



Revista on line de Política e Gestão Educacional  
Online Journal of Policy and Educational Management



<sup>1</sup> Department of Psychology and Pedagogy, Faculty of Health, Psychology, Physical Culture and Sports, Khmelnytskyi National University, Khmelnytskyi, Ukraine.

<sup>2</sup> Department of Philosophy and Religious Studies, Faculty of Social Sciences and Humanities, Borys Grinchenko Kyiv Metropolitan University, Kyiv, Ukraine.

<sup>3</sup> Department of Psychological and Pedagogical Anthropology, Faculty of Preschool Education, H. S. Skovoroda Kharkiv National Pedagogical University, Kharkiv, Ukraine.

<sup>4</sup> Department of Sociology and Psychology, NNI #3, Kharkiv National University of Internal Affairs, Kharkiv, Ukraine.

<sup>5</sup> Ukrainian Scientific and Methodological Center of Applied Psychology and Social Work of NAES of Ukraine, Kyiv, Ukraine.



## DEVELOPMENT OF PSYCHOLOGICAL RESILIENCE AMONG STUDENTS IN CONDITIONS OF ARMED CONFLICT

DESENVOLVIMENTO DA RESILIÊNCIA PSICOLÓGICA ENTRE ESTUDANTES EM CONDIÇÕES DE CONFLITO ARMADO

DESARROLLO DE LA RESILIENCIA PSICOLÓGICA ENTRE LOS ESTUDIANTES EN CONDICIONES DE CONFLICTO ARMADO

VITALII SYNIUK<sup>1</sup>  
syniuk90@gmail.com  
Tetiana KUPRII<sup>2</sup>  
t.kuprii@kubg.edu.ua  
Iryna DOROZHKO<sup>3</sup>  
psychotherapy16@gmail.com  
Valentyna TYURINA<sup>4</sup>  
turinavale@gmail.com  
Iryna TKACHUK<sup>5</sup>  
irinatkachuk3@gmail.com



### How to reference this paper:

Syniuk, V., Kuprii, T., Dorozhko, I., Tyurina, V., & Tkachuk, I. (2025). Development of psychological resilience among students in conditions of armed conflict. *Revista on line de Política e Gestão Educacional*, 29(esp2), e025052. <https://doi.org/10.22633/rpge.v29iesp2.20654>

**Submitted:** 13/08/2025  
**Revisions required:** 05/09/2025  
**Approved:** 17/11/2025  
**Published:** 25/11/2025

**ABSTRACT:** The study analyses the development of resilience among university students in Ukraine during the war, highlighting its importance for mental health in unstable contexts. Modern methods, such as cognitive behavioural therapy (CBT) and mindfulness practices, were applied as strategies to reduce psychological distress and strengthen long-term emotional resilience. The Emotional Resilience Scale (ERS) was adapted to a new assessment system suitable for psychological care in crises. An empirical study (2022–2024) with higher education students confirmed a significant increase in resilience, especially in the group that practiced CBT and mindfulness. The results demonstrate the effectiveness of these approaches in regulating emotions, reducing stress, and promoting a mindful attitude toward the challenges of war, strengthening students' mental health and social resilience.

**KEYWORDS:** Resilience. Cognitive behavioural therapy. Mindfulness. Mental health. Psychological safety.

**RESUMO:** O estudo analisa o desenvolvimento da resiliência entre estudantes universitários na Ucrânia durante a guerra, destacando sua importância para a saúde mental em contextos de instabilidade. Métodos modernos, como a terapia cognitivo-comportamental (TCC) e as práticas de mindfulness, foram aplicados como estratégias para reduzir o sofrimento psicológico e fortalecer a resiliência emocional a longo prazo. A Escala de Resiliência Emocional (ERC) foi adaptada a um novo sistema de avaliação adequado ao atendimento psicológico em crises. Um estudo empírico (2022–2024) com estudantes do ensino superior confirmou aumento significativo da resiliência, especialmente no grupo que praticou TCC e mindfulness. Os resultados comprovam a eficácia dessas abordagens para regular emoções, reduzir o estresse e promover uma atitude consciente diante dos desafios da guerra, fortalecendo a saúde mental e a resiliência social dos estudantes.

**PALAVRAS-CHAVE:** Resiliência. Terapia cognitivo-comportamental. Mindfulness. Saúde mental. Segurança psicológica.

**RESUMEN:** El estudio analiza el desarrollo de la resiliencia entre estudiantes universitarios en Ucrania durante la guerra, destacando su importancia para la salud mental en contextos inestables. Se aplicaron métodos modernos, como la terapia cognitivo-conductual (TCC) y las prácticas de mindfulness, como estrategias para reducir el malestar psicológico y fortalecer la resiliencia emocional a largo plazo. La Escala de Resiliencia Emocional (ERS) se adaptó a un nuevo sistema de evaluación adecuado para la atención psicológica en situaciones de crisis. Un estudio empírico (2022-2024) con estudiantes de educación superior confirmó un aumento significativo de la resiliencia, especialmente en el grupo que practicó TCC y mindfulness. Los resultados demuestran la eficacia de estos enfoques para regular las emociones, reducir el estrés y promover una actitud consciente ante los desafíos de la guerra, fortaleciendo la salud mental y la resiliencia social de los estudiantes.

**PALABRAS CLAVE:** Resiliencia. Terapia cognitivo-conductual. Atención plena. Salud mental. Seguridad psicológica.

Article submitted to the similarity system



**Editor:** Prof. Dr. Sebastião de Souza Lemes

**Deputy Executive Editor:** Prof. Dr. José Anderson Santos Cruz

## INTRODUCTION

During crisis stages characterized by intense stress, disruption of the usual system, and irregularity, psychological stability as a psychological trait is particularly important. Interestingly, for expenditures related to the formation of personal constructs, these circumstances are complicated by external challenges (war) and internal challenges (career, education). The age of students, as a socio-psychological group, is usually associated with primary aspirations that form critical but actively socialized opinions.

In the context of war, these qualities can be weakened by the emotional stress caused by factors such as the loss of home or loved ones, the disruption of the educational process, the transition to online education, economic instability, and a constant flow of disturbing information.

The development of resilience in students focuses on improving their ability to adapt to difficult situations and maintain psychological balance under prolonged stress. A sense of control over life events is achieved through purposeful social value competence and control over psychosomatic interactions, as well as through social skills for effective interaction and support in the interpersonal environment.

Armed conflict, economic turmoil, and real threats to security create high levels of psychological stress, anxiety, and uncertainty about the future. Young people face constant information overload due to traumatic displacement or the death of loved ones, which negatively affects their emotional stability, adaptability, and overall well-being. It is recommended to focus on mental abilities for balance, sustainable adaptation to change, and psychological self-recovery in these conditions. Increased resilience helps mitigate stressors, improve motivation to learn, communication skills, and relationships, and broaden students' worldviews. Thus, the need to develop psychological resilience among young people is not only an important challenge during the war but also valuable in the context of the country's post-war recovery.

The aim of this scientific study is to evaluate the effectiveness of cognitive-behavioural therapy (CBT) and mindfulness approaches for developing resilience among students of higher education institutions in the context of a military crisis.

## LITERATURE REVIEW

According to scientific sources, CBT combined with mindfulness practices effectively eliminates the psychological effects of stress (Kuzmina et al., 2020).

The use of these methods increases the number of positive beliefs and reduces the number of negative thoughts. Mindfulness practices are increasingly used in youth programs

because their flexibility and effectiveness are undeniable, and breathing techniques and meditation help reduce physical tension. As Assonov (2022) notes, mindfulness, even in times of crisis stress, focuses attention on the essence of events.

Moreover, prolonged verbal gratitude exercises have a positive effect on emotional recovery in response to a traumatic event (Almalky & Alwahbi, 2023).

Some researchers consider it appropriate to introduce a synergy of CBT and mindfulness methods into psychological support programs for students (Hryshyn, 2021). The harmonious combination of intensive cognitive load, characteristic of CBT, and increased emotional stability through mindfulness can alleviate stress during adaptation.

In this regard, there is a need to introduce university programs aimed at developing psychological resilience.

According to researchers, one of the most effective solutions remains the organization of training for teachers specializing in the psychological preparation of performers, in basic resilience skills, as well as the use of digital technologies, including mobile applications and online courses for meditation or CBT. These two methods—CBT and mindfulness—are most effective in building psychological resilience in young people during wartime, as they cover all stages of interaction with elements of psychological well-being, including goals, feelings, and emotional states. At the same time, to achieve a high effect, it is necessary to modify the application of adaptations to combat conditions and the specific characteristics of the target youth audience (Jayachandran & Shyamala, 2017).

Contemporary research pays particular attention to the introduction of mindfulness into the study of well-being, in particular using virtual reality technologies and 3D interfaces, which are used as innovative tools for teaching mindfulness skills (Assonov & Khaustova, 2019).

According to research, mindfulness affects physiological processes, particularly the activity of the autonomic nervous system, as well as emotional self-regulation (Luo et al., 2024). The publication discusses how extroverted personality traits influenced the manifestation of social anxiety in online formats and offline in social situations. This study is interpreted through the lens of cognitive activity within the theory of mindfulness over action (Rice & Schroeder, 2019).

The study used a network approach to analysis, combining data visualization and psychopathological network theory to study the systemic links between mindfulness practice and anxiety symptoms. The results confirmed the hypothesis of contrasting differences in attention and technostress during computer tasks among meditators. In addition, participants reported that systematic mindfulness practice changed their subjective sense of well-being (Yehorova, 2021).

Students in higher education programs face numerous stressful situations that can arise from personal reasons, such as low self-esteem, interpersonal problems, and the stress required for university studies. According to research, short-term interventions based on

mindfulness principles can significantly contribute to relaxation and stress reduction (Zagirnyak et al., 2023).

States of excessive anxiety, worry, and chronic stress are mainly associated with the effects of psychological saturation, workload, and negative environmental factors. Effective suggestions for achieving mindfulness in neuroscience have been generally modest and previously demonstrated in neuroticism (Lazos, 2018).

In conclusion, the researchers indicate that the cognitive-behavioural approach effectively promotes the development of anxiety management skills in students, as well as the replacement of negative attitudes with more constructive ones. At the same time, it has become a fundamental technique of awareness and self-restraint, a so-called “camphor” that helps in direct control during stress.

## RESEARCH METHODS

1. A review of scientific literature was conducted to identify key terms, theoretical approaches, and concepts related to the phenomenon of psychological resilience;
2. A survey was conducted to study the level of resilience, identify factors influencing its development, and assess the psycho-emotional state of young people (Appendix A);
3. To diagnose the level of adaptability to stressful situations, an adapted version of the Ego-Resource Scale (ERS), adapted to the conditions of wartime in Ukraine, was used based on relevant criteria;
4. Programs aimed at developing resilience, through awareness and cognitive-behavioural techniques, were tested for effectiveness. In a study conducted between 2022 and 2024, longitudinal control measurements of students’ resilience levels were taken during periods of military instability. An adapted version of the SES Scale was used to collect data. Fifty students participated in the study, of whom an experimental group underwent psychological intervention using CBT and mindfulness therapy.

## RESEARCH RESULTS

In the context of the ongoing armed conflict in Ukraine, the issue of psychological resilience among students is particularly relevant, as this population group is exposed to increased emotional and informational stress. One such approach is CBT and mindfulness practices (Myhovych, 2019).

The CBT therapy works by creating psycho-emotional and behavioural levers for the professional collection and filtering of common sense, through the neutralization of painful,

intrusive thoughts and suppressed labelled objects that intensify feelings of anxiety, hopelessness, and helplessness. In military settings, students develop irrational beliefs over many years regarding the uncertainty of the latent period of emerging threats, control over current intentions, and a decrease in markers of self-esteem and self-admiration. An effective tool for managing such memories is CBT, which offers a variety of tools ranging from cognitive restructuring to “thought diaries” under emotional observation.

This helps build the ability to respond to stress in a flexible way, staying functional in tough situations and tapping into inner resources.

Mindfulness practices also play an important role in developing resilience through their impact on the ability to “be here and now,” on self-awareness, acceptance of experiences without judgment, emotional relaxation, and restoration of inner balance. Breathing meditation, body scanning, and anchoring techniques are particularly important in times of war, as they help students ground themselves, increase awareness, and reduce panic reactions (Voropayeva & Averianova, 2022).

The real problems faced by displaced persons, the simultaneous loss of loved ones, the destruction of the education sector, and prolonged uncertainty make the regular implementation of mindfulness practices and cognitive-behavioural techniques in the context of psychological support for students even more relevant. Effective methods are aimed not only at alleviating emotional and psychological crises, one of the consequences of which is the acquisition of long-awaited adaptive changes, key markers of psychological resilience.

Modern approaches to enhancing resilience in wartime conditions emphasize structured emotional and behavioural responses. The CBT integrates well with self-regulation strategies to support students in adapting to stress. As shown in (Table 1), several core components—from emotional awareness to social connection—serve as a foundation for psychological resilience. Their practical implementation helps reduce emotional overload and supports adaptive functioning under chronic stress.

**Table 1**

*Principais componentes e estratégias para aumentar a resiliência psicológica em alunos durante conflitos armados (com base em abordagens de TCC e autorregulação)*

Component	Practical Strategy	Psychological Outcome
Emotional Awareness	Keeping a mood journal	Better recognition of emotional states
Cognitive Flexibility	Reframing stressful situations	Reduced cognitive distortion
Stress Management Skills	Structured daily routine + relaxation	Decreased physiological stress response
Social Connection	Peer support groups	Reduced sense of isolation
Goal Orientation	Setting short-term realistic goals	Sense of control and achievement
Self-efficacy	Tracking personal progress (e.g. diary)	Increased belief in own abilities

*Note.* Compiled by the author.

The CBT focuses on changing personal beliefs and behaviours that block the successful resolution of existing problems. People with low psychological resilience tend to exaggerate threats or blame themselves. One method is to record automatic stress reactions to specific stressors and then analyse your thoughts by keeping a “thought diary”. Such actions support cognitive restructuring methods by providing a more rational view of destructive judgments. Developing the skill of a constructive approach to problems allows systematically overcoming the difficulties of everyday life.

Particular attention should be paid to managing intense emotions using relaxation techniques such as breathing exercises and visualizing positive scenarios. It is important to remember the need to include some enjoyable activities in the daily routine, as this promotes activity and psychological well-being. Developing a self-support strategy involves strengthening the resource base and developing a positive self-image with adequate self-esteem.

Mindfulness is achieved by accepting the moment without judgment. This provides a person with inner peace. Basic practices include focusing on breathing or bodily sensations that observe activity in the present moment. Controlled breathing in mindfulness techniques helps reduce tension and activate the parasympathetic nervous system. One of the elements of national crisis trends is a conscious focus on the positive, which leads to a significant increase in psychological resilience.

Focusing on one’s own emotions and developing self-compassion through self-support methods usually leads to high effectiveness. Methods of abstract perception, transformed into an alternative worldview, combined with methods of mental discipline from a one-sided principled system—monographic or metal-colonial—selected in combination with verbal and monthly associations of creative reinterpretations of consciousness lead to high effectiveness.

The introduction of CBT methods together with mindfulness practices helps to strengthen psychological resilience, coping skills, and transforms these skills into factors of personal growth. A person gradually learns to regulate their emotional reactions more effectively, even in crisis situations.

The influence of destructive cognitive patterns decreases, and increased awareness allows for better recognition of one’s own needs and the needs of others.

The questions from the ego-resilience scale (ERS) were divided into four groups, which helps to more accurately measure the impact of resilience development methods in wartime conditions.

The first indicator (C1) refers to the ability to maintain calm and inner balance in stressful situations, as well as to quickly return to emotional balance. The second criterion (C2) includes control of negative emotions and cognitive flexibility. The third (C3) indicates the ability to focus on positive phenomena rather than negative facts and events. The fourth (C4) shows the presence of social competencies based on constructive and effective communication (Kokun & Melnychuk, 2023).



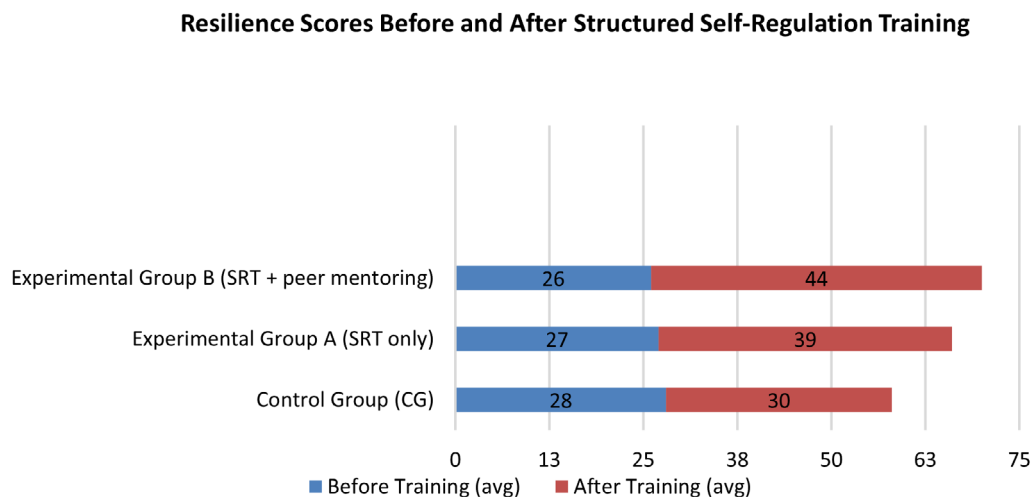
Each item on the ERS may be relevant to several categories at the same time, as the tool covers interrelated elements of psychological stability. This classification approach makes it possible to determine more accurately which elements of stability are well developed in a particular study participant and which need further development. According to the scale, the level of resilience is distributed as follows: high—45–56 points, medium—30–44 points, and low—12–29 points.

Analysis based on these four criteria allows for a comprehensive assessment of changes at the emotional, cognitive, behavioural, and social levels. This allows us to draw a comprehensive conclusion about the effectiveness of integrating cognitive-behavioural methods and mindfulness practices as tools for developing adaptability and resilience to stress.

Figure 1 demonstrates the average scores of psychological resilience (ERS scale) among student participants before and after the implementation of a structured self-regulation training (SRT) program. Two experimental groups were created: one completed only the SRT modules, while the other additionally engaged in peer mentoring sessions. The control group received traditional psychological education without structured resilience-enhancing strategies (Martynenko, 2022).

**Figure 1**

*Dynamics of psychological resilience indicators among students based on participation in structured SRT*



*Note.* Compiled by the author.

The results reveal a significant increase in ERS scores among students who participated in structured SRT, especially when supplemented with peer mentoring. While the control group exhibited only a minimal increase, the experimental groups showed marked improvement, particularly in self-efficacy and emotional regulation domains. These findings highlight the value of integrating structured, peer-supported resilience programs into student support services during armed conflict.



Table 2 presents the comparative analysis of key psychological indicators before and after an experimental intervention. The experimental group engaged in a structured resilience training (SRT) program, while the control group received only standard psychological support services such as individual counselling. Four indicators—emotional regulation, uncertainty coping, self-efficacy, and social adaptation—were measured across both groups to assess changes over time.

**Table 2**

*Comparative results of applying traditional support vs. structured resilience program (SRT) based on evaluation indicators*

Indicator	Before, Control Group (CG)	Before, Experimental Group (EG)	After, CG	After, EG
Emotional regulation	6	5	<b>7</b>	<b>11</b>
Coping with uncertainty	7	6	<b>6</b>	<b>12</b>
Self-efficacy	5	4	<b>6</b>	<b>10</b>
Social adaptation	6	5	<b>6</b>	<b>13</b>

*Note.* Compiled by the author.

The data indicate substantial improvement across all indicators in the experimental group compared to the control group. In particular, growth in emotional regulation and social adaptation suggests that structured intervention methods promote internal and external coping resources. These outcomes are consistent with the hypothesis that resilience can be intentionally developed through targeted psychological practices. The control group's scores remained relatively stable, which supports the conclusion that traditional methods alone are insufficient in high-stress environments like those experienced during armed conflict (Wang et al., 2021).

Table 3 outlines the semester-by-semester progression of resilience levels among participants from both the control and experimental groups, based on a standardized Resilience Index (RI). While the control group received standard support, the experimental group participated in structured psychological strategies, including guided reflection, emotional regulation modules, and social skills training. The number of strategy sessions completed each semester is also included.

According to the data (Table 3), both groups started with comparable resilience levels in early 2022. However, students in the control group exhibited a decline in psychological resilience by mid-2022, likely due to prolonged exposure to war-related stressors. In contrast, the experimental group showed consistent growth in resilience with every semester, strongly correlating with their increasing participation in structured psychological strategies. These results further confirm the cumulative effectiveness of systematic interventions over time and

justify the integration of such programs into broader student support systems during periods of instability.

**Table 3**

*Dynamics of resilience growth among students (2022–2024) by semester and participation in support strategies*

Period	Resilience Index – Control Group (RI-CG)	Resilience Index – Experimental Group (RI-EG)	Number of strategy sessions (EG)
1st half of 2022	21	22	0
2nd half of 2022	18	27	3
1st half of 2023	16	31	5
2nd half of 2023	17	36	6
1st half of 2024	19	41	7

*Note.* Compiled by the author.

The methodology used in the study made it possible to measure progress according to established criteria over a specified period. These results collectively serve as a basis for the development of psychological tools and strategies that need to be adjusted and confirm the effectiveness of cognitive-behavioural approaches and mindfulness practices in overcoming psychological difficulties caused by the state of war in Ukraine.

## DISCUSSION

The educational process during wartime is complicated by external circumstances, but the resilience developed by students helps them maintain their ability to work and focus on their future goals. Students with high levels of psychological resilience demonstrate better adaptation to stressful situations, maintaining emotional stability and productivity in conditions of uncertainty. Young people are the main drivers of social progress, so their ability to restore internal resources and overcome wars is extremely important for the recovery of the state.

The CBT and mindfulness practices and their components are scientific approaches that have proven highly effective in reducing anxiety and stress, especially in extreme conditions. Resilience development can be incorporated into the educational process through electives, group training, or online courses.

The skills acquired through CBT and mindfulness practices remain useful even after the end of hostilities, helping in the adaptation to peaceful life. Meditative self-calming practices improve the ability to regulate emotions under stress. Spreading awareness training in the community can reduce collective trauma, improve emergency response readiness, increase resilience, and strengthen crisis intervention (Odnostalko, 2020).

Mindfulness practice calms anxiety by helping people focus on the present moment rather than dwelling on fears or painful memories. It improves emotional self-regulation, supports inner healing, and fosters acceptance of feelings and a positive attitude toward life. CBT and mindfulness techniques are useful even in military settings, for example, by adapting them to training courses, group sessions, or individual counselling.

Practical mindfulness techniques focus on teaching people to accept their experiences without judgment, promoting improved emotional and cognitive functioning. However, traditional intervention programs are often difficult to access for people with limited resources, especially time and energy. Virtual reality technologies can offer a solution as they promote greater accessibility, automation, and adaptability of mindfulness practices (Piankivska, 2023).

The CBT helps overcome thought patterns that perpetuate anxiety and fear. This allows students to manage their emotions, cope with difficulties, and reframe traumatic experiences, which in turn reduces the risk of developing post-traumatic stress disorder.

Although the topic of mindfulness and flow states has already attracted the attention of many researchers, there is still a lack of studies that clearly outline the common features of these phenomena and explore their mutual compatibility. It is certainly relevant that mindfulness and flow are caused by the interaction of internal psychotraumatic systems and external factors, and that their combination is beneficial for productivity and mental health (Yakymets, 2022).

During wartime, it is especially important to promote the development of psychological resilience in students. The use of CBT methods and mindfulness practices is very effective in strengthening mental health. Such approaches promote adaptation to extreme situations and help develop skills to overcome future challenges. Further scientific research could strengthen the integration of these methods into educational and psychological support systems.

Shcherbiak et al. (2023) notes that transformations in higher education in Ukraine in 2022–2023, during a period of full-scale war, require critical reflection to address the challenges of innovative post-war reconstruction.

In addition, it is important to develop a system of indicators that will reflect the level of sustainability in the post-war development context (Kokun & Melnychuk, 2023).

A key factor is that students are one of the groups most vulnerable to psychosocial shocks: they are constantly under the burden of stress, anxiety, social changes, and even loss. Therefore, approaches to developing emotional stability are extremely important. These include CBT and mindfulness practices.

## CONCLUSION

In times of war, when students face increased levels of stress, anxiety, and emotional exhaustion, developing resilience becomes critical to maintaining mental health, adapting to change, and sustaining the ability to learn and achieve. Resilience has become a critically important skill for students experiencing psychological pressure, loss of stability, and changes in their academic and personal lives. It has been found that CBT enables students to recognize and change negative automatic thoughts, develop positive and adaptive thinking, and learn to approach challenges in complex situations in a structured way. Although mindfulness practices reduce anxiety, they help students better control their emotions and focus on their studies. Regular access to mindfulness practices helps students avoid burnout.

The study developed a scheme for building resilience among students in a state of martial law using CBT and mindfulness techniques. Criteria were developed to assess the effectiveness of CBT and mindfulness, which were used to create a questionnaire. The study of the characteristics of resilience formation in students was based on questions from the ERS, which were divided into four criteria for evaluating the effectiveness of resilience-building methods in wartime. A study of the level of resilience among students during 2022-2024 was conducted, and the effectiveness of traditional methods and combinations of CBT and mindfulness methods was analysed according to the developed criteria. The methodology presented is used to adjust psychological methods and their combinations in accordance with the criteria for assessing resilience.

The combination of CBT and mindfulness methods creates a synergy that allows students to simultaneously work on changing negative cognitions (CBT) and learn to feel better in the present moment (mindfulness). The CBT and mindfulness methods effectively build resilience in students during wartime. They promote emotional stability, mindfulness, and adaptability, which helps young people overcome the challenges of war and lays the foundation for future psychological well-being.

## REFERENCES

- Almalky, H., & Alwahbi, A. (2023). Teachers' perceptions of their experiences with inclusive education practices in Saudi Arabia. *Research in Developmental Disabilities*, 140, 104584. <https://doi.org/10.1016/j.ridd.2023.104584>
- Assonov, D. (2022). *Cognitive and emotional components of resilience in war veterans with traumatic brain injury in the long-term period (psychocorrection, forecasting): PhD dissertation in medical psychology (Field of knowledge 22 "Healthcare")* [Unpublished doctoral dissertation]. O. O. Bohomolets National Medical University.
- Assonov, D., & Khaustova, O. (2019). Development of the concept of resilience in scientific literature in recent years. *Psychiatry, Psychology and Psychoanalysis*, 4(4), e0404219. <https://uk.e-medjournal.com/index.php/psp/article/view/219>
- Hryshyn, E. (2021). Personality resilience: The essence of the phenomenon, psychodiagnostics and development methods. *Bulletin of H. S. Skovoroda Kharkiv National Pedagogical University*, (64), 62–81.
- Jayachandran, C. M., & Shyamala, K. (2017). Kohonen SOM deployment in Android app-based cognitive behavioural therapy for personality disorders. In *2017 World Congress on Computing and Communication Technologies (WCCCT)* (pp. 255–257). IEEE. <https://doi.org/10.1109/WCCCT.2016.69>
- Kokun, O. M., & Melnychuk, T. I. (2023). *Resilience handbook: A practical guide*. G. S. Kostyuk Institute of Psychology, National Academy of Educational Sciences of Ukraine. <https://lib.iitta.gov.ua/id/eprint/734632/1/%D0%94%D0%BE%D0%B2%D1%96%D0%B4%D0%BD%D0%B8%D0%BA.pdf>
- Kuzmina, M. O., Protas, O. L., Fartushok, T. V., Raievska, Y. M., & Ivanova, I. B. (2020). Formation of students' competence of tertiary educational institutions by practical training aids. *International Journal of Higher Education*, 9(7), 279–288. <https://doi.org/10.5430/ijhe.v9n7p279>
- Lazos, H. (2018). Resilience: Conceptualization of the term, review of current research. *Current Issues in Psychology*, (14), 26–64.
- Luo, H., Zhou, Y., Fang, Y., Chen, Z., & Li, P. (2024). Visual data mining in mental health: Network analysis of mindfulness processes and anxiety symptoms. In *2024 7th International Conference on Computer Information Science and Application Technology (CISAT)* (pp. 450–453). IEEE. <https://doi.org/10.1109/CISAT62382.2024.10695215>
- Martynenko, Y. O. (2022). The importance of resilience development for future psychologists. In Ye. I. Sokol (Ed.), *Theoretical and practical research of young scientists: Proceedings of the 16th International scientific and practical conference of master's and postgraduate students* (pp. 349–350). National Technical University Kharkiv Polytechnic Institute. <https://repository.kpi.kharkov.ua/items/9a3538c1-3451-456a-a44e-8e0881523df1>

- Myhovych, I. (2019). International mobility as a means of ensuring inclusive global higher education space. *Advanced Education*, 6(12), 80–86. <https://doi.org/10.20535/2410-8286.137813>
- Odnostalko, O. (2020). *Personal resilience resources in difficult and unusual life situations: PhD dissertation in General Psychology, History of Psychology (Field of knowledge 053 "Psychology")* [Unpublished doctoral dissertation]. Lesya Ukrainka Volyn National University.
- Piankivska, L. (2023). Features of resilience manifestation in students during wartime. *Prospects and Innovations in Science*, (10), 623–633.
- Rice, V. J., & Schroeder, P. J. (2019). Resilience and mindfulness in active duty and veteran U.S. military service members. In *2019 Resilience Week (RWS)* (pp. 142–146). IEEE. <https://doi.org/10.1109/RWS47064.2019.8972001>
- Shcherbiak, I., Nahorna, O., Kostenko, D., Binytska, O., Kochubei, T., & Gakh, R. (2023). Information competence formation of future social workers using digital technologies. In *2023 13th International Conference on Advanced Computer Information Technologies (ACIT)*. (pp. 635–639). IEEE. <https://doi.org/10.1109/ACIT58437.2023.10275552>
- Voropayeva, T., & Averianova, N. (2022). Factors for improving Ukraine's information security system in the context of the Russian-Ukrainian neo-imperial war: An integrative approach. In *2022 IEEE 9th International Conference on Problems of Infocommunications, Science and Technology (PIC S&T)*. (pp. 373–378). IEEE. <https://doi.org/10.1109/PICST57299.2022.10238609>
- Wang, H., Komatsu, S., Kato, C., & Aoki, K. (2021). Understanding the relationship between personality traits and resilience among Chinese students. In *2021 10th International Congress on Advanced Applied Informatics (IIAI-AAI)*. (pp. 311–315). IEEE. <https://doi.org/10.1109/IIAI-AAI53430.2021.00056>
- Yakymets, O. (2022). Building resilience among pupils and students during the educational process. *Implementation of Educational Initiatives During Wartime: Domestic and International Experience*, (1), 17–27.
- Yehorova, V. (2021). Features of student resilience in higher education under distance learning conditions. *Scientific Journal of M. P. Drahomanov National Pedagogical University*, (15), 58–66.
- Zagirnyak, M., Lugovyi, V., Talanova, Z., & Zagirniak, D. (2023). Resilience & risks of the electrical and energy engineering higher education in Ukraine: Impact of the war and objectives for post-war recovery. In *2023 IEEE 5th International Conference on Modern Electrical and Energy System (MEES)*. (pp. 1–4). IEEE. <https://doi.org/10.1109/MEES61502.2023.10402540>

## APPENDIX A

The self-assessment questionnaire based on the self-assessment scale (SAS) has been adapted to the criteria for evaluating the effectiveness of methods for building resilience in wartime.

Use the Ego Stability Scale (ESS) to assess your level of resilience in wartime according to the criteria outlined below. After each question, indicate your level of resilience using the indicator that corresponds to the score:

- 1 – “This does not apply to me at all”
- 2 – “Rarely”
- 3 – “From time to time”
- 4 – “Usually”
- 5 – “This is definitely me”

### **Criterion 1:** Reduced stress and anxiety

1. I can easily cope with stressful situations.

--	--	--	--	--

2. I maintain balance in stressful situations.

--	--	--	--	--

3. I can calm down when I feel bad.

--	--	--	--	--

### **Criterion 2:** Improved cognitive and emotional regulation

1. I understand my emotions well and know how to control them.

--	--	--	--	--

2. I can easily adapt to new or unexpected situations.

--	--	--	--	--

3. When I encounter difficulties, I try to find ways to solve them rather than avoid them.

--	--	--	--	--



**Criterion 3:** Increased level of awareness and presence in the moment

1. I can focus on the present moment, even when there are many distractions around me.

--	--	--	--	--

2. I remain calm and focused during sudden changes.

--	--	--	--	--

3. I am aware of my thoughts and feelings at a given moment in time.

--	--	--	--	--

**Criterion 4:** Improving quality of life and functioning

1. I maintain good relationships with people, even in difficult times.

--	--	--	--	--

2. I am satisfied with my life, even though it is full of challenges.

--	--	--	--	--

3. When I encounter difficulties, I find ways to overcome them and benefit from them.

--	--	--	--	--

### *CRediT Author Statement*

---

**Acknowledgements:** We thank the Yuri Kondratyuk National University, Poltava Polytechnic University (Ukraine).

**Funding:** None.

**Conflicts of interest:** None.

**Ethical approval:** No ethics approval required.

**Data and material availability:** The data and materials used in this work are not available.

**Authors' contributions:** All authors participated equally in the construction of the article.

---

**Processing and editing: Editora Ibero-Americana de Educação**  
Proofreading, formatting, standardization and translation

