

Posttraumatic Growth in the Context of War: an Empirical Review of Studies 2022–2025

Посттравматичне зростання в умовах війни: огляд емпіричних досліджень 2022–2025 років

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Purpose. This article presents a systematic review of empirical research on posttraumatic growth in the context of war published in 2022–2025. The primary aim is to synthesize current scientific evidence on the levels, determinants, and psychological mechanisms of posttraumatic growth under war-related conditions, taking into account both individual and collective dimensions of this phenomenon, and to identify common trends and methodological limitations in the existing literature. **Methods.** The study was conducted as a systematic literature review using the PRISMA framework. Bibliographic searches were performed in Scopus, PubMed, and Google Scholar. The review included peer-reviewed empirical studies published in 2022–2025 that examined manifestations and predictors of posttraumatic growth in samples of internally displaced persons, civilian populations, helping professionals, and other war-affected groups. **Results.** Sixteen studies were included in the final synthesis. Findings indicate that posttraumatic growth is a multidimensional and dynamic process associated with cognitive processing of traumatic experience, types of rumination, adaptive coping strategies, personal resources (e.g., hope, self-efficacy), social support, and identity transformation. Particular attention is given to collective posttraumatic growth, expressed in increased social solidarity and shared meaning-

Анотація

Мета. Стаття присвячена систематичному огляду емпіричних досліджень посттравматичного зростання в умовах війни, опублікованих у період 2022–2025 років. Основною метою є узагальнення сучасних наукових даних щодо рівня, чинників і психологічних механізмів посттравматичного зростання в умовах війни, з урахуванням індивідуальних і колективних вимірів цього феномену, а також виявлення спільних тенденцій та методологічних обмежень наявних досліджень. **Методи.** Дослідження виконано у форматі систематичного огляду літератури із застосуванням моделі PRISMA. Бібліографічний пошук здійснено в базах даних Scopus, PubMed та Google Scholar. До огляду включено рецензовані емпіричні дослідження, опубліковані в 2022–2025 роках, що аналізують прояви та предиктори ПТЗ у вибірках внутрішньо переміщених осіб, цивільного населення, фахівців допоміжних професій та інших груп, постраждалих від війни. **Результати.** До фінального синтезу включено шістнадцять досліджень. Встановлено, що посттравматичне зростання є багатовимірним і динамічним процесом, пов'язаним із когнітивною переробкою травматичного досвіду, типами румінації, адаптивними копінг-стратегіями, особистісними ресурсами (надія, самоефективність), соціальною підтримкою та трансформацією ідентичності. Особливу увагу приділено феномену колективного посттрав-

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making in the context of collective traumatic experience. **Conclusions.** Posttraumatic growth in war conditions is not an automatic consequence of trauma; rather, it develops when individual and social resources are available and when individuals engage in an active process of meaning-making of the lived experience. Synthesizing current empirical findings deepens theoretical understanding of posttraumatic growth under prolonged wartime exposure and outlines directions for further research – especially the need for future longitudinal studies, including those in the Ukrainian context, to better understand mechanisms of posttraumatic growth during and after war.

Keywords: posttraumatic stress disorder, internally displaced persons, coping strategies, social support, identity transformation, collective posttraumatic growth.

Introduction

Following World War II, a substantial increase in the number of armed conflicts has been documented, affecting regions inhabited by approximately one-quarter of the world's population (United Nations Statistics, 2024). On a global scale, the number of adults who have experienced war and subsequently suffered from posttraumatic stress disorder (PTSD) has been remarkably high (Hoppen & Morina, 2019). Previous research has demonstrated that, among all types of traumatic events, exposure to war is associated with the greatest psychological burden in terms of both intensity and duration of suffering (Kessler et al., 2005). Systematic reviews further indicate that the prevalence of PTSD symptoms among war-affected civilian populations reaches 23.70%, while the prevalence of depressive symptoms amounts to 25.60%. Subgroup analyses by time elapsed since the onset of war and by national economic status reveal that the highest rates of both PTSD and depressive symptomatology are observed during the active phase of war and in low- and middle-income countries (Ahmed et al., 2024). Although approximately one-third of individuals recover

матичного зростання, що проявляється в посиленні соціальної солідарності та спільного смисловизначення в умовах колективного травматичного досвіду. **Висновки.** Посттравматичне зростання в умовах війни не є автоматичним наслідком травми, а формується за наявності індивідуальних і соціальних ресурсів та активного процесу осмислення пережитого досвіду. Узагальнення сучасних емпіричних даних поглиблює теоретичне розуміння цього феномену в контексті тривалого воєнного впливу та дозволяє окреслити актуальні напрями подальших досліджень, а саме необхідність майбутніх лонгітюдних досліджень, зокрема в українському контексті, для глибшого розуміння механізмів посттравматичного зростання у воєнний та післявоєнний періоди.

Ключові слова: посттравматичний стресовий розлад, внутрішньо переміщені особи, копінг-стратегії, соціальна підтримка, трансформація ідентичності, колективне посттравматичне зростання.

from PTSD within one year, rapid remission is least likely among those exposed to war-related trauma (Kessler et al., 2017).

The psychological consequences of the Russian-Ukrainian war have manifested in increased levels of anxiety, depression, PTSD, complex PTSD, and sleep disturbances among the adult population of Ukraine (Rizzi et al., 2022). According to data collected as of March 2022, 53% of Ukrainian adults demonstrated high levels of psychological distress, 54% reported anxiety symptoms, and 47% reported depressive symptoms (Lushchak et al., 2023). It has also been shown that forced internal displacement significantly increases the risk of developing PTSD and other mental disorders (Johnson et al., 2022).

War exerts a long-term impact on psychological development, particularly during childhood and adolescence. Research indicates that war exposure may exacerbate cognitive impairments, complicate emotional regulation, and reduce coping capacity. Traumatic events have been associated with impaired concentration, diminished self-confidence, memory deficits, reduced cognitive flexibility, and decreased creativity (Lerner et al., 2015). In addition to these

disturbances, the experience of war also affects individuals' temporal perspective. Significant traumatic exposure has been linked to shifts in the balance of time orientations, manifested in reduced orientation toward a positive past and deviations in future orientation from optimal levels (Plokhikh et al., 2025). At the same time, living under conditions of war may stimulate the development of psychological resilience by fostering adaptive capacity. In adverse life circumstances, individuals more frequently seek social support, cooperate with others, learn from personal experience, and make deliberate decisions – behavioral patterns characteristic of resilient individuals (Wessells, 2017).

Beyond the development of resilience, a considerable proportion of individuals report that overcoming traumatic events is accompanied by positive psychological changes, including increased maturity, wisdom, a stronger sense of meaning in life, and enhanced inner strength. In this context, posttraumatic growth (PTG) is conceptualized not merely as the capacity to withstand stress, but as a qualitative transformation that exceeds prior levels of functioning. As noted by researchers, PTG represents “a movement beyond pre-trauma levels of adaptation” (Tedeschi & Calhoun, 2004). Unlike resilience, PTG involves the development of new life perspectives, a deeper appreciation of life, and the strengthening of one's internal psychological potential (Hall et al., 2008).

The prevalence of posttraumatic growth varies considerably across different populations, particularly in war-affected regions, where social support and effective coping strategies play a crucial role (Werner, 2012). The development of PTG is not universal; rather, it is understood as a complex and dynamic process determined by multiple interacting factors, including the nature of trauma, personality characteristics, cognitive processing of experience, and external support resources (Joseph & Linley, 2005). Researchers emphasize that suffering and growth may coexist, with meaning-making serving as a central psychological mechanism in this process.

International research on PTG has been complemented by a growing number of Ukrainian empirical studies that account for the cultural, social, and historical specificities of experiencing

war. Between 2022 and 2025, a number of studies were published analyzing posttraumatic growth among military personnel, veterans, internally displaced persons, volunteers, and civilian populations in Ukraine. At the same time, these studies are characterized by substantial methodological and sampling heterogeneity, differences in approaches to measuring PTG, and limited generalizability of findings.

Thus, despite the growing number of empirical studies devoted to posttraumatic growth in the context of war, the problem of systematizing existing findings, identifying common trends, methodological limitations, and key research challenges in the context of ongoing military conflict remains insufficiently addressed.

Research hypothesis. Social support, sense of belonging, and transformation of social identity are conceptualized as key factors in the development of not only individual but also collective posttraumatic growth among populations experiencing prolonged military conflict.

Aim of the review. The aim of this review is to synthesize and analyze empirical studies on posttraumatic growth conducted during wartime between 2022 and 2025.

Presentation of the main material. Significant traumatic events, such as exposure to war, may lead to substantial psychological impairment in many affected individuals, including the development of persistent posttraumatic stress symptoms (Blackmore et al., 2020). At the same time, many people report that confronting a traumatic event and living through it contributed to positive changes in certain areas of their lives – so profound that their maturity, development, wisdom, or level of adaptation exceed the pre-war baseline. These positive changes have been conceptualized as posttraumatic growth (PTG). They may include a shift in priorities and a deeper appreciation of life, closer relationships with others, an enhanced sense of personal strength, recognition of new possible life paths, and spiritual development (Tedeschi & Calhoun, 2004).

PTG may be relatively prevalent: one meta-analytic study reported an average prevalence of 53% for moderate and high levels of PTG following various traumatic events (Wu et al., 2008). In

professional groups regularly exposed to stressful and traumatic events, including nurses, pooled estimates likewise indicate a moderate level of PTG ($M = 55.69$; 95% CI: 50.67–60.72) (Wang et al., 2024). War-related traumatic events can also result in positive changes conceptualized as PTG. Substantial PTG has been documented among combat veterans (Greenberg et al., 2021; Whealin et al., 2020; Gower et al., 2024), among Holocaust survivors, among refugees in general (Pop et al., 2025), and, specifically, among refugees from Syria (Kangaslampi et al., 2022). At the same time, PTSD symptoms meeting diagnostic threshold were identified in 31.46% (95% CI: 24.43–38.50) of war-affected populations and among refugees (Blackmore et al., 2020).

It is important to emphasize that experiencing PTG does not imply that the traumatic event was beneficial overall, nor does it indicate an absence of suffering. The same individual may experience both distress (including PTSD symptoms) and growth – either simultaneously or at different periods following the traumatic event. PTG is more likely when affected individuals continue to think about, talk about, and attempt to make sense of the trauma – that is, when they engage in intensive cognitive processing (Goutaudier et al., 2020). Such processing is often accompanied by intrusive thoughts and the necessity of relinquishing goals and hopes that have become unattainable; therefore, it may be experienced as difficult and painful.

Indeed, meta-analyses across different trauma types have shown that greater PTSD symptom severity is associated with more pronounced PTG ($r = .22-.33$) (Shakespeare-Finch & Lurie-Beck, 2014). However, this positive association may have boundaries: several recent studies among combat veterans and a meta-analysis of 63 studies across different trauma types (Liu et al., 2017) identified a curvilinear, inverted U-shaped relationship between PTG and PTSD (Jernslett et al., 2025). This suggests that PTG may be strongest at moderate levels of PTSD symptoms rather than at low or high levels. In contrast, some studies have found no positive association between PTSD and PTG (Goutaudier et al., 2020).

More recently, PTG has been conceptualized as a potential mechanism underlying behavioral

changes in conflict-affected individuals that previously posed interpretative challenges for researchers. For example, some studies argue that PTG may alter individual preferences regarding risk and time, as well as social preferences (Blackmore et al., 2020). However, most of these studies did not measure PTG directly. Studies that examined the actual impact of PTG in conflict-affected samples found, for instance, an association between PTG and hope (George-Levi et al., 2025), as well as empathy and altruism (Elam et al., 2025), and an influence on social behavior through the transformation of preferences (Skoog, 2023).

Materials and methods

Between May 2025 and October 2025, a systematic literature review was conducted using the PRISMA model (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) (Liberati et al., 2009; Moher et al., 2015; Page et al., 2020). This methodology was developed to ensure the systematic identification and analysis of scientific studies on a given topic through transparent and codified selection procedures.

The organization of the review included three key stages. The first stage involved planning, which comprised the development of the review protocol and formulation of research questions. The second stage consisted of conducting the review, including the selection of relevant studies, construction of the PRISMA flow diagram, and determination of methodological inclusion and exclusion criteria. The third stage involved synthesis and discussion of findings. At the synthesis stage, particular emphasis was placed on empirical data published between 2022 and 2025 during the Russian-Ukrainian war and the ongoing Israel-Hamas war (2023–2025). These studies examined the level and predictors of posttraumatic growth among different groups: internally displaced persons, mental health professionals, civilian populations across various age groups, and pregnant women. Special attention was devoted to the concept of collective posttraumatic growth, which has gained particular relevance in the context of national wartime experience.

To address the research questions, a bibliographic search was conducted in three scientific databases: Scopus, PubMed, and Google Scholar.

Inclusion criteria. The review focused on studies providing empirical data on manifestations of posttraumatic growth in the context of war during the period 2022–2025. Studies were selected according to the following criteria:

- inclusion of participant samples directly involved in or affected by war (internally displaced persons, civilian populations, mental health professionals);
- inclusion of publications containing empirical data obtained through quantitative, qualitative, or mixed methods, provided that the findings directly addressed indicators or predictors of posttraumatic growth;
- consideration of studies analyzing both individual-level PTG (personal strength, new possibilities, deepened interpersonal relationships, appreciation of life, spiritual or existential development) and collective-level PTG (posttraumatic solidarity, sense of unity, patriotism, or trust in governmental decisions);
- inclusion of empirical and applied research only;
- inclusion of articles published in peer-reviewed academic journals.

Dissertations, reports, conference proceedings, books, book chapters, and other forms of non-peer-reviewed literature were excluded.

Search strategy. During the development of the search strategy, various keyword combinations were used, including: “posttraumatic growth: empirical review”, “posttraumatic growth during war”, “collective posttraumatic growth”, “factors of posttraumatic growth”.

Study selection and quality assessment. The search conducted in the Scopus, PubMed, and Google Scholar databases identified 137 publications. After removing four duplicates, 133 studies proceeded to the screening stage. During the initial screening based on titles and abstracts, 93 publications were excluded. Forty full-text articles were assessed for eligibility; however, four full texts could not be retrieved due to access limitations. Thus, 36 studies were evaluated for compliance with the inclusion criteria. Following full-text analysis, 20 articles were excluded for the following reasons: lack of primary data ($n = 9$) and irrelevance to the research topic ($n = 7$).

Ultimately, 16 studies with current and high-quality primary empirical data were included in the systematic review and were deemed suitable for evidence synthesis and for addressing the research questions. The full selection process is systematically illustrated in Figure.

Following the study selection procedure, 16 studies published between 2022 and 2025 were included in the final analysis. The geographical scope of the included studies reflects both contemporary military contexts – namely, the Russian-Ukrainian war (2022–2025), the Israel-Hamas war (2023–2025), and the Syrian conflict (2011–2025) as well as earlier armed hostilities, specifically the Iran-Iraq war (1980–1988), examined through extended longitudinal follow-up.

The age range of participants across the analyzed studies varied from 10 to 74 years. One study focused exclusively on an adolescent sample, allowing for a detailed examination of age-specific experiences during this developmental period. Another study concentrated on a sample of pregnant women, taking into account the specific psychological conditions and vulnerabilities associated with pregnancy.

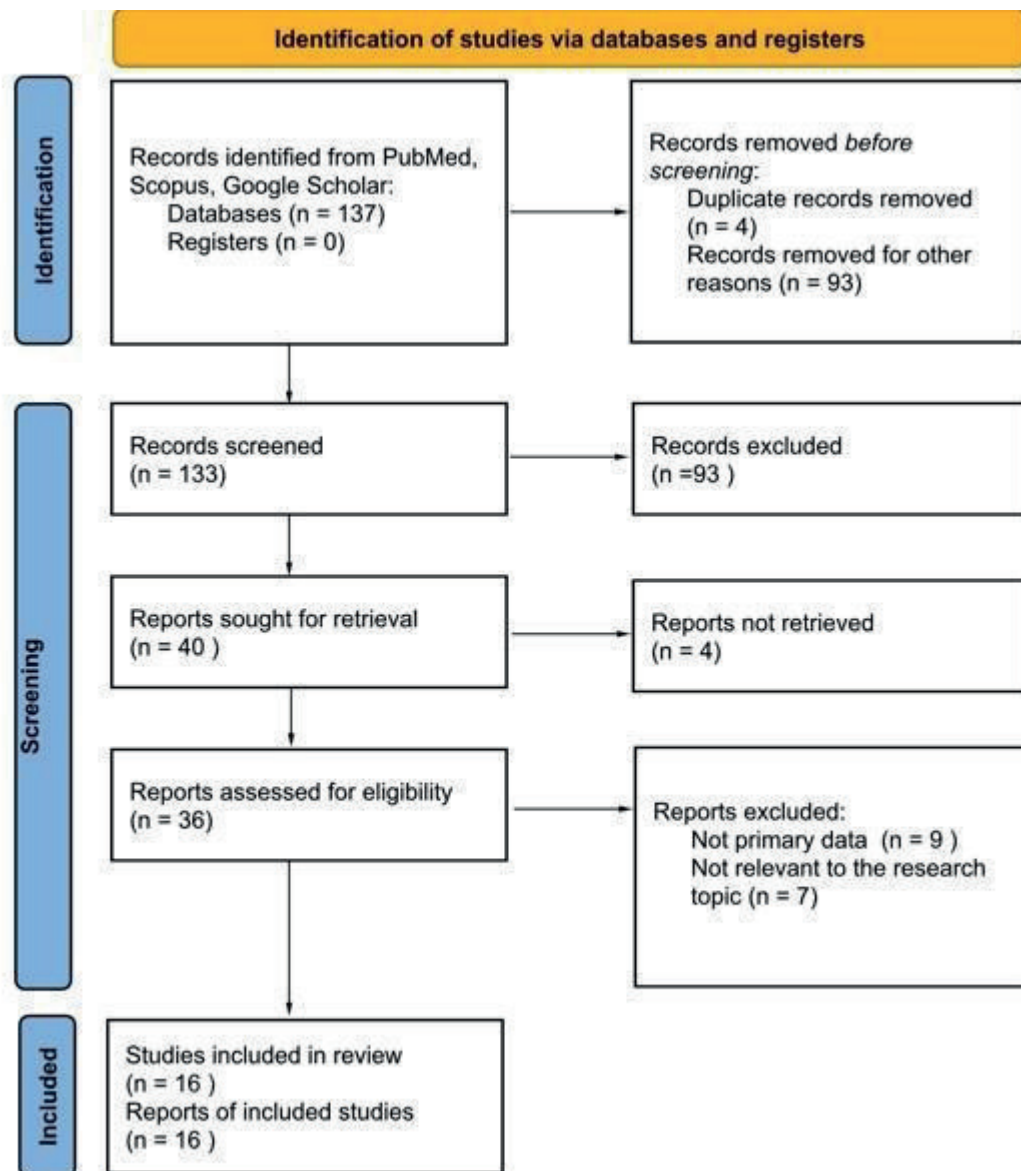


Fig. 1. PRISMA flow diagram of the search and screening process

Results

The included studies were aimed at analyzing the levels and predictors of posttraumatic growth across various population groups, including internally displaced persons, helping professionals, civilian populations of different age categories, and pregnant women. Age, social support, self-identity, and sense of belonging, as well as adaptive coping strategies, were identified as factors associated with PTG.

Demographic variables. Age was examined as a moderating factor of posttraumatic growth in several studies (Banit, 2023; Mijalevich-

Soker et al., 2025; Skoog, 2023). Indicators of posttraumatic growth demonstrate associations with developmental processes. A positive correlation was observed between age and appreciation of life, as well as deepening of positive attitudes toward others. Younger adolescents demonstrated low levels of posttraumatic growth, whereas older adolescents and young adults exhibited moderate levels (Kuzikova et al., 2025). With increasing age, the interaction between indicators of personal strength and the ability to perceive new opportunities in stressful situations becomes more complex (Banit, 2023).

Variables associated with PTG

Posttraumatic stress disorder (PTSD).

Research confirms an inverse correlation between indicators of posttraumatic growth (PTG) and PTSD: the higher the level of PTG, the lower the severity of symptoms of intrusion, avoidance, hyperarousal, and guilt. In the group with a high level of PTG, a significant proportion of individuals did not exhibit signs of clinical PTSD, whereas in the group with low PTG, all participants demonstrated PTSD symptoms, with nearly 40% meeting criteria for a clinically diagnosed disorder. This makes it possible to consider PTG as an antipode of PTSD and as a potential mechanism for preventing its development (Belov et al., 2025).

Depression. Depressive symptoms function as a negative predictor of posttraumatic growth. It was established that students with low levels of PTG had significantly higher depression scores (49.08 ± 11.51 points) compared to those with high PTG (42.17 ± 9.81 points; $p < 0.0001$). Correlation analysis confirmed a moderate inverse association ($r_s = -0.307$), indicating a relationship between depressive manifestations and inhibition of personal growth processes. A heightened sense of guilt and personal inadequacy reduces the capacity to integrate crisis into a positive experience, whereas lower levels of depression are associated with greater appreciation of life and strengthening of personal resources (Belov et al., 2025).

Coping styles and strategies. Cognitive coping

Rumination. Rumination is considered an ambivalent process, as it can both intensify emotional distress and create conditions for deeper cognitive processing of traumatic experience, which, under certain conditions, contributes to the development of posttraumatic growth. Research indicates that the transition from intrusive repetitive thoughts to reflective rumination increases the capacity for meaning-making and opens opportunities to construct new life perspectives. Authors emphasize that rumination may support the process of value reappraisal and

strengthening of internal resources, provided that traumatic experiences are gradually cognitively processed without fixation on

distress. At the same time, excessive and uncontrolled rumination is associated with decreased adaptability and delayed development of posttraumatic growth, as confirmed in studies conducted on migration samples (Hashemi & Mahmoudzadeh, 2025).

Problem-focused coping. Problem-focused coping promotes posttraumatic growth by increasing the sense of control, efficacy, and ability to act under conditions of uncertainty. Active problem solving and action orientation create conditions for identifying new opportunities and strengthening personal power – key components of PTG. Orientation toward achieving specific outcomes reduces feelings of helplessness and supports more stable post-trauma adaptation. Research also shows that active strategies enhance the ability to reorganize life priorities, reinforcing autonomy and internal resources. Conversely, the absence of problem-focused coping is associated with lower PTG, as it maintains passive and maladaptive response patterns (Belov, 2025).

Emotion-focused coping. In studies of internally displaced persons, emotion-focused coping is regarded as an important mechanism facilitating posttraumatic growth, particularly when external circumstances are uncontrollable. Seeking support and emotional expression help integrate experiences of loss and lay the groundwork for a positive reappraisal of the situation, as confirmed by systematic review data. Some studies indicate that emotional strategies may enhance meaning-making capacity, which is a key catalyst of personal change after trauma. Authors analyzing forced displacement emphasize that openness to emotional experience contributes to better awareness of new opportunities and strengthening of internal resources. In contrast, avoidance or “emotional stagnation” is associated with reduced likelihood of PTG, as highlighted in migration samples (Volkov, 2025; Hashemi & Mahmoudzadeh, 2025).

Hope. Hope acts as a stable protective factor associated with reduced levels of psychological stress, regardless of the intensity of secondary traumatization symptoms. It performs a regulatory function, supporting preservation of internal psychological resources, goal-directed behavior, and a subjective sense of control under

conditions of collective trauma. Unlike meaning-making related to professional activity, hope has a more universal protective potential independent of professional context. Its presence is associated with higher levels of psychological resilience and the capacity to withstand emotional exhaustion. Thus, hope constitutes an important psychological resource supporting adaptation and posttraumatic growth even under high levels of professional stress (George-Levi et al., 2025).

In the temporal dimension, hope is directly related to future orientation and the capacity to maintain the future as a psychologically accessible and meaningful planning horizon. Within time perspective theory, future orientation is conceptualized as a cognitive-motivational set that ensures goal setting, delayed gratification, and strategic planning. Traumatic war experiences may disrupt the balance of temporal orientations, leading to dominance of negatively valenced past orientation (past negative) and fatalistic present orientation (present fatalistic), accompanied by narrowing of future perspective and loss of subjective control. Empirical data indicate that individuals with traumatic experience demonstrate deviations from a balanced time perspective, particularly decreased future orientation and reduced positive perception of the past (Plokhikh et al., 2025). Such changes are associated with reduction of long-term life goals and diminished expectations of positive change. In this context, hope functions as a regulator of temporal perspective, restoring future orientation, facilitating reconstruction of life plans, and supporting integration of traumatic experience into a coherent life narrative. Thus, hope may be considered a psychological mechanism that brings the structure of temporal orientations closer to a balanced model, reducing the dominance of maladaptive components (past negative, present fatalistic) and strengthening future orientation. Expanding temporal perspective, it creates cognitive preconditions for the development of posttraumatic growth.

Social support. Social support has proven to be a key factor in mitigating the negative impact of trauma and stress on mental and physical health, facilitating recovery and adaptation. Respondents who demonstrated effective communication

and problem-solving abilities emphasized the importance of interpersonal connections in the process of posttraumatic growth (Hashemi & Mahmoudzadeh, 2025; Mijalevich-Soker, 2025). Authors note that social support is one of the most important predictors of PTG, as it ensures emotional ventilation, normalization of experiences, and a sense of belonging to a safe community (Dahan, 2024).

Identity and sense of belonging. The results indicate that posttraumatic growth may develop through the transformation of social identities or the activation of existing identification resources. Such activation is manifested in renewed awareness of the significance of one's social affiliations, strengthening of perceived group resources, and increased subjective value of group membership for the individual. Traumatic experience, particularly war-related trauma, can alter a person's perception of self and place within the social space, making processes of social identity important mediators between experienced trauma and positive posttraumatic changes. Rather than social alienation, personal and social (including military) identities formed or strengthened during war may stimulate the desire to restore and deepen social ties, thereby reinforcing collective identity. Integration of group belonging into the individual's self-concept creates conditions for reinterpreting life meanings and values, enabling posttraumatic growth through revitalization of the social "self" (Zlyvkov & Lukomska, 2023).

Collective posttraumatic growth (CPTG). Summarizing research findings, posttraumatic growth extends beyond the individual level and may manifest as a collective phenomenon in response to mass trauma. Empirical data on increases in national resilience during war indicate the presence of collective posttraumatic growth, manifested in enhanced social solidarity, institutional trust, and sense of unity (Eshel et al., 2025). A systematic review of collective violence research complements these findings, demonstrating that collective and individual meaning-making, interpersonal resources, and regulatory strategies constitute key mechanisms of perceived posttraumatic growth. Broader contextual factors, including access to education

and employment, development of sanitary infrastructure, and general economic and political conditions, also contribute to the formation of CPTG (Brooks et al., 2025; Kahraman & Kina, 2024).

Discussion

The findings of this systematic review indicate that posttraumatic growth (PTG) is not a direct or proportional consequence of traumatic exposure but rather emerges as a nonlinear process mediated by cognitive processing of trauma, individual psychological resources, and social conditions. Within the framework of contemporary process-oriented and integrative models of PTG, the results suggest a fluctuating trajectory of growth that may coexist with symptoms of posttraumatic stress disorder (PTSD) and depression, thereby supporting the dialectical nature of adaptation to trauma. The observed inverse association between PTG and the severity of PTSD and depressive symptoms is generally consistent with prior empirical evidence; however, the cumulative findings also support the notion of a curvilinear relationship between these variables. A moderate level of posttraumatic stress may function as a catalyst for cognitive processing of trauma, whereas either excessive or minimal symptomatology appears to constrain meaning-making processes. Thus, PTG should not be conceptualized as an automatic byproduct of symptom reduction but rather as an outcome of active psychological processing and integration of traumatic experience.

Cognitive processing of trauma, particularly rumination, emerges as a key mechanism underlying posttraumatic growth. The review data confirm its functional ambivalence (see Table): while intrusive rumination sustains distress and reinforces traumatic fixation, deliberate (reflective) rumination facilitates meaning-making, integration of loss, and transformation of life perspectives. This is consistent with cognitive processing models of trauma, according to which the adaptive potential following traumatic exposure depends on the quality, rather than the mere intensity, of cognitive activity (Mertens et al., 2025; Allen et al., 2022).

Adaptive coping strategies, specifically

problem-focused and emotion-focused coping (see Table), demonstrate a stable positive association with PTG. Problem-focused coping contributes to the restoration of perceived control and self-efficacy, whereas emotion-focused strategies, when characterized by openness to emotional experience, support the integration of losses into a coherent life narrative. In contrast, avoidance coping is associated with lower levels of PTG, likely due to the inhibition of cognitive processing mechanisms necessary for trauma integration (Xie & Kim, 2022).

Among personal resources, hope emerges as a universal protective factor in the development of posttraumatic growth (see Table). Unlike meaning-making processes or identity-based professional resources, its adaptive potential appears to remain stable across social and occupational contexts, sustaining goal-directed behavior and subjective control under conditions of chronic uncertainty (Long, 2022; Senger et al., 2023). This positions hope as one of the central psychological mechanisms supporting PTG in the context of prolonged armed conflict.

The review findings further underscore the central role of social support and social identification processes in fostering both individual and collective posttraumatic growth. A sense of belonging, emotional validation, and the integration of group membership into the self-concept create favorable conditions for positive psychological transformation in the context of collective traumatic experience associated with war (Eshel et al., 2025). Within this framework, the phenomenon of collective posttraumatic growth extends beyond individualistic models of PTG, demonstrating that growth may manifest at the community level through strengthened social solidarity, institutional trust, and processes of shared meaning-making.

Table 1. Factors and psychological mechanisms of posttraumatic growth in the context of war

Variables	Specific variables / processes	Nature of influence on PTG	Explanation / mechanism of action
Posttraumatic stress disorder (PTSD)	Intrusion symptoms, avoidance, hyperarousal, guilt	Curvilinear	A moderate level of PTSD activates cognitive processing; excessive or minimal levels inhibit PTG development
Depression	Feelings of guilt; hopelessness; loss of interest in life; feelings of inadequacy	Negative	Depressive manifestations reduce meaning-making capacity and motivation to integrate traumatic experience
Cognitive processing	Meaning-making of traumatic experience; reappraisal of values; reconstruction of life narrative	Key component in trauma integration	Ensures integration of traumatic experience into a new life narrative
Rumination	Intrusive rumination	Negative (intrusive)	Intrusive rumination maintains trauma fixation and distress
	Reflective rumination	Positive (reflective)	Reflective rumination facilitates meaning-making and development of new life perspectives
Coping strategies	Problem-focused coping	Positive	Enhances the sense of control and personal strength
	Emotion-focused coping	Positive	Facilitates integration of losses and positive reappraisal
	Avoidance	Negative	Blocks cognitive processing
Personal resources	Hope	Positive	Supports goal-directedness and subjective control
	Self-efficacy	Positive	Promotes active coping
Social factors	Social support	Positive	Normalization of experiences and sense of belonging
	Integration	Positive	

			Restoration of perceived safety
Identity	Sense of belonging	Positive	Supports identity coherence
	Identity transformation	Positive	Integration of traumatic experience as a developmental resource
Demographic variables	Age	Moderating	With age reflective capacity increases
	Gender	Moderating	Women more frequently report higher PTG levels
Macrosocial factors	Social solidarity, trust in institutions	Positive	Strengthens collective posttraumatic growth

Strengths and limitations. This systematic review makes a significant contribution to the study of posttraumatic growth in the context of ongoing armed conflict by synthesizing current empirical evidence from 2022–2025, with particular attention to contemporary wars, especially the Russian-Ukrainian war. A major strength of the review lies in the integration of both individual and collective levels of PTG, as well as in the methodological transparency of the selection process, which complied with PRISMA guidelines. Additionally, the comprehensive analytical approach, which combines individual, social, and macrosocial levels of adaptation to trauma, enhances the theoretical depth of the review. At the same time, several limitations should be acknowledged. First, the studies included in the review differ substantially in research design, sample characteristics, and measurement instruments used to assess posttraumatic growth, which complicates direct comparisons of findings and limits the generalizability of conclusions. Second, despite the inclusion of Ukrainian samples, the empirical base concerning internally displaced persons in Ukraine remains limited, particularly from a longitudinal perspective. Finally, the review focuses primarily on positive

transformations without a symmetrical analysis of negative posttraumatic changes (e.g., posttraumatic depreciation), which may introduce a conceptual bias in the interpretation of trauma adaptation processes.

Conclusions

The conducted systematic review of empirical studies from 2022–2025 demonstrates that posttraumatic growth in the context of war is a multidimensional, dynamic, and contextually conditioned process shaped by the interaction of individual, social, and macrosocial factors. The findings confirm that PTG is not an automatic consequence of traumatic exposure but emerges under conditions of active cognitive processing, the presence of personal psychological resources, supportive social environments, and opportunities to integrate traumatic experience into a renewed life narrative. At the same time, symptoms of PTSD and depression may both stimulate and inhibit the process of growth, supporting the complex, particularly curvilinear nature of their association with PTG.

The review results suggest that cognitive mechanisms of trauma meaning-making play a pivotal role in the development of posttraumatic

growth, particularly the transition from intrusive to deliberate rumination, as well as the use of adaptive coping strategies, problem-focused, and emotion-focused coping. Significant contributing factors also include hope, self-efficacy, social support, and a sense of belonging, all of which provide psychological grounding and facilitate identity transformation following traumatic experience. Special attention should be given to the phenomenon of collective posttraumatic growth, manifested in strengthened social solidarity, increased institutional trust, and shared meaning-making processes in the context of prolonged armed confrontation.

A promising direction for future research involves a deeper examination of the temporal dynamics of posttraumatic growth, particularly in the context of forced migration and identity transformation. Specifically, longitudinal empirical studies among internally displaced persons in Ukraine are urgently needed to trace the development of PTG across different stages of war and in the postwar period. Further research should focus on cognitive processing mechanisms, identity transformation, and the role of social and macrosocial determinants in shaping both individual and collective posttraumatic growth.

References

- Ahmed, S. H., Zakai, A., Zahid, M., Jawad, M. Y., Fu, R., & Chaiton, M. (2024). Prevalence of post-traumatic stress disorder and depressive symptoms among civilians residing in armed conflict-affected regions: A systematic review and meta-analysis. *General Psychiatry*, 37(3), e101438. <https://doi.org/10.1136/gpsych-2023-101438>
- Allen, N., Hevey, D., Cogley, C., & O’Keeffe, F. (2022). A meta-analysis of the association between event-related rumination and posttraumatic growth: The Event-Related Rumination Inventory and the Posttraumatic Growth Inventory. *Journal of Traumatic Stress*, 35(6), 1575–1585. <https://doi.org/10.1002/jts.22875>
- American Psychiatric Association [APA]. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). <https://doi.org/10.1176/appi.books.9780890425596>
- Banit, O. V. (2023). Posttravmatychnе zrostannia ukrainsiv v umovakh viiny [Posttraumatic growth of Ukrainians in conditions of war]. *Rozvytok liudskoho kapitalu – Human Capital Development*, 4(25), 104–115. <https://doi.org/10.32987/2617-8532-2023-4-104-115>
- Belov, O. O., Markov, A. R., & Markova, M. V. (2025). Posttravmatychnе zrostannia: Doslidzhennia vzaïemodii intra- ta interpsykhichnykh resursiv osobystosti [Posttraumatic growth: A study of the interaction of intra- and interpsychic personal resources]. *Psykhiatriia, nevrolohiia ta medychna psykhohiia – Psychiatry, Neurology and Medical Psychology*, 1(27), 22–36. <https://doi.org/10.26565/2312-5675-2025-27-02>
- Belov, O. O., Markov, A. R., Markova, M. V., Shevchenko-Bitenskyi, K. V., Novytskyi, A. V., & Lukash, N. D. (2025). Analiz vzaïemozv’iazku mizh posttravmatychnym zrostanniam ta osobystisnymy osoblyvostiamy u studentskoi molodi v umovakh povnomashtabnoi viiny [Analysis of the relationship between posttraumatic growth and personality traits among university students under conditions of full-scale war]. *Psykhiatriia, nevrolohiia ta medychna psykhohiia – Psychiatry, Neurology and Medical Psychology*, 12(2), 152–161. <https://doi.org/10.26565/2312-5675-2025-28-01>
- Blackmore, R., Boyle, J. A., Fazel, M., Ranasinha, S., Gray, K. M., Fitzgerald, G., Misso, M., & Gibson-Helm, M. (2020). The prevalence of mental illness in refugees and asylum seekers: A systematic review and meta-analysis. *PLoS Medicine*, 17(9), e1003337. <https://doi.org/10.1371/journal.pmed.1003337>
- Brooks, M., O’Brien, R. O., Livanou, M., Turner, M. J., & Whittenbury, K. (2025). Collective violence, strengths, and perceived posttraumatic growth: A scoping review. *Trauma, Violence, & Abuse*, 26(2), 342–355. <https://doi.org/10.1177/15248380241309383>
- Dahan, S., Bloemhof-Bris, E., Segev, R., Abramovich, M., Levy, G., & Shelef, A. (2024). Anxiety, post-traumatic symptoms, media-induced secondary trauma, post-traumatic growth, and resilience among mental health workers during the Israel–Hamas war. *Stress and Health*, 40(5), e3459. <https://doi.org/10.1002/smi.3459>

- Elam, T., Efthemiou, A., & Taku, K. (2025). The association positive and negative empathy have with depressive symptoms, resilience, and posttraumatic growth. *Scientific Reports*, *15*(1), 9464. <https://doi.org/10.1038/s41598-025-86285-4>
- Eshel, Y., Marciano, H., Kimhi, S., Kaim, A., Siman Tov, M., & Adini, B. (2025). National resilience rise following the Hamas invasion of southern Israel as an indicator of collective post-traumatic growth. *International Journal of Intercultural Relations*, *105*, 102130. <https://doi.org/10.1016/j.ijintrel.2024.102130>
- George-Levi, S., Faverman, L., Galin-Lonchich, Y., Ben-Gal Dahan, A., & Frei-Landau, R. (2025). Beyond meaning: Hope and secondary trauma in Israeli therapists after the October 7th massacre. *Frontiers in Psychology*, *16*, 1594885. <https://doi.org/10.3389/fpsyg.2025.1594885>
- Goutaudier, N., Clarys, D., Tudorache, A.-C. C., & Boudoukha, A. H. (2020). La croissance posttraumatique: Quand le traumatisme devient bénéfique (Posttraumatic growth: When trauma becomes beneficial) [in French]. *La Presse Médicale Formation*, *1*(2), 151–156. <https://doi.org/10.1016/j.lpmfor.2020.05.006>
- Gower, T., Fischer, I. C., Tsai, J., Kang, H., Na, P. J., Tedeschi, R. G., & Pietrzak, R. H. (2024). Functional significance of posttraumatic growth in U.S. military veterans. *Journal of Affective Disorders*, *356*, 267–273. <https://doi.org/10.1016/j.jad.2024.04.046>
- Greenberg, J., Tsai, J., Southwick, S. M., & Pietrzak, R. H. (2021). Can military trauma promote psychological growth in combat veterans? Results from the National Health and Resilience in Veterans Study. *Journal of Affective Disorders*, *282*, 732–739. <https://doi.org/10.1016/j.jad.2020.12.077>
- Hall, B. J., Hobfoll, S. E., Palmieri, P. A., Canetti-Nisim, D., Shapira, O., Johnson, R. J., & Galea, S. (2008). The psychological impact of impending forced settler disengagement in Gaza: Trauma and posttraumatic growth. *Journal of Traumatic Stress*, *21*(1), 22–29. <https://doi.org/10.1002/jts.20301>
- Hashemi, M., & Mahmoudzadeh, M. (2025). The lived experiences of childhood trauma in war: Has post-traumatic growth occurred? *European Journal of Psychotraumatology*, *16*(1). <https://doi.org/10.1080/20008066.2025.2468605>
- Hoppen, T. H., & Morina, N. (2019). The prevalence of PTSD and major depression in the global population of adult war survivors: A meta-analytically informed estimate in absolute numbers. *European Journal of Psychotraumatology*, *10*(1), 1578637. <https://doi.org/10.1080/20008198.2019.1578637>
- Johnson, R. J., Antonaccio, O., Botchkovar, E., & Hobfoll, S. E. (2022). War trauma and PTSD in Ukraine's civilian population: Comparing urban-dwelling to internally displaced persons. *Social Psychiatry and Psychiatric Epidemiology*, *57*(9), 1807–1816. <https://doi.org/10.1007/s00127-021-02176-9>
- Joseph, S., & Linley, P. A. (2006). Growth following adversity: Theoretical perspectives and implications for clinical practice. *Clinical Psychology Review*, *26*(8), 1041–1053. <https://doi.org/10.1016/j.cpr.2005.12.006>
- Kahraman, H., & Kına, D. (2024). Psychological effects of collective political traumas and post-traumatic growth. *Journal of Aggression, Conflict and Peace Research*, *16*(1), 54–68. <https://doi.org/10.1108/JACPR-11-2022-0755>
- Kangaslampi, S., Peltonen, K., & Hall, J. (2022). Posttraumatic growth and posttraumatic stress: A network analysis among Syrian and Iraqi refugees. *European Journal of Psychotraumatology*, *13*(2). <https://doi.org/10.1080/20008066.2022.2117902>
- Kessler, R. C., Aguilar-Gaxiola, S., Alonso, J., Benjet, C., Bromet, E. J., Cardoso, G., Koenen, K. C. (2017). Trauma and PTSD in the WHO World Mental Health Surveys. *European Journal of Psychotraumatology*, *8*(SI5), 1353383. <https://doi.org/10.1080/20008198.2017.1353383>
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, *62*(6), 593–602. <https://doi.org/10.1001/archpsyc.62.6.593>
- Kuzikova, S., Yalanska, S., Lukomska, S., & Fomenko, K. (2025). Osoblyvosti travmivnoho dosvidu ta posttravmatychnoho zrostantia

- osib pidlitkovoho i yunatskoho viku v umovakh voiennoho stanu. *Insight: Psychological Dimensions of Society*, 13, 601–618. <https://doi.org/10.32999/2663-970X/2026-13-24>
- Lerner, J. S., Li, Y., Valdesolo, P., & Kassam, K. S. (2015). Emotion and decision making. *Annual Review of Psychology*, 66, 799–823. <https://doi.org/10.1146/annurev-psych-010213-115043>
- Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P., Clarke, M., Devereaux, P. J., Kleijnen, J., & Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: Explanation and elaboration. *Journal of Clinical Epidemiology*, 62(10), e1–e34. <https://doi.org/10.1016/j.jclinepi.2009.06.006>
- Liu, A. N., Wang, L. L., Li, H. P., Gong, J., & Liu, X. H. (2017). Correlation between posttraumatic growth and posttraumatic stress disorder symptoms based on Pearson correlation coefficient: A meta-analysis. *The Journal of Nervous and Mental Disease*, 205(5), 380–389. <https://doi.org/10.1097/NMD.0000000000000605>
- Long, L. J. (2022). Hope and PTSD. *Current Opinion in Psychology*, 48, 101472. <https://doi.org/10.1016/j.copsyc.2022.101472>
- Lushchak, O., Velykodna, M., Bolman, S., Strilbytska, O., Berezovskyi, V., & Storey, K. B. (2023). Prevalence of stress, anxiety, and symptoms of post-traumatic stress disorder among Ukrainians after the first year of Russian invasion: A nationwide cross-sectional study. *The Lancet Regional Health – Europe*, 36, 100773. <https://doi.org/10.1016/j.lanepe.2023.100773>
- Mertens, L., Tamm, G., & Hoorelbeke, K. (2025). Ruminative thinking styles differentially relate to posttraumatic stress versus growth following trauma exposure. *Psychological Trauma: Theory, Research, Practice, and Policy*. Advance online publication. <https://doi.org/10.1037/tra0001969>
- Mijalevich-Soker, E., Ring, L., Joffe, E., Awad-Yaseen, M., Steger, M. F., & Taubman-Ben-Ari, O. (2025). Personal growth among pregnant women during war: The role of optimism and meaning in life. *International Journal of Psychology*, 60(4), e70087. <https://doi.org/10.1002/ijop.70087>
- Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., Shekelle, P., Stewart, L. A., & PRISMA-P Group. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Systematic Reviews*, 4(1), 1. <https://doi.org/10.1186/2046-4053-4-1>
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., McGuinness, L. A., ... Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, n71. <https://doi.org/10.1136/bmj.n71>
- Plokhikh, V. V., Popovych, I. S., Savchuk, O. A., Shevchenko, N. F., Hoian, I. M., & Petraniuk, A. I. (2025). Time orientations of Ukrainian students with traumatic experiences. *The New Educational Review*, 82(4). <https://doi.org/10.15804/tner.2025.82.4.01>
- Pop, V., Williamson, C., Khan, R., Leightley, D., Fear, N. T., & Dyball, D. (2025). Post-traumatic growth in refugees and internally displaced persons worldwide: Systematic review and meta-analysis. *European Journal of Psychotraumatology*, 16(1), 2500885. <https://doi.org/10.1080/20008066.2025.2500885>
- Rizzi, D., Ciuffo, G., Sandoli, G., Mangiagalli, M., de Angelis, P., Scavuzzo, G., Nych, M., Landoni, M., & Ionio, C. (2022). Running away from the war in Ukraine: The impact on mental health of internally displaced persons (IDPs) and refugees in transit in Poland. *International Journal of Environmental Research and Public Health*, 19(24), 16439. <https://doi.org/10.3390/ijerph192416439>
- Senger, A. R., McGrew, S. J., Gallagher, M. W., & Vujanovic, A. (2023). Associations of resilience and hope with mental and physical health among firefighters. *Journal of Clinical Psychology*, 79(9), 2124–2136. <https://doi.org/10.1002/jclp.23534>
- Shakespeare-Finch, J., & Lurie-Beck, J. (2014). A meta-analytic clarification of the relationship

- between posttraumatic growth and symptoms of posttraumatic distress disorder. *Journal of Anxiety Disorders*, 28(2), 223–229. <https://doi.org/10.1016/j.janxdis.2013.10.005>
- Skoog, E. (2023). The vagaries of valuation: Post-traumatic growth and psychological responses to gains and losses. *Current Research in Ecological and Social Psychology*, 5, 100165. <https://doi.org/10.1016/j.cresp.2023.100165>
- Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry*, 15(1), 1–18. https://doi.org/10.1207/s15327965pli1501_01
- United Nations Statistics Division. (2024). United Nations statistics. <https://unstats.un.org/UNSDWebsite/>
- Volkov, K. (2025). Emotsiina rezystentnist v perezhivanni travmy svidka viiny [Emotional resilience in experiencing the trauma of a war witness]. *Psychological Counseling and Psychotherapy*, 23, 54–63. <https://doi.org/10.26565/2410-1249-2025-23-08>
- Wang, J., Luo, Z., Liao, X., Zeng, Y., Zhou, J., Liu, M., Yao, Y., Tian, J., & Luo, W. (2024). The levels and related factors of posttraumatic growth among nurses: A systematic review and meta-analysis. *Journal of Psychiatric and Mental Health Nursing*, 31(2), 241–254. <https://doi.org/10.1111/jpm.12975>
- Werner, E. E. (2012). Children and war: Risk, resilience, and recovery. *Development and Psychopathology*, 24(2), 553–558. <https://doi.org/10.1017/S0954579412000156>
- Wessells, M. G. (2017). Children and armed conflict: Interventions for supporting war-affected children. Peace and Conflict: *Journal of Peace Psychology*, 23(1), 4–13. <https://doi.org/10.1037/pac0000227>
- Whealin, J. M., Pitts, B., Tsai, J., Rivera, C., Fogle, B. M., Southwick, S. M., & Pietrzak, R. H. (2020). Dynamic interplay between PTSD symptoms and posttraumatic growth in older military veterans. *Journal of Affective Disorders*, 269, 185–191. <https://doi.org/10.1016/j.jad.2020.03.020>
- Wu, X., Kaminga, A. C., Dai, W., Deng, J., Wang, Z., Pan, X., & Liu, A. (2019). The prevalence of moderate-to-high posttraumatic growth: A systematic review and meta-analysis. *Journal of Affective Disorders*, 243, 408–415. <https://doi.org/10.1016/j.jad.2018.09.023>
- Xie, C. S., & Kim, Y. (2022). Post-traumatic growth during COVID-19: The role of perceived social support, personality, and coping strategies. *Healthcare*, 10(2), 224. <https://doi.org/10.3390/healthcare10020224>
- Zlyvkov, V. L., & Lukomska, S. O. (2023). Sotsialna ta osobystisna militarna identychnist ukrainsiv v umovakh viiny [Social and personal military identity of Ukrainians in the context of war]. *Naukovi Visnyk Khersonskoho Derzhavnoho Universytetu. Seriya: Psykholohichni Nauky*, 3, 28–34. <https://doi.org/10.32999/ksu2312-3206/2023-3-4>