

Subsequent studies elucidated specific neural mechanisms underlying these processes. S. Furutachi *et al.* (2024) described the role of thalamocortical loops in tracking unexpected sensory signals and updating neural predictions. The reported results explained that prediction errors were formed within radically altered sensory environments, through comparison of predicted signals with those exerting direct impact. These conclusions were complemented by findings from C.Y. Fong *et al.* (2020), who demonstrated that sensory disturbances could arise at the subcortical level, prior to the involvement of higher cognitive structures. The thalamus was therefore conceptualised not merely as a sensory “relay”, but as a central element in perceptual recalibration and the formation of top-down control. Only a limited number of studies directly measured neurophysiological markers of sensory adaptation among displaced persons from Ukraine. Nevertheless, these investigations provided the foundation for the development of an integrative model of sensory adaptation. Within this model, the sensory system was conceptualised as the primary “detector” of a new reality, initiating recalibration processes via thalamocortical pathways. The aim of the present study was to investigate the neuropsychological mechanisms of sensory adaptation in forcibly displaced individuals who encountered a new environment as a result of the war in Ukraine.

Materials and Methods

The implementation of the study was made possible through four main stages, which were based on analysis

of adaptation characteristics observed among participants in therapeutic groups within a new environment, as well as critical examination of published research in this field in order to validate the obtained findings. The study was conducted with the involvement of Ukrainian displaced persons who were forced to migrate to Germany following the onset of the full-scale Russian invasion. Two therapeutic groups were included, consisting of 10 participants (Group 1) and 12 participants (Group 2). Group members originated from Mariupol, Mykolaiv, Kherson, Zaporizhzhia, Kharkiv, Odesa, Kyiv, and other affected regions of Eastern and Southern Ukraine. Group psychotherapeutic work was initiated in Germany in March 2022. The participant sample was recruited via social media platforms (Facebook, Instagram), which facilitated the inclusion of Ukrainian displaced persons interested in receiving psychological support.

The groups were conducted exclusively in a face-to-face format. During the first three months, therapy in each group was held twice a week. The groups functioned as a space of safety, in which participants were able to share their personal histories, experiences of displacement, living under conditions of war, and their earliest memories of the first day of active hostilities. The work with the sensory re-formatting groups was carried out under conditions of regular supervision within a supervisory group led by Professor Oleksandr Filts, of which the author has been a member for over 15 years. This supervisory format ensured methodological coherence, adherence to ethical standards, and the quality of therapeutic interventions in group work. After the initial three-month period, a proportion of participants (approximately 40%) returned to Ukraine or relocated to other EU countries. Consequently, the groups continued their work with 6 and 7 participants respectively, meeting once a week. In this format, the groups remained active for a period of one and a half years. Over this time, a stable group structure emerged – described by the participants themselves as a kind of “circle”. The group functioned as a supportive psychotherapeutic setting, integrating elements of stabilisation, self-reflection, and bodily reintegration. The overall study period extended from March 2022 to September 2024.

The content of the meetings was psychoeducational and stabilising in nature. The psychoeducational approach involved a detailed explanation of the characteristics of stress and anxiety. Particular attention was paid to the identification of emotions that could arise under stress and cause discomfort. The stabilising focus of the therapeutic meetings was directed towards reducing emotional tension and improving participants' condition through psychological practices. Each session included a brief sharing circle, followed by sensory exercises aimed at restoring connection with the body: breathing techniques, physical exercises, tapping, and short elements of group Eye Movement

Desensitisation and Reprocessing (EMDR) and brain-spotting. The primary therapeutic objective was associated with a reduction in internal tension, restoration of bodily sensitivity, normalisation of breathing, and improvement of sleep. Observation of the process was conducted in the form of a qualitative description of participants' reactions and changes. The data were not statistical in nature; instead, the analysis was carried out according to the principle of thematic generalisation, whereby recurring themes of bodily, emotional, and behavioural change were identified. This included an analytical assessment of the main predictive mechanisms that had been disrupted, as well as the characteristics of dissociation in respondents, which was substantiated in the article on the basis of published scientific studies, in order to compare the obtained conclusions.

The first stage of the study was aimed at identifying the most common disruptions of predictive mechanisms and brain functions among the respondents. The final results were obtained through systematisation of information collected from respondents during therapeutic sessions, with reference to their initial psychological state. The second stage of the study involved a comparison of existing published approaches aimed at improving predictive processes and brain functions. To substantiate the significance of the most widespread theories, a Likert scale from 1 to 10 was used. The application of the Likert scale to assess the significance of scientific theories included an analysis of the validity of the stated theories and their practical applicability in therapeutic consultations. The significance score primarily reflected the practical aspect, whereas the relevance of scientific conclusions reflected the theoretical aspect. The comparison of the significance of studies with their relevance (level of dissemination of scientific theories, number of citations) was achieved using Hedges' coefficient. The calculation of the coefficient involved determining the magnitude of the effect between two indicators. If the calculated value did not exceed 0.2, a negligible effect was observed. When values exceeded 0.8, the obtained indicators demonstrated a substantial difference (Buck *et al.*, 2022):

$$g = \frac{M_1 - M_2}{SD} \times J, \quad (1)$$

where M_1 and M_2 – represented mean values; SD – represented the pooled standard deviation; J – represented the correction coefficient used to eliminate effect size inflation. The third stage included an assessment of the level of somatosensory and emotional dissociation in respondents and changes in characteristic features over time (during the first three months of therapy and after completion). The ratio of high levels of sensory and emotional dissociation among respondents was identified using the observation method. Data systematisation included analysis of tone of voice, speech tempo, and facial expressions, which made it possible to form

descriptive results. The fourth stage of the study was aimed at determining the adaptive capacities of forcibly displaced persons in a new environment. Issues related to the similarity between personal adaptation in a new space and child developmental processes between 3 and 24 months were considered, which involved the use of methods of analysis and comparison of literary sources.

The selection of literature for analysis within the study was associated with an orientation towards interdisciplinary sources, including neuropsychological, social, and psychotherapeutic perspectives. To ensure a thorough analysis and to substantiate the results obtained from participants in the therapeutic groups, the literature was selected on the basis of its relevance, primarily within the last five years. Consideration was given to the credibility of sources and their correspondence to the research topic; therefore, attention was paid to the scientometric indicators of journals and the substantiation of materials in each source. The analysed sources formed the basis for understanding the features of sensory and emotional transformation of respondents under the influence of stressful situations, which informed the analytical substantiation of the presented results. Particular attention was paid to literature sources characterised by a logical structure of presentation and consistency of results. Group work was conducted in compliance with ethical principles of confidentiality, voluntariness, and psychological safety. The involvement of participants in the therapeutic group was carried out in accordance with the norms of

the Declaration of Helsinki (WMA..., 2024). All participants sought assistance independently, expressed verbal consent to participate, and were aware of the purpose of participation. Names were not recorded, and all case descriptions were presented in anonymised form. The study did not require separate approval by an ethics committee, as it was conducted in the format of psychological support without the collection of personal data or the use of testing procedures. Only general characteristics common to all participants in the therapeutic group were presented in the study, which was discussed with them prior to the commencement of therapy. At the same time, the right of each participant to withdraw from participation at any moment, without any consequences was ensured.

Results and Discussion

Assessment of the impact of stress factors on brain activity during forced migration

Stress factors caused by forced migration during the war exerted an adverse impact on individual psychological stability, as they led to profound lifestyle changes, disruption of established social ties, and negatively affected predictive mechanisms and brain functions. These alterations were reflected in behavioural patterns, motor coordination, and diminished capacity to anticipate subsequent actions. During interaction with the therapeutic groups, disruptions of predictive mechanisms and overall brain functioning were identified in all participants at the initial stage of therapy (Fig. 1).

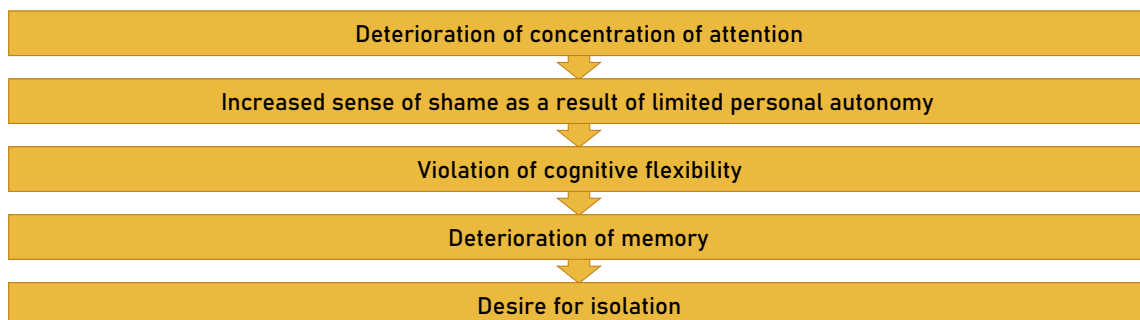


Figure 1. Variability of disruptions in predictive mechanisms and brain functions among participants of the therapeutic groups

Source: developed by the author based on interaction with participants of the therapeutic groups

Initial analysis of the psychological state of the therapeutic group participants revealed the presence of disrupted predictive mechanisms and brain functions. Impaired attentional concentration manifested as an inability to focus on specific details, excessive verbosity, or abrupt withdrawal. Memory deterioration was observed, reflected in inaccurate recall of routes and other task-related information, which was associated with reduced brain neuroplasticity. Impairment of cognitive flexibility was evident in difficulties switching attention from one task to another, affecting

activity organisation and problem-solving strategies. These disrupted predictive mechanisms were associated with sensory unpredictability. This condition was reflected in reduced activity of the prefrontal cortex, manifesting as apathy, procrastination, and loss of goal orientation. Under normative conditions, the prefrontal cortex is responsible for planning, cognitive flexibility, impulse control, emotional regulation, and the ability to construct a future-oriented model. In states of forced displacement, particularly following prolonged exposure to stress and trauma, reduced

vagal nerve activity was frequently observed, leading to disturbances in cardiac rhythm, interoception, affective regulation, and capacity for social engagement. This condition may have contributed to dissociation, specifically a disconnection between body and consciousness, as well as chronic somatic tension. The vagus nerve, as a key structure of the parasympathetic nervous system, played a critical role in sensory regulation, stress adaptation, and restoration of the bodily self (Gidron *et al.*, 2025).

A pronounced factor among respondents was heightened shame, resulting from restricted personal autonomy and manifested through dependence on external evaluation. Shame appeared as increased reliance on others' opinions, which intensified vulnerability and maintained a sense of internal non-autonomy. Attentional focus on negative consequences contributed to denial of positive aspects. The tendency towards isolation was associated with a need for psychological safety and a sense of social exhaustion. Loss of habitual social connections was reflected in decreased self-esteem, loneliness, and reduced readiness for integration into a new environment and culture. As a result of persistent sensory discrepancies and unintegrated prediction errors, a split emerged between the personality before and after trauma. Life experience was characterised by loss of coherence, including loss of the past and disruption of temporal continuity. Under dissociative conditions, particularly in contexts of sensory overload, affective regulation deteriorated, manifesting as emotional instability. As demonstrated in the study by E. Ozturk (2024), Ukrainian displaced persons in European countries exhibited elevated

levels of anxiety, dissociation, and somatic detachment, especially in the absence of social rootedness. Chronic dissociation was associated with reduced hippocampal volume and disrupted connectivity between the insula and the prefrontal cortex, which impeded deep self-perception (Schurz *et al.*, 2024). Stress factors during forced displacement were reflected in a rupture between the expected and the actual, thereby undermining the fundamental capacity of the psyche to think and experience coherently. A phenomenon described as spatial-cognitive dissociation was also observed, in which the body attempted to adapt to the new environment, while thoughts, internal language, and emotional imagery remained anchored to Ukraine. This condition was characterised by partial presence in the current physical space, alongside simultaneous mental presence in the country of origin, creating an impression of dual localisation. Such a state may be interpreted through the framework of predictive coding, according to which the brain continuously generated hypotheses about future signals and compared them with actual sensory input (Sprevak, 2024). Sensory stimuli that did not correspond to expectations activated prediction errors, which, in the absence of adequate psychological processing, failed to integrate into experience and instead transformed into somatic symptomatology, including pain, insomnia, cranial pressure, hyperventilation, and emotional confusion. To identify possibilities for improving predictive mechanisms and brain functions, existing research in this domain was analysed. Based on this analysis, the most methodologically sound approaches for conducting consultations within therapeutic groups were identified (Table 1).

Table 1. Comparison of the significance of results from existing studies for improving predictive mechanisms and brain functions

Researched sources	Significant value	Relevance of scientific conclusions	Hedges coefficient
M.L. Neel <i>et al.</i> (2025)	9	10	0.150
V. DeLuca <i>et al.</i> (2024)	6	8	0.304
M.T.R. van Kesteren <i>et al.</i> (2020)	5	7	0.316
G. Lai & B.A. O'Brien (2020); F. Carter <i>et al.</i> (2023);	8	9	0.153
T. Singer (2025)	7	9	0.297

Source: developed by the author based on research findings

From a practical perspective, several interventions were indicated as facilitating this process. In a study employing hyperscanning, M.L. Neel *et al.* (2025) demonstrated that gradual integration of visual, auditory, and tactile stimuli during joint activity created a rhythmic framework for aligning new signals with prior experience. These findings formed the basis of multimodal training approaches, which incorporated simple movements accompanied by music, balance exercises, and combinations of vocal commands with motor responses, to integrate sensory channels. Attention was also

directed towards integrative reconfiguration (bilingual experience), which was examined in another group of studies (Lai & O'Brien, 2020; Carter *et al.*, 2023). These authors demonstrated that multilingualism altered cognition through adaptation of attentional systems, rendering them more efficient. Specific aspects of linguistic experience differentially overlapped with neural control circuits, which was directly reflected in behavioural monitoring indicators. This model ensured that the previous cognitive schema (native language, habitual rhythms) was gradually aligned with new sensory

demands (another language, new rhythms), with control systems functioning as a “bridge” for integrating past and newly acquired skills.

Taken together, these results converged on a single conclusion: integration of prior and novel experience was achieved through a neurophysiologically coherent process. Schemas within the neocortex provided a hypothesis space for new experience, while the hippocampus and associated networks supported binding, transfer during sleep, and transformation. Concurrently, white matter changes via myelination rendered newly formed pathways faster and more synchronised. In adulthood, particularly under migration conditions, this process manifested as gradual adjustment of pre-existing cognitive strategies to new sensory statistics, wherein attentional networks served as the “bridge” and stability ensured long-term structural-functional plasticity (Singer, 2025). Consequently, systematic training of sensory attentiveness contributed to reduced anxiety levels and improved integration of bodily signals. This approach was applied in work with displaced persons to restore the connection between body and psyche following trauma. To improve predictive mechanisms and brain functions among displaced persons, the study by H.J. Lee *et al.* (2025) indicated that attention needed to be directed towards modification of individuals’ internal attitudes. Therapeutic consultations were required to focus on examination of somatic reactions elicited by personal experience, rather than solely on external stressors. The analysis conducted by M. Ajith *et al.* (2025) demonstrated that therapeutic emphasis on visualisation elements facilitated qualitative processing of conditional information. Models constructed through visualisation influenced more efficient perception of multilevel interactions between cognitive activity and neural connectivity. Agreement with the outcomes of the published studies was supported; however, therapeutic consultations required stronger orientation towards the specific needs of displaced persons, ensuring integration of auditory,

visual, and tactile components. Application of integrative reconfiguration approaches facilitated qualitative alignment of previous and new sensory conditions (language, culture, etc.).

Research by V. DeLuca *et al.* (2024) confirmed that specific aspects of linguistic experience directly reconfigured neural circuits of control and attention, supporting integration of new perceptual models. Simultaneous use of multiple languages facilitated cognitive and neural adaptation, which was associated with changes in grey matter volume within specific brain regions. During periods of sustained bilingual interaction, alterations in white matter were also observed. M.T.R. van Kesteren *et al.* (2020) emphasised the importance of dual coding, whereby new knowledge was presented in association with existing representations, activating prefrontal integrative mechanisms. Material congruent with existing schemas was better retained; however, incongruent content occasionally demonstrated an advantage due to novelty mechanisms. Integration in such cases occurred through reactivation of prior representations during new learning, accelerating the “binding” of new information to existing structures. Memory consolidation and transformation – the gradual transfer of memory traces from the hippocampus to neocortical systems – enabled memory systems to reconfigure prior models in response to new environmental demands, through repeated reactivation during sleep and wakefulness.

Assessment of sensory adaptation impairment in forcibly displaced persons

The process of individual adaptation to a new environment under stress conditions was reflected in elevated levels of somatosensory and emotional dissociation. During the study, the ratio of severity levels of emotional and somatosensory dissociation was compared. Results were analysed in relation to the first three months of therapy and at the final stage of intervention (Table 2).

Table 2. Severity of sensory and emotional dissociation among respondents

Type of dissociation	Proportion among respondents, %	Characteristics of manifestation
During the first three months of therapy		
Somatosensory dissociation	30	Absence of typical pain sensitivity Disturbance of bodily perception Reproduction of auditory and visual imagery beyond the boundaries of objective reality Sleep disturbances Minimal frequency of dreams
Emotional dissociation	70	Intensification of emotional reactions within imagined experience Mood fluctuations without an identifiable cause Detachment of thoughts from the physical space occupied by the body Increased internal competition Predominant processing of information detached from actual environmental context, with cognitive functioning within an imagined world model Manifestation of envy as an outlet for aggressive emotional states

Table 2. Continued

Type of dissociation	Proportion among respondents, %	Characteristics of manifestation
After completion of therapy		
Somatosensory dissociation	15	Development of the ability to focus on sensory experiences Restoration of bodily self-perception Improvement of spatial orientation
Emotional dissociation	25	Increase in instrumental–consumer-oriented interaction patterns as a transformation of interpersonal engagement processes Activation of a new functional system based on an established baseline level Formation of a sense of safety Development of new pathways, activation of capacities, and exploration of new directions of activity

Note: * two types of dissociation could be observed in a single respondent

Source: developed by the author based on interaction with participants of the therapeutic groups

The ratio of different types of pronounced dissociation among respondents, before and after therapy, indicated a predominant increase in emotional dissociation at the initial stage of intervention. Dissociation manifested primarily as an immediate response to traumatic stress, particularly to experiences of occupation, destruction of housing, and loss of physical contact with close relatives. A representative example was provided by the account of a woman who left Mariupol after one month under occupation. Prior to the war, she reported arterial hypertension, back pain, and sleep disturbances. Following evacuation, these symptoms completely disappeared. However, this absence of symptoms did not indicate recovery. The respondent reported a complete loss of bodily sensation and an inability to determine the presence of pain or changes in blood pressure. This presentation indicated profound bodily dissociation, specifically disengagement of interoceptive monitoring mechanisms, which is characteristic of post-traumatic conditions. Somatosensory dissociation among respondents manifested as absence of bodily perception, leading to disruption of sensory channels and loss of integrative bodily awareness, and was associated with reduced activity of the sensorimotor cortex.

Concurrently, hyperactivation of the amygdala was observed, which contributed to diminished perception based on incoming stress-related stimuli. The impact of stress was reflected in sensory malfunction, as the sensory system remained in a state of socio-psychological isolation. The positive effect of therapy was manifested through the formation of new neural connections, associated with continuous processing of stress factors and gradual orientation of respondents towards a new reality. During the first three months, group participants particularly experienced detachment of thoughts from the physical space occupied by the body; cognitive presence remained in Ukraine, despite physical residence in a safe environment. This process was conditioned by insufficient formation of cortical integrative pathways, persistent recall of prior life circumstances, and dissociation between bodily presence and cognitive activity.

This feature functioned as a protective psychic reaction, which contributed to difficulties in processing traumatic experience. Persistence of previous internal bonds prevented the formation of new adaptive connections. Among respondents, this condition manifested as a pervasive sense of emptiness. Such a state emerged from imbalance in neurotransmitter systems and hippocampal functioning, associated with imprecise encoding of emotional memories and processing of stressful situations without affective involvement.

At the onset of group work, a marked and atypical reduction in dream frequency was observed. One of the distinctive features of sensory reorganisation during forced migration appeared to be the phenomenon of undreamt dreams. Only minimal periodicity of complex dreams was observed, which was associated with emotional processing and construction of corresponding cognitive models. Consideration of undreamt dreams was of substantial importance for understanding the specificity of psychological transformation among forcibly displaced persons; therefore, theoretical substantiation was provided. Such dreams were conceptualised not merely as imaginary fragments, but as a profound mechanism of psychic processing of experience. Blocking of mental space occurred through overload, shock, or depressive states, which resulted in inhibition of experiential processing. This interpretation was consistent with the conceptual framework proposed by T.H. Ogden (2022). By integrating Ogden's (2022) concept of undreamt dreams and thinking space with contemporary neurobiology, the mechanism of somatisation could be explained as a consequence of interrupted psychic processing of experience. Displaced persons frequently lacked the capacity to safely think or dream their experiences; consequently, the body began to express these experiences through somatic symptoms. This condition was characterised as neuropsychological dissociation, wherein bodily symptoms reflected internal psychic processes. Under conditions of disrupted REM sleep, the brain became over-trained, rigid, and incapable of generalisation (Bothe *et al.*, 2025). The capacity to update

internal models was reduced, resulting in automatic reactivity. Among group participants, this manifested as somatic fatigue, heightened anxiety, and emotional exhaustion, even when external circumstances appeared stable.

Women frequently lacked the capacity to safely conceptualise their lived experience; therefore, sensory adaptation involved not only socialisation but also restoration of the capacity for thinking and dreaming. According to a survey conducted by the Ukrainian Union of Psychotherapists in 2024, psychologists who were forced to leave the country as a result of the war demonstrated a significantly higher level of somatic complaints, compared with specialists who remained in Ukraine (Ukrainian Union of Psychotherapists, n.d.). The body of research indicated that adaptation to new sensory conditions represented a prolonged, multilevel process. Initially, the brain stabilised basic sensory networks through the combination of familiar and novel stimuli; subsequently, “bridging” strategies were formed with the involvement of the prefrontal cortex and control networks. Only at a later stage did an integrated cognitive model emerge, enabling effective functioning within a new environment. The application of targeted training in memory, attention, and sensory integration not only accelerated this process but also reduced cognitive load, facilitating integration of prior experience with the strategic demands of a new life context. Understanding disruptions of predictive systems in displaced persons was not only theoretically significant but also critically important for the development of psychological support programmes. Sensory adaptation, stabilisation of interoceptive signals, and restoration of cognitive flexibility constituted the foundation of psychological recovery.

In the study by P. Długosz (2023), a high prevalence of probable post-traumatic stress disorder among Ukrainian refugees was associated with intolerance of uncertainty and loss of perceived control, which created conditions for sensory dissociation between bodily and cognitive presence. These factors impeded synchronisation of attention with bodily signals, maintaining a state in which cognitive activity remained embedded within the Ukrainian context, while the body adapted to a different environment. V. Romoli *et al.* (2022) reported that social instability, cultural barriers, and isolation exerted a significant influence on the psychological state of forcibly displaced migrants. These factors contributed to elevated anxiety and depressive symptoms, the mitigation of which was associated with support within a new community and the experience of safety. Difficulties of adaptation within a new sensory environment were associated with mismatch between expected and actual sensory signals, resulting in loss of perceptual coherence. To assess psychological adaptation in forcibly displaced persons, N.O. Maruta *et al.* (2024) applied clinical-psychopathological and

psychodiagnostic methods. The results demonstrated that the most pronounced mental health disturbances included asthenic, agrypnic, somatovegetative, and anxiety-depressive syndromes. The dynamics of these experiences, reported in published studies, were consistent with the findings of the present investigation. However, the present study focused on identifying a constellation of disrupted predictive mechanisms, associated with impaired attentional concentration, heightened shame, reduced cognitive flexibility, memory deterioration, and a tendency towards isolation. The study by O. Lushchak *et al.* (2024) examined features of sensory reorganisation among displaced persons under adverse conditions caused by the war in Ukraine. Among 1,000 forcibly displaced individuals, moderate to high stress levels were observed in 15.5%, anxiety in 19%, and post-traumatic stress disorder in 39.4%. Lower stress levels were identified among individuals residing within national communities. These stress-related manifestations were associated with psychological distress, post-traumatic factors, coping demands, and resilience processes (Ellis *et al.*, 2024). Findings reported by E. Ellis *et al.* (2024) indicated that women demonstrated poorer psychological well-being compared with men.

Features of individual traits of cerebral lateralisation in forcibly displaced persons and characteristics of personality adaptation in comparison with child development

Following examination of general and autonomic mechanisms of personality adaptation, observational analysis of individual adaptive traits was conducted, with particular attention to cerebral lateralisation and interaction within the mother–child dyad. Characteristics of interaction between the left and right cerebral hemispheres, which supported adaptation to a new environment, were presented in Figure 2. Analysis of human adaptation processes to a new environment established that the left and right cerebral hemispheres were responsible for distinct adaptive functions related to individual personality characteristics. Neuroimaging studies demonstrated that the right cerebral hemisphere assumed a leading role in detecting sensory disturbances, particularly in situations where incoming stimuli did not correspond to expected patterns (Thome *et al.*, 2022). These responses were directly associated with the mechanism of sensory prediction error, in which the right hemisphere performed a comparative function between current stimuli and prior experience. In individuals with right-hand dominance, a tendency towards rapid suppression of sensory signals during repeated stimulation was observed, which was corroborated by findings from the therapeutic groups. In such cases, the left hemisphere exhibited a tendency towards forming new cognitive templates, while the right hemisphere functioned as a novelty

scanner. This interaction resulted in sensory overload under conditions of excessive or unpredictable stimulation, indicating a rapid, but potentially vulnerable, form of adaptation to change. In left-handed individuals (with dominant right-hemisphere processing), cognitive templates were formed more slowly, but demonstrated greater resistance to environmental influence. Activation of both hemispheres during processing of novel sensory stimuli created a more flexible adaptive system, with reduced impulsivity in response to

change, although stabilisation processes occurred more gradually (Kearney & Lanius, 2022). Results from prior studies confirmed that cerebral lateralisation played a significant role in understanding sensory adaptation across different population groups. A. Skinner (2025) emphasised that in right-handed individuals, network interactions were more localised and clearly structured, whereas left-handed individuals demonstrated broader bilateral hemispheric engagement, resulting in a more balanced signal-processing system.

Socio-Psychological factors	Interaction with the individual	Individual resources	Adaptive outcome
• family environment • educational context • social expectations • digital environment • social instability	• subjective perception of demands • available adaptive resources • level of social support	• self-regulation • response styles • coping strategies	• psychological adaptation • strained adaptation • psychological maladaptation

Figure 2. Characteristics of cerebral lateralisation associated with processes of personality adaptation

Source: developed by the author based on studies by J. Thome *et al.* (2022), N. Ilyina (2024), M. Schurz *et al.* (2024), U.S. Akmalovna (2025), A. Skinner (2025)

According to the study by S. Grygorieva (2021), differences were identified in thalamic hemispheric dominance between mothers and their adolescent children. Distinct modes of sensory information processing and sensory system functioning within the dyad formed different cognitive styles in mothers and their adolescent children. Specifically, when the mother demonstrated left-hemisphere dominance, predominantly responsible for analytical and structured information processing, the child exhibited right-hemisphere dominance, associated with holistic, emotional, and spatial perception and integration of novel sensory input. This functional asymmetry was considered evolutionarily adaptive for maintaining dyadic balance; however, it assumed critical significance under conditions of adaptation to new environments, particularly in the context of forced migration. Clinical observations obtained during psychological consultations with families of Ukrainian forcibly displaced persons indicated that adolescents frequently became carriers of their mothers' sensory and emotional experiences while failing to activate their own adaptive systems (Grygorieva, 2021). This dynamic inhibited natural adaptive mechanisms in the child that could otherwise have facilitated greater openness to novel sensory and social environments.

Mothers with differing neuropsychological functioning patterns unconsciously transmitted their adaptive styles, which were grounded in more rigid cognitive schemas. Consideration of lateralisation differences within the mother-child dyad substantially enhanced understanding of family dynamics and supported the

development of more flexible adaptive models under new living conditions. A substantial portion of humanity's biological memory was represented as changes within predictive systems that determined future perception of the world by the individual. Thus, the brain not only stored representations, but also transformed experience into expectation parameters that shaped responses to new events. Decisions regarding memory consolidation and suppression directly influenced adaptive capacity, signal prediction, and behavioural regulation. In cases of depersonalisation, structural alterations were identified, including thickening of the premotor and medial prefrontal cortices, reduced grey matter volume in the caudate nucleus, thalamus, and occipital cortex, as well as white matter disruption in parietotemporal regions (Schurz *et al.*, 2024). Disruption of interoceptive predictions played a central role, whereby dominant visual or auditory expectations suppressed weaker bodily signals, leading to alienation from the body and emotions.

In the study by U.S. Akmalovna (2025), forced retraining of left-handed individuals to right-hand use induced structural changes in the pericentral cortex and basal ganglia. These findings were interpreted as manifestations of brain plasticity under external constraints and confirmed the capacity of the sensory system to reorganise in response to environmental change. Based on these data, it was assumed that, in the context of forced migration of Ukrainian displaced persons to European countries, right-handed and left-handed individuals demonstrated distinct sensory adaptation

strategies. As noted by A. Skinner (2025), clearer lateralisation in right-handed individuals enabled faster adjustment to repetitive novel stimuli, while simultaneously increasing vulnerability to sensory overload under chaotic or unpredictable conditions. The obtained results indicated that sensory adaptation in forcibly displaced persons depended on individual neuropsychological characteristics, particularly on cerebral lateralisation. However, as emphasised by the cited authors, further studies were required to directly examine

the influence of these factors within migration contexts. Group experience accumulated over 1.5 years of work was compared with patterns of neurophysiological functioning. The results indicated that processing of novel sensory information possibly reflected a spiral model of personality development originating in early life. Consequently, individuals situated within a new environment appeared to re-experience developmental stages characteristic of childhood between 3 and 24 months of age (Fig. 3).

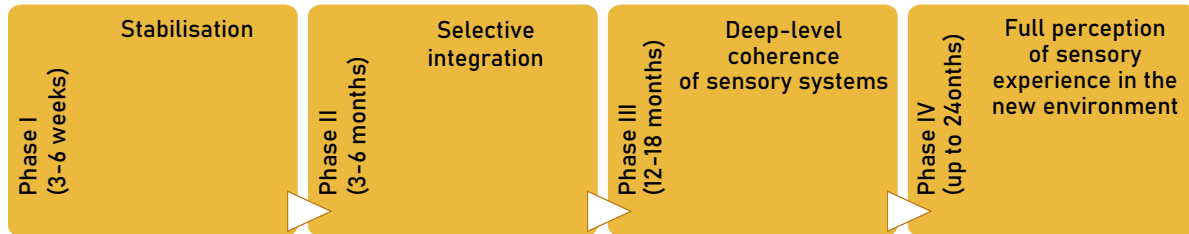


Figure 3. Stages of sensory system development in an alternative environment

Source: developed by the author based on data from I. Kostović (2024), V. Sydnor *et al.* (2025), W. Yin *et al.* (2025)

Psychotherapeutic observations indicated that within 1.5-2 years following displacement, many Ukrainian displaced persons exhibited elevated levels of somatisation and sensory disorientation. This period was characterised by sensations of bodily instability, altered sensory perception, fluctuations in anxiety levels, and sleep disturbances, which were associated with sensory reorganisation during which the nervous system gradually constructed a new environmental perceptual model. Adaptive processes in adults demonstrated significant similarities to those observed in children aged 3-24 months, a developmental period marked by maturation of thalamocortical connections, increased synaptic density, and integration of sensory experience. During this stage, infants learned to coordinate auditory, visual, and bodily signals, forming a stable sense of space and safety. In an analogous manner, the brain of a displaced person, upon entering a new sensory field, recalibrated to different sounds, rhythms, smells, and light conditions, effectively re-entering an early developmental phase. This process facilitated the formation of new neural connections and predictive schemas. This phenomenon was conceptualised as a second phase of sensory integration, in which the body and psyche jointly constructed a new map of reality aligned with a new location, climate, language, and social context, while simultaneously integrating this configuration with prior experience.

A more detailed analysis indicated that during the first phase, forcibly displaced persons, similarly to young children, underwent a process of stabilisation. During this period, a reduction in reactivity occurred. In the second stage of selective integration, a gradual attenuation of unfounded anxiety was observed, alongside strengthening of top-down control mechanisms,

which was reflected in more conscious regulation of reactions and emotions. The third phase was oriented towards the formation of stable sleep patterns and the capacity for automatic utilisation of alternative regulatory structures. Processes of personality adaptation within a new environment were associated with developmental features observed during qualitative transformation of self-regulation in early childhood. Closer to 24 months of age, multimodal neural networks were formed, enabling integration of information from different sensory systems (vision, audition). Consequently, sensory adaptation among displaced persons reflected not only a psychological process but also a neurophysiological reorganisation that structurally reproduced the logic of early brain development- from chaotic sensory signals towards organised thalamocortical integration and restoration of an internal sense of stability. Within a new sensory reality, the adult brain appeared to re-experience a process akin to sensory rebirth. Neuroplastic processes were activated, dendritic branching expanded, and new synaptic pathways between the thalamus and the cortex were formed, directed towards integration of novel spatial and emotional signals. Such reorganisation was accompanied by a temporary dissociation between sensory and cognitive levels, manifesting as somatic symptoms (tension, pain, insomnia, bodily anxiety responses), which functioned as a mechanism of adaptive renewal. Accordingly, sensory adaptation in displaced persons was conceptualised as a form of repeated maturation of the sensory system, comparable to the neuroplastic wave observed in infants during the second year of life, when a stable sense of bodily self and environmental predictability was established (Flom & Hyde, 2021; Yin *et al.*, 2025).

In turn, H. Jie *et al.* (2025) demonstrated that thalamocortical plasticity could be reactivated beyond classical critical developmental periods. These findings were pivotal for explaining the phenomenon of sensory recalibration in adult displaced persons exposed to radically new living conditions characterised by different languages, architectural forms, cultural signals, and daily rhythms. The published study did not address the role of sensory recalibration in relation to sensory and emotional dissociation. Results of the present investigation demonstrated how manifestations of somatosensory and emotional dissociation changed under the influence of therapeutic intervention. The analysed clinical experience supported the hypothesis that sensory dissociation among displaced persons functioned not only as a defensive psychological reaction, but also as a process of rebuilding connections with the environment. However, this mechanism could complicate diagnosis of somatic disorders and suppress individual recovery resources. In this context, dissociation represented not merely a psychological symptom, but a neurobiological rupture, in which new sensory predictions failed to update and remained in a fragmented state. Intervention targeting this condition required inclusion of sensory-based therapy, enhancement of interoceptive awareness, and restoration of the self-body connection through physical, symbolic, and social grounding. The analysis demonstrated that adaptive success largely depended on integration of sensory experience, quality of the social environment, and individual resources of cognitive flexibility. The presented results contributed to a more comprehensive understanding of the neuropsychological dynamics of adaptation among displaced persons and supported formulation of practical recommendations for psychosocial assistance.

Conclusions

The study conducted among 22 participants of therapeutic groups identified that, at the initial stage, disruptions of predictive mechanisms and brain functions were manifested through impaired attentional concentration, heightened feelings of shame as a consequence of restricted personal autonomy, reduced cognitive flexibility, memory deterioration, and a tendency towards isolation. These disturbances were associated with prolonged stress exposure and reduced activity of the prefrontal cortex. To improve predictive mechanisms and brain functioning, attention was directed towards analysis of existing research. One effective approach was identified as the integration of tactile, auditory, and visual stimuli. Additionally, emphasis was placed on integrative reconfiguration, taking multilingualism into account, which facilitated the integration of previously acquired and novel skills.

Observations of the therapeutic groups demonstrated that adaptation within a new country was associated with elevated levels of somatosensory (30%)

and emotional (70%) dissociation. Emotional dissociation was more pronounced and reflected increased sensory-stress sensitivity, which impeded integration of new environmental signals. This condition was characterised by spatial-cognitive dissociation, in which bodily localisation and mental space failed to synchronise, underscoring the necessity of targeted sensory integration interventions for displaced persons. Theoretical analysis of undreamt dreams demonstrated their significant role in processing psychic experience. Examination of general autonomic mechanisms of adaptation established that the right cerebral hemisphere was responsible for comparison of current stimuli with prior experience, while the left hemisphere contributed to formation of new cognitive templates. Group-based therapeutic work revealed persistently high levels of somatosensory and spatial-cognitive dissociation, which remained over extended periods even under conditions of relative physical safety. Adaptive processes among displaced persons were found to parallel child development during the first 24 months of life, involving stages of stabilisation, selective integration, deep-level coordination of sensory systems, and comprehensive perception of sensory experience within a new environment.

The obtained results demonstrated that somatosensory adaptation in forcibly displaced persons represented a complex process of psychic reorganisation, originating within sensory systems and extending across all levels of consciousness. Within a new environment, the brain formed an alternative cognitive map of reality, and insufficient integration of sensory signals increased the risk of chronic anxiety, somatisation, and dissociation. Disruption of predictive coding, as a foundational mechanism underlying dissociation and somatisation, generated a gap between expected and actual stimuli, resulting in emotional-sensory distress. Successful adaptation was dependent on social support, regulation of sensory input, sleep stabilisation, and the establishment of a new safety system. Application of interventions including sensorimotor psychotherapy, meditation, and biofeedback contributed to restoration of internal equilibrium. Future research directions were oriented towards identification of sensory neuroplasticity of the brain under conditions of varying adaptation periods among displaced persons, with particular focus on sensory integration processes.

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Conflict of Interest

No conflict of interest was declared.

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Сенсорна перебудова особистості у вимушених переселенців: Нейропсихологія та психотерапія адаптації

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Анотація. Мета статті була спрямована на вивчення особливостей сенсорної перебудови особистості у вимушених переселенців, орієнтуючись на нейропсихологію та психотерапію адаптації. У якості методів було використано критичний аналіз для обґрунтування результатів терапевтичної групи з опублікованими дослідженнями, психоедукаційний і стабілізаційний підходи для проведення зустрічей з респондентами, аналітичне спостереження та метод систематизації для опису реакцій і змін учасників дослідження, розрахунки коефіцієнту Хеджеса. Встановлено, що у якості порушень предикативних механізмів та функцій мозку у респондентів на початку терапевтичних занять, проявлялись погіршення концентрації уваги, посилене почуття сорому, як наслідка обмеженої особистої автономії, порушення когнітивної гнучкості та пам'яті, прагнення до ізоляції. На основі аналізу існуючих джерел літератури виявлено, що найбільш ефективними підходами для покращення предикативних механізмів та функцій мозку є симбіоз зорових, слухових, тактильних стимулів. За поміченими тенденціями, у приблизно 70 % респондентів до терапії та близько 25 % після неї проявлявся підвищений рівень просторово-когнітивної дисоціації, що відображало первинну стресову реакцію, пов'язану з неточною обробкою сенсорних сигналів. У тимчасових переселенців, за спостереженнями, відсутність або приглушеність сновидінь, свідчили про втрату одного з ключових механізмів нейропсихологічного опрацювання негативного досвіду. За наявними спостереженнями адаптація особистості у вимушених переселенців з України, в іншому сенсорному середовищі, схожа до процесів розвитку дитини у віці 3-24 місяців. Практичне значення статті полягало у можливості розробки стратегій сенсорної терапії та підтримки переселенців психологами, психотерапевтами та фахівцями психосоціальної допомоги на основі встановлених особливостей сенсорної перебудови особистості

Ключові слова: дисоціація; таламокортикальні шляхи; нейропластичність; травматичний досвід; психосоматика; сенсорна інтеграція

Psychometric validation of the I-PC-5 index of psychological culture

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Abstract. The relevance of the study is determined by the need for a valid and reliable instrument for assessing psychological culture as an integrative personal and professional resource in under conditions of contemporary social transformations and professional challenges in educational environments. The purpose of the study was the psychometric validation of the complex psychological diagnostic instrument “Index of Psychological Culture of Personality (I-PC-5)”. The study was based on a multidimensional theoretical model of psychological culture and employs confirmatory factor analysis using the weighted least squares estimator with mean and variance adjustment, evaluation of model fit indices (Comparative Fit Index, Tucker-Lewis Index, Root Mean Square Error of Approximation, Standardised Root Mean Square Residual), and assessment of internal consistency using Cronbach’s alpha and McDonald’s omega coefficients. The results demonstrated that the five-factor first-order model shows a satisfactory fit to the empirical data, confirming the theoretical structure of the construct. The second-order hierarchical model also exhibited acceptable fit indices, supporting the presence of a general latent factor representing psychological culture as an integrated personal resource. All factor loadings were statistically significant and indicated a substantial contribution of each component to the overall construct. Internal consistency indicators for all scales exceeded the recommended threshold values (α and $\omega \geq .70$), demonstrating high reliability. In addition, moderate correlations between the factors confirmed their conceptual distinctiveness while supporting the multidimensional structure of the construct. The obtained results indicate that the instrument provides a stable and theoretically grounded measurement of psychological culture. The instrument can be applied in empirical research, monitoring studies, and psychological support programmes for educators and other professional groups.

Keywords: personal psychological resources; multidimensional construct; confirmatory factor analysis; validity; reliability; integral index

Introduction

Contemporary social transformations, including global crises, the consequences of the COVID-19 pandemic, military conflict and increasing professional uncertainty, have intensified the need to maintain psychological resilience and professional well-being among specialists in socio-economic professions. Educational environments are characterised by high emotional demands, intensive interpersonal communication and the necessity for continuous adaptation to rapidly changing professional conditions. Under such circumstances, the development of internal personal resources becomes a critical condition for effective functioning, self-regulation and psychological stability.

Research has increasingly focused on the role of emotional and psychological resources in professional well-being. Based on meta-analytic evidence, Y. Wang *et al.* (2025) investigated the role of emotion regulation strategies in teachers’ well-being and positive emotional outcomes. Their results showed that effective emotion regulation strategies, particularly deep acting, are associated with higher well-being, job satisfaction and positive emotions, whereas surface acting demonstrated mixed and less consistently favourable effects. These findings highlighted the importance of emotional-regulatory competencies as part of broader psychological resources in educational professions. H. Zacher

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& C.W. Rudolph (2021) investigated changes in subjective well-being during the COVID-19 pandemic using longitudinal data. Their study showed that well-being is dynamic and significantly influenced by both personal and contextual factors. The authors concluded that adaptive psychological mechanisms are essential for maintaining stability under conditions of global uncertainty. D. García-Álvarez *et al.* (2021) focused on psychological well-being among teachers during and after the COVID-19 pandemic. The researchers demonstrated that positive psychological interventions contribute to improved emotional functioning and reduced stress levels. However, they also noted that the effectiveness of such interventions depends on the availability of internal psychological resources.

Authors such as W.P. Setioningtyas *et al.* (2024) developed the concept of psychological capital as a higher-order construct integrating hope, efficacy, resilience and optimism. Their research showed that this integrative resource significantly influences performance and professional adaptation. These findings supported the idea that psychological functioning should be analysed within a multidimensional framework. C. Maslach & M.P. Leiter (2022) conceptualised burnout as a systemic phenomenon resulting from the interaction between the individual and the work environment. The authors emphasised that professional well-being cannot be explained solely by external conditions and must include internal psychological factors. This perspective highlights the importance of studying integrated personal resources. T. Lomas *et al.* (2021) proposed a multidimensional model of well-being within the framework of third-wave positive psychology. Their approach integrates cognitive, emotional and value-based aspects of human functioning. The authors argue that psychological phenomena should be understood as complex systems rather than isolated variables.

H.W. Marsh *et al.* (2020) examined modern approaches to modelling complex psychological constructs using confirmatory factor analysis and related techniques. The authors demonstrated the importance of balancing model fit and parsimony when testing theoretical models. These methodological principles are essential for validating multidimensional constructs. J. Laboy Rodríguez (2025). further developed this line of research by analysing bifactor and hierarchical models in psychological measurement. Their findings showed that such models allow for the simultaneous representation of general and specific factors. This approach provides a more accurate understanding of complex psychological constructs. Despite the growing interest in psychological resources, many empirical studies continue to focus on isolated variables rather than integrative multidimensional constructs. Such an approach limits the understanding of how different psychological characteristics interact within a unified system. Consequently, there is a clear need for the

development of comprehensive diagnostic tools capable of capturing psychological culture as an integrated personal resource. Therefore, the purpose of this study was the psychometric validation of the complex psychological diagnostic instrument “Index of Psychological Culture of Personality (I-PC-5)”, including the examination of its factor structure, internal consistency and model fit within a hierarchical framework.

Materials and Methods

The diagnostic method “Index of Psychological Culture of Personality (I-PC-5)” was developed between 2023 and February 2026 within the framework of applied scientific research conducted at the Ivan Ziaziun Institute of Pedagogical and Adult Education of the National Academy of Educational Sciences of Ukraine. The development of the instrument was carried out in accordance with the official research programme “Psychological support of professional activity of pedagogical staff in conditions of global changes” (National Academy of Educational Sciences of Ukraine, 2025), approved by the decision of the Academic Council of the Institute, as well as within the subsequent research project “Development of psychological culture of pedagogical and academic staff” based on the technical assignment and research contract (2026-2027) (National Academy of Educational Sciences of Ukraine, 2026).

The development of the I-PC-5 was based on a combination of scientific sources, normative and methodological documents, and empirical materials. Scientific publications in the fields of personality psychology, emotional regulation and professional well-being were used to define the conceptual structure of psychological culture and to identify its core components. Normative documents, including the technical assignment of the research project and institutional research regulations, were used to ensure methodological consistency, applied relevance and compliance with national research standards (Diener *et al.*, 2018; Pavlyk, 2025; Ihnatovych *et al.*, 2025).

The instrument was developed in several stages. At the first stage, a theoretical analysis and content analysis of the concept of psychological culture were conducted on the basis of scientific sources and research documentation. At the second stage, the structure of the construct was operationalised and an item pool was developed, reflecting cognitive, emotional-regulatory, reflective, value-semantic and communicative components. At the third stage, expert evaluation of the items was conducted to assess their content validity and correspondence to the theoretical model. The panel of experts consisted of 7 specialists in psychology, including researchers and academic staff members with experience in personality psychology, psychodiagnostics and educational psychology (professional experience ranging from 10 to 25 years). The experts independently evaluated each item according to the following

criteria: relevance to the construct of psychological culture, clarity of formulation, content validity and correspondence to the respective component of the model. A four-point rating scale was used (1 = not relevant, 4 = highly relevant). Based on the obtained ratings, the content validity index (CVI) was calculated for each item. Items with low expert agreement were revised or excluded from the final version of the questionnaire. At the fourth stage, a pilot study was conducted in order to refine item formulation and to assess the clarity and relevance of the questionnaire. The pilot sample included 52 respondents representing educational professionals. Based on the pilot results, minor adjustments were made to item wording. At the fifth stage, the main empirical study was conducted, and data were collected for psychometric validation of the instrument.

The primary materials used in the study included the I-PC-5 questionnaire as the main diagnostic tool, empirical data obtained from respondents, and standardised survey materials used for data collection and processing. The empirical dataset served as the basis for testing the factor structure of the instrument and assessing its reliability. Statistical analysis was conducted using structural equation modelling techniques. Confirmatory factor analysis was applied to evaluate the correspondence between the theoretical model and the empirical data. Polychoric correlation matrices and the WLSMV estimator were used due to the ordinal nature of the data. Model fit indices, including the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardised Root Mean Square Residual (SRMR), were used to assess model adequacy, and reliability was evaluated using Cronbach's alpha and McDonald's omega coefficients.

The theoretical model assumes that the five components form a higher-order latent construct representing psychological culture as an integral personal resource. The empirical study involved $N = 742$ respondents representing teachers and academic staff members of institutions of formal and non-formal education. Participation in the study was voluntary and anonymous. The data were collected during the period 2023-2026 within the framework of research projects approved by the Academic Council of the Ivan Ziaziun Institute of Pedagogical and Adult Education of the National Academy of Educational Sciences of Ukraine, in accordance with institutional research agreements.

Participants were recruited on a voluntary basis and selected through institutional collaboration within ongoing research programmes. The mean age of participants was $M = 41.8$ years ($SD = 9.6$). Professional experience ranged from 1 to 38 years ($M = 16.4$; $SD = 8.7$). Women constituted 78.3% of the sample and men 21.7%, reflecting the gender distribution typical of educational professions. Participants represented different types of educational institutions, including secondary

schools, higher education institutions and adult education centres, which provided a diverse empirical base for testing the psychometric properties of the instrument. Data collection was conducted using both online and offline formats. The online survey was distributed via institutional communication channels, while the paper-based version was administered directly in educational institutions. This combined approach ensured broader accessibility and increased participation.

Respondents were asked to evaluate statements describing their attitudes, emotional responses and behavioural tendencies in professional and everyday contexts over the previous one to two months. The questionnaire included 70 items covering cognitive, emotional-regulatory, reflective, value-semantic and communicative components of psychological culture. Examples of items include: "I understand how emotions influence decision-making and behaviour", "I am able to regulate my emotional state in stressful situations", "I regularly reflect on my professional actions", and "I maintain respectful and constructive interaction with others". Responses were provided using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The study was conducted in accordance with the Code of Ethics of the National Psychological Association of Ukraine (National Psychological Association of Ukraine, 2021). Participation was voluntary, and informed consent was obtained from all respondents prior to data collection. Anonymity and confidentiality of the data were ensured at all stages of the research.

Results and Discussion

The analysis of internal consistency demonstrated that all scales of the I-PC-5 instrument possess a high level of reliability, which represents one of the key findings of the study. Cronbach's alpha values ranged from .83 to .88, while McDonald's omega coefficients ranged from .84 to .89, consistently exceeding the recommended threshold of .70. This indicates that the items within each scale form internally consistent constructs and reliably measure the intended components of psychological culture. A particularly important result is the high reliability of the integral index ($\alpha = .93$; $\omega = .94$), which confirms that the overall score of the instrument can be interpreted as a stable indicator of psychological culture. This finding supports the use of both composite and profile-based interpretations of the instrument.

Descriptive statistics provide additional insight into the structure of psychological culture across the sample. The value-semantic component demonstrated the highest mean score ($M = 4.12$), indicating a strong orientation towards values, meaning and ethical responsibility among respondents. This result may reflect the specificity of the professional group under study, as educational professionals are typically engaged in value-based interaction and are required to maintain a

high level of moral and professional responsibility. In contrast, the emotional-regulatory component showed the lowest mean value ($M = 3.74$), suggesting that emotional self-regulation represents a comparatively more vulnerable aspect of psychological functioning. Given the high emotional demands and stress associated with educational professions, this result may indicate a relative deficit in coping strategies and emotional resilience. A comparison across types of educational institutions showed that respondents working in higher and postgraduate education tend to demonstrate relatively

higher scores on cognitive and reflective components, whereas representatives of general secondary and vocational education more often show higher communicative indicators. This pattern may reflect differences in professional roles and the nature of pedagogical interaction. Differences between groups also suggest that value-semantic indicators remain consistently high across all types of institutions, confirming their stability as a core component of psychological culture in educational professions. Internal consistency indicators and descriptive statistics are presented in Table 1.

Table 1. Internal consistency indicators of the I-PC-5 scales

Scale	Number of Items	Cronbach's α	McDonald's ω	Mean (M)	SD
Cognitive	14	.84	.85	3.87	0.61
Emotional-regulatory	14	.88	.89	3.74	0.67
Reflective	14	.83	.84	3.91	0.58
Value-semantic	14	.86	.87	4.12	0.52
Communicative	14	.85	.86	3.95	0.59
Integral I-PC-5 Index	70	.93	.94	3.92	0.48

Source: authors' own calculations

Confirmatory factor analysis provided substantial empirical support for the hypothesised structure of the instrument and represents one of the central results of the study. The five-factor first-order model demonstrated a satisfactory level of fit to the empirical data, indicating that the proposed structure adequately reflects the relationships between observed variables and latent constructs. The obtained values of incremental fit indices ($CFI = .932$; $TLI = .928$) exceed the recommended threshold of .90, which suggests that the specified model provides a significantly better representation of the data compared to a null model. This indicates that the allocation of items to their respective factors is theoretically justified and empirically supported.

At the same time, the absolute fit indices further confirm the adequacy of the model. The RMSEA value (.041), which is below the more stringent criterion of .05, indicates a close fit of the model to the data rather

than merely an acceptable one. The narrow confidence interval for RMSEA ([.039; .043]) suggests stability of the estimated parameters and robustness of the model across possible samples. The SRMR value (.052), being well below the threshold of .08, indicates that the residual differences between observed and model-implied correlations are minimal. This provides additional evidence that the model reproduces the empirical covariance structure with a high degree of accuracy. Taken together, these indicators demonstrate that the five-factor structure of psychological culture is not only theoretically grounded but also empirically well-supported. Importantly, the combination of high incremental and low residual-based indices suggests that the model achieves both explanatory power and parsimony, which is considered a key criterion in structural modelling. Detailed goodness-of-fit indices for the first-order CFA model are presented in Table 2.

Table 2. Model fit indices for the first-order CFA model

Indicator	Value	Acceptable Threshold
χ^2 (df = 2205)	4,126.37	-
CFI	.932	$\geq .90$
TLI	.928	$\geq .90$
RMSEA	.041	$\leq .08$
90% CI RMSEA	[.039; .043]	-
SRMR	.052	$\leq .08$

Source: authors' own calculations

From a substantive perspective, the obtained model fit indicates that psychological culture can be interpreted as a structured system of interrelated but distinct components. The differentiation of factors confirms that cognitive, emotional-regulatory, reflective, value-semantic and communicative dimensions represent

specific aspects of psychological functioning rather than interchangeable traits. The stability of the model across a heterogeneous sample suggests that this structure is preserved across different types of educational institutions. Further testing of the second-order hierarchical model provided additional and conceptually important

evidence in support of the proposed structure of the instrument. The model demonstrated a good level of fit to the empirical data, indicating that the relationships among the five primary factors can be meaningfully explained through a higher-order latent construct.

The obtained goodness-of-fit indices confirm the adequacy of the hierarchical specification. In particular, the values of the Comparative Fit Index (CFI = .929) and Tucker-Lewis Index (TLI = .925) exceeded the recommended threshold of .90, indicating that the hierarchical model retains substantial explanatory power in comparison with a null model. At the same time, the values of the Root Mean Square Error of Approximation (RMSEA = .042) and the Standardised Root Mean Square Residual (SRMR = .055) remained well within acceptable limits, suggesting that the discrepancies between the observed data and the model-implied structure are minimal.

Importantly, the fit indices of the second-order model are only marginally lower than those of the first-order model, which represents a key analytical result. This indicates that the introduction of a higher-order latent factor does not substantially reduce model adequacy. In psychometric terms, this supports the parsimony of the hierarchical model, as it allows the complex structure of psychological culture to be

represented at a more general level without a significant loss of explanatory precision. From a theoretical perspective, these findings provide strong support for the assumption that the five primary components of psychological culture are not independent constructs but systematically interrelated dimensions. Their organisation within a higher-order latent factor suggests the presence of a common underlying psychological basis that integrates cognitive, emotional-regulatory, reflective, value-semantic and communicative characteristics of personality.

Thus, psychological culture may be interpreted as an integrated personal resource rather than a simple aggregation of separate traits. The hierarchical structure of the model reflects the dual nature of the construct, combining differentiation at the level of specific components with integration at the level of a general latent factor. This duality is particularly important for both theoretical interpretation and practical application, as it allows the instrument to be used for assessing both the overall level of psychological culture and the specific profiles of its components. Overall, the results of the second-order CFA confirm the structural coherence of the construct and strengthen the validity of the proposed model. Detailed model fit indices for the second-order CFA model are presented in Table 3.

Table 3. Model fit indices for the second-order CFA model

Indicator	Value
χ^2 (df = 2210)	4184.92
CFI	.929
TLI	.925
RMSEA	.042
90% CI RMSEA	[.040; .044]
SRMR	.055

Source: authors' own calculations

Standardised factor loadings of the primary components on the higher-order latent construct ranged from .72 to .84, indicating strong and practically meaningful associations between each component and the overall construct of psychological culture. These values substantially exceed the commonly accepted threshold for salient factor loadings ($\geq .50$), which suggests that all components make a significant contribution to the formation of the integral latent factor. All estimated coefficients were statistically significant ($p < .001$), confirming the robustness and stability of the relationships between the first-order factors and the higher-order construct. This result provides empirical evidence that the observed associations are not random and can be generalised beyond the sample.

A more detailed analysis of the factor loadings allows for a deeper interpretation of the internal structure of psychological culture. The highest loading was observed for the emotional-regulatory component (.84), indicating that the ability to manage emotional

states plays a particularly central role in the organisation of psychological culture as an integrated personal resource. This result may be explained by the functional significance of emotional regulation as a core mechanism that supports the coordination of other psychological processes. In particular, effective emotional regulation contributes to maintaining cognitive clarity, facilitates reflective analysis of one's experiences, and enables constructive interpersonal interaction. In the context of professional activity in educational settings, emotional-regulatory competencies are especially important due to the high intensity of interpersonal communication, emotional demands and stress-related factors. The ability to manage emotional reactions allows individuals to maintain professional stability, regulate behaviour in complex situations and sustain value-based interaction with others. Therefore, emotional regulation may serve as an integrative component that connects cognitive, reflective and communicative aspects of psychological culture. From a

structural perspective, the relatively higher loading of this component suggests that variability in emotional-regulatory abilities accounts for a substantial proportion of variance in the overall construct. This may indicate that emotional self-regulation functions as a key organising factor within psychological culture, reflecting its role as a dynamic mechanism that ensures the coherence and adaptive functioning of the system as a whole. This suggests that emotional self-regulation may function as a key mechanism linking other components of the construct.

In contrast, the reflective component demonstrated the lowest loading (.72), although it still remains within the range of strong associations. This relatively lower loading may be explained by the more complex and context-dependent nature of reflective processes. Reflection involves the ability to analyse one's own experiences, thoughts and behaviours, which is often influenced by situational factors, individual differences and the level of conscious engagement in self-analysis. Unlike emotional regulation, which is activated in real-time and directly supports behavioural adaptation, reflective processes are more variable and may not be consistently engaged across all situations. In professional contexts, particularly in educational environments, reflection often depends on external conditions such as time availability, organisational culture and opportunities for professional self-development. Moreover, reflection may function as a mediating or supporting mechanism rather than a primary organis-

ing component of psychological culture. It contributes to the integration of experience and the development of self-awareness but may exert its influence indirectly through other components, such as cognitive and emotional-regulatory processes. As a result, its statistical contribution to the higher-order construct may appear relatively lower, while still remaining theoretically significant. This may indicate that reflective processes are more context-dependent and variable across individuals, contributing to the overall construct in a less direct but still substantial manner.

Importantly, the relatively balanced distribution of factor loadings across all components indicates that the structure of psychological culture is not dominated by a single dimension. Instead, the construct demonstrates a high degree of structural equilibrium, in which cognitive, emotional-regulatory, reflective, value-semantic and communicative components contribute in a complementary manner. This finding supports the theoretical assumption of the multidimensional and integrative nature of psychological culture. Thus, the obtained factor loadings confirm that the proposed structural model simultaneously captures both the differentiation of components and their integration within a unified latent construct. This dual characteristic is essential for the interpretation of psychological culture as a complex personal resource that combines multiple aspects of psychological functioning. Detailed factor loadings of the primary components on the higher-order latent factor are presented in Table 4.

Table 4. Standardised factor loadings for the second-order model

Primary factor	Loading on I-PC-5
Cognitive	.78
Emotional-regulatory	.84
Reflective	.72
Value-semantic	.81
Communicative	.76

Note: all coefficients are statistically significant ($p < .001$)

Source: authors' own calculations

The distribution of factor loadings indicates that all components contribute substantially to the overall construct, with no single dimension dominating the structure. At the same time, variations in loadings may reflect differences in the manifestation of psychological culture across professional contexts, particularly between more cognitively oriented and more interaction-focused educational environments. Correlations between the latent factors ranged from $r = .48$ to $r = .67$, indicating moderate and theoretically meaningful associations between the components of psychological culture. These values suggest that the dimensions of the construct are substantially interrelated, reflecting the presence of a common underlying psychological foundation. At the same time, the magnitude of the correlations remains below the threshold that would indicate

excessive overlap between factors. This is an important result, as it demonstrates that the components retain their conceptual distinctiveness and are not redundant. In psychometric terms, this pattern provides evidence of discriminant validity, confirming that each scale captures a specific aspect of psychological culture.

A more detailed examination of the correlation structure reveals that the strongest relationship was observed between the emotional-regulatory and reflective components ($r = .67$), suggesting a close functional connection between emotional self-regulation and processes of self-awareness and reflection. This finding may indicate that the ability to regulate emotional states is closely linked to the capacity for analysing one's own experiences and behavioural strategies. At the lower end of the range, correlations closer to $r \approx .48$ indicate

comparatively weaker, though still meaningful, associations between certain components. This variation in correlation strength reflects the differentiated nature of the construct and suggests that different components contribute to psychological culture in distinct ways.

Overall, the observed pattern of correlations supports the assumption that psychological culture is characterised by both integration and differentiation. The components are sufficiently connected to form a

coherent system, yet sufficiently distinct to represent unique dimensions of psychological functioning. This balance between interrelatedness and independence is a key indicator of a well-structured multidimensional construct. Thus, the correlation analysis confirms that psychological culture can be conceptualised as an integrated but internally differentiated personal resource. Detailed correlations between the latent factors are presented in Table 5.

Table 5. Correlations between latent factors

Factors	r
Cognitive – Emotional-regulatory	.63
Cognitive – Reflective	.58
Emotional-regulatory – Reflective	.67
Value-semantic – Communicative	.61
Reflective – Communicative	.54

Note: correlations ranged from $r = .48$ to $r = .67$

Source: authors' own calculations

The pattern of correlations between factors suggests that the components of psychological culture are interconnected but retain their relative independence. Variability in the strength of correlations may reflect differences in professional roles and institutional contexts, where certain components are more closely linked depending on the nature of pedagogical activity. It should be noted that the use of self-report measures may introduce certain response biases, including social desirability and a tendency towards positive self-evaluation. This is particularly relevant for value-semantic and communicative components, which are closely associated with socially approved forms of behaviour. In the context of educational professions, respondents may be inclined to provide answers that reflect professional norms rather than actual experiences. However, the overall consistency of the results suggests that these effects did not substantially distort the general pattern of findings.

Overall, the obtained results provided strong and consistent empirical support for the theoretical five-component structure of psychological culture and confirm the validity of the proposed hierarchical model. The convergence of evidence from reliability analysis, model fit indices and structural parameters indicates that the construct is both psychometrically sound and theoretically coherent. The findings demonstrated that the primary components are systematically integrated within a higher-order latent factor representing psychological culture as a unified personal resource. Importantly, this hierarchical organisation does not obscure the specificity of individual components but rather reflects their coordinated functioning within a common psychological system. This result is particularly significant, as it confirms that psychological culture can be meaningfully interpreted at both general and component levels.

The psychometric analysis also indicates that the I-PC-5 instrument demonstrates high internal consistency and satisfactory structural validity, which constitutes a key practical outcome of the study. The stability of reliability coefficients and the adequacy of the model fit suggest that the instrument provides a consistent and theoretically grounded measurement of psychological culture across different aspects of the construct. From an applied perspective, these results justify the use of the I-PC-5 in both research and professional contexts. Compared to existing psychodiagnostic instruments that typically assess isolated psychological constructs (e.g., emotional regulation, reflection or values), the I-PC-5 provides an integrated assessment of psychological culture as a multidimensional personal resource. This represents a key advantage of the instrument, as it allows for a comprehensive evaluation of psychological functioning within a unified conceptual framework. The instrument can be effectively used in large-scale empirical studies aimed at monitoring the state and dynamics of psychological culture among educational professionals. In addition, it offers practical opportunities for psychological support and professional development programmes. In particular, the I-PC-5 enables the identification of strengths and potential deficits in specific components (e.g., emotional-regulatory or reflective), which allows for the design of targeted interventions focused on developing emotional resilience, self-reflection and communicative competence. Furthermore, the possibility of analysing both the overall index and the profiles of individual components provides additional analytical flexibility. This allows practitioners not only to assess the general level of psychological culture but also to construct individual or group profiles, which can be used for personalised feedback, counselling and the evaluation of intervention effectiveness over time. Thus, the I-PC-5 may be considered a reliable and

psychometrically robust diagnostic tool for assessing psychological culture. Its validated hierarchical structure enables a comprehensive analysis of the construct as an integrated yet internally differentiated system, making it particularly relevant for monitoring, psychological support and the development of personal and professional resources in contemporary educational environments.

The results of the present study can be interpreted within the framework of contemporary research on psychological resources, psychometric validation and applied psychological assessment. Comparison with recent empirical studies provides a deeper understanding of the structure and functional role of psychological culture. The role of psychological resources in professional functioning has been widely examined in recent studies. D. Bagdžiūnienė *et al.* (2022) investigated the relationship between leadership support, job resources and teacher resilience and demonstrated that psychological resources act as mediating factors in professional adaptation. These findings are consistent with the results of the present study, which conceptualise psychological culture as an integrative personal resource. However, while D. Bagdžiūnienė *et al.* (2022) emphasised external organisational conditions, the present research focuses on the internal structural organisation of psychological resources.

The multidimensional nature of psychological functioning has also been confirmed in research on subjective well-being. E. Diener *et al.* (2018) analysed the structure of well-being and emphasised its complex and multifaceted character, requiring integrative measurement approaches. This corresponds to the findings of the present study, where psychological culture is represented as a system of interrelated components organised within a hierarchical structure. The effectiveness of psychological interventions aimed at improving well-being has been analysed by D. García-Álvarez *et al.* (2021), who demonstrated positive changes in teachers' psychological functioning following intervention programmes. While their study focused on intervention outcomes, the present research contributes by providing a diagnostic tool for identifying the structure of psychological resources underlying such outcomes.

Recent developments in positive psychology also emphasise the multidimensional nature of psychological functioning. T. Lomas *et al.* (2021) proposed a model of well-being integrating cognitive, emotional and value-based components. This perspective is consistent with the structure of psychological culture identified in the present study. The concept of psychological capital developed by W.P. Setioningtyas *et al.* (2024) further supported the interpretation of psychological resources as higher-order constructs. The present findings are consistent with this approach, although the I-PC-5 model incorporates a broader range of components, including reflective and communicative aspects. The problem

of professional burnout has been conceptualised by C. Maslach & M.P. Leiter (2022) as a mismatch between the individual and the work environment. The present study complements this perspective by suggesting that internal psychological structures, such as psychological culture, may mediate this relationship.

From a methodological perspective, the results correspond to contemporary psychometric standards. H.W. Marsh *et al.* (2020) emphasised the importance of balancing model fit and parsimony when applying confirmatory factor analysis, which is supported by the satisfactory fit indices obtained in this study. J. Laboy Rodríguez (2025) demonstrated the usefulness of modelling both general and specific factors, which aligns with the hierarchical structure identified in the present research. Issues related to model evaluation and measurement invariance have been extensively examined in contemporary psychometric research. F.F. Chen (2007) analysed the sensitivity of commonly used fit indices, including CFI, TLI and RMSEA, to violations of measurement invariance. The author demonstrated that even relatively small deviations from invariance may lead to noticeable changes in fit indices, which can result in incorrect conclusions regarding model adequacy. Based on these findings, F.F. Chen (2007) emphasised the importance of cautious interpretation of fit indices and the need to consider the broader methodological context when evaluating model fit.

In turn, D. Svetina *et al.* (2020) focused on the problem of testing measurement invariance in models with categorical indicators. The authors proposed updated methodological guidelines for multiple-group confirmatory factor analysis using appropriate estimation techniques, including robust estimators designed for ordinal data. Their results showed that the use of conventional estimation methods may lead to biased parameter estimates and incorrect conclusions, whereas the application of specialised approaches significantly improves the accuracy of model evaluation. The methodological approach applied in the present study is consistent with these recommendations. In particular, the use of the WLSMV estimator and polychoric correlations reflects current best practices for analysing ordinal data, while the interpretation of model fit indices takes into account their known sensitivity to model specification and data characteristics.

Ukrainian studies have also contributed to the development of psychometric instruments. Z. Karpenko & A. Klympush (2025) validated the Ukrainian adaptation of the HEXACO personality inventory, demonstrating the importance of cultural adaptation. L. Kolesnichenko & A. Homeniuk (2025) confirmed the psychometric properties of the Decision Conflict Scale. L.V. Muzychko & Ya.L. Chernyshova (2025) developed a Ukrainian version of the acculturation strategies questionnaire. V. Olefir & V. Bosniuk (2024) validated the basic psychological needs satisfaction scale, and O. Shtepa (2024) examined

issues of content validity in self-reflection measurement. A. Trotsenko (2025) proposed a scale of personal dynamics as a tool for assessing personality change. These studies indicated that contemporary Ukrainian psychology actively develops psychometric approaches to measuring complex psychological constructs. In this context, the I-PC-5 contributes to this field by offering an integrative diagnostic model of psychological culture. Overall, the findings of the present study are consistent with contemporary theoretical and empirical research and extend existing knowledge by providing evidence for the hierarchical structure of psychological culture and a validated instrument for its assessment.

Conclusions

The present study provided the psychometric validation of the diagnostic instrument "Index of Psychological Culture of Personality (I-PC-5)", developed to assess psychological culture as a multidimensional personal resource. The findings of the study consistently support the proposed theoretical model and confirm the structural organisation of the construct. The results of confirmatory factor analysis demonstrated that the five-component structure of psychological culture is empirically substantiated and that the components are meaningfully integrated within a second-order latent factor. The obtained model fit indices indicate a good correspondence between the empirical data and the theoretical model, which confirms the adequacy of the proposed measurement structure. The hierarchical model, in particular, supports the interpretation of psychological culture as a unified yet internally differentiated construct. Reliability analysis further strengthens these conclusions by demonstrating a high level of internal consistency across all scales of the instrument. Both Cronbach's alpha and McDonald's omega

coefficients exceeded the recommended threshold values, confirming the stability and coherence of the measurement. The high reliability of the integral index indicates that the overall score can be used as a consistent indicator of psychological culture.

Taken together, these results demonstrated that the I-PC-5 instrument possesses satisfactory psychometric properties, including structural validity and internal reliability. The findings confirm that the instrument provides a theoretically grounded and empirically supported assessment of psychological culture. From a practical perspective, the validated structure of the instrument allows for its application in empirical research, monitoring programmes and psychological support initiatives. The possibility of analysing both the overall level of psychological culture and the profiles of its individual components expands the analytical potential of the method and enables a more nuanced understanding of personal psychological resources. Thus, the I-PC-5 may be considered a reliable and valid diagnostic tool for assessing psychological culture in contemporary educational and professional contexts. Further research may focus on expanding the empirical basis of the I-PC-5, clarifying the stability of its psychometric properties in different educational and professional contexts, and examining its applicability for monitoring and psychological support programmes.

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Психометрична валідація індексу психологічної культури особистості (I-PC-5)

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Анотація. Актуальність дослідження зумовлена потребою у валідному та надійному інструменті оцінювання психологічної культури як інтегративного особистісного й професійного ресурсу в умовах сучасних соціальних трансформацій та професійних викликів в освітньому середовищі. Метою дослідження була психометрична валідація комплексного психодіагностичного інструмента «Індекс психологічної культури особистості (I-PC-5)». Дослідження ґрунтувалося на багатовимірній теоретичній моделі психологічної культури та передбачало застосування підтверджувального факторного аналізу з використанням оцінювача зважених найменших квадратів із корекцією середнього та дисперсії, оцінювання показників відповідності моделі – порівняльного індексу відповідності (CFI), індексу Такера – Льюїса (TLI), середньоквадратичної похибки апроксимації (RMSEA), стандартизованого середньоквадратичного залишку (SRMR), а також оцінювання внутрішньої узгодженості за допомогою коефіцієнтів альфа Кронбаха та омега Макдональда. Результати засвідчили, що п'ятифакторна модель першого порядку демонструє задовільну відповідність емпіричним даним, підтверджуючи теоретичну структуру конструкта. Ієрархічна модель другого порядку також виявила прийнятні показники відповідності, що підтверджує наявність загального латентного фактора, який репрезентує психологічну культуру як інтегрований особистісний ресурс. Усі факторні навантаження були статистично значущими та засвідчили вагомий внесок кожного компонента в загальний конструкт. Показники внутрішньої узгодженості для всіх шкал перевищили рекомендовані порогові значення (α та $\omega \geq .70$), що свідчить про високу надійність. Крім того, помірні кореляції між факторами підтвердили їхню концептуальну відмінність і водночас підтримали багатовимірну структуру конструкта. Отримані результати свідчать, що інструмент забезпечує стабільне й теоретично обґрунтоване вимірювання психологічної культури. Інструмент може застосовуватися в емпіричних дослідженнях, моніторингових програмах і програмах психологічного супроводу педагогічних працівників та представників інших професійних груп.

Ключові слова: особистісні психологічні ресурси; багатовимірний конструкт; підтверджувальний факторний аналіз; валідність; надійність; інтегральний індекс

Coping strategies of journalists in armed conflict: Adaptive and maladaptive models

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Abstract. The article provides a theoretical analysis of adaptive and maladaptive coping strategies among journalists working under conditions of armed conflict. The relevance stems from journalists being one of the most psychologically vulnerable professional groups with respect to post-traumatic stress disorder (PTSD), depression, and burnout, yet their coping patterns remain understudied compared to other helping professions. The purpose of the study was to systematise existing empirical data on journalist coping strategies and to construct a classification of adaptive and maladaptive models accounting for the specifics of journalistic activity during wartime. The methodology encompassed theoretical analysis and systematisation of scientific sources, and comparative analysis of empirical findings on coping behaviour among media professionals across different countries. The results indicated that avoidant emotional coping constituted one of the principal risk factors for PTSD among journalists, whereas social support operated heterogeneously: recognition of professional contribution from colleagues and managers significantly correlated with post-traumatic growth, while perceived and received support did not show a comparable protective effect on post-traumatic stress symptoms. A journalism-specific maladaptive pattern of 'professional stoicism' was identified – the normative suppression of emotional reactions under the pressure of newsroom culture. The role of reflexive coping as an adaptive strategy enabling conscious processing of media-related trauma was substantiated. According to longitudinal data from the Institute of Mass Information, the majority of Ukrainian journalists employed adaptation as their primary strategy, with family remaining the principal coping resource. The practical value lay in establishing a foundation for developing support programmes for media professionals' psycho-emotional health

Keywords: professional stoicism; avoidance; social support seeking; reflexive coping; post-traumatic growth; media-related trauma

Introduction

Journalists covering armed conflicts face a distinctive constellation of occupational stressors that sets them apart from other high-risk professional groups. Unlike military personnel, who receive systematic training in stress management and operate within structured support systems, or clinical psychologists, who are educated in vicarious trauma and supervised throughout their careers, journalists typically enter traumatic environments with minimal psychological preparation and limited institutional safeguards. The capacity to cope with chronic professional stress is therefore central to understanding how journalists maintain or lose their effectiveness under conditions of armed conflict, and

the specific cognitive and behavioural mechanisms involved in this process require systematic investigation. The empirical evidence accumulated over the past two decades has consistently documented elevated psychological morbidity among journalists, although the depth of analysis varies considerably across studies.

S. Williams & T. Cartwright (2021) surveyed 69 British print and broadcast journalists who had covered wars, terrorist attacks, natural disasters, and other traumatic events to examine symptoms of post-traumatic stress disorder (PTSD), post-traumatic growth, and their association with exposure to life-threatening situations. They found that journalists who had worked

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in conflict zones and experienced personal threats to their lives reported significantly higher levels of post-traumatic growth, whereas personal risk was not associated with the severity of PTSD symptoms. The authors also reported that freelance journalists exhibited higher levels of PTSD symptoms than staff journalists, and identified organisational support, opportunities to discuss traumatic experiences, and access to psychological support as key factors facilitating recovery.

R. Flannery (2022) conducted a systematic literature review covering 23 empirical studies with 4,558 participants published between 2011 and 2020. The review confirmed that journalists exhibited PTSD rates substantially exceeding those of the general population and identified exposure frequency, social support, and organisational climate as recurring correlates. Author's synthesis, however, treated coping largely as a homogeneous category and did not systematically differentiate between adaptive and maladaptive pathways, leaving open the question of which specific strategies protected or harmed journalist mental health. S.H. Damas & J. Valero-Pastor (2026), analysing 15 empirical studies from 2010 to 2025, advanced the field by reframing journalist distress as the product of structural pressures rather than individual vulnerability. The authors identified overwork, trauma exposure, online harassment, and the erosion of collegial networks as principal stressors and called for interventions at the organisational level. The principal focus of their analysis nevertheless remained on stressors and outcomes rather than on the typology of coping responses or on the journalism-specific cognitive mechanisms involved in processing mediated trauma. Despite this evidence base, the specific coping mechanisms through which journalists navigate these pressures – and particularly the distinction between strategies that protect mental health and those that exacerbate vulnerability – have received comparatively little systematic attention.

The Ukrainian context provides an unprecedented natural laboratory for studying journalist coping under extreme conditions. Russia's full-scale invasion, now in its fifth year, has subjected the entire media community to chronic stressors that operate simultaneously and without respite. According to longitudinal surveys conducted by the Institute of Mass Information (IMI), the vast majority of Ukrainian journalists reported war-related psychological deterioration (Institute of Mass Information, 2024). Yet the same surveys revealed emerging adaptive patterns: a growing proportion of media professionals described themselves as gradually adapting to wartime conditions without losing professional capacity (Institute of Mass Information, 2025). This coexistence of distress and adaptation within the same population highlighted the theoretical and practical importance of understanding coping mechanisms. The purpose of this study was to systematise existing empirical data on coping strategies of journalists

working in conditions of armed conflict and to construct a theoretically grounded classification of adaptive and maladaptive coping models that accounts for the distinctive features of journalistic work. The scientific novelty consists in identifying a journalism-specific maladaptive pattern – “professional stoicism” – and in substantiating reflexive coping as an adaptive strategy rooted in the media-psychological tradition.

Materials and Methods

The study employed a theoretical research design grounded in the systematic examination, classification, and conceptual integration of scholarly literature on journalist coping. The analysis was structured around three interrelated tasks: identifying empirically validated coping strategies, classifying them along adaptive-maladaptive and individual-organisational dimensions, and integrating the resulting typology with the specific features of journalistic work under armed conflict. The source base comprised peer-reviewed empirical studies on journalist coping, systematic reviews and meta-analyses, institutional reports from media monitoring organisations with particular reliance on the longitudinal surveys of the Institute of Mass Information (2024; 2025), and validated psychometric instruments. Selection followed three inclusion criteria: the source contained direct empirical data on coping strategies, stress responses, or protective factors among journalists, or constituted a foundational theoretical work cited in this empirical literature; the source was published in a peer-reviewed journal, an academic monograph, or by a recognised institutional body; the source was available in English or Ukrainian. Sources in Russian were excluded in accordance with current Ukrainian academic standards. Studies focused exclusively on populations adjacent to journalism – humanitarian workers, military personnel, first responders – were excluded unless they provided directly transferable theoretical frameworks. Tabloid commentary and non-peer-reviewed industry publications were also excluded.

The theoretical analysis drew on three complementary frameworks. The transactional model of stress and coping (Lazarus & Folkman, 1984) provided the foundational lens for differentiating problem-focused, emotion-focused, and avoidant strategies. The Professional Quality of Life model (Stamm, 2010), operationalised through the ProQOL scale, supplied the profession-specific dimension covering compassion satisfaction, burnout, and secondary traumatic stress. The media-psychological reflexive approach (Naidonova, 2013) supplied the journalism-specific cognitive processing mechanism. The Connor-Davidson resilience scale (CD-RISC) (Connor & Davidson, 2003) was used as a reference framework for the construct of resilience as a sustained adaptive capacity, and empirical findings reported in the reviewed studies were considered alongside the

corresponding validated instruments used by the original authors, allowing for cross-study comparability of the coping constructs.

The procedure consisted of three sequential stages. In the first stage, empirical studies were screened, and the specific coping strategies they reported were extracted alongside the associated mental health outcomes. In the second stage, the strategies were classified along two dimensions: adaptive versus maladaptive (according to their empirical association with PTSD, depression, burnout, or post-traumatic growth) and individual versus organisational (according to the level at which the strategy operates). In the third stage, the classified strategies were synthesised into a conceptual model accounting for the distinctive features of journalistic activity under armed conflict. The Ukrainian longitudinal data from Institute of Mass Information (2024; 2025) surveys were treated as a focal case for examining population-level coping dynamics under protracted conflict. Comparison with international findings was conducted thematically: each coping pattern identified internationally was tested against the Ukrainian dataset to determine whether it was confirmed, modified, or contradicted under conditions of sustained warfare.

Results and Discussion

Avoidant coping as a key maladaptive pathway among journalists

The most robust finding in the empirical literature on journalist coping concerns the role of avoidance. R. Smith *et al.* (2018), in a study of U.S. journalists from diverse media organisations covering work-related traumatic stories, identified avoidant emotional coping as one of the principal risk factors for PTSD symptomatology, alongside higher levels of perceived organisational stressors, the intensity of exposure to work-related traumatic stressors, and personal trauma history. The authors emphasised that while avoidant coping may serve an adaptive function in helping journalists maintain objectivity during active news production, its sustained use after coverage can inhibit the processing of traumatic encounters and become maladaptive in the long term. This finding aligns with the broader clinical literature, where avoidance is recognised as both a symptom and a maintaining factor of PTSD (American Psychiatric Association, 2013). However, in journalism, avoidance assumes a profession-specific form that distinguishes it from avoidance in other occupational contexts.

For journalists, avoidance operates at multiple levels. At the cognitive level, it manifests as the suppression of emotional responses to traumatic material – a pattern often reinforced by newsroom norms that equate professional competence with emotional impassivity. K. Backholm & K. Björkqvist (2010), in a study of Finnish news journalists, photographers, and camera operators, examined the predictors of PTSD,

depression, compassion fatigue, and burnout in this professional group, identifying personal exposure to traumatic events and the magnitude of crisis-related work assignments as significant risk factors. Their analysis further demonstrated an interaction effect: respondents with high scores on both personal traumatic experiences and a high amount of professional crisis-related assignments exhibited significantly higher PTSD symptoms than other groups, indicating a cumulative vulnerability that becomes particularly relevant for journalists working in protracted conflict. At the behavioural level, avoidance may include reluctance to seek professional psychological help, reluctance to discuss traumatic experiences with colleagues, or withdrawal from social interactions. The IMI surveys consistently document this pattern: while the majority of Ukrainian journalists acknowledge the need for psychotherapy, organisational obstacles and occupational stigma markedly constrain the actual utilisation of psychological services (Institute of Mass Information, 2024).

A distinctive journalism-specific form of avoidance that emerges from the empirical evidence may be conceptualised as “professional stoicism” – the normative expectation within media organisations that journalists should remain emotionally unaffected by the material they process. This pattern is not merely individual avoidance; it is culturally sanctioned and structurally reinforced through organisational practices. Research consistently documents that journalists perceive organisational psychological support as grossly inadequate, with a prevailing culture that discourages emotional disclosure. The Eyewitness Media Hub study by S. Dubberley *et al.* (2015), surveying 209 user-generated content verifiers, documented a prevailing attitude of “toughen up or get out” that effectively prohibited emotional disclosure. Professional stoicism thus functions as a maladaptive organisational coping norm that amplifies individual avoidance and creates a self-reinforcing cycle of psychological deterioration.

Social support as a key adaptive resource for journalist mental health

In contrast to avoidance, social support emerges consistently as one of the most studied protective factors in the journalist coping literature. T. Idås *et al.* (2019), in a study of Norwegian journalists who covered the 2011 Utøya terror attack, examined the relationship between three subtypes of workplace social support – perceived support, received support, and received recognition – and post-traumatic stress symptoms (PTSS) and post-traumatic growth (PTG). The study demonstrated that the relationship between social support and post-trauma outcomes was more nuanced than is often assumed: receiving recognition from colleagues and managers was significantly associated with PTG, whereas perceived and received support did not show a comparable protective effect on PTSS. The authors

interpreted the findings as evidence that the qualitative dimension of support – particularly the recognition of professional contribution under demanding conditions – plays a more important role in promoting growth than the mere availability of support, and that newsroom cultures that openly acknowledge stress as a natural post-trauma reaction may foster resilience among journalists. The finding resonates with the dual-continuum model of mental health proposed by C. Keyes (2002), which posits that positive functioning and psychopathology are independent dimensions requiring independent intervention.

The Ukrainian longitudinal data provide a unique perspective on the dynamics of social support as a coping resource under conditions of sustained conflict. IMI surveys document that family constitutes the primary stabilising factor for journalists throughout all years of full-scale war, with its reported importance growing steadily from under half of respondents at the onset of invasion to over half by the fourth year (Institute of Mass Information, 2025). This gradual increase – rather than the decline that might be expected under conditions of chronic stress and resource depletion – suggests that family support functions not merely as a buffer but as a resource that strengthens through use. Professional peer support, while less frequently cited than family, represents another adaptive resource within journalist coping. N. Seely (2019), in a national multi-method study of American journalists, demonstrated that as the frequency and intensity of trauma coverage increase, so does the severity of PTSD symptoms, and identified a set of recurrent coping mechanisms used by journalists to manage these effects, including disconnecting from work, purging emotions, talking about trauma, and remembering the higher purpose of their professional role. Among the practical implications, the author called for humanising newsroom culture and integrating trauma-related training into journalism education – both of which suggest that peer-level processing and collegial communication function as important, if uneven, components of the journalist coping repertoire.

However, the availability of social support is not uniform across the journalistic population. The IMI data reveal a significant structural vulnerability: the closure of hundreds of Ukrainian media outlets since 2022, combined with the conscription of male colleagues (reported as a notable challenge in newsroom management by a substantial share of editorial offices in 2024), has eroded the professional networks through which social support is typically channelled. This erosion creates a paradox: the coping resource most consistently identified as protective becomes less accessible precisely when it is most needed. This finding has direct implications for intervention design: programmes aimed at strengthening journalist coping must address the structural conditions that enable or constrain access to social support, rather than focusing

exclusively on individual-level strategies (Institute of Mass Information, 2024).

The transition to adaptive pragmatism under conditions of eroded professional networks raises a substantive theoretical question: can family support adequately compensate for the loss of professional peer support in processing specifically occupational trauma? The Ukrainian data suggest a partial rather than full compensation. Family functions effectively as a regulatory and stabilising resource – preserving baseline psychological functioning, providing recovery from acute episodes, and sustaining motivation. However, family support is structurally limited in addressing the cognitive demands of mediated trauma, which require interlocutors who share the professional frame of reference. The empirical correlate of this limitation appears in the IMI data as the marked rise in formal psychotherapy uptake during 2023-2024 (Institute of Mass Information, 2024): journalists implicitly substituted clinical professionals for the eroding peer network, transferring the function of professional debriefing to therapeutic settings. Adaptive pragmatism, in this reading, is not the product of family support alone but of a reconfigured coping architecture in which family preserves general psychological resources while clinical professionals partially absorb the function previously fulfilled by colleagues. This reconfiguration is sustainable but psychologically costly and depends on the continued accessibility of mental health services – itself a structural variable subject to wartime disruption.

Reflexive coping as a journalism-specific adaptive mechanism

Beyond the general categories of avoidance and social support, the analysis reveals a coping mechanism that is distinctive to journalism: reflexive processing of traumatic media content. Drawing on L. Naidonova (2013) media-psychological approach, reflexive coping can be defined as the journalist's capacity for conscious, critical engagement with the psychological impact of professional media work – the ability to monitor one's own cognitive and emotional reactions to traumatic material and to differentiate between professional processing and personal assimilation of trauma.

This concept addresses a gap in the standard coping classification. R. Lazarus & S. Folkman's (1984) original distinction between problem-focused and emotion-focused coping does not adequately capture the cognitive work that journalists perform when processing traumatic content. The journalist does not merely "encounter" a stressor; they actively select, frame, narrate, and disseminate it – a complex process that simultaneously requires emotional engagement (for authentic reporting) and cognitive distancing (for accurate analysis). Reflexive coping provides the metacognitive framework through which this dual demand is managed. In the framework of vicarious traumatisation theory

(McCann & Pearlman, 1990), reflexive coping directly counteracts the mechanism by which cognitive schemas about safety, trust, and control are disrupted: by maintaining awareness that changes in worldview are attributable to professional exposure rather than representing objective reality.

Empirical support for the protective role of reflexive processing comes from multiple sources. J. Os-
mann *et al.* (2021), in their mapping review of journal-
ist well-being research, identified cognitive processing
quality as a key differentiator between journalists who
develop chronic pathology and those who maintain
positive functioning despite equivalent levels of ex-
posure. The concept of compassion satisfaction in B.
Stamm (2010) ProQOL model captures a related phe-
nomenon: the positive meaning derived from profes-
sional competence in bearing witness, which functions
as a cognitive resource that sustains engagement with-
out burnout. S. Arefnia (2025), while studying a differ-
ent population – Ukrainian internally displaced women
and women from other countries – demonstrated that
resilience, a construct closely linked to reflexive capac-
ity, emerged as a substantial predictor of subjective
well-being under conditions of war-related stress, with

its protective role becoming more pronounced as stress
intensity increased. This dose-response pattern sug-
gests that reflexive-resilient coping becomes more, not
less, important as stress intensifies – a finding directly
relevant to journalists operating under protracted war-
time conditions.

Two-dimensional classification: Integrating the adaptive-maladaptive and individual-organisational levels

The strategies examined above can now be integrat-
ed within the two-dimensional framework declared
in the Materials and Methods: each coping pattern is
positioned simultaneously along the adaptive-mal-
adaptive axis (defined by its empirical association
with post-traumatic stress, depression, burnout, or
post-traumatic growth) and along the individual-or-
ganisational axis (defined by the level at which the
strategy operates). This systematic cross-classifica-
tion, summarised in Table 1, makes explicit a pattern
that a one-dimensional adaptive-maladaptive division
obscures: the most consequential coping dynamics in
journalism are located not at a single level but in the
interaction between the two.

Table 1. Two-dimensional classification of journalist coping strategies
(adaptive-maladaptive × individual-organisational)

Level	Adaptive	Maladaptive
Individual level	Reflexive coping (conscious processing of mediated trauma); help-seeking and psychotherapy uptake; meaning-based engagement / compassion satisfaction	Avoidant emotional coping; suppression of emotional responses; withdrawal and reluctance to seek help or to discuss trauma with colleagues
Organisational level	Recognition of professional contribution by colleagues and managers; collegial peer-support networks; trauma-informed newsroom culture; access to psychological assistance and trauma training	'Professional stoicism' / 'toughen up or get out' norm; inadequate institutional support; structural erosion of peer networks (outlet closures, conscription)

Source: developed by the author

Read across the levels, the classification reveals two cross-level interactions that a single-level analysis misses. First, the organisational maladaptive norm of professional stoicism does not merely coexist with individual avoidant coping but actively amplifies it, converting a personal regulatory strategy into a culturally mandated one and thereby blocking the transition to adaptive processing. Second, the principal adaptive resources operate asymmetrically across levels: recognition – an organisational-level resource – most reliably predicts post-traumatic growth, whereas reflexive coping – an individual-level capacity – most directly counteracts the cognitive disruption of mediated trauma; neither substitutes for the other. The practical implication is that adaptive coping in journalism cannot be cultivated at the individual level alone, because its strongest protective components are organisationally conditioned, while its maladaptive counterparts are organisationally reinforced.

Trajectory of coping adaptation among Ukrainian journalists during 2022-2025

The IMI longitudinal dataset offers a rare opportunity to trace the evolution of coping patterns within a journalistic community subjected to sustained armed conflict. The data reveal a three-phase trajectory. In the first phase (2022), the dominant pattern was acute mobilisation: journalists reported overwhelming stress but simultaneously high levels of hope and professional commitment. This mobilisation phase reflected the initial mobilisation response described in disaster psychology (Raphael, 1986), in which heightened arousal and sense of purpose temporarily offset the psychological toll of exposure. The proportion of journalists reporting hope and belief in victory was high, and professional solidarity served as the primary collective coping resource. The second phase (2023-2024) was characterised by deepening exhaustion: depression indicators rose significantly, sleep disturbances

affected about half of respondents, and suicidal ideation increased. Yet this period also witnessed a dramatic shift in formal help-seeking behaviour: by 2024, nearly half of surveyed journalists reported experience with psychotherapy, a dramatic increase compared to the minimal utilisation rates documented in the early months of the invasion (Institute of Mass Information, 2024). A. Feinstein *et al.* (2002), in a landmark comparative study of war correspondents and journalists who had not covered war, examined the long-term psychological consequences of conflict reporting. The authors documented PTSD prevalence of 28.6% in the war group versus markedly lower rates among colleagues who had not covered war, alongside elevated indicators of depression. They concluded that war journalism constitutes a hazardous profession requiring systematic psychological support. The study, however, focused predominantly on diagnostic outcomes rather than on the coping mechanisms through which journalists either developed or avoided pathology – a limitation that subsequent research only partially addressed.

The third phase (2025) reveals what may be termed ‘adaptive pragmatism’ – a coping stance characterised by the deliberate management of expectations and the prioritisation of functional sustainability over emotional processing. The majority of surveyed journalists endorsed the attitude of adapting to reality without building illusions but also without despairing. Acute symptoms partially receded while chronic exhaustion became the background state. This trajectory aligns with the conservation of resources theory (Hobfoll, 1989), which predicts that under conditions of prolonged resource threat, individuals shift from active coping to resource conservation strategies. K. Connor & J. Davidson (2003) conceptualised this capacity as resilience, operationalising it through the CD-RISC scale that measures the ability to maintain equilibrium during ongoing adversity – a quality that the IMI data suggest characterises the majority of Ukrainian journalists who continue functioning despite chronic exhaustion. In the journalistic context, adaptive pragmatism represents a sustainable – if psychologically costly – equilibrium between professional demands and depleted psychological resources. The Ukrainian data thus reveal a population-level shift from acute emotional coping (hope, solidarity, denial) through crisis-driven formal help-seeking (psychotherapy uptake) to pragmatic adaptation (expectation management, chronic exhaustion tolerance). This trajectory has no close analogue in the international literature, where most studies capture journalist coping at a single time point. It demonstrates that coping among journalists in armed conflict is not a static disposition but a dynamic, evolving process shaped by the duration and intensity of exposure, the availability of resources, and the broader socio-political context.

Conclusions

The theoretical analysis yielded four findings with implications for both research and practice. Avoidant coping – particularly in the culturally sanctioned form of “professional stoicism” – was identified as a key maladaptive pathway among journalists, with consistent empirical evidence linking it to elevated PTSD, depression, and burnout. Unlike avoidance in other populations, journalistic avoidance is structurally reinforced through organisational norms that equate emotional impassivity with professional competence; it is therefore not amenable to purely individual-level intervention. Social support was confirmed as an important adaptive resource that operates heterogeneously: among its three subtypes, recognition of professional contribution emerged as the most consistent correlate of post-traumatic growth, while perceived and received support did not show comparable protective effects on post-traumatic stress symptoms. The Ukrainian data demonstrated that family support strengthens rather than depletes under prolonged stress, while professional peer networks are simultaneously eroded by structural factors – creating a critical vulnerability in the overall coping architecture. Reflexive coping was substantiated as a journalism-specific adaptive mechanism enabling conscious processing of mediated trauma. Grounded in the media-psychological tradition, this mechanism addresses the unique cognitive demands of journalistic work – the simultaneous requirement for empathic engagement and analytic detachment – that standard coping classifications fail to capture. The three-phase trajectory documented in Ukrainian longitudinal data – acute mobilisation (2022), exhaustion with help-seeking (2023-2024), and adaptive pragmatism (2025) – revealed coping among journalists in armed conflict as a dynamic, evolving process rather than a static individual trait. This trajectory, which has no close analogue in the international literature, demonstrates that the timing and content of support interventions must align with the phase of the coping process within which the population currently operates. The proposed classification of adaptive and maladaptive coping models contributes to the field of occupational media psychology by offering a journalism-specific framework that can be empirically tested using validated instruments. Prospects for further research include cross-sectional empirical testing of the classification on a sample of Ukrainian journalists using the ProQOL and CD-RISC instruments, and longitudinal investigation of transitions between adaptive and maladaptive coping profiles. This work constitutes an integral component of the author’s doctoral research on the psychological determinants of journalist mental health preservation under stressful conditions.

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Conflict of Interest

None.

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Копінг-стратегії журналістів в умовах збройного конфлікту: адаптивні та дезадаптивні моделі

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Анотація. У статті здійснено теоретичний аналіз адаптивних та дезадаптивних копінг-стратегій журналістів, які працюють в умовах збройного конфлікту. Актуальність зумовлена тим, що журналісти є однією з найбільш вразливих професійних груп щодо розвитку посттравматичного стресового розладу (ПТСР), депресії та вигорання, проте їхні копінг-моделі залишаються малодослідженими порівняно з іншими професіями допомагаючого типу. Метою дослідження була систематизація наявних емпіричних даних щодо копінг-стратегій журналістів та побудова класифікації адаптивних і дезадаптивних моделей з урахуванням специфіки журналістської діяльності у воєнний час. Методологія охоплювала теоретичний аналіз та систематизацію наукових джерел, порівняльний аналіз результатів емпіричних досліджень копінг-поведінки серед медійників різних країн. Результати засвідчили, що уникаючий емоційний копінг постав одним із ключових факторів ризику ПТСР серед журналістів, тоді як соціальна підтримка діяла неоднорідно: визнання з боку колег та керівників значущо корелювало з посттравматичним зростанням, тоді як перцептивний і отриманий рівні підтримки не демонстрували порівнянного захисного ефекту щодо посттравматичної симптоматики. Виявлено специфічну для журналістики дезадаптивну модель «професійного стоїцизму» – нормативного придушення емоційних реакцій під тиском редакційної культури. Обґрунтовано роль рефлексивного копінгу як адаптивної стратегії, що дозволяє здійснювати усвідомлену переробку медіатравми. За даними Інституту масової інформації, переважна більшість українських журналістів вдається до адаптації як провідної стратегії, а сім'я залишається головним копінг-ресурсом. Встановлено три фази адаптації українських медійників: гостра мобілізація (2022), виснаження зі зверненням по допомогу (2023-2024) та адаптивний прагматизм (2025). Ця динаміка не має аналогів у міжнародній літературі та засвідчує, що копінг є не статичною диспозицією, а динамічним процесом, що еволюціонує під впливом тривалості та інтенсивності стресогенного середовища. Практична цінність полягала у створенні підґрунтя для розробки програм підтримки психоемоційного здоров'я медійників

Ключові слова: професійний стоїцизм; уникання; пошук соціальної підтримки; рефлексивний копінг; посттравматичне зростання; медіатравма

Psychometric validation of the Ukrainian-language SRIS-12 in adults aged 35–55

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Abstract. The Ukrainian psychological community currently lacks a fully validated short-form instrument for measuring self-reflection and insight in adult populations. Existing practice relies on translated or partially adapted versions of the original 20-item scale without meeting contemporary psychometric standards, which creates methodological limitations for research with adults navigating crisis conditions. The aim of this study was to adapt and conduct an initial psychometric validation of the Ukrainian-language version of the Self-Reflection and Insight Scale – Short Form in a community sample of adults aged 35–55 and older residing in Ukraine under wartime conditions. The adaptation followed a five-stage forward-backward translation protocol with expert panel review and pilot cognitive interviewing with the target age group. Data were collected via online survey in March 2026 (N = 332; 69.0% women; age range 35–55+). Psychometric analyses included internal consistency estimation, confirmatory factor analysis of the two-factor oblique model, and known-groups validity assessment. Internal consistency was good to excellent: Cronbach's alpha reached 0.845 for the Self-Reflection subscale, 0.791 for the Insight subscale, and 0.773 for the total scale. Confirmatory factor analysis confirmed the two-factor structure with acceptable fit, with all twelve factor loadings statistically significant. The inter-factor correlation was near-zero and non-significant, indicating that self-reflection and insight functioned as essentially independent dimensions in this crisis sample – a theoretically meaningful departure from findings in student populations. Known-groups analyses showed that women scored higher on self-reflection than men, and participants who experienced forced residential relocation showed reduced self-reflective engagement. Preliminary normative data are provided for the full sample and by age and gender subgroups. The recommended for use by clinical psychologists, crisis counsellors, and researchers working with adults aged 35 and above in wartime and post-conflict contexts, specifically for diagnosing reflective capacity, monitoring psychological dynamics in longitudinal studies, and designing targeted self-regulation interventions

Keywords: reflective functioning; private self-consciousness; scale adaptation; cross-cultural adaptation; middle adulthood; crisis context; wartime Ukraine

Introduction

Self-reflection and insight are conceptually related but analytically distinct dimensions of private self-consciousness, and the difference between them matters far more than a definitional distinction might suggest.

Self-reflection refers to the dispositional tendency to examine one's own thoughts, emotions, and behaviour – to turn attention inward, scrutinise feelings, replay events, and interrogate motivations. Insight, by

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contrast, denotes the achieved clarity of understanding of one's internal states and the motives that underlie one's actions. A person may engage in frequent and intense self-examination and still arrive at no stable or accurate understanding of what actually drives them; equally, occasional but well-directed reflection can yield genuine self-knowledge that habitual introspection fails to produce. This asymmetry has direct consequences for psychological functioning. High self-reflection without corresponding insight is associated with ruminative patterns – a circling inward that generates distress rather than resolution. Insight, when it emerges from effective self-reflection, supports adaptive self-regulation, accurate self-appraisal, and purposeful goal pursuit. The two dimensions therefore relate differently to wellbeing, to coping under pressure, and to the capacity for identity integration across the lifespan. It is precisely this non-equivalence that makes the two-dimensional measurement of reflective capacity worth pursuing – and that makes collapsing self-reflection and insight into a single composite index a methodological choice with real consequences for the accuracy of what is being measured.

For adults in the 35-55 age range, reflective capacity carries particular developmental weight, as demonstrated by several recent empirical studies. E. Reinilä *et al.* (2023) examined generativity development in a longitudinal study from age 42 to 61, finding that this period is characterised by significant identity reassessment and individual variability in developmental trajectories, underscoring that midlife is far from psychologically stable. G. John & M. Wani (2025) noted that midlife brings heightened awareness of mortality, career dissatisfaction, identity confusion, and relationship evaluation, and that these experiences converge around a heightened need for reassessment and readaptation. Within self-determination theory, autonomous regulation – acting from genuinely endorsed values rather than external demands – presupposes motivational self-knowledge of exactly the kind that insight is designed to capture (Ryan *et al.*, 2022). None of these frameworks treats reflection as a luxury; all of them, from different directions, position it as a constitutive element of adaptive adult functioning.

The relevance of measuring self-reflection and insight in adult populations has grown considerably over the period from 2020 to 2025. W. He & J. Gan (2025), in a meta-analysis of 39 studies totalling 12,496 participants, concluded that self-reflection is significantly associated with depression and anxiety, and that this relationship is moderated by cultural background and by the specific measurement instrument used – underscoring the methodological importance of culturally validated tools. K. Bucknell *et al.* (2024) demonstrated that the adaptive potential of self-reflection under stress is realised only when the reflective process results in genuine insight: without clarity of understanding,

self-reflection transforms into rumination and begins to undermine rather than support psychological functioning. Since February 2022, adults aged 35-55 in Ukraine have been navigating what can reasonably be described as a compound crisis – the normative developmental pressures of midlife coinciding with a sustained, large-scale non-normative stressor. Displacement, bereavement, the collapse of professional and family plans, and ongoing exposure to threat do not pause the ordinary work of midlife identity; they collide with it.

A. Kurapov *et al.* (2023) documented that nearly all surveyed Ukrainian university students and staff experienced a deterioration of psychological wellbeing following the onset of the full-scale invasion, with those directly exposed to hostilities showing the highest levels of anxiety, depression, and PTSD symptomatology. A. Kurapov *et al.* (2025) subsequently confirmed that this burden remains persistently elevated, with individuals exposed to active military operations reporting substantially higher levels of stress and trauma-related symptoms. C. Esposito *et al.* (2024) further noted that the simultaneous presence of multiple crisis stressors – armed conflict, pandemic, and climate threat – produces a compounding effect on wellbeing that exceeds the impact of any single stressor in isolation. A recent empirical review of M. Pocheketa (2026) conducted between 2022 and 2025 confirmed that growth under wartime conditions is not automatic but develops when individuals engage in an active process of meaning-making of the lived experience, requiring both individual resources and genuine insight into one's psychological responses.

Within the scope of this study, particular attention is paid to whether crisis conditions affect the two subscales differently: whether prolonged stress increases the tendency towards self-examination while reducing the clarity of insight, since this has direct implications for the interpretation of scores in applied settings. The action plan for the implementation of the Concept for the development of mental health care in Ukraine until 2030, approved by the Resolution of the Cabinet of Ministers of Ukraine No. 572-p (2024), calls for evidence-based psychological support for the war-affected population, and this requires instruments that have been properly validated in the Ukrainian adult context, not merely translated and deployed on the assumption that foreign norms apply. P. Silvia (2021) addressed these problems by developing the SRIS-12 through Item Response Theory applied to a sample of 1,192 participants. Rather than simply removing the weakest items from the original scale, they selected items based on discrimination and information parameters – a meaningfully different procedure that ensures retained items function well across the full range of the latent trait, not merely in the moderate range where most respondents cluster. The result is a 12-item scale on a 7-point format whose reliability matches or exceeds that of the full

version. It is appropriate to emphasise this distinction, because the IRT approach is what separates the SRIS-12 from generic abbreviated scales, and it is part of what justifies treating this version as the appropriate basis for a Ukrainian adaptation. S. Banner *et al.* (2024) subsequently confirmed the two-factor structure in a professional adult sample and developed a further revised short version – extending evidence for the instrument’s stability beyond students and providing a contemporary benchmark for cross-cultural validation work. The psychometric situation in Ukrainian psychology, however, does not currently support confident use of this instrument. Existing practice has relied on translated or partially adapted versions of the SRIS-20 without subjecting them to full validation procedures – that is, without confirmatory factor analysis, measurement invariance testing, systematic validity assessment, or estimation of test-retest reliability. Cross-cultural adaptation is not reducible to translation: as P. Cruchinho *et al.* (2024) have detailed in their practical guideline for measurement instrument adaptation, it requires structured verification of semantic, idiomatic, and conceptual equivalence at each stage, and without it the relationship between item content and latent construct cannot be assumed to hold across linguistic and cultural contexts.

Despite the growing body of evidence on the role of self-reflection and insight in psychological functioning under adversity, several aspects of this topic have received insufficient attention in the literature reviewed. First, the overwhelming majority of SRIS validation studies have been conducted on student samples, leaving the psychometric behaviour of the instrument in adult populations – particularly those aged 35 and above – largely unexamined. Second, existing cross-cultural adaptations of the SRIS have focused predominantly on Western European and East Asian contexts; the Ukrainian linguistic and cultural environment has not been addressed, despite the well-documented psychodiagnostic need created by the ongoing armed conflict. Third, while recent research has established that self-reflection and insight relate differently to mental health outcomes, no study to date has examined how the relationship between these two dimensions may shift under conditions of sustained wartime stress – specifically, whether crisis exposure decouples the SRIS-IN relationship that is consistently observed in non-crisis samples. Fourth, the 35-55 age cohort, which bears disproportionate occupational, familial, and civic burdens during wartime, has received no dedicated psychometric attention in the reflectivity measurement literature. The aforementioned gaps in existing research determined the need for the present study. The aim of the present study is to adapt and conduct an initial psychometric validation of the Ukrainian-language SRIS-12 in a community sample of adults aged 35-55 and older under wartime crisis conditions.

Materials and Methods

The baseline sample comprised 332 adults aged 35-55 who met the inclusion criteria and had experienced a significant self-realisation gap under the conditions of Russia’s full-scale armed invasion of Ukraine (February 2022 – present). Recruitment was conducted independently via a digital research funnel using the dedicated Telegram bot (@TheFutureMe_bot) and the Smart Sender platform, through purposive recruitment with elements of self-selection, ensuring that participation was open to any Ukrainian-speaking adult meeting the inclusion criteria regardless of occupational or institutional affiliation. The Ukrainian-language version of the SRIS-12 was developed following the five-stage forward-backward translation protocol recommended by V. Sousa & W. Rojjanasirirat (2011).

In the first stage, two independent bilingual translators – a psychologist and an English philologist, both native Ukrainian speakers – produced separate Ukrainian translations of the original English items without consulting one another. The two versions were then compared in a synthesis meeting, discrepancies were resolved through discussion, and a consensus Ukrainian version was produced, with all decisions documented. A third bilingual translator, blind to the original English text, translated the consensus version back into English to check for semantic drift. The resulting back-translation was evaluated by an expert panel of three to five qualified psychologists, who assessed the semantic, idiomatic, and conceptual equivalence of each item using a four-point rating scale; a Content Validity Index (CVI) of 0.80 or higher was required for item retention. No conceptual modifications were introduced at any stage – the adaptation is strictly linguistic, preserving the original item content and response format. Prior to the main data collection, an online pilot cognitive interview was conducted with ten to fifteen adults from the target age group (35-55 years) to verify that item wording was clear and naturally phrased in Ukrainian. Item order was randomised during administration, as recommended by P. Silvia (2021), though items are grouped by subscale in the present report for analytical clarity.

The target population comprised Ukrainian-speaking adults aged 35 years and older residing in Ukraine during the ongoing armed conflict. The 35-55 age range was selected because this cohort simultaneously navigates the normative developmental challenges of midlife and bears disproportionate occupational, familial, and civic burdens during the ongoing armed conflict, making it the population most in need of validated reflectivity measurement tools in the current Ukrainian context. Inclusion required: age 35 or above, Ukrainian language proficiency sufficient for independent questionnaire completion, and provision of informed electronic consent. Responses with missing data on any SRIS-12 item were excluded from psychometric analyses. Data were collected via an online survey

distributed during March 2026, specifically between March 02 and March 27, 2026, through Facebook communities and Telegram channels, using a combined purposive and snowball sampling strategy. To ensure adequate subsample size for known-groups validity and differential item functioning analyses by gender, a targeted supplementary recruitment wave was conducted via direct invitation through Telegram and Viber, specifically reaching male adults within the target age range. The final sample comprised $N = 332$ participants following recommendations for stable confirmatory factor analysis solutions with short two-factor scales (Wolf *et al.*, 2013). Participants were not offered any incentive for participation.

A key design feature of the sampling strategy was the collection of crisis exposure data through a structured multi-select demographic item listing specific crisis types: wartime events and security situation, professional burnout, financial difficulties, family difficulties, bereavement, and residential relocation. For analytical purposes, respondents were classified into two groups: those reporting wartime exposure only ($n = 130$) and those reporting wartime exposure combined with at least one additional stressor – compound crisis ($n = 200$). Two respondents who reported no crisis exposure were retained in the full sample for psychometric analyses but excluded from crisis-type group comparisons. The Self-Reflection and Insight Scale – Short Form (SRIS-12) (Silvia, 2021), in its Ukrainian-language adaptation, consists of 12 items distributed across two subscales: Self-Reflection (SR; items 1-6), which captures the dispositional tendency to engage in self-examination, and Insight (IN; items 7-12), which reflects the clarity of understanding of one's internal states and motives. Responses are provided on a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Five items in the Insight subscale (items 7, 8, 9, 10 and 11) are reverse-scored prior to analysis using the formula: reversed score = $8 - \text{obtained score}$. Item 12 is scored directly. Subscale scores range from 6 to 42; the total SRIS-12 score ranges from 12 to 84, with higher scores indicating greater reflective capacity. Demographic information collected included age group (35-39 / 40-44 / 45-49 / 50-55+), gender, educational level, primary occupational domain, employment status, settlement type, residential displacement due to crisis events, self-rated material wellbeing, and crisis type as described above.

All analyses were conducted in Jamovi version 2.2.5. Prior to the main analyses, reversed items (7-11) were recoded using the formula $8 - x$, and descriptive statistics – means, standard deviations, skewness, and kurtosis – were computed at both item and subscale level to assess distributional properties and screen for floor or ceiling effects. Internal consistency was estimated using Cronbach's α and McDonald's ω for the SR subscale, the IN subscale, and the total SRIS-12,

accompanied by corrected item-rest correlations and item-level "if dropped" indices. The factorial structure of the scale was evaluated through confirmatory factor analysis (CFA) of a two-factor oblique model, replicating the structure reported by P. Silvia (2021). Model fit was assessed against the following criteria: $CFI \geq 0.95$, $TLI \geq 0.95$, $RMSEA \leq 0.08$, and $SRMR \leq 0.08$ (Hu & Bentler, 1999). Validity evidence was examined at two levels: structural validity, assessed through the CFA, and known-groups validity, assessed through Mann-Whitney U tests comparing SRIS-12 scores across groups expected to differ on theoretical grounds – gender, crisis type, residential relocation status, and age subgroup. Kruskal-Wallis tests were used for age subgroup comparisons. Effect sizes are reported as:

$$r = Z/\sqrt{N}, \quad (1)$$

where r is the effect size; Z is the standardised test statistic derived from the Mann-Whitney U or Kruskal-Wallis H test; N is the total sample size. Preliminary normative data – means, standard deviations, and percentile distributions – are reported for the full sample and by age subgroup (35-39 / 40-44 / 45-49 / 50-55+) and gender. Test-retest reliability assessment is planned as a follow-up study; the present report provides cross-sectional reliability estimates only. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki (World Medical Association, 2013). All participants provided informed electronic consent prior to accessing the survey; consent was voluntary, and withdrawal was possible at any point without consequence. No personally identifying information was collected. The full anonymised dataset is openly available through the Open Science Framework (OSF) (Dmytriiev & Voloshyna, 2026), consistent with open science standards for psychometric validation research.

The present study has several limitations. Online purposive and snowball sampling may introduce self-selection bias, as participants willing to complete a psychological survey during wartime are likely more reflective than the general population. External criterion validity was not assessed due to the absence of convergent and discriminant validity instruments in the survey battery; establishing the relationship between SRIS-12 scores and theoretically related constructs remains a priority for future research. Test-retest reliability was not examined, and temporal stability of scores should be addressed in follow-up studies given the dynamic nature of psychological functioning under prolonged crisis. Finally, the planned differential item functioning analysis by crisis type could not be conducted within the scope of this study and is recommended for future work with larger and more evenly distributed subsamples. The full anonymised dataset supporting the findings of this study, including all 12 SRIS-12 item scores, computed subscale and total scores, and

demographic variables, is publicly available on the Open Science Framework (OSF) (Dmytriiev & Voloshyna, 2026). The dataset is accompanied by a README file describing all variables, scoring procedures, and reversal coding. Raw data are provided alongside computed scores; items 7-11 are reverse-scored in the deposited file (formula: $8 - \text{obtained score}$). To recover the original raw responses, researchers may reapply the same transformation, as the operation is mathematically reversible: $(8 - (8 - x)) = x$.

Results

Sample description

The final sample comprised 332 adults aged 35 years and older ($M = 43.10$, $SD = 5.48$, estimated from age band midpoints). The gender distribution was as follows: 229 women (69.0%) and 103 men (31.0%). By age subgroup, 114 participants (34.3%) fell in the

35-39 range, 87 (26.2%) in the 40-44 range, 75 (22.6%) in the 45-49 range, and 56 (16.9%) were aged 50 and above. The majority of respondents held higher education qualifications – bachelor's, master's, or postgraduate degrees ($n = 206$, 62.0%) – were employed full time ($n = 214$, 64.5%), and resided in large urban centres ($n = 220$, 66.3%). Full sample demographic characteristics are presented in Table 1. In terms of crisis exposure, 319 participants (96.1%) reported experiencing significant life difficulties in the preceding three years. Wartime events and the security situation were the most frequently endorsed crisis type, either alone ($n = 130$, 39.2%) or in combination with additional stressors – most notably professional burnout, which co-occurred in 152 cases (45.8%), family difficulties ($n = 49$, 14.8%), or bereavement ($n = 33$, 9.9%). Eighty-nine participants (26.8%) had relocated from their place of residence due to crisis events.

Table 1. Sample demographic characteristics (N = 332)

Variable	n	%
Gender		
Female	229	69.0
Male	103	31.0
Age group		
35-39	114	34.3
40-44	87	26.2
45-49	75	22.6
50-55+	56	16.9
Education		
Higher (bachelor / master)	176	53.0
Postgraduate / doctoral degree	30	9.0
Vocational / specialised secondary	73	22.0
Secondary	53	16.0
Employment status		
Full-time employed	214	64.5
Self-employed / entrepreneur	47	14.2
Part-time employed	41	12.3
Temporarily not working	30	9.0
Settlement type		
Large city	220	66.3
Small city	87	26.2
Village	25	7.5
Crisis exposure		
Experienced significant difficulties	319	96.1
Wartime events only	130	39.2
+ Professional burnout	152	45.8
+ Family difficulties	49	14.8
+ Bereavement	33	9.9
Relocated due to crisis events	89	26.8

Note: age M and SD are estimates based on age band midpoints (37, 42, 47, 52). Burnout, family difficulties, and bereavement figures reflect all respondents endorsing each stressor, including those who selected multiple crisis types simultaneously

Source: authors' own calculations based on survey data (N = 332, March 2026)

Item analysis

Descriptive statistics for all 12 items are presented in Table 2. Means and standard deviations are reported with items 7-11 in their reversed form (scored $8 - x$) to facilitate directional comparability across subscales. Item means for the Self-Reflection subscale ranged from 4.64 to 4.99 (SD range: 1.18-1.35), indicating that respondents in this crisis sample tended toward moderate-to-high levels of self-examination. Item means for the Insight subscale (items 7-11 reversed, item 12 direct) ranged from 3.37 to 5.27 (SD range: 1.15-1.37),

with item 12 showing a notably lower mean than the remaining Insight items, suggesting that clarity of insight was less consistently endorsed than the reflective tendency captured by the SR subscale. Skewness and kurtosis values fell within acceptable limits for all 12 items ($|\text{skewness}| \leq 1.12$, $|\text{kurtosis}| \leq 2.43$), supporting the use of maximum likelihood estimation in the confirmatory factor analysis. Items 7-11 showed mild negative skewness consistent with ceiling proximity after reversal – a pattern commonly observed in crisis samples where low insight clarity is prevalent.

Table 2. Item descriptive statistics for the Ukrainian-language SRIS-12 (N = 332)

Item	Item text	Sub-scale	M	SD	Skewness	Kurtosis
1	Я часто аналізую свої почуття (I often analyse my feelings)	SR	4.75	1.27	-0.07	-0.45
2	Я регулярно приділяю час для осмислення власних думок (I regularly set aside time to reflect on my own thoughts)	SR	4.64	1.35	-0.17	-0.24
3	Я часто замислююся над тим, як я ставлюся до різних речей у житті (I often find myself thinking about how I feel about different things in life)	SR	4.76	1.23	-0.15	-0.41
4	Для мене важливо оцінювати те, що я роблю (It's important to me to reflect on what I do)	SR	4.90	1.27	-0.25	-0.12
5	Мені дуже цікаво вивчати власні думки та внутрішні стани (I find it really interesting to explore my own thoughts and inner states)	SR	4.92	1.24	-0.32	-0.07
6	Для мене важливо намагатися зрозуміти, що означають мої почуття (It's important for me to try to understand what my feelings mean)	SR	4.99	1.18	-0.38	0.26
7 _r	Я часто відчуваю розгубленість щодо того, що насправді відчуваю (I often feel at a loss as to what I'm actually feeling)	IN	5.05	1.15	-1.12	2.43
8 _r	Я часто усвідомлюю, що переживаю якесь почуття, але не розумію яке саме (I often realise that I'm experiencing a certain feeling, but I don't know exactly what it is)	IN	5.20	1.33	-1.10	1.38
9 _r	Моя власна поведінка нерідко мене дивує (My own behaviour often surprises me)	IN	5.27	1.27	-0.93	1.10
10 _r	Коли я думаю про свої думки, це лише заплутує мене ще більше (When I think about my thoughts, it just confuses me even more)	IN	5.10	1.28	-0.90	1.18
11 _r	Мені часто важко осмислити те, що я відчуваю (I often find it hard to make sense of what I'm feeling)	IN	4.93	1.26	-0.72	0.55
12	Зазвичай я розумію, чому відчуваю те, що відчуваю (I usually understand why I feel the way I do)	IN	3.37	1.37	0.72	0.22

Note: SR = Self-Reflection subscale; IN = Insight subscale. Subscript _r indicates items reverse-scored prior to analysis (formula: $8 - \text{obtained score}$). Means and SDs for items 7-11 are reported in reversed form. Skewness and kurtosis computed on reversed scores for items 7-11

Source: authors' own calculations based on survey data (N = 332, March 2026)

Item reliability statistics are presented in Table 3. Corrected item-rest correlations ranged from 0.223 to .506 across all 12 items. Eleven items exceeded the recommended threshold of $r = 0.30$ (Nunnally & Bernstein, 1994). Item 12 yielded the lowest item-rest correlation at the total-scale level ($r = 0.223$) and

was the only item whose removal would marginally improve total-scale reliability (Cronbach's $\alpha = 0.778$, McDonald's $\omega = 0.786$ if dropped). Within the Insight subscale alone, however, item 12 showed an adequate item-rest correlation of $r = 0.320$, exceeding the recommended threshold.

Table 3. Item reliability statistics for the Ukrainian-language SRIS-12 (N = 332)

Item	Item text (abbreviated)	Sub-scale	M	Item-rest r	α if dropped	ω if dropped
1	Я часто аналізую свої почуття (I often analyse my feelings)	SR	4.75	0.452	0.752	0.760
2	Я регулярно приділяю час ... (I regularly set aside time to ...)	SR	4.64	0.389	0.760	0.765
3	Я часто замислююся ... (I often find myself thinking ...)	SR	4.76	0.430	0.755	0.761
4	Для мене важливо оцінювати... (It's important for me to assess...)	SR	4.90	0.506	0.747	0.754
5	Мені дуже цікаво вивчати... (I find it really interesting to study...)	SR	4.92	0.475	0.750	0.757
6	Для мене важливо намагатися... (It's important for me to try...)	SR	4.99	0.432	0.755	0.760
7 _r	Я часто відчуваю розгубленість... (I often feel at a loss...)	IN	5.05	0.450	0.753	0.770
8 _r	Я часто усвідомлюю... (I often realise...)	IN	5.20	0.434	0.754	0.771
9 _r	Моя власна поведінка нерідко мене дивує (My own behaviour often surprises me)	IN	5.27	0.406	0.757	0.773
10 _r	Коли я думаю про свої думки... (When I think about my thoughts...)	IN	5.10	0.371	0.761	0.776
11 _r	Мені часто важко осмислити... (I often find it hard to make sense of...)	IN	4.93	0.376	0.761	0.776
12	Зазвичай я розумію... (Usually, I realise...)	IN	3.37	0.223	0.778	0.786

Note: SR = Self-Reflection; IN = Insight. Subscript r = reverse-scored item. Item means are reported in reversed form for items 7-11. Item-rest correlations and "if dropped" indices are from the total-scale reliability analysis. α = Cronbach's alpha; ω = McDonald's omega. Total scale: α = 0.773, ω = 0.781

Source: authors' own calculations based on survey data (N = 332, March 2026)

Overall, the item-level analysis indicates satisfactory discriminative properties for 11 of the 12 items, with corrected item-rest correlations exceeding the recommended threshold of $r = 0.30$. Item 12 of the Insight subscale showed the lowest item-rest correlation ($r = 0.223$) and was the only item whose removal would marginally improve total-scale reliability; however, given its adequate performance within the IN subscale ($r = 0.320$) and statistically significant CFA loading ($\lambda = 0.473$, $p < 0.001$), it was retained in the final version of the scale. The pattern of item means – consistently higher for the SR subscale (range: 4.64-4.99) than for the reversed IN items (range: 4.93-5.27 before reversal, corresponding to low insight clarity after scoring) – is consistent with the theoretical expectation that crisis conditions may impair insight clarity while leaving self-reflective tendency relatively intact.

Internal consistency

Internal consistency estimates for the total SRIS-12 and both subscales are presented in Table 4. The Self-Reflection subscale demonstrated excellent reliability

(Cronbach's $\alpha = 0.845$, McDonald's $\omega = 0.846$), with item-rest correlations ranging from 0.574 to 0.665 – all well above the recommended .30 threshold. The Insight subscale showed good reliability ($\alpha = 0.791$, $\omega = 0.802$), with item-rest correlations ranging from 0.320 to 0.621 following internal reversal of items 7-11. For the total SRIS-12, Cronbach's $\alpha = 0.773$ and McDonald's $\omega = 0.781$. The close agreement between both estimators across all three scores indicates that the essential tau-equivalence assumption underlying α is approximately met, and that α does not substantially underestimate true reliability in this sample. All values exceeded the conventional 0.70 threshold recommended for research instruments (Nunnally & Bernstein, 1994). Item IN12 ("Зазвичай я розумію, чому відчуваю те, що відчуваю" / "I usually understand why I feel the way I do") showed the lowest item-rest correlation at the total-scale level ($r = 0.223$), and its removal would marginally improve total-scale reliability ($\alpha = 0.778$, $\omega = 0.786$). Within the IN subscale alone, however, item 12 yielded an item-rest correlation of $r = 0.320$, exceeding the recommended threshold.

Table 4. Internal consistency estimates for the Ukrainian-language SRIS-12 (N = 332)

Scale / Subscale	α	ω	Items	Item-rest range
Self-Reflection subscale (SR)	0.845	0.846	6	0.574-0.665
Insight subscale (IN)	0.791	0.802	6	0.320-0.621

Table 4. Continued

Scale / Subscale	α	ω	Items	Item-rest range
Total SRIS-12	0.773	0.781	12	0.223-0.506
Total SRIS-12 (without IN12)	0.778	0.786	11	0.371-0.506

Note: α = Cronbach's alpha; ω = McDonald's omega. Item-rest correlations are corrected (part-whole corrected). SR subscale: items 1-6, no reversal. IN subscale: items 7-12, items 7-11 reverse-scored (8 - x). The sensitivity row (without IN12) is provided for reference and does not constitute a recommendation to remove the item

Source: authors' own calculations based on survey data (N = 332, March 2026)

The internal consistency estimates presented in Table 4 confirm that the Ukrainian-language SRIS-12 meets the reliability standards required for research use, with all α and ω values exceeding the conventional 0.70 threshold across both subscales and the total scale, and with the close agreement between α and ω indicating that the essential tau-equivalence assumption is approximately satisfied in this sample.

Confirmatory factor analysis

A confirmatory factor analysis was conducted to evaluate the hypothesised two-factor oblique model in which items SR1-SR6 load on a Self-Reflection factor and items IN7-IN12 load on an Insight factor, with the two factors permitted to covary freely. The model was estimated using maximum likelihood with robust

standard errors (MLR estimator) in Jamovi version 2.2.5. Standardised factor loadings are reported in Figure 1 and Table 6. The two-factor model demonstrated acceptable fit to the data: CFI = 0.944, TLI = 0.930, RMSEA = 0.064 [90% CI [0.049, 0.079]], SRMR = 0.047. RMSEA and SRMR met the stringent criteria of ≤ 0.08 recommended by L. Hu & P. Bentler (1999). CFI and TLI fell marginally below the 0.95 threshold – by 0.006 and 0.020 respectively – but both exceeded the 0.90 criterion widely considered acceptable for applied psychometric research with non-student adult samples (Marsh *et al.*, 2004). The χ^2 test was statistically significant ($\chi^2(53) = 125.0$, $p < 0.001$), as expected given the sample size of 332; this result is not interpreted as evidence of poor fit given the known sensitivity of χ^2 to sample size.

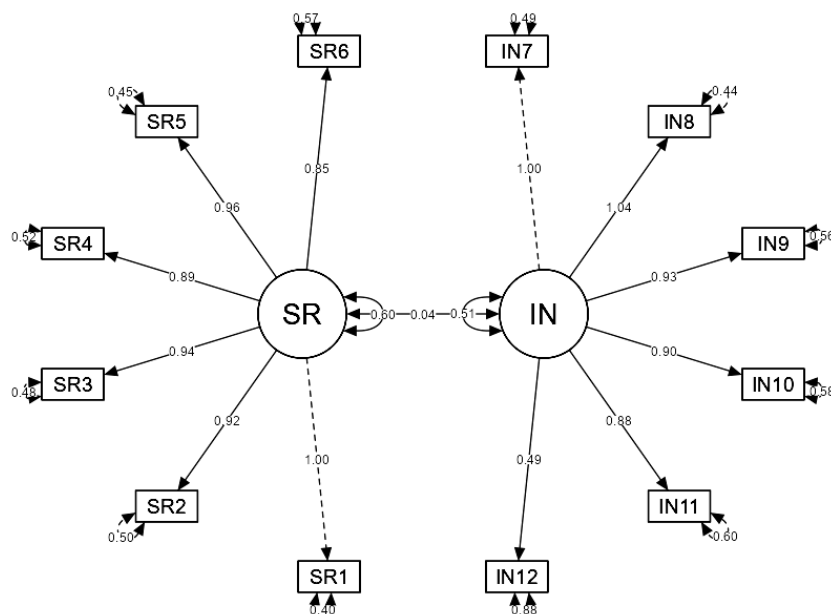


Figure 1. Standardised factor loadings for the two-factor oblique model of the Ukrainian-language SRIS-12 (N = 332)

Source: authors' own construction based on CFA results obtained in Jamovi 2.2.5

As shown in Figure 1, all standardised factor loadings were statistically significant ($p < 0.001$). SR subscale loadings ranged from 0.752 (SR6) to 0.930 (SR1), indicating strong indicator reliability across all six Self-Reflection items. IN subscale loadings ranged from 0.473 (IN12) to 0.995 (IN8). Five of the six Insight items showed strong loadings (0.806-0.995). Item IN12

yielded the lowest loading on the IN factor ($\lambda = 0.473$), though it remained statistically significant ($Z = 5.89$, $p < 0.001$) and above the conventional .40 minimum threshold for indicator retention (Hair *et al.*, 2019). The exceptionally high loading of IN8 ($\lambda = 0.995$) suggests this item functions as the most prototypical indicator of the Insight construct in this crisis sample and

warrants attention in future replication studies. The inter-factor covariance was small and non-significant (estimate = 0.109, SE = 0.065, $p = 0.095$), indicating that

Self-Reflection and Insight functioned as essentially independent dimensions in the present sample. Fit indices are presented in Table 5.

Table 5. Confirmatory factor analysis fit indices for the two-factor model of the Ukrainian-language SRIS-12 (N = 332)

Model	χ^2	df	p	CFI	TLI	RMSEA [90% CI]	SRMR
Two-factor oblique	125.0	53	< 0.001	0.944	0.930	0.064 [0.049, 0.079]	0.047
Recommended threshold	-	-	-	≥ 0.95	≥ 0.95	≤ 0.08	≤ 0.08

Note: CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardised Root Mean Square Residual. Estimation method: maximum likelihood with robust standard errors (MLR). Recommended thresholds from L. Hu & P. Bentler (1999). $\chi^2 = 125.0$, df = 53, $p < 0.001$

Source: authors' own calculations based on survey data (N = 332, March 2026)

The fit indices presented in Table 5 indicate that the two-factor oblique model demonstrates acceptable fit to the data in the Ukrainian adult crisis sample, with RMSEA and SRMR meeting the stringent criteria of L. Hu & P. Bentler (1999) and CFI and TLI exceeding the widely accepted 0.90 threshold, collectively supporting the retention of the original two-factor structure without modification. The corresponding standardised loadings, standard errors and significance levels are presented in Table 6.

The standardised factor loadings presented in Table 6 confirm that all 12 items contribute meaningfully to their designated factors, with loadings ranging from 0.752 to 0.930 for the Self-Reflection subscale and from 0.473 to 0.995 for the Insight subscale – all statistically significant at $p < 0.001$ – while the near-zero and non-significant inter-factor covariance ($r = 0.109$, $p = 0.095$) indicates that self-reflection and insight functioned as essentially independent dimensions in this crisis sample, a finding discussed in the Discussion section.

Table 6. Standardised factor loadings for the Ukrainian-language SRIS-12 two-factor model (N = 332)

Item	Item text (abbreviated)	Factor	λ	SE	p
1	Я часто аналізую свої почуття (I often analyse my feelings)	SR	0.930	0.064	< 0.001
2	Я регулярно приділяю час ... (I regularly set aside time to ...)	SR	0.916	0.070	< 0.001
3	Я часто замислююся ... (I often find myself thinking ...)	SR	0.867	0.063	< 0.001
4	Для мене важливо оцінювати... (It's important for me to assess...)	SR	0.843	0.066	< 0.001
5	Мені дуже цікаво вивчати... (I find it really interesting to study...)	SR	0.892	0.063	< 0.001
6	Для мене важливо намагатися... (It's important for me to try...)	SR	0.752	0.063	< 0.001
7 _r	Я часто відчуваю розгубленість... (I often feel at a loss...)	IN	0.816	0.060	< 0.001
8 _r	Я часто усвідомлюю... (I often realise...)	IN	0.995	0.069	< 0.001
9 _r	Моя власна поведінка нерідко мене дивує (My own behaviour often surprises me)	IN	0.872	0.067	< 0.001
10 _r	Коли я думаю про свої думки... (When I think about my thoughts...)	IN	0.810	0.069	< 0.001
11 _r	Мені часто важко осмислити... (I often find it hard to make sense of...)	IN	0.806	0.068	< 0.001
12	Зазвичай я розумію... (Usually, I realise...)	IN	0.473	0.080	< 0.001

Note: SR = Self-Reflection factor; IN = Insight factor. λ = standardised factor loading. SE = standard error. Superscript r indicates reverse-scored items (formula: 8 – obtained score). All loadings significant at $p < 0.001$. Inter-factor covariance = 0.109 (SE = 0.065, $p = 0.095$), indicating near-orthogonal factor structure in the crisis sample

Source: authors' own calculations based on survey data (N = 332, March 2026)

Structural and known-groups validity

Validity evidence for the Ukrainian-language SRIS-12 was examined at two levels: structural validity, assessed through the confirmatory factor analysis

reported in Section 4.4, and known-groups validity, assessed through comparisons of SRIS-12 scores across groups expected to differ in self-reflection and insight on theoretical grounds. All results are presented in Table 7.

Table 7. Known-groups validity: SRIS-12 scores by crisis type, gender, relocation status, and age group (N = 332)

Comparison / Group	n	SR M (SD)	IN M (SD)	Total M (SD)	U	p	r
Crisis type							
Wartime only	130	28.38 (5.92)	17.48 (4.79)	45.86 (7.96)			
Compound crisis	200	29.34 (5.45)	18.02 (5.68)	47.35 (8.12)			
SR comparison					12218.0	0.355	0.051
IN comparison					12385.5	0.467	0.040
Total comparison					11671.5	0.116	0.086
Gender							
Female	229	29.40 (5.56)	17.62 (5.32)	47.02 (7.91)			
Male	103	28.02 (5.79)	18.24 (5.47)	46.26 (8.60)			
SR comparison					13533.5	0.031*	0.118
IN comparison					10705.0	0.177	0.074
Total comparison					12459.5	0.410	0.045
Residential relocation due to crisis							
Relocated	89	27.91 (6.54)	18.16 (5.39)	46.07 (9.25)			
Not relocated	243	29.36 (5.26)	17.69 (5.36)	47.05 (7.68)			
SR comparison					9254.0	0.044*	0.111
IN comparison					11395.0	0.452	0.041
Total comparison					9677.0	0.142	0.081
Age group (Kruskal-Wallis)							
35-39	114	28.88 (5.61)	18.11 (5.67)	46.98 (8.57)			
40-44	87	28.45 (6.33)	17.45 (4.79)	45.90 (8.42)			
45-49	75	29.28 (5.00)	17.28 (5.18)	46.56 (6.46)			
50-55+	56	29.55 (5.55)	18.52 (5.82)	48.07 (8.76)			
SR:							
IN:							
Total:							

Note: SR = Self-Reflection subscale (range 6-42); IN = Insight subscale (range 6-42); Total = total SRIS-12 score (range 12-84). All subscale scores computed on reversed items (items 7-11: 8 - x). Group comparisons used Mann-Whitney U tests (two-group) or Kruskal-Wallis H tests (age groups). Effect size $r = Z/\sqrt{N}$. * $p < 0.05$. Crisis type: wartime only = respondents endorsing wartime/security events exclusively; compound = wartime events plus at least one additional stressor

Source: authors' own calculations based on survey data (N = 332, March 2026)

The results presented in Table 7 provide preliminary known-groups validity evidence for the Ukrainian-language SRIS-12, demonstrating that the scale is sensitive to theoretically expected group differences – specifically, higher self-reflection in women relative to men and reduced self-reflection in individuals who experienced forced residential relocation – while the absence of significant differences by crisis type and age group supports the stability of reflective capacity across the 35-55+ range under wartime conditions and the appropriateness of unified normative data for this population.

Structural validity. The confirmatory factor analysis reported in Section 4.4 provides the primary source of validity evidence for the Ukrainian-language SRIS-12. The two-factor solution was confirmed in this sample with acceptable fit (CFI = 0.944, RMSEA = 0.064, SRMR = 0.047), all factor loadings statistically significant ($p < 0.001$), and a theoretically coherent factor structure in which SR and IN items loaded exclusively on their designated factors. The near-orthogonal inter-factor relationship ($r = 0.109$, $p = 0.095$) is itself a

structurally meaningful finding, discussed in the Discussion section.

Crisis type. Participants experiencing compound crisis (wartime exposure combined with at least one additional stressor; $n = 200$) showed marginally higher mean scores on both subscales and the total scale compared to those reporting wartime exposure only ($n = 130$), but none of these differences reached statistical significance (SR: $U = 12,218.0$, $p = 0.355$, $r = 0.051$; IN: $U = 12,385.5$, $p = 0.467$, $r = 0.040$; total: $U = 11,671.5$, $p = 0.116$, $r = 0.086$). Effect sizes were negligible across all three comparisons. This pattern suggests that, at least in the present sample, the accumulation of additional stressors beyond wartime exposure did not systematically alter self-reflective functioning as measured by the SRIS-12 – a finding that may reflect ceiling effects in crisis exposure or the relatively homogeneous nature of the sample in terms of overall crisis burden.

Gender. Women scored significantly higher than men on the Self-Reflection subscale (female: $M = 29.40$, $SD = 5.56$; male: $M = 28.02$, $SD = 5.79$; $U = 13,533.5$, $p = 0.031$, $r = 0.118$). This small but statistically

significant difference is consistent with a well-documented pattern in the reflectivity literature whereby women tend to engage in self-examination more frequently than men (Grant *et al.*, 2002; Silvia, 2021). No significant gender differences were observed for the Insight subscale ($U = 10,705.0$, $p = 0.177$, $r = 0.074$) or the total scale ($U = 12,459.5$, $p = 0.410$, $r = 0.045$), suggesting that clarity of understanding of one's internal states is similarly distributed across genders in this sample.

Residential relocation. Participants who had relocated due to crisis events ($n = 89$) showed significantly lower Self-Reflection scores than those who had not reWlocated ($n = 243$; $M = 27.91$, $SD = 6.54$ vs. $M = 29.36$, $SD = 5.26$; $U = 9,254.0$, $p = 0.044$, $r = 0.0111$). This small but theoretically coherent effect suggests that the disruption associated with forced displacement may be associated with reduced self-reflective engagement – a finding consistent with research on the impact of acute environmental disruption on introspective capacity (Tedeschi & Calhoun, 2004). No significant differences in Insight or total scores were observed between relocated and non-relocated participants.

Age group. Kruskal-Wallis tests revealed no statistically significant differences in SR scores ($H(3) = 1.42$, $p = 0.702$), IN scores ($H(3) = 1.88$, $p = 0.597$), or total SRIS-12 scores ($H(3) = 1.03$, $p = 0.793$) across the four age subgroups (35-39, 40-44, 45-49, 50-55+). Mean scores were notably stable across age bands, ranging from 28.45 to 29.55 for SR and from 17.28 to 18.52 for IN. The absence of age-related differences within

the 35-55+ range is consistent with theoretical models positioning reflective capacity as a relatively stable psychological resource across the middle adult lifespan (McAdams & McLean, 2013), and supports the use of unified normative data across this age range rather than age-specific norms. Overall, the known-groups analyses provide preliminary evidence that SRIS-12 scores in this sample vary in theoretically expected directions: women show higher self-reflection than men, and individuals who experienced residential displacement show reduced self-reflective engagement. The absence of crisis-type and age-related differences further supports the internal coherence of the scale and the appropriateness of pooled normative data across the 35-55+ range.

Preliminary normative data

Preliminary descriptive norms for the Ukrainian-language SRIS-12 are presented in Tables 8 and 9, covering the full sample, gender subgroups, and age subgroups respectively. These norms are intended as reference values for researchers and practitioners working with Ukrainian-speaking adults aged 35 and above in crisis contexts; their generalisability is limited by the online convenience sampling strategy, the predominantly urban composition of the sample, and the wartime data collection context. Expanded normative research based on probability sampling is recommended before these values are used for individual-level clinical interpretation.

Table 8. Preliminary normative data for the Ukrainian-language SRIS-12: full sample and gender subgroups ($N = 332$)

Scale	n	M	SD	Min	Max	P25	P50	P75
Full sample								
SR subscale	332	28.97	5.66	13	42	25.0	30.0	33.0
IN subscale	332	28.92	4.52	6	42	27.0	29.5	31.0
Total SRIS-12	332	57.89	6.94	39	78	53.0	58.0	63.0
Female								
SR subscale	229	29.40	5.56	14	42	26.0	30.0	33.0
IN subscale	229	29.25	4.37	13	42	27.0	30.0	32.0
Total SRIS-12	229	58.65	6.85	39	77	54.0	59.0	64.0
Male								
SR subscale	103	28.02	5.79	13	42	24.0	29.0	32.0
IN subscale	103	28.20	4.77	6	42	27.0	29.0	31.0
Total SRIS-12	103	56.22	6.90	39	78	52.0	56.0	61.0

Note: SR = Self-Reflection subscale (range 6-42); IN = Insight subscale (range 6-42); Total = total SRIS-12 score (range 12-84). Scores computed with items 7-11 reverse-scored ($8 - x$). P25 = 25th percentile; P50 = median; P75 = 75th percentile. Shapiro-Wilk: SR $W = 0.985$, $p = 0.001$; IN $W = 0.922$, $p < 0.001$; Total $W = 0.995$, $p = 0.319$. These are preliminary norms based on a convenience sample; use caution for individual-level clinical interpretation

Source: authors' own calculations based on survey data ($N = 332$, March 2026)

Table 9. Preliminary normative data for the Ukrainian-language SRIS-12 by age subgroup

Age group	n	SR M	SR SD	IN M	IN SD	Total M	Total SD	Percentiles ^a
35-39	114	28.88	5.61	28.39	4.80	57.26	6.70	SR: 25/29/32 IN: 27/29/31 Tot: 53/57/62
40-44	87	28.45	6.33	29.31	4.10	57.76	7.14	SR: 25/29/33 IN: 28/30/32 Tot: 52/58/64
45-49	75	29.28	5.00	29.04	3.92	58.32	6.78	SR: 26/31/33 IN: 27/29/31 Tot: 52/60/63
50-55+	56	29.55	5.55	29.27	5.27	58.82	7.38	SR: 26/30/32 IN: 27/30/32 Tot: 54/58/62

Note: SR = Self-Reflection subscale; IN = Insight subscale; Tot = total SRIS-12. All scores computed with items 7-11 reverse-scored. ^aPercentiles reported as P25/P50/P75 (25th / median / 75th). No statistically significant age group differences were found (Kruskal-Wallis: SR $H(3) = 1.42$, $p = 0.702$; IN $H(3) = 1.88$, $p = 0.597$; Total $H(3) = 1.03$, $p = 0.793$), supporting the use of unified norms across the 35-55+ age range

Source: authors' own calculations based on survey data (N = 332, March 2026)

For the full sample (N = 332), mean scores were M = 28.97 (SD = 5.66) for the Self-Reflection subscale (theoretical range 6-42), M = 28.92 (SD = 4.52) for the Insight subscale (theoretical range 6-42), and M = 57.89 (SD = 6.94) for the total SRIS-12 (theoretical range 12-84). The striking similarity between SR and IN means (28.97 vs. 28.92) in this sample is noteworthy given the near-orthogonal inter-factor structure identified in the CFA (Section 4.4): participants in this crisis sample engaged in self-examination and possessed clarity of insight at comparable average levels, despite these two dimensions functioning largely independently of one another. Normality of score distributions was assessed using the Shapiro-Wilk test. The SR subscale ($W = 0.985$, $p = 0.001$) and IN subscale ($W = 0.922$, $p < 0.001$) showed statistically significant departures from normality, while the total SRIS-12 score was normally distributed ($W = 0.995$, $p = 0.319$). The departures from normality for the subscales are consistent with mild negative skewness observed in item-level distributions (see Section 4.2) and should be taken into account when selecting statistical methods in future research using the Ukrainian-language SRIS-12 – non-parametric alternatives are recommended when subscale scores are used as dependent variables in group comparisons.

Gender differences in normative scores were small but directionally consistent with the known-groups analysis (Section 4.5). Women showed marginally higher SR scores (M = 29.40, SD = 5.56) than men (M = 28.02, SD = 5.79), while IN and total scores were similar across genders. Practitioners are advised to consider gender-specific reference values when interpreting individual SR subscale scores, particularly at the upper and lower quartiles where the distributions diverge most clearly. Age subgroup norms are presented in Table 9. Mean scores showed a modest upward trend with age for both the SR subscale (range: 28.45-29.55) and

the total scale (range: 57.26-58.82), though these differences were not statistically significant (see Section 4.5). The stability of IN scores across age groups (range: 28.39-29.31) supports the theoretical position that insight clarity does not systematically change across the 35-55+ lifespan under crisis conditions. Median values and interquartile ranges are recommended as the primary normative reference points given the non-normal distribution of subscale scores.

Discussion

The present study set out to adapt and conduct an initial psychometric validation of the Ukrainian-language version of the Self-Reflection and Insight Scale – Short Form (SRIS-12) (Silvia, 2021) in a sample of adults aged 35-55 and older navigating crisis conditions in wartime Ukraine. The findings support the overall adequacy of the Ukrainian-language SRIS-12 as a research instrument for this population, while also revealing several theoretically meaningful patterns that distinguish the present validation from the original and that are worth examining in their own right. The validated Ukrainian-language scale was found reliable as its internal consistency estimates were good to excellent across all three scores: the Self-Reflection subscale demonstrated the strongest reliability ($\alpha = 0.845$, $\omega = 0.846$), followed by the Insight subscale ($\alpha = 0.791$, $\omega = 0.802$) and the total scale ($\alpha = 0.773$, $\omega = 0.781$). P. Silvia (2021), in the original SRIS-12 validation on a student sample of N = 1,192, reported SR $\alpha = 0.84$ and IN $\alpha = 0.76$ – the SR estimate is nearly identical, while the IN estimate is marginally higher, suggesting that the Ukrainian-language items function with comparable precision in an adult population.

S. Banner *et al.* (2024) validated the SRIS-12 with registered psychologists (N = 123) and reported sound internal consistency across both subscales, concluding

that the two-factor structure holds in professional adult samples – a finding the results of this study replicate in a broader community sample. W. He & J. Gan (2025), in a meta-analysis of 39 studies, noted that the relationship between self-reflection and mental health outcomes is moderated by the measurement instrument used, which underscores why the reliability properties documented in the present study carry direct methodological significance for Ukrainian research. The close agreement between Cronbach's α and McDonald's ω across all three scores indicates that the tau-equivalence assumption is approximately met, meaning α does not substantially underestimate true reliability – a distinction that matters when comparing reliability parameters across studies that report only one index.

The two-factor oblique model demonstrated acceptable fit (CFI = 0.944, TLI = 0.930, RMSEA = 0.064, SRMR = 0.047), with all standardised factor loadings statistically significant and ranging from 0.473 to 0.995. P. Silvia (2021) reported CFI = 0.947 and RMSEA = 0.060 in their original IRT-based validation – the fit indices obtained in the present study are strikingly close to these benchmarks, which constitutes strong evidence for structural equivalence of the Ukrainian-language adaptation. S. Banner *et al.* (2024) found that while both the full and short SRIS versions showed sound factor structure with psychologists, some items displayed low loadings – a pattern partially mirrored in IN12 finding (discussed below). Recent cross-cultural psychometric validation studies of S. Mahlaq *et al.* (2024) and R. Pastor-Cisneros *et al.* (2025) consistently apply CFI and TLI thresholds above 0.90 as the criterion for acceptable model fit, while treating the 0.95 criterion as indicative of excellent rather than minimally acceptable fit, which contextualises the results of this study (CFI = 0.944, TLI = 0.930) as within the acceptable range for a cross-cultural adaptation.

Whereas P. Silvia (2021) reported a moderate positive SR-IN correlation in their student sample, the present study found a near-orthogonal factor structure ($r = 0.109$, $p = 0.095$). K. Bucknell *et al.* (2024) demonstrated that self-reflection produces resilient outcomes only when it generates genuine insight, and that in the absence of insight, self-reflection devolves into rumination – a finding that helps interpret the near-orthogonal structure observed in the crisis sample of the present study: participants engaged in high self-examination without a corresponding advantage in insight clarity, consistent with the decoupling hypothesis. The lowest-performing item across the scale was IN12 (“Зазвичай я розумію, чому відчуваю те, що відчуваю” / “I usually understand why I feel the way I do”), with a total-scale item-rest correlation of $r = 0.223$ and a CFA loading of $\lambda = 0.473$. S. Banner *et al.* (2024) similarly identified variability in item performance across SRIS versions in their professional sample, noting low-loading items in both the full and short versions without

recommending removal – a position that is shared in the present study. J. Hair *et al.* (2019) specified 0.40 as the conventional minimum threshold for factor loading retention, which IN12 meets. Within the Insight subscale alone, IN12 yielded $r = 0.320$, exceeding the recommended 0.30 threshold – its weak total-scale correlation reflects the near-orthogonal factor structure rather than a genuine item deficiency. A sensitivity analysis confirmed that removing IN12 would improve total-scale reliability only marginally ($\Delta\alpha = 0.005$), which does not justify the loss of construct coverage. IN12 is the only positively keyed item in the Insight subscale, and its retention preserves the measurement balance of the original SRIS-12.

Two theoretically expected group differences were observed. Women scored significantly higher than men on the Self-Reflection subscale ($p = 0.031$, $r = 0.118$). This finding is consistent with a large-scale empirical study by J. Tyler *et al.* (2022), who surveyed 998 adults in the UK and found that women's self-reflection scores were consistently higher than men's across age groups, regardless of recent stress levels. M. Paż & A. Nowicka (2025), in an ERP study of older adults, found neurological evidence for sex differences in self-referential processing, with women showing stronger neural activation in self-conditions – consistent with the behavioural SR difference observed in the present study. M. Crane *et al.* (2026), in a qualitative study of non-ruminative self-reflection and resilience in emerging adults, noted that self-reflective capacity was expressed differently across genders, with women more likely to engage in constructive, growth-oriented self-focus. The present study considers these convergent findings from different methodological traditions to lend additional credibility to the gender difference observed in the data obtained. Regarding residential relocation, participants who had relocated due to crisis events showed significantly lower SR scores than those who had not relocated ($p = 0.044$, $r = 0.111$). This finding has not been directly examined in prior SRIS research, but is consistent with the broader literature on environmental disruption and introspective capacity: A. Kurapov *et al.* (2025) documented that Ukrainians directly exposed to military operations report substantially higher psychological burden, and it is plausible that the cognitive resources required for sustained self-examination are depleted when individuals must continuously adapt to disrupted living conditions. Neither crisis type nor age subgroup produced significant score differences, a pattern that is theoretically coherent – reflective capacity in the 35-55+ range appears stable across the middle adult lifespan under crisis conditions, a pattern consistent with E. Reinilä *et al.* (2023), whose longitudinal study documented those individual differences in identity development across midlife are substantial but that average reflective functioning remains relatively stable across the 42-61 age range.

The preliminary norms provided in this study represent the first reference values for the Ukrainian-language SRIS-12 in an adult crisis population. The SR and IN subscale means were nearly identical (28.97 and 28.92 respectively), which is unusual compared to validation studies in student samples where SR typically exceeds IN. P. Silvia (2021) reported higher SR than IN means in their student sample, a pattern also observed by S. Banner *et al.* (2024) in their psychologist sample. W. He & J. Gan (2025) noted in their meta-analysis that the relationship between self-reflection and mental health indicators is culturally moderated. The observed convergence of SR and IN means may reflect a culturally and contextually specific pattern in which wartime conditions equalise the two dimensions by suppressing insight clarity toward the level at which self-reflection typically operates in crisis. K. Bucknell *et al.* (2024) demonstrated in a randomised controlled trial that self-reflective writing interventions improve resilience outcomes, particularly when focused on successful coping experiences – a finding that suggests the elevated SR scores in the present sample could represent an adaptive resource if channelled appropriately through structured intervention. M. Crane *et al.* (2026) further emphasised that non-ruminative self-reflection, distinguished from rumination by its constructive and solution-focused character, is associated with resilience enhancement – which underscores the practical value of measuring these two dimensions separately in crisis-affected adults, precisely what the Ukrainian-language SRIS-12 enables practitioners to do. These norms should be interpreted with appropriate caution: they reflect an online convenience sample with predominantly urban composition and should not be applied to individual clinical assessment without further validation on representative and clinical samples.

Taken together, the present findings are consistent with and extend recent work on the SRIS across adult and professional populations (Banner *et al.*, 2024; Silvia, 2021). They also align with recent research on self-reflection and mental health (He & Gan, 2025). In addition, the findings complement studies on reflective functioning under conditions of stress and crisis (Bucknell *et al.*, 2024; Kurapov *et al.*, 2025; Crane *et al.*, 2026). The Ukrainian-language SRIS-12 demonstrates adequate psychometric properties for research use with adults aged 35 and above in crisis conditions, and the near-orthogonal SR-IN structure observed in this sample constitutes a substantive theoretical contribution to understanding reflective functioning in wartime populations. Conceptualising the above, it can be asserted that the Ukrainian-language SRIS-12 demonstrates adequate psychometric properties for research use with adults aged 35 and above in crisis conditions. The instrument successfully replicates the original two-factor structure, shows good to excellent

reliability, and produces theoretically coherent group differences. The near-orthogonal SR-IN relationship and the convergent SR-IN means observed in this sample are not psychometric artefacts but substantive findings about the nature of reflective functioning under sustained wartime stress – findings that enrich, rather than undermine, the theoretical value of the adaptation.

Conclusions

This study presented the first fully validated Ukrainian-language version of the Self-Reflection and Insight Scale – Short Form, adapted for and validated in a community sample of adults aged 35-55 and older under wartime crisis conditions in Ukraine ($N = 332$). The Ukrainian-language SRIS-12 demonstrated good to excellent internal consistency across all three scores: Cronbach's $\alpha = 0.845$ and McDonald's $\omega = 0.846$ for the Self-Reflection subscale, $\alpha = 0.791$ and $\omega = 0.802$ for the Insight subscale, and $\alpha = 0.773$ and $\omega = 0.781$ for the total scale – all exceeding the 0.70 threshold recommended for research instruments. The original two-factor structure was confirmed through confirmatory factor analysis with acceptable fit (CFI = 0.944, TLI = 0.930, RMSEA = 0.064, SRMR = 0.047), with all twelve factor loadings statistically significant.

Known-groups validity analyses produced theoretically coherent findings: women showed higher self-reflection than men, and individuals who had experienced residential displacement due to crisis events showed reduced self-reflective engagement relative to those who had not relocated. Two findings of particular theoretical significance emerged from this validation. First, the inter-factor correlation between Self-Reflection and Insight was near-zero and non-significant ($r = 0.109$, $p = 0.095$), indicating that in this wartime sample the two dimensions functioned essentially independently. This is to be not considered a psychometric limitation but a substantively important observation: under conditions of prolonged existential stress, the tendency to engage in self-examination does not translate automatically into clarity of understanding of one's internal states. Second, item IN12 showed a low total-scale item-rest correlation ($r = 0.223$) but performed adequately within the Insight subscale ($r = 0.320$) and produced a significant CFA loading ($\lambda = 0.473$, $p < 0.001$). Both findings are interpreted as psychologically meaningful features of the instrument's behaviour in a crisis population rather than grounds for scale modification.

Preliminary normative data – means, standard deviations, and percentile distributions – are provided for the full sample and by age and gender subgroups, constituting the first reference values for the Ukrainian-language SRIS-12 in an adult population. The full anonymised dataset has been deposited on the Open Science Framework (OSF) to facilitate replication,

further validation, and cross-cultural comparison. Future research should prioritise: establishing test-retest reliability over repeated measurement intervals; assessing convergent and discriminant validity using external criterion measures (metacognitive awareness, psychological well-being, anxiety, depression); conducting measurement invariance testing across gender and crisis-type subgroups; validating the instrument in clinical populations including those with trauma-related presentations; and developing expanded normative data based on probability sampling. Establishing the temporal stability of the Ukrainian-language SRIS-12 and its external validity relationships are identified as the most pressing next steps toward full psychometric characterisation of this instrument in the Ukrainian adult context.

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Conflict of Interest

None.

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Психометрична валідація україномовної версії SRIS-12 серед дорослих віком 35–55 років

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Анотація. Українська психологічна спільнота наразі не має повністю валідизованого короткого інструменту для вимірювання саморефлексії та саморозуміння (інсайту) в дорослих популяціях. Існуюча практика використання перекладених або частково адаптованих версій оригінальної 20-пунктової шкали створює методологічні обмеження для досліджень з дорослими, які переживають кризові умови. Метою дослідження була адаптація та початкова психометрична валідизація україномовної версії Шкали саморефлексії та інсайту – короткої форми (цільова вибірка 35-55+ років) в умовах воєнного стресу. Адаптацію здійснено за п'ятиетапним протоколом прямого і зворотного перекладу з експертною оцінкою і когнітивним інтерв'ю. Дані зібрано в березні 2026 року (N = 332; 69,0 % жінок; вік 35-55+). Внутрішня узгодженість була високою: альфа Кронбаха становила 0,845 для субшкали саморефлексії, 0,791 – інсайту і 0,773 – для загальної шкали. Підтверджувальний факторний аналіз підтвердив двофакторну структуру з задовільним рівнем відповідності; всі дванадцять факторних навантажень статистично значущі. Близький до нульового кореляційний зв'язок між факторами свідчить, що в умовах воєнного стресу саморефлексія і саморозуміння функціонують як практично незалежні дименсії. Аналіз відомих груп показав, що жінки мають вищий рівень саморефлексії, ніж чоловіки, а вимушені переселенці демонструють нижчу саморефлексію. Україномовна версія SRIS-12 рекомендована для використання клінічними психологами, кризовими консультантами та дослідниками, які працюють із дорослими віком 35 років і старше в умовах воєнного та постконфліктного контексту, зокрема для діагностики рефлексивної здатності, моніторингу психологічної динаміки в лонгітюдних дослідженнях та розроблення цілеспрямованих інтервенцій із саморегуляції

Ключові слова: рефлексивне функціонування; приватна самосвідомість; адаптація методики; крос-культурна адаптація; середня дорослість; кризовий контекст; воєнна Україна

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