BALTIC WORLDS
Theme: Recovery and resilience in Kharkiv

Guest editor: **Ilona Kostikova**

Introduction.

From underground learning to national recovery

THE TRANSFORMATION OF UKRAINIAN UNIVERSITIES IN WARTIME

The war in Ukraine is still ongoing.[1] It affects all aspects of life: from safety,[2] to education,[3] to health.[4] This special section provides a comprehensive socio-pedagogical map of Ukraine's wartime reality, illustrating a society that is touched by the war on every structural level. It reflects a nation forced into a "hybrid" existence, where education is literally driven underground to preserve intellectual sovereignty, and where youth development pipelines are severed by infrastructure destruction. The section captures the intersection of physical danger and psychological endurance, documenting how faculty maintain a sense of professional mission despite profound emotional exhaustion.[5] Collectively, the section portrays the Ukrainian experience not just as a humanitarian crisis but as a deliberate act of institutional resistance, where the maintenance of education, sport, and mental health becomes a vital front in the struggle for national continuity.

These three essays and the reports are unified by their rigorous examination



H. S. Skovoroda Kharkiv National Pedagogical University after Russian attack (authors' own photo, July 2022).

of institutional and human resilience within Ukraine's educational, social, and psychological infrastructure during the full-scale Russian invasion. Overall, the papers analyze how systemic military aggression necessitates a radical shift in pedagogical, sporting, and ethical paradigms. From "underground" teaching and learning at universities to the survival of youth athletic pipelines and the emotional endurance of faculty, these works highlight the intersection of emergency adaptation and national identity. For journal readers, this collection offers a rare empirical window into sectoral survival under existential threat, providing a blueprint for maintaining educational, intellectual, and physical sovereignty amidst the war in Ukraine. The interview reflects Ukraine's wartime reality by documenting the strategic adaptations required to sustain teachers' training at a university under constant threat, providing a vital narrative of institutional problem-solving amidst systemic disruption. For readers, it offers a rare first-hand case study in maintaining pedagogical standards and organizational resilience during the war using the case of Kharkiv city, located near the Russian border.

THE ESSAY "Education as resistance: Wartime university practices and decolonization in Ukraine" shows the reality of teaching and learning at the university in Kharkiv city. The contemporary global landscape, while still navigating the residual complexities of the post-pandemic

era, has been profoundly destabilized by the full-scale Russian invasion of Ukraine. This act of military aggression transcends mere territorial conquest; it represents a deliberate attempt to dismantle the cultural and intellectual foundations of a sovereign nation. For the higher education sector, particularly in frontline cities like Kharkiv, this war has shaped a cascade of socio-legal and existential emergencies that threaten the very continuity of knowledge production. This article, "Education as resistance", addresses the urgent necessity of reframing wartime university adaptations, not merely as emergency logistics but as vital acts of decolonization and epistemic resistance.

THE AIM OF the research is underscored by the systemic destruction of educational infrastructure. Kharkiv, once a vibrant "student capital", has seen its universities transformed into frequent targets of hostilities. When the physical sanctity of the classroom is violated, the constitutional right to education – a cornerstone of Ukraine's socio-legal fabric – is placed in immediate danger. This study posits that the survival of the university under such conditions is a prerequisite for the survival of the nation's intellectual sovereignty. By examining the experiences of Yaroslav Mudryi National Law University, the authors illuminate how the institution has successfully synthesized student safety with high-quality instructional delivery through the pioneering use of "underground classrooms".

The necessity of this work lies in its critical examination of the "decolonial stance" adopted by the Ukrainian higher education system. The ongoing Russian-Ukrainian war is interpreted here through the lens of long-standing colonial pressures, where the aggressor seeks to reassert influence over the content and orientation of knowledge dissemination. Consequently, the preservation of a Ukrainian-centric curriculum and the maintenance of institutional autonomy become dominant concerns. The essay explores how the conversion of deep bomb shelters into fully equipped learning environments, the "underground university", serves as a symbolic and practical manifestation of resilience against Russian aggression.

"KHARKIV, ONCE A VIBRANT 'STUDENT CAPITAL', HAS SEEN ITS UNIVERSITIES TRANSFORMED INTO FREQUENT TARGETS OF HOSTILITIES."

Furthermore, the essay provides a nuanced analysis of the psycho-emotional and logistical frameworks required to sustain education in a high-risk setting. It investigates the shift from traditional physical classrooms to subterranean and blended learning formats, ensuring that the development of Ukraine's youth is not permanently derailed by the trauma of war. By documenting these unprecedented transformations, the essay offers a compendium of instructive insights for the global academic community, serving as a proposal for institutional resilience in conditions of armed conflict. Ultimately, this research asserts that the Ukrainian university's wartime evolution is a profound act of self-determination, safeguarding the nation's right to produce its own knowledge and protect its cultural identity.

THE ESSAY "Transformation of youth sport education in Ukraine under war: Perspectives on recovery" reveals the changes in youth sport education in Ukraine during wartime. The full-scale military invasion of Ukraine has triggered a systemic disintegration of the public sector, with the sphere of physical training and youth sport education facing particularly acute, cumulative challenges. Traditionally viewed through the system of the Long-Term Athlete Development framework, youth sport serves as an essential pipeline for athletic reserves and as a critical mechanism for social integration. However, the current macrosystemic shock of the Russian-Ukrainian war has radically disrupted these developmental trajectories, necessitating an urgent and systematized investigation into the sector's structural transformation and recovery.

The work's primary objective is to provide a systemic assessment of structural transformations, and to formulate a theoretical framework for the recovery. It argues that recovery must move beyond emergency crisis management toward a resilient educational model that integrates trauma-informed rehabilitation into athletic training. Through qualitative policy analysis and data triangulation from international bodies such as the UNDP and UNICEF, the study identifies patterns of institutional loss and resilience.

THE INTEREST OF this essay stems from the deformation of learning environments. The war acts as a decisive exogenous shock that deforms students' micro- and mesosystems – families, sports schools, and instructional training processes – leading to a "talent pipeline" collapse. With physical activity among children near frontlines declining by 40% to 60%, the risk of somatic and anxiety disorders has increased, making the restoration of youth sport education a matter of Ukrainian national health and psychosocial stability.

This essay is necessary to address the multilayered "hybrid threats" targeting the sports sector. In territories temporarily occupied by Russian troops, the authors document the instrumentalization of sport for the militarization and indoctrination of youth, a clear violation of Olympic principles. Concurrently, the study highlights the insidious impact of "sportswashing", where international competitions are used to manufacture political legitimacy for the Russian aggressor, creating profound ethical dissonance for the global sports movement. By analyzing these factors, the essay substantiates the need for ethical governance and robust sanctioning mechanisms to protect the integrity of Ukrainian national systems.

The significance of this work extends to global sports sociology and pedagogy. By conceptualizing the fragility of pedagogical pipelines in state-centralized sys-



The university lecturers have classes in Genetics at Kharkiv Lyceums in the basement of security reasons. PHOTO: KHARKIV LYCEUM

tems during the war, the authors offer a replicable theoretical model for assessing sectoral resilience. The essay concludes that sustaining the sector requires internationally coordinated financial mechanisms and a shift toward specialized infrastructure funds, ensuring that the integrity of the international sports movement is preserved even among the most severe geopolitical crises.

THE ESSAY "University staff's mental health in wartime: Personal experiences, emotional well-being, and support mechanisms" underlines the importance of mental health in wartime. In the full-scale invasion, Ukrainian university lecturers have been thrust into working conditions without global precedent. Navigating air-raid alerts, displacement, and the existential threat of daily life, these educators continue to fulfill their professional responsibilities while managing intense personal trauma. This essay addresses a critical gap in contemporary research by providing systematic quantitative evidence on how specific wartime stressors influence occupational burnout and functional impairment among academic staff at universities.

The urgency of this study is rooted in the dramatic rise of emotional exhaustion (EE) among faculty members, particularly in heavily affected regions such as Kharkiv, Sumy, and Dnipro. While burnout is a recognized challenge in global higher education, the "demands-resources" equation undergoes a radical shift in wartime. Demands multiply in intensity and unpredictability, while material and organizational resources break apart. This research is essential for informing university policies that are able to support staff who are working under conditions that would typically paralyze institutional functioning.

A central finding of this study, and a key reason for its importance, is the discovery of a non-linear progression in burnout. While emotional exhaustion is prevalent in nearly 80% of Ukrainian respondents at the universities, negative affective reactions and cynicism remain strikingly low. The authors suggest that non-material resources, such as civic duty, professional identity, and a sense of mission, serve as powerful protective mechanisms. This challenges traditional linear models of burnout, such as the Maslach Burnout Inventory, and invites a reconsideration of how resilience operates under extreme conditions.

The essential nature of the essay is emphasized by its empirical focus on the correlation between personal wartime exposure and professional functioning. The study reveals that direct personal connections to the war, such as having relatives in the Armed Forces, significantly amplify stress and exhaustion. Moreover, it demonstrates that functional impairment is more closely associated with internal emotional exhaustion than with external infrastructural damage. This insight is vital for institutional leadership, demonstrating that support strategies must move beyond organizational logistics to address individual trauma loads.

By utilizing Spearman's rank correlation and adaptive self-report instruments, the research provides a rigorous quantita-

"WHILE EMOTIONAL EXHAUSTION IS PREVALENT IN NEARLY 80% OF UKRAINIAN RESPONDENTS AT THE UNIVERSITIES, NEGATIVE AFFECTIVE REACTIONS AND CYNICISM REMAIN STRIKINGLY LOW."

tive analysis into the dynamics of burnout in conflict-affected contexts. The paper concludes by recommending targeted psychological support and the reinforcement of "mission and purpose" as key strategies for sustaining professionalism and reducing long-term professional attrition. Ultimately, this work serves as a unique resource for international scholars and policymakers, offering profound insights into the psychological endurance of the academic community during armed conflicts.

THE INTERVIEW OFFERS A powerful and rare glimpse into the extraordinary measures taken to maintain educational standards during the Russian-Ukrainian war is is given by the Rector and Vice-Rector of H. S. Skovoroda Kharkiv National Pedagogical University in their two reports. They speak about educational resilience, describing how professors and students continue their work not only online but also in bomb shelters and at underground "MetroSchools" in Kharkiv, in order to ensure learning never stops. It is shown how the university has adapted to the war by creating different educational structures such as the Educational and Scientific Laboratory of Special and Inclusive Education. It highlights a vital, often overlooked consequence of war: the increasing number of children with special educational needs (SEN) due to physical and psychological trauma. The collaboration with UNICEF to build the specialized laboratory shows how international support is being transferred into immediate, local action. The work of Skovoroda Hub – a free digital environment – and the STEM Centre at the University, both of which provide practical science and technology training to help overcome "educational losses" caused by years of online learning, is described in detail.

Ilona Kostikova is a Doctor of Science in Education, PhD in Philology, PhD in Education, Full Professor, Head of Professor Mykhailo Hetmanets Department of Theory and Practice of the English Language and Foreign Literature, H. S. Skovoroda Kharkiv National Pedagogical University, Kharkiv, Ukraine.

references

1 Sara Zamir and Ilona Kostikova, "Higher Education Under the Conditions of Ongoing Wars: A Comparative Research," *The Journal of Continuing Higher Education* (2025):1–16. Available at: doi:10.1080/07377363.2025.2511483.

2 Ilona Kostikova and Yuliia Bozhko, "Vivre, enseigner, apprendre à l'université en temps de guerre en Ukraine" [Resilience to live, teach, learn at the university in wartime in Ukraine], *Revue internationale d'éducation de Sèvres* vol. 93 (2023): 30–31. Available at: doi:10.4000/ries.14049.

3 Ilona Kostikova, Liudmyla Holubnycha, Tetiana Moroz, Olha Moroz, Tetiana Viediernikova, and Tetiana Razumenko, "The right to education in wartime in Ukraine: Kharkiv case of underground teaching and learning," *Youth Voice Journal* vol. 16, no. 1 (2025): 31–42. Available at: doi:10.13140/RG.2.2.22817.26729; Ilona Kostikova and Tetiana Viediernikova, "Online Teaching and Learning, Extracurricular Activities at the University in Wartime in Ukraine," *Tréma* vol. 60 (2023). Available at: doi:10.4000/trema.8525; Ilona Kostikova, Ludmyla Holubnycha, Oleksandra Marmaza, Viktoriia Budianska, Olha Pochuieva, and Halyna Marykivska, "Real Country Experiences: Online Teaching in Wartime after Pandemic in Ukraine," *International Journal of Interactive Mobile Technologies (iJIM)* vol. 17, no. 3 (2023): 123–34. Available at: doi:10.3991/ijim.v17i03.36419.

4 Ilona Kostikova, Liudmyla Holubnycha, Yuliia Sytnykova, Tetiana Shchokina, Natalia Soroka, and Svitlana Tarasova, "University Teachers' Psychological State During the Stress of Online Education after Pandemic in Wartime in Ukraine," *International Journal of Emerging Technologies in Learning (iJET)* vol. 18, no. 13 (2023):152–62. Available at: doi:10.3991/ijet.v18i13.39825.

5 Ilona Kostikova et al., "The right to education in wartime in Ukraine: Kharkiv case of underground teaching and learning"; Ilona Kostikova, Volodymyr Borysov, Tamila Shcheblykina, Maryna Vasylieva, and Olha Pochuieva, "Resilience of school infrastructure. Children's right to education in wartime Ukraine," *Baltic Worlds* vol XIX, no. 1 (2026): 78–88. Available at: https://balticworlds.com/resilience-of-school-infrastructure/.



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"Professional maturity acts as a buffer against cynicism.

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Education as resistance

WARTIME UNIVERSITY PRACTICES AND DECOLONIZATION IN UKRAINE

Figure 1. O. M. Beketov National University of Urban Economy in Kharkiv ruined by Russian rocket (authors' own photo, February 2023).

by **Tatiana Fomenko**, **Liudmyla Holubnycha**, **Tetiana Besarab**, **Svitlana Mykytiuk**, and **Denys Besarab**

abstract

The full-scale Russian invasion of Ukraine has generated unprecedented threats to the nation's educational system, compelling universities to develop innovative survival strategies against imperial aggression. Using Yaroslav Mudryi National Law University as a case study, this article examines how higher education functions as a decolonizing force during armed conflict. Drawing on document analysis, visual documentation, and thematic analysis, the study explores how wartime adaptations, such as transforming deep bomb shelters into classrooms and student housing, preserve the right to education and reinforce Ukraine's intellectual sovereignty. Student choice data reveal an empowered learning community navigating blended and distance learning according to safety needs. Ultimately, these subterranean and digital adaptations transcend pragmatic necessity; they constitute acts of epistemic resistance that safeguard cultural identity, institutional autonomy, and the nation's right to produce its own knowledge. The "underground university" thus emerges as a practical manifestation of education's decolonizing power during war.

KEYWORDS: Higher education, education during war, in-person instruction, online education.

Scarcely had the global community recovered from the coronavirus pandemic, with its attendant restrictions and necessary adaptations across nearly every facet of human activity, when Ukraine was subjected to a bloody, brutal, and arguably historically devastating war, unleashed by an aggressive neighbor driven by imperialist ambitions. This act of aggression, rooted in a long history of colonial subjugation, has not only inflicted physical devastation on Ukraine but also threatens to undermine its cultural and intellectual sovereignty, necessitating a critical examination of the decolonization of education in the face of conflict.

Russia's prolonged and brutal war against Ukraine has created a cascade of socio-legal emergencies, requiring a deep investigation into the nation's ability to endure. The deliberate targeting of civilian spaces has shattered the core of Ukrainian social life. Even as millions of Ukrainians departed, millions more have demonstrated resilience by continuing to reside in the country amidst ongoing rocket attacks. Ukrainian universities also continue to function under these unsafe circumstances.[1] Critically, education (a legally protected human right) has been drastically undermined, particularly in war-adjacent regions. The resulting

collapse of educational systems jeopardizes the development of Ukraine's youth, making urgent intervention crucial. The city of Kharkiv, bordering Russia, has been subjected to relentless, devastating attacks, showcasing the depth of damage to educational infrastructure (Figure 2). This sustained assault has compelled Kharkiv, which was a student capital of Ukraine, to pioneer inventive educational solutions to maintain learning continuity.

THE SACROSANCT NATURE of the right to education, a cornerstone of Ukrainian constitutional law, is an indisputable tenet deeply embedded within the nation's socio-legal fabric. This constitutional mandate, reflective of a societal commitment to cultivating an informed citizenry, has been profoundly challenged by the imposition of martial law, a direct consequence of the Russian Federation's protracted military aggression. Furthermore, the ongoing conflict can be interpreted as an attempt to reassert colonial influence, impacting not only the physical infrastructure of the educational system but also the very content and orientation of knowledge dissemination. Therefore, the preservation of Ukrainian educational sovereignty and the promotion of a decolonized curriculum become paramount in this context.

Educational institutions within conflict zones, historically recognized as epicenters of intellectual development, have been transformed into frequent targets of hostilities, resulting in extensive infrastructural dilapidation and the effective nullification of conventional pedagogical methodologies. The systematic destruction of educational facilities, coupled with the forced displacement of both students and academic personnel, has precipitated a critical educational crisis. Moreover, the pervasive atmosphere of insecurity and psychological trauma, a direct result of relentless bombardment and the ever-present threat of violence, has exerted a deleterious impact on all stakeholders, including educators, students, and their respective familial units. The psychological sequelae of this conflict have engendered significant impediments to effective learning, necessitating a comprehensive, holistic approach to educational provision that addresses both academic and psycho-emotional exigencies.

"THE CITY OF KHARKIV, BORDERING RUSSIA, HAS BEEN SUBJECTED TO RELENTLESS, DEVASTATING ATTACKS, SHOWCASING THE DEPTH OF DAMAGE TO EDUCATIONAL INFRASTRUCTURE."

The ongoing conflict has necessitated a fundamental transformation in the delivery of educational services, forcing the implementation of novel pedagogical approaches that accommodate the stringent limitations imposed by wartime conditions while simultaneously preserving the constitutional right to educational access. The conventional model of physical classroom instruction has been rendered largely unsustainable in areas of active conflict, mandating the exploration and adoption of diverse alternative learning strategies. In this context, the primary focus has shifted to ensuring the safety of educational participants, placing their physical and psychological welfare at the forefront of all considerations. This imperative to protect students and educators has spurred the development of inventive solutions, including the establishment of subterranean learning spaces and the integration of blended learning frameworks. This adaptation, however, must also be viewed through the lens of decolonization, ensuring that the educational content remains free from external influence and promotes a Ukrainian-centric perspective. Consequently, the adaptive restructuring of the educational system to these unprecedented and demanding circumstances is indispensable for its continued functionality, thereby highlighting the relevance and immediacy of this investigation. The tenacity demonstrated by the educational system in Kharkiv stands as a poignant illustration of the unwavering dedication of the Ukrainian populace to the pursuit of knowledge, despite facing immense adversity, and to resisting the colonial ambitions of the country's aggressive neighbor.

CONSIDERING THE extraordinary and unparalleled obstacles encountered in the pursuit of ensuring educational entitlements during periods of armed conflict, this scholarly inquiry confronts a central and exigent question: How can the core necessities of participant security, psycho-emotional welfare, and the provision of high-quality instructional services be effectively synthesized and perpetuated within a setting characterized by continuous warfare? The exploration of this question transcends the realm of theoretical contemplation, representing an essential undertaking geared toward the safeguarding of the nation's intellectual resources. To illuminate this intricate and multilayered problem, this study embarks upon a meticulous and detailed examination of the experiences of Yaroslav Mudryi National Law University, with particular attention directed toward their innovative adaptation of teaching and learning methodologies within the confines of bomb shelters. These case studies provide a critical perspective through which to analyze the pragmatic implementation of educational entitlements in a context marked by elevated risk, yielding significant insights into the strategies deployed to sustain educational continuity. In particular, this research will meticulously scrutinize the operational structures, pedagogical approaches, and, crucially, the demonstrable influence on the educational experiences and academic achievements of both students and faculty directly impacted by the ongoing hostilities. The analysis will explore the logistical frameworks, pedagogical methodologies, and psycho-emotional dimensions inherent within these adaptive initiatives, thereby offering a holistic and nuanced comprehension of their operational effectiveness and substantive impact. Eventually, by analyzing these diverse and pioneering adaptive strategies, this study seeks to advance a



Figure 2. H. S. Skovoroda Kharkiv National Pedagogical University after Russian attack (authors' own photo, July 2022).

more profound and nuanced comprehension of the mechanisms by which the fundamental right to education can be upheld and actualized within the exigencies imposed by armed conflict, and to elucidate the diverse modalities through which educational institutions are responding to these unparalleled and formidable operational contexts. This investigation endeavors to meticulously chronicle and critically analyze the adaptive capacity and inherent resilience of the Ukrainian educational system, thereby yielding a compendium of instructive insights that may serve as a valuable resource for other nations contending with analogous exigencies.

Literature review

The context of the war in Ukraine, driven by imperialist ambitions, has brought into sharp focus the critical need to examine and adapt educational practices. That is why our literature review explores scholarly perspectives on decolonization in education, with a particular emphasis on the challenges and adaptations necessitated by armed conflict, drawing parallels with global decolonization efforts and responses to educational disruptions. The review also establishes the conceptual and historical foundations necessary to analyze Ukraine not only as a site of military aggression, but also as a space where education actively negotiates and resists long-standing colonial pressures.

It is crucial to start the research of the issue from the historical context of decolonization and its relationship to education, particularly in conflict zones. This is explored by Burton.[2] His investigation of African students seeking higher education during periods of colonial rule demonstrates how conflict and the denial of educational opportunities can lead to innovative, albeit challenging, pathways to knowledge. This historical lens provides a valuable framework for analyzing the resilience of Ukrainian education under wartime conditions. Similarly, Jackson[3] examines how representations of imperialism and decolonization have evolved in US textbooks, highlighting the shifting narratives and the marginalization of colonial actors. This analysis underscores the importance of critically examining how history and knowledge are constructed and disseminated, especially in times of conflict and transition. In applying these insights to Ukraine, it becomes necessary to recognize Russian imperial policy as a form of coloniality that has historically targeted Ukrainian culture, language, and educational institutions.

WITHIN THE PROPOSED framework, several scholars highlight the systemic issues that impede equitable education. For example, Uleanya, Rugbeer, and Olaniran,[4] in their research on a South African university, identified factors such as the language of teaching, students' prior educational experiences, and institutional policies as all contributing to poor learning outcomes. They advocate for the decolonization and restructuring of educational systems to better serve students and align with sustainable development goals. The stated call for decolonization in post-colonial educational settings finds resonance in the Ukrainian context, where the war can be seen as exacerbating existing post-colonial



Figure 3a. Bomb shelter for students (authors' own photo).



Figure 3b. Classroom in the bomb shelter (authors' own photo).

challenges. This parallel also supports the argument that decolonization is not limited to contexts of historical overseas colonization but extends to diverse geopolitical forms of domination, including the post-Soviet imperial legacy.

It is important to understand that decolonization itself is a complex and multifaceted concept, as outlined by Stein et al.[5] The researchers discuss the various undertones of decolonization, as well as the complexities and paradoxes associated with its implementation within education. Stein and Andreotti[6] further elaborate on this problem, framing decolonization not as a singular event but as an ongoing process that requires denaturalizing modern/colonial perspectives. Such perspective is crucial for understanding the difficult situation in Ukraine, where educational adaptations must address both the immediate crisis and the long-term project of decolonization. Specifically, Ukrainian institutions must simultaneously respond to physical threats and to epistemic threats (attempts to erase or subordinate Ukrainian knowledge traditions), making their adaptations an important empirical site for studying "decolonization under conditions of active warfare."

It is only natural that, recently, a large number of studies devoted to the Ukrainian problem have appeared. For instance, the role of higher education in peacebuilding and decolonization is examined by Svyrydenko et al.[7] The scholars propose a multidimensional approach that integrates philosophy, policy, cultural studies, history, law, and political science. They also suggest that experiences from other conflict-affected regions, such as Israel and the Palestinian territories, may offer valuable insights for Ukraine. This perspective aligns with the need to consider the long-term implications of educational practices in Ukraine, not only for immediate survival but also for post-conflict reconstruction and decolonization. Such studies also reveal that higher education institutions become critical agents in restoring cultural sovereignty and rebuilding intellectual autonomy after violent conflict.

THE PRACTICAL CHALLENGES of maintaining education during wartime in Ukraine are detailed by Marchenko,[8] Fiialka and Kornieva,[9] and Zhyhora et al.[10] Specifically, Marchenko[11] describes the initial disruption of education and the subsequent adaptation to online learning, emphasizing the need to preserve the structure of the university and preserve academic potential. Fiialka and Kornieva,[12] focusing on journalism education, highlight the need for safety training, ethical considerations, and psychological resilience among students. Zhyhora et al.[13] examine the innovative solutions implemented by Ukrainian educational institutions to ensure continuity of learning, such as video conferencing, mobile applications, and learning management systems. These investigations highlight the immediate adaptations made by Ukrainian educators and students. However, they do not address how these adaptations intersect with the broader project of reclaiming cultural, linguistic, and epistemic sovereignty, i.e. the key markers of decolonial educational practice.

In conclusion, the literature reviewed reveals that the challenges faced by Ukrainian educators and students during the war

are multifaceted, encompassing not only the need to maintain educational continuity but also the imperative to address long-standing issues of decolonization. However, existing research has yet to specifically address the unique challenges and adaptations of teaching and learning within bomb shelters, underlining a significant gap in the literature that this chapter aims to fill. This focus represents the novelty of our article. The experiences of those in Ukraine, while unique in their specific context, resonate with broader global themes of decolonization and educational adaptation in the face of conflict and systemic inequities. Therefore, this study contributes to the literature by conceptualizing subterranean learning spaces as sites of decolonial agency, and by analyzing how wartime adaptations strengthen educational sovereignty against imperial aggression.

Thus, the purpose of the work is to examine how Ukrainian higher education institutions, specifically Yaroslav Mudryi National Law University, are adapting to the challenges posed by the ongoing war, with a particular focus on the ways in which these adaptations reflect and enact a process of decolonization. This analytical lens enables us to bridge the theoretical discussions from global research with the empirical realities of Ukrainian higher education under siege.

Methodology

To achieve the stated purpose, our investigation employed a combination of research methodologies, namely:

- document analysis (university documents, reports, and official statements related to the organization of educational activities during the war). This was necessary for gathering the primary data for our study and included examining policies and procedures related to the use of bomb shelters, the implementation of online and blended learning, and the provision of support services to students and faculty;
- visual documentation (photographic evidence of the adaptations made by the university, specifically the conversion of bomb shelters into classrooms and student housing). These visuals, provided by the authors, offer a tangible representation of the university's efforts to create safe and functional learning environments;
- thematical analysis of these data sources was used to identify key patterns and trends in the university's adaptation strategies. This analysis focused on how these strategies reflect a decolonizing approach, emphasizing resilience, self-determination, and the prioritization of local needs and the preservation of cultural identity in the face of external pressures.

IT IS IMPORTANT to acknowledge the limitations of this methodology. The study is primarily focused on a single institution, Yaroslav Mudryi National Law University, which may limit the generalizability of the findings to other universities in Ukraine. Additionally, the reliance on document analysis and visual documentation may not capture the full range of experiences and perspectives of students and faculty. Future research could benefit from incorporating interviews or surveys to provide a more comprehensive understanding of the impact of the war on higher education in Ukraine.

Despite these limitations, this methodology provides a valuable framework for understanding how one Ukrainian university is navigating the challenges of war and enacting a process of decolonization through its adaptation of educational practices and infrastructure.

Results

Decolonization, conceptualized as a perspective that foregrounds community, indigenous lifeways, and knowledge systems,[14] provides a salient analytical framework for examining Ukraine's educational challenges amidst the current armed conflict. This conflict transcends a mere territorial dispute, encompassing a more expansive struggle against imperialist designs, as Ukraine endeavors to assert its sovereignty and safeguard its cultural and institutional autonomy. In the Ukrainian context, decolonization is understood not only as the dismantling of inherited Soviet/Russian epistemic dominance but also as the active restoration of cultural, linguistic, and educational sovereignty. This foregrounds education as a domain where colonial pressures are both experienced and resisted. Russian military aggression functions simultaneously as physical violence and as an attempt to reassert epistemic and cultural dominance, making the educational sphere a critical arena of resistance.

"EXISTING RESEARCH HAS YET TO SPECIFICALLY ADDRESS THE UNIQUE CHALLENGES AND ADAPTATIONS OF TEACHING AND LEARNING WITHIN BOMB SHELTERS."

Within this study, we operationalize "education as a decolonizing force" through three interrelated dimensions: 1) epistemic resistance, i.e. the continued production and dissemination of Ukrainian-centered knowledge in defiance of efforts to erase or replace it; 2) infrastructural resilience, i.e. the material reorganization of educational space (including the transformation of underground shelters into classrooms), which ensures the uninterrupted exercise of the constitutional right to education; and 3) pedagogical agency, understood as the capacity of students and instructors to choose learning modalities, sustain academic community, and enact self-determined educational practices despite wartime disruption. Each of these dimensions becomes empirically traceable in institutional responses, spatial adaptations, and teaching and learning interactions documented in the case of Yaroslav Mudryi National Law University.

Within this operationalization, decolonization is understood not metaphorically but as a set of educational practices that actively contest the coloniality of power shaping the region. The "underground university" thus functions as both a material and

symbolic form of epistemic sovereignty: It maintains continuity of Ukrainian civic, legal, and cultural narratives; reorganizes academic space in ways that defy intended paralysis through violence; and cultivates pedagogical autonomy by enabling students to participate in education on their own terms, whether online or physically underground. These practices demonstrate that decolonization in wartime is enacted through educational persistence and collective agency, rather than through policy declarations alone.

FOR A PERIOD exceeding three years, the Ukrainian educational community has been engaged in a complex and multifaceted process to identify and implement optimal pedagogical approaches. Within this context of national crisis and resistance, it is important to note that substantial disparities exist across the nation in the application of these approaches. Specifically, the modalities of educational provision within higher education institutions exhibit significant variation, contingent upon the geographical proximity of these institutions to zones of active military conflict. Ukraine encompasses a vast territory spanning 603,628 square kilometers, a factor that contributes to its status as the second-largest country on the European continent. A considerable portion of approximately 20%, situated in the eastern and southern regions, is currently under temporary occupation, and these areas are subject to ongoing military confrontations. The challenges posed by this occupation and the ongoing hostilities have necessitated innovative and adaptive responses from educational institutions, which are viewed by many as a key part of the decolonization process. These spatial inequalities also highlight an important dimension of decolonization: Institutions closest to the front lines must defend not only the physical space of learning but also the cultural and epistemic continuity that colonial violence seeks to disrupt.

In the context of armed conflict, the imperative to safeguard educational institutions as sanctuaries assumes a position of heightened criticality. Contemporary Ukraine exemplifies this exigency, where the aggressor nation has demonstrated a disturbing proclivity for targeting educational facilities as sites of military engagement. The scale of this issue is particularly pronounced in Kharkiv and its surrounding region, where nearly half of all educational institutions have sustained damage or been rendered completely inoperable due to bombardment and artillery shelling, as illustrated in Figure 1. These attacks not only represent a violation of international humanitarian law but also constitute an assault on the cultural and intellectual heritage of Ukraine, a heritage that decolonization seeks to reclaim and protect. The systematic destruction of universities aligns with colonial strategies of suppressing cultural autonomy by dismantling institutions of knowledge production. Therefore, every act of educational continuity in such conditions becomes an act of epistemic resistance.

CONSEQUENTLY, HIGHER education institutions situated within the aforementioned regions were compelled to undertake relocations to safer areas in the west of the country. These relocations enabled the provision of instruction to students either within conventional university classroom settings or through a blended learning approach. To prioritize the well-being of both students and academic staff, those higher education institutions located in close proximity to zones of active hostilities have transitioned to delivering educational services exclusively via online modalities. This transition to online learning, while necessary for safety, has also presented challenges in maintaining the quality of education and the sense of community that is central to the decolonizing mission of education. Despite these challenges, digital and blended modalities also represent important decolonial strategies: They preserve access to Ukrainian-led education, prevent epistemic displacement of students, and sustain national academic ecosystems even under extreme threat.

“CONSEQUENTLY, HIGHER EDUCATION INSTITUTIONS SITUATED WITHIN THE AFOREMENTIONED REGIONS WERE COMPELLED TO UNDERTAKE RELOCATIONS TO SAFER AREAS IN THE WEST OF THE COUNTRY.”

In August 2022, the State Service for Quality of Education in Ukraine administered an anonymous online survey targeting educators, education-researchers, and students within both higher educational and vocational institutions. The survey sought to evaluate the preparedness of educational process participants for various modalities of instructional delivery during the 2022/23 academic year. The findings were subsequently disseminated through official government channels. A total of 24,000 individuals participated in the survey, a figure that lends both representativeness and reliability to the results obtained and allows for a more nuanced understanding of the educational landscape.

Within the segment of respondents affiliated with the higher education system (69.4%), a substantial proportion indicated their willingness to resume in-person educational activities during the specified academic year. Approximately one in ten respondents stated that their respective institutions intended to commence the academic year with a traditional, classroom-based mode of instruction. Nevertheless, a considerable number of higher education institutions elected to implement a blended teaching and learning model, characterized by an alternating schedule of in-person and distance learning sessions.[15] This blended approach represents an attempt to balance the need for safety with the desire for a more traditional educational experience, and can be seen as a manifestation of the resilience and adaptability that are central to decolonization. It also underscores an important dimension of operationalizing decoloniza-

tion: preserving student agency in choosing a learning modality that aligns with their safety, psychological well-being, and capacity to remain engaged in Ukrainian education during wartime.

Notably, a significant majority, comprising 80% of all respondents (both students and academic staff), perceived the implementation of the distance educational format as an effective strategy during the wartime conditions prevailing in the nation.[16] This finding underscores the crucial role that technology has played in maintaining educational continuity, and its potential to contribute to more flexible and accessible forms of education in the postwar period, which could further support efforts at decolonization. The ability of Ukraine's higher education system to harness technology to maintain epistemic continuity directly resists the colonial strategy of severing populations from their cultural and intellectual institutions.



Figure 4. The space for sleeping in a bomb shelter (authors' own photo).

IT IS ALSO PERTINENT to emphasize that, notwithstanding Russia's widespread military aggression against Ukraine, domestic higher education institutions persist in conducting courses for international students and actively recruiting applicants from abroad, employing specific admission protocols for foreign enrollees. This practice further underscores the significance of the distance learning model, as a mutually acceptable solution for all parties involved, and highlights Ukraine's continued engagement with the global academic community, even in a time of crisis. This continued engagement is a further way that Ukrainian universities are resisting the isolation that can be a tool of colonization. Indeed, maintaining an international academic presence and visibility is an essential element of asserting Ukrainian epistemic sovereignty on the global stage.

It is, however, understandable that both students and faculty generally prefer in-person interaction. To guarantee the right to education, preserve stability within the educational sphere, and fulfil the objectives of education, the state is endeavoring to maximize its efforts within the constraints imposed by martial law. Significantly, contemporary Ukrainian legislation empowers educational institutions to autonomously determine educational formats and the organization of the educational process, encompassing flexible scheduling and thereby enabling the adaptation of educational activities to the exigencies of martial law. This legislative flexibility is essential for ensuring institutions are able to respond to the diverse and evolving challenges of wartime, and to assert their autonomy in the face of external pressure. Institutional autonomy, i.e. the ability to self-govern educational processes in defiance of external coercion, is itself a cornerstone of decolonial practice, positioning universities as agents of national sovereignty.

Consequently, both the Kharkiv authorities and university administrators are actively exploring diverse avenues to facilitate the resumption of on-site instructional activities. Moreover, a prevalent view holds that online education is generally perceived to be of lesser quality compared to traditional classroom-based instruction. Thus, during the summer of 2023, a number of higher education institutions in Kharkiv (located approximately 200 kilometers from zones of active military engagement), possessing deep and extensive subterranean facilities with the potential for conversion into bomb shelters equipped with classrooms conducive to teaching and learning, began preparing for the 2023/24 academic year in order to provide their student body with the option to pursue on-site instruction. This proactive approach demonstrates a commitment to both safety and educational quality, and exemplifies the agency that is a key part of the decolonizing process. By reclaiming underground spaces as classrooms, institutions symbolically and materially assert that Ukrainian education will continue to thrive even under the most hostile colonial conditions.

ACCORDINGLY, AT Yaroslav Mudryi National Law University, which possesses extensive multi-level subterranean facilities, these spaces have been adapted into both classrooms and bomb shelters, equipped with essential amenities such as proper ventilation systems, sanitary facilities, potable water reservoirs, electrical generators, public address systems, fire alarms, and multiple emergency egress points, as depicted in Figures 3a and 3b. The adaptation of these spaces is a concrete example of how institutions are working to maintain a sense of normalcy and provide a safe and effective learning environment, even in the midst of war. Here, educational continuity becomes an operational marker of decolonization: It demonstrates that the university refuses to allow colonial violence to interrupt the production of Ukrainian knowledge.

Moreover, Yaroslav Mudryi National Law University equipped student hostels with bomb shelters (Figure 4). This comprehen-

sive approach to student safety and well-being underscores the university's commitment to its community and its determination to continue functioning as a center of learning and culture. Ensuring students' ability to remain in Ukraine while studying prevents the displacement of future Ukrainian intellectual capital, which is another key element of resisting colonial erosion.

WITHIN THIS CONTEXT, in the 2023/24 academic year, students at the university were given the opportunity to acquire their higher education in the educational format that is the most psychologically comfortable and acceptable for them individually, in order to achieve better academic results. Thus, nearly half of the first-year student cohort (49%) elected to engage in a blended learning modality, comprising remote (online) lectures and on-site practical and seminar sessions. The remaining portion of the first-year students (51%) opted for fully remote instruction,[17] as did 53% of first-year students in the 2024/25 academic year. Such data demonstrates that more than half of the student body either have concerns about their safety or have left the country, a factor that presents ongoing challenges for the university. For academic staff, this arrangement afforded instructors the opportunity to juxtapose various facets of distance and on-site modes of educational delivery, providing valuable insights into the efficacy of different pedagogical approaches in crisis situations. The flexibility of these arrangements also represents an operational indicator of decolonization: Student autonomy, localized decision-making, and the preservation of Ukrainian educational agency all counteract the coercive force of colonial aggression.

Initially, the intended utilization of subterranean classrooms was limited to periods coinciding with aerial bombardment warnings. However, the extremely short flight duration of missiles targeted at Kharkiv from the Belgorod region within the Russian Federation – approximately 40 seconds – means that detonations frequently precede the activation of air raid sirens. Consequently, the concentration of numerous individuals in a single location poses a significant hazard. Moreover, practical experience has revealed that the frequency of such alerts in Kharkiv necessitates that student cohorts, accompanied by their instructors, relocate to basement classrooms with considerable regularity, often every double period. This practice has proven to be suboptimal due to several factors. Firstly, valuable instructional time is lost during the transition. Secondly, students experience a diminished capacity for concentration following relocation, necessitating the reiteration of previously covered material. Thirdly, disciplinary challenges have been observed in certain groups. As a result, the prevailing decision of the university's administration has been to conduct conventional educational activities exclusively within subterranean classroom facilities. This decision, while driven by safety concerns, also reflects a commitment to maintaining the integrity of the educational process in the face of significant disruption. It reinforces the principle that education in Ukraine will persist autonomously, irrespective of colonial violence or attempts to dismantle academic life.

Consequently, contemporary university instruction in Kharkiv is delivered across a spectrum of modalities, encompassing both on-site classroom instruction within university-operated bomb shelters and synchronous distance learning facilitated by platforms such as Zoom, with pedagogical approaches tailored to prioritize the psychological well-being of students. Within the classroom setting, instructors employ both long-established pedagogical techniques (including the utilization of printed texts, blackboard instruction, and audio-visual resources) and innovative methodologies such as gamified learning,[18] interactive whiteboards,[19] and mobile technologies.[20] The integration of these diverse pedagogical approaches highlights the adaptability and resilience of Ukrainian educators in the face of adversity. More importantly, these pedagogical strategies operationalize decolonization by reinforcing Ukrainian-led curricula, pedagogy, and intellectual culture, thereby preventing the erasure or replacement of local knowledge systems despite conditions of war.

THE PERSISTENCE of educational provision amidst such exigent circumstances, as exemplified by institutions like Yaroslav Mudryi National Law University, embodies the decolonial tenet of repudiating subjugation. These institutions safeguard and perpetuate the intellectual and cultural distinctiveness of the nation, even in the face of aggression aimed at its suppression. Moreover, this adaptation signifies a dedication to local self-determination and the rejection of imperialist narratives that endeavor to erode Ukraine's autonomy and the capacity of its populace to flourish independently. In this sense, the university's practices constitute both symbolic and material acts of decolonization, which preserve not only the physical continuity of learning but also the epistemic independence of Ukrainian scholarship. The integration of decolonization into this discourse accentuates the pivotal role of education as an instrument for resisting neo-colonial pressures and cultivating a resilient society that steadfastly refuses to succumb to external domination, even during periods of profound hardship. The universities are sending a clear message that they will not be conquered. Thus, the Ukrainian wartime educational landscape provides a rare and significant empirical example of decolonization enacted in real time under active conditions of aggression, expanding theoretical understandings of what constitutes a "decolonizing force" in higher education.

"THE UNIVERSITIES ARE SENDING A CLEAR MESSAGE THAT THEY WILL NOT BE CONQUERED."

Discussion

Our study sought to scrutinize how Ukrainian higher education institutions, specifically Yaroslav Mudryi National Law University, are adapting to the challenges posed by the ongoing war, with a particular focus on the ways in which these adaptations reflect and enact a process of decolonization. The investigation

results reveal a complex interplay of resilience, adaptation, and a steadfast commitment to maintaining educational continuity in the face of profound adversity. These adaptations, we argue, are not merely pragmatic responses to wartime exigencies but also represent a form of resistance against imperialist domination and a manifestation of decolonizing agency.

Particularly, the findings of our study resonate with and expand upon the observations of other scholars examining the impact of the war on Ukrainian higher education. For example, Galynska and Bilous[21] highlight the significant challenges that distance learning presents in wartime Ukraine, including issues of accessibility and effectiveness. While their research focuses on the National University of Food Technologies, the challenges they identify – such as the location of students and faculty, the ability of educators to develop and deliver online courses, and equitable access to resources – are clearly echoed in the experiences of Yaroslav Mudryi National Law University, as evidenced by the data on student preferences for blended or fully online distance learning.[22] The fact that a substantial portion of students at Yaroslav Mudryi National Law University opted for fully online instruction, even when in-person options were available, suggests that these accessibility and safety concerns are widespread and deeply felt. The stated example can be interpreted through a decolonial lens, insofar as the disruption of the traditional educational paradigm by an external force (Russian armed aggression) necessitates an evaluation of educational approaches to ensure inclusivity and continued access to knowledge. The adaptations made by Yaroslav Mudryi National Law University, in embracing both online and blended formats, demonstrate an attempt to address these challenges while upholding the educational rights of all students, regardless of their location or circumstances.

IN PARALLEL, Sokol and Melko[23] broaden the scope of the discussion by analyzing the challenges facing higher tourism education in Ukraine, including digitalization, distance learning, and the outflow of students to foreign educational institutions. The abovementioned challenges, exacerbated by the war, are interconnected with the decolonization framework in several ways. The outflow of students, for instance, can be seen as a consequence of the disruption and instability caused by the imperialist aggression of the Russian Federation, potentially leading to a loss of Ukrainian intellectual capital. The adaptations made by Yaroslav Mudryi National Law University, in providing safe and accessible teaching and learning environments, can be interpreted as a countermeasure to this trend, seeking to retain and empower Ukrainian students within their own national context. Furthermore, the emphasis on digitalization and innovative teaching methods, as observed at Yaroslav Mudryi National Law University, aligns with Sokol and Melko's call for improved educational approaches in distance learning. Such digitalization measures, while driven by necessity, can also be viewed as a tool for decolonization, enabling the dissemination of knowledge beyond the physical constraints imposed by the armed conflict and potentially democratizing access to education.

Zayachuk[24] provides a comprehensive overview of efforts to ensure quality higher education in Ukraine during the war, highlighting the legal framework, the destruction of educational infrastructure, and the various initiatives undertaken by the state, universities, and international institutions. The scholar's study findings underscore the immense challenges faced by Ukrainian universities and shared by Yaroslav Mudryi National Law University. The adaptation of the university's spaces into bomb shelters, as documented in our research, directly addresses the issue of safety and preservation of infrastructure, which Zayachuk identifies as a key concern. [25]Moreover, the blended learning approach adopted by Yaroslav Mudryi National Law University reflects the broader trend of improved and wider implementation of online education systems, which Zayachuk[26] recognizes as a crucial response to the war. The emphasis on student safety and high-quality education, which Zayachuk's[27] survey data reveals as a top priority for Ukrainian universities, is clearly evident in the actions of Yaroslav Mudryi National Law University, whose efforts to provide both safe physical spaces and flexible learning modalities demonstrate a commitment to these principles. The adaptation of Yaroslav Mudryi National Law University also reflects a form of resilience, showing the university's dedication to its educational mission. This resilience can be seen as a rejection of the colonizer's attempts to disrupt Ukrainian society.

In the context of our study, Lugovyi et al.[28] discuss, on the one hand, the broader context of globalization, sustainable development, and the COVID-19 pandemic, which have already influenced the development of higher education, and on the other hand, how Russian military aggression has added another layer of complexity. The researchers outline key areas of change, including infrastructure destruction, decreased institutional capability, and restrictions on international academic mobility. The situation at Yaroslav Mudryi National Law University exemplifies these challenges. The adaptation of bomb shelters into classrooms is a direct response to the destruction of infrastructure and the need to maintain institutional capability. The blended learning approach, with its combination of online and on-site teaching, reflects the restrictions on traditional academic mobility and the need to find alternative ways of delivering education. The university's actions, in this context, can be seen as a form of resistance against the disruption and displacement caused by the aggressive invasion, and as an attempt to preserve its role as a vital educational institution within Ukrainian society.

MOREOVER, AN ANALYSIS of the impact of the war on Ukraine's higher education system was made by Antoniuk,[29] who focuses on the losses incurred and the forced transformation processes that are shaping the future of postwar education. The study highlights the problems of security and the preservation of infrastructure, human resources, and the student body, which are all directly relevant to the situation at Yaroslav Mudryi National Law University. The university's adaptation of its facilities, and its efforts to maintain educational continuity, address these challenges head-on. Furthermore, Antoniuk emphasizes the importance of digital technologies, innovative approaches, and international

cooperation in preserving higher education. The blended learning model and the use of technology at Yaroslav Mudryi National Law University exemplify the adoption of digital technologies and innovative approaches. The university's actions demonstrate a proactive response to the threats posed by the war.

Finally, Sibruk et al.[30] discuss the crucial role of educators in fostering educational competencies and enhancing student competitiveness in the job market during wartime. The authors emphasize the need for students to develop such qualities as adaptability, critical thinking, and resilience. These soft skills are not only essential for navigating the challenges of war but also central to the decolonization process, which requires individuals to be empowered, self-reliant, and capable of challenging dominant narratives. The adaptations made by Yaroslav Mudryi National Law University, in ensuring the continuity of education and providing a safe and supportive learning environment, contribute to the development of the abovementioned qualities in its students. The university's commitment to in-person teaching and learning, where possible, also acknowledges the importance of communication and social interaction, which Sibruk et al.[31] highlight as crucial during times of armed conflict.

IN CONCLUSION, the adaptations of Yaroslav Mudryi National Law University, while driven by the immediate need to maintain educational continuity and ensure safety, also represent a profound act of decolonization. By refusing to succumb to the disruptive forces of war, the university is actively resisting imperialist domination and asserting its commitment to Ukrainian self-determination. The blended learning model, the transformation of bomb shelters into classrooms, and the prioritization of both online and on-site instruction all demonstrate a multifaceted approach to education that is both resilient and empowering. The university is not only preserving its function as an educational institution but also playing a vital role in safeguarding Ukrainian cultural and intellectual identity during a time of profound crisis. The findings of our study, when considered in conjunction with the work of other scholars, underscore the critical role of education in resisting oppression, fostering resilience, and shaping a more just and equitable future for Ukraine.

Conclusions

Having examined how Yaroslav Mudryi National Law University has adapted to the challenges of the ongoing war in Ukraine, with a specific focus on how these adaptations reflect and enact a process of decolonization, we have revealed that the university has implemented a range of strategies to maintain educational continuity and ensure the safety of its students and faculty. These strategies include the transformation of the university's basements into functional teaching and learning spaces (as well as into bomb shelters for those students who live in the university student hostels), the implementation of blended and online learning modalities, and the provision of ongoing support services.

Such adaptations are not merely pragmatic responses to wartime conditions. Rather, they represent a proactive effort to assert the university's autonomy, preserve Ukrainian cultural and intellectual identity, and resist the disruptive forces of external military aggression. Within the framework of decolonization, the adaptation of higher education to wartime exigencies, exemplified by the transformation of basements into instructional spaces, embodies a decolonial response. This response underscores resilience, self-determination, and the prioritization of localized necessities over external impositions.

THE FINDINGS of the study highlight the following key points: 1) Yaroslav Mudryi National Law University has demonstrated a remarkable capacity for adaptation and resilience in the face of significant challenges; 2) the university's adaptation strategies reflect a commitment to both the safety and the educational needs of its students and academic staff; 3) the application of technology and the creation of safe teaching and learning environments have been crucial in maintaining educational continuity; 4) the university's actions can be interpreted as a form of resistance against imperialist domination and an assertion of Ukrainian self-determination; and 5) education, in this context, plays a vital role in preserving cultural heritage and fostering a sense of national identity.

In conclusion, the case of Yaroslav Mudryi National Law University provides a compelling example of how higher education institutions can adapt to the challenges of war while simultaneously enacting a process of decolonization. The university's efforts to maintain its educational mission in the face of adversity serve as a testament to the resilience of the Ukrainian people and the enduring power of education to shape a nation's future.

Tatiana Fomenko, PhD, is an Associate Professor at the Sumy National Agrarian University, Sumy, Ukraine.

Liudmyla Holubnycha is a Doctor of Science and Professor at Yaroslav Mudryi National Law University, Kharkiv, Ukraine.

Tetiana Besarab, PhD, is an Associate Professor at Yaroslav Mudryi National Law University, Kharkiv, Ukraine.

Svitlana Mykytiuk, PhD, is an Associate Professor at the H. S. Skovoroda Kharkiv National Pedagogical University, Kharkiv, Ukraine.

Denys Besarab, PhD, is a Lecturer at the O.M. Beketov National University of Urban Economy in Kharkiv, Kharkiv, Ukraine.

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references

1 Ilona Kostikova, Liudmyla Holubnycha, Oleksandra Marmaza, Viktoriia Budianska, Olha Pochuieva, and Halyna Marykivska, "Real Country Experiences: On-Line Teaching in Wartime after Pandemic in Ukraine," *International Journal of Interactive Mobile Technologies* (iJIM) vol. 17, no. 3 (2023): 123–34. Available at: doi:10.3991/ijim.v17i03.36419.

2 Eric Burton, "Decolonization, the Cold War, and Africans' Routes to Higher Education Overseas, 1957–65," *Journal of Global History* vol. 15, no. 1 (2020): 169–91. Available at: doi:10.1017/S174002281900038X.

3 Stephen Jackson, "'The Triumph of the West': American Education and the Narrative of Decolonization, 1930–1965," *History of Education Quarterly* vol. 58, no. 4 (2018): 567–94. Available at: doi:10.1017/heq.2018.31.

4 Chinaza Uleanya, Yasmin Rugbeer, and Sunday Olawale Olaniran, "Decolonization of Education: Exploring a New Praxis for Sustainable Development," *African Identities* vol. 17, no. 2 (2019): 94–107. Available at: doi:10.1080/14725843.2019.1659752.

5 Sharon Stein, Vanessa Andreotti, Cash Ahenakew, and Dallas Hunt, "The Complexities and Paradoxes of Decolonization in Education," in *Reimagining Globalization and Education*, ed. Fazal Rizvi et al. (New York: Routledge, 2022), 198–213. Available at: https://www.taylorfrancis.com/chapters/edit/10.4324/9781003207528-14/complexities-paradoxes-decolonization-education-sharon-stein-vanessa-andreotti-cash-ahenakew-dallas-hunt.

6 Sharon Stein and Vanessa Oliveira de Andreotti, "Decolonization and Higher Education," in *Encyclopedia of Educational Philosophy and Theory*, ed. Michael A. Peters (Singapore: Springer Science+Business Media, 2016), 1–6. Available at: doi:10.1007/978-981-287-532-7_479-1.

7 Denys Svyrydenko, Chengzhang Zou, and Weizhen Gao, "Higher Education as a Tool of Peacebuilding and Decolonization: Ukrainian Case and Global Perspective," *Освітній дискурс. Гуманітарні науки* [Educational discourse. Humanities] vol. 14 (2019): 45–54. Available at: http://enpuir.npu.edu.ua/handle/123456789/25230.

8 Tetiana Marchenko, "Higher Education During the War Time in Ukraine," *Scientific Journal of Polonia University* vol. 59, no. 4 (2023): 49–57. Available at: doi:10.23856/5907.

9 Svitlana Fiialka and Zoia Kornieva, "Journalism Education in Times of War: New Challenges and Adaptation Strategies," *Advanced Education* vol. 25 (2024). Available at: doi:10.20535/2410-8286.316512.

10 Iryna Zhyhora, Viktoriia Vdovenko, Iryna Baraniuk, Natalka Kotelianets, and Olena Nikitina, "Innovations in Education in Times of War: Research and Evaluation of Results," *Revista Eduweb* vol. 18, no. 2 (2024): 88–99. Available at: doi:10.46502/issn.1856-7576/2024.18.02.6.

11 Marchenko, "Higher Education During the War Time in Ukraine."

12 Fiialka and Kornieva, "Journalism Education in Times of War."

13 Zhyhora et al, "Innovations in Education in Times of War."

14 Uleanya et al., "Decolonization of Education."

15 Ilona Huszti, Erzsébet Bárány, and Márta Fábián, "Students' Attitudes Towards the War in Ukraine," *Educational Challenges* vol. 29, no. 1 (2024): 85–98. Available at: doi:10.34142/2709-7986.2024.29.1.06.

16 *Яку Форму Навчання Обирають Заклади Фахової Передвищої та Вищої Освіти: Результати Опитування* [What form of education vocational pre-higher and higher education institutions choose: survey results] (Government portal. State Education Quality Service of Ukraine. August 29, 2022). Available at: https://www.kmu.gov.ua/news/yaku-formu-navchannia-obyraiut-zaklady-fakhovoi-peredvyshchoi-ta-vyshchoi-osvity-rezultaty-opytuvannia.

17 Liudmyla Holubnycha, Tetiana Shchokina, and Natalia Soroka, "Face-to-Face Teaching and Learning: Problem of Quality," *Educational Challenges* vol. 29, no. 1 (2024): 58–71. Available at: doi:10.34142/2709-7986.2024.29.1.04.

18 Ilona Kostikova, Liudmyla Holubnycha, Tetiana Shchokina, Natalia Soroka, Victoriia Budianska, and Halyna Marykivska, "A Role-Playing Game as a Means of Effective Professional English Teaching," *Amazonia Investiga* vol. 8, no. 24 (2019): 414–25. Available at: https://www.amazoniainvestiga.info/index.php/amazonia/article/view/1001.

19 Liudmyla Holubnycha and Serhii Shatrava, "Using Interactive Whiteboard at English Lessons for Law Students," *Science and Education* vol. 12 (2017): 24–30. Available at: https://scienceandeducation.pdpu.edu.ua/doc/2017/12_2017/3.pdf.

20 Liudmyla Holubnycha, Tetiana. Besarab, Yana. Pavlishcheva et al., "The Effectiveness of Mobile Learning Technology at the Tertiary Level During Conflicts," *International Journal of Interactive Mobile Technologies* (iJIM) vol. 16, no. 23 (2022): 148–160. Available at: doi:10.3991/ijim.v16i23.33793.

21 Olena Galynska and Svitlana Bilous, "Remote Learning During the War: Challenges for Higher Education in Ukraine," *International Science Journal of Education & Linguistics* vol. 1, no. 5 (2022): 1–6. Available at: doi:10.46299/j.isjel.20220105.01.

22 Liudmyla Holubnycha, Tetiana Shchokina, and Natalia Soroka, "Face-to-Face Teaching and Learning: Problem of Quality," *Educational Challenges* vol. 29, no. 1 (2024): 58–71. Available at: doi:10.34142/2709-7986.2024.29.1.04.

23 T. Sokol, and L. Melko, "Current Challenges of Higher Education in Ukraine," *Pedagogy and Education Management Review* vol. 1 (2022): 49–53. Available at: doi:10.36690/2733-2039-2022-5-49.

24 Yuliya Zayachuk, "Ensuring Quality Higher Education in Ukraine in Times of War," *Journal of Adult and Continuing Education* vol. 31, no. 1 (2024): 135–59. Available at: http://doi.org/10.1177/14779714241270254.

25 Ibid.

26 Ibid.

27 Ibid.

28 Volodymyr Lugovyi, Svitlana Kalashnikova, Zhanneta Talanova, and Inna Vlasova, "Transformation of Higher Education in Ukraine: Impact of the War and Objectives for Post War Recovery," *European Journal of Education* vol. 58, no. 4 (2023): 611–28. Available at: doi:10.1111/ejed.12584.

29 Valentyna Polykarpivna Antoniuk, "Perspective Chapter: The War as a Factor of Upheavals and Transformations in Higher Education Experience of Ukraine," in *Higher Education -Reflections from the Field*, ed. Lee Waller and Sharon K. Waller (London: IntechOpen, 2023), 1–16. Available at: doi:10.5772/intechopen.109688.

30 Anastasiia V. Sibruk, Svitlana V. Lytvynska, Uliana P. Koshetar et al., "Ukrainian Education System: War Challenges," *Multidisciplinary Science Journal* vol. 5 (October 2023): 2023ss0502. Available at: doi:10.31893/multiscience.2023ss0502.

31 Ibid.

The transformation of youth sport education in Ukraine under war. Perspectives on recovery

by **Ihor Hrynchenko**, **Serhii Palevych**, **Ivan Danylishyn**, **Olena Chaika**, and **Vitalii Kyrpenko**

abstract

This study systematizes the transformative impacts of the full-scale military invasion on Ukraine's youth sport education systems and substantiates multilevel recovery strategies within the Long-Term Athlete Development (LTAD) framework. The analysis focuses on how macrosystemic disruptions affect the pedagogical continuity and developmental pathways of young learners. A qualitative analytical approach was employed and Bronfenbrenner's ecological systems theory provides the theoretical lens. The findings reveal a critical disintegration of the "talent pipeline" due to the destruction of educational infrastructure, the forced migration of the pedagogical core (coaching staff), and the militarization of sports-based learning in occupied territories. The results extend LTAD theory by demonstrating its structural vulnerability under prolonged crises and identifying primary pathways of institutional and educational erosion. Recovery requires a transition from emergency management to a resilient educational model that integrates psychosocial support into athletic training.

KEYWORDS: Youth sport education, ecological systems analysis, LTAD, pedagogical continuity, psychosocial rehabilitation, sportswashing.

The full-scale military aggression against Ukraine has triggered a systemic disintegration across all sectors of public life. The sphere of physical culture and sport education – specifically youth sport training environments, which serve as the institutional pipeline for athletic reserves and a decisive mechanism for socialization – has faced multifaceted, cumulative challenges.[1] These challenges form a cascading effect ranging from the physical destruction of educational and athletic facilities to long-term human capital deficits and a critical decline in the psychosocial well-being of young learners.[2] Consequently, the functioning of youth sport education under conflict conditions has emerged as a paramount concern, necessitating a systematized investigation of its structural transformation.

In sports sociology and pedagogy, youth sport is traditionally analyzed through the Long-Term Athlete Development (LTAD) framework.[3] This concept posits physical activity as a tool for primary socialization and pedagogical skill acquisition. However, military aggression acts as a decisive exogenous shock that radically disrupts this developmental and educational trajectory. The theoretical conceptualization of this impact is grounded in Urie Bronfenbrenner's Ecological Systems Theory (1979),[4] which suggests that macrosystemic crises – specifically war – radically transform all levels of a child's developmental environment. Conflict deforms micro- and mesosystems (family, sports schools, and the instructional training process), leading to prolonged psychosocial consequences. Available studies



Infrastructure devastation: The destroyed "Polytechnic" Sports Complex in Kharkiv. PHOTO: CAROL GUZY/ZUMA PRESS WIRE/ALAMY

suggest that physical activity among children in conflict zones declines within a range of 40 to 60%, directly correlating with an increased risk of somatic and anxiety disorders.[5]

THE ONGOING MILITARY aggression acts not merely as an external disruptive factor but as a structural social rupture that alters the very logic of educational sport systems. As argued in recent conceptual frameworks, sport systems must navigate a "changing world" where global crises redefine the social value, pedagogical integrity, and institutional sustainability of athletic activity.[6] In Ukraine, this macrosystemic shock is triggering a cascading failure across all levels of youth development pathways.

A decisive feature of the Ukrainian case is the presence of multilayered hybrid threats. In temporarily occupied territories, sport education is instrumentalized for the militarization and indoctrination of youth, representing a direct violation of Olympic principles and educational ethics.[7] Concurrently, the sector is targeted by "sportswashing" strategies on the international stage. Scholarly assessments indicate that state-linked "sportswashing" is utilized to manufacture political legitimacy and mitigate international criticism following the invasion.[8] The participation of athletes associated with the aggression in global competitions creates profound ethical dissonance and complicates the efficacy of sanctioning mechanisms intended to protect the integrity of the international pedagogical and sporting movement.[9]

Beyond its immediate practical relevance, this study contributes to the educational and sports science literature by conceptualizing the fragility of pedagogical pipelines in state-centralized systems during protracted conflict. By synthesizing the Ukrainian experience through an ecological lens, the paper offers a replicable theoretical model for assessing sectoral resilience, thereby bridging the gap between emergency crisis management and long-term educational recovery in global sports sociology and pedagogy.

The primary aim of this study is to provide a systemic assessment of the structural transformation within Ukraine's youth sport education (YSE) environment under war-induced macrosystemic shock and to formulate a theoretical framework for its pedagogical recovery based on the LTAD model. To address this objective and the identified research gap, the present study focuses on the following two research questions: 1) How has war-induced macrosystemic shock structurally transformed the institutional foundations and "pedagogical pipelines" of youth sport education systems in Ukraine? 2) How can Long-Term Athlete Development (LTAD) frameworks be recalibrated within an ecological systems perspective to ensure pedagogical continuity and recovery under conditions of systemic disintegration?

Methodology

The study constitutes a qualitative policy-analytical and theoretical synthesis rather than an empirical intervention study. A qualitative analytical design is prioritized over quantitative approaches due to the extreme volatility of the research environment

and the necessity to capture complex, non-linear institutional and educational transformations that standardized statistical metrics alone may fail to reflect. Critically, this analysis does not seek to establish direct causal inference; instead, it focuses on identifying and modeling structural patterns of systemic disintegration and pedagogical resilience under conflict conditions. This framework is specifically chosen to capture the complexity of educational transformation under conditions of macrosystemic shock, and to model the disintegration of developmental pathways through a multilayered synthesis of institutional data and scholarly evidence.

Data selection and source synthesis

To ensure the validity of the qualitative synthesis and avoid ad hoc compilation, the document selection was guided by three rigorous criteria:

- *Institutional Authority:* Priority was given to reports and regulatory frameworks from recognized national (MMS, NOC, Office of the General Prosecutor) and international bodies (UNDP, IOC, UNICEF).
- *Chronological Relevance:* Focus on data covering the 2022–2025 period to capture the longitudinal trajectory of the conflict.
- *Theoretical Alignment:* Documents were selected based on their capacity to provide evidence for the micro-, meso-, or macrosystemic levels of transformation within the pedagogical LTAD framework.

THE METHODOLOGY consists of three integrated components:

- *Documentary and Policy Analysis:* A systematic review of official reports and regulatory frameworks from the Ministry of Youth and Sports of Ukraine (MMS), the Office of the General Prosecutor, the National Olympic Committee (NOC), and the Cabinet of Ministers of Ukraine. This was supplemented by strategic evaluations from international organizations, including the UNDP, IOC, and UNICEF, focusing on the continuity of sport education.
- *Secondary Quantitative Assessment:* Synthesis of statistical datasets from open-access sources, including economic damage reports,[10] state infrastructure recovery programs (Platforma vidnovlennia Ukraïny, n.d.), and analytical status reports on educational athletic infrastructure.[11]
- *Systematic Literature Review:* An evaluation of peer-reviewed research[12] and specialized analytical platforms utilized for theoretical and pedagogical interpretation within the LTAD framework.[13]

TO ENSURE THE ROBUSTNESS of the findings, the study employs data triangulation. This involved the cross-comparison of official government statistics on destruction, empirical publications on socio-psychological and pedagogical consequences, and international monitoring data regarding geopolitical challenges. This multi-perspective validation mitigates the risks associated with the use of secondary data in active conflict zones and ensures the integrity of the analytical model.



The "Angels of Sport" memorial honoring the legacy of fallen sports professionals and coaches. PHOTO: KYIV CITY STATE ADMINISTRATION

The study is limited by its reliance on secondary data sources and the constraints of conducting primary fieldwork in active conflict zones. However, triangulation across institutional, academic, and international datasets mitigates these limitations, ensuring the analytical robustness of the findings and their applicability to the broader discourse on educational resilience.

The analysis of empirical data identified several systemic clusters documenting the impact of military aggression on Ukraine's youth sport education (YSE) environment.

Infrastructure and educational-economic impact

As of February 2025, reports document damage or destruction to over 600 athletic facilities, including more than 200 youth sports schools (YSS). Examples are shown in Figures 1 and 2. These findings are corroborated by both official data on destroyed educational sports infrastructure[14] and independent analytical assessments.[15] Economic assessments indicate aggregate losses within the combined education and sports sectors (2022–2024) of approximately USD 5.5 billion, a figure validated through the KSE-led damage assessment framework.[16]

At the regional level, 100 percent of YSS in Kharkiv and 80 percent in the Dnipropetrovsk region transitioned to remote or hybrid instructional operations.[17] Current data suggest a significant decline in educational engagement; for instance, preliminary survey-based evidence indicates that 66.6 percent of youth are identified as non-active.[18] Furthermore, analytical extrapolations under a pessimistic scenario suggest a projected 50 percent decrease in the national athletic reserve by 2030, assuming the persistence of current migration and educational-infrastructural deficits.[19]

Human capital and the pedagogical pipeline

Casualties include over 500 athletes and educators (coaches).[20] The memorial to fallen sports professionals and coaches is shown in the image of *Angels of Sport*. Migration and mobilization have

resulted in the displacement of approximately 2 million young people and a decisive portion of the YSS pedagogical staff.[21] Enrollment in YSS decreased from 434,000 students in 2020 to an 8 percent coverage rate among the youth population in 2024.[22] In temporarily occupied territories, sport education programs (e.g. "Zarnitsa 2.0") are instrumentalized for the militarization and ideological indoctrination of youth, representing a substantial violation of educational ethics.[23]

Psychosocial and developmental indicators

Systematic data record PTSD symptoms in approximately 40 percent of children.[24] Furthermore, 60 percent of youth in frontline and de-occupied territories lack stable access to structured sports-based learning.[25] Monitoring of middle-school students shows a regression of motor-learning indicators in remote training formats compared to traditional offline sessions.[26] Frequent air raid alerts result in the interruption of training cycles, affecting the pedagogical continuity of instructional loads.[27]

Organizational and geopolitical factors

Competitive activity has been restricted due to the restructuring of national championships and safety requirements.[28] On the international stage, tensions persist regarding the participation of Individual Neutral Athletes.[29] Analytical platforms document the use of sports for propaganda purposes and as a way of bypassing sanctions, which creates decisive ethical challenges for the international educational sport movement.[30]

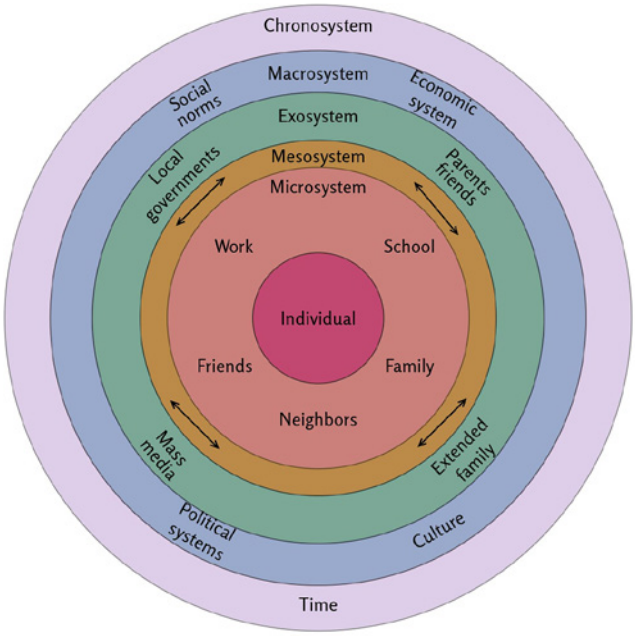
Institutional response and educational resilience

Adaptive management strategies have been implemented to maintain basic pedagogical functionality.[31] National initiatives, including the presidential program for the reconstruction of 100 YSS and 18 sports boarding schools, are primary components of the recovery strategy, currently in the planning or early implementation phases (Platforma vidnovlennia Ukrainy, n.d.).

Discussion

Macrosystemic Shock and Ecological Disintegration

The disintegration of Ukraine's youth sport education (YSE) environment demonstrates that institutional destruction creates a structural bottleneck, rendering traditional developmental models non-functional. Consequently, Ukraine serves as a critical case for assessing how prolonged military aggression acts as a decisive macrosystemic shock, radically altering the social, legal, and economic parameters of societal operation.[32] Analyzing this critical case provides essential insights into the structural limits of educational athletic systems under extreme pressure.



Urie Bronfenbrenner's Ecological Systems Theory model.

SOURCE: SIMPLYPSYCHOLOGY.ORG

The war acts not merely as an external factor but as a structural social rupture that alters the very logic of the sport education system. Recent conceptual frameworks suggest that educational sport systems must navigate a "changing world" where global crises redefine the social value, pedagogical integrity, and institutional sustainability of athletic activity.[33] In Ukraine, the impact propagates through lower hierarchical levels, where the collapse of the mesosystem – driven by infrastructure devastation – undermines the decisive links between sports schools and local communities. Urie Bronfenbrenner's Ecological Systems Theory model is shown in the image.

Consequently, a profound dysfunction of the microsystem emerges: Chronic stress and PTSD symptoms in young learners[34] signify a microsystemic overload. To our knowledge, the Ukrainian case represents one of the most extensive instances of institutional disruption of pedagogical sport networks documented in recent literature, where the systematic targeting of the centralized YSE network indicates a deliberate undermining of the institutional base for human capital reproduction.

Deformation of the pedagogical LTAD framework

Current conflict conditions precipitate a systemic deformation of the LTAD framework, as the primary principles of continuity and progressive pedagogical cyclicity become untenable under martial law. This deformation challenges the foundational pillars of successful sport education policies; according to the SPLISS 2.0 framework, the effectiveness of an educational athletic system is contingent upon the synergy between financial support, integrated developmental pathways, and institutional stability.[35]

"THE WAR ACTS NOT MERELY AS AN EXTERNAL FACTOR BUT AS A STRUCTURAL SOCIAL RUPTURE THAT ALTERS THE VERY LOGIC OF THE SPORT EDUCATION SYSTEM."



Infrastructure devastation: The destroyed "Desna" Stadium in Chernihiv. PHOTO: COURTESY OF DESNA

In the Ukrainian context, this manifests through three substantial disruptions:

- *Instructional Transitions:* The loss of qualified pedagogical personnel and reduced training volumes impede the qualitative transition between the "Learning to Train" and "Training to Train" stages, effectively disrupting specialization and learning mechanisms.
- *Competitive Practice as Learning:* Logistical barriers limit the essential competitive practice required for the "Training to Compete" stage, creating decisive risks of "lost generations" in national sport education.[36]
- *Remote Learning Limitations:* Evidence confirms that while digital programs offer a temporary logistical bridge, they cannot fully compensate for in-person instructional training in ensuring motor and pedagogical development.[37]

Institutional resilience versus resource scarcity

The national sport education system demonstrates significant institutional resilience through adaptive management, yet a widening discrepancy persists between localized viability and total resource needs. The resilience demonstrated by Ukrainian sports schools aligns with theoretical models of organizational adaptation in the "Sport for Development and Peace" (SDP) sector. External systemic factors force organizations to abandon traditional instructional trajectories and adopt flexible, survival-oriented strategies to maintain their social and pedagogical impact.[38]

Evidence of this resilience is found in the 2030 State Targeted Social Program[39] and regional initiatives.[40] However, the volume of aggregate economic losses (USD 5.5 billion) significantly exceeds current internal recovery potential.[41] This suggests that while local pedagogical adaptations are crucial, structural stabilization necessitates a strategic shift toward global financial intervention.

Geopolitical dimensions and educational ethics

The instrumentalization of youth sport education in occupied territories for indoctrination and the persistence of "sportswashing" strategies represent a direct threat to the ethical integrity of the international pedagogical and sports movement.[42] In the European context, this substantiates the necessity of consistent international sanctioning policies to prevent the use of sports as a tool for legitimizing aggression, thereby ensuring the ethical and educational stability of the global athletic community.

Conclusions

The systemic analysis of the multifactorial impact of military aggression on Ukraine's youth sport education (YSE) environment leads to the following conclusions:

- *Theoretical Implication: Macrosystemic Regression.* Military aggression functions as a decisive shock triggering a cumula-

"EXTERNAL SYSTEMIC FACTORS FORCE ORGANIZATIONS TO ABANDON TRADITIONAL INSTRUCTIONAL TRAJECTORIES AND ADOPT FLEXIBLE, SURVIVAL-ORIENTED STRATEGIES TO MAINTAIN THEIR SOCIAL AND PEDAGOGICAL IMPACT."

tive regression of the pedagogical sector. The destruction of educational athletic infrastructure and substantial economic losses have resulted in a profound structural dysfunction of the athletic ecosystem. This regression confirms that macrosystemic instability directly correlates with the erosion of the foundational structures required for youth development and pedagogical stability.

- *Impact on LTAD: Educational Pipeline Disruption*. Destructive factors have distorted the Long-Term Athlete Development framework, transforming it from a progressive trajectory into a fragmented process. Reduced training volumes and the limited efficacy of remote formats impede the transition between stages of specialization, undermining motor-learning continuity. At the microsystemic level, widespread psychosocial traumatization serves as a primary barrier to the continuity of the national pedagogical pipeline, necessitating new resilience-based approaches to sport education.
- *Institutional Viability and Resource Gaps*. While the system demonstrates resilience through state-led strategic programs and adaptive pedagogical management, the scale of damage significantly exceeds domestic capacity. The recovery process requires a strategic transition toward sustained international financial support and targeted global investment to bridge the widening resource gap and ensure the long-term sustainability of the educational athletic network.
- *Geopolitical and Ethical Frameworks*. The crisis in YSE is inextricably linked to hybrid warfare, including the ideological indoctrination of youth in occupied territories and "sportswashing" strategies on the international stage. Protecting the integrity of the national pedagogical space requires a transition from sectoral administration to a robust framework of security and ethical governance. This is decisive for ensuring that sport remains a tool for positive development rather than a mechanism for political instrumentalization.

Recommendations

These recommendations are derived from the analytical synthesis and theoretical interpretation presented above. They are intended to inform evidence-based policy discussions regarding the structural recovery of the youth sport education sector. The scale of the macrosystemic shock necessitates multilevel strategic interventions to ensure pedagogical resilience:

Strategic interventions at the macro- and exosystemic levels

- *Targeted financial intervention:* The establishment of a specialized fund for educational sports infrastructure recovery should be considered in order to mobilize international donor support. Investment volumes require alignment with the documented USD 5.5 billion in damages to ensure the restoration of institutional pedagogical capacity.[43]
- *Geopolitical resilience and ethical governance:* It is recommended to adapt sports diplomacy strategies to minimize the "sportswashing" effect. Strengthening international sanctioning frameworks requires a consistent, principle-based approach to protect the ethical integrity of the global educational sports movement and prevent the instrumentalization of young learners.[44]

Restoring mesosystem integrity and LTAD continuity

- *Development of secure educational hubs:* The establishment of regional secure sports-education hubs in stable areas should be considered a priority to restore the decisive links between sports schools and local communities.
- *Ensuring instructional continuity:* These hubs require the provision of uninterrupted access to specialized infrastructure and competitive practice. Such measures are essential to prevent the further degradation of pedagogical specialization stages and to sustain the continuity of the national talent pipeline.[45]

Interventions at the microsystemic level and human capital

- *Integrated psychosocial and pedagogical rehabilitation:* The implementation of psychological rehabilitation programs within sports schools is recommended in order to restore the developmental readiness of young athletes. This process requires the adoption of trauma-informed pedagogical practices to address the widespread psychosocial consequences of the conflict.[46]
- *Preservation of the pedagogical core:* A robust system of grant support and professional incentives for coaching and teaching staff, particularly in de-occupied and frontline regions, should be considered. Preserving this professional core is decisive for the reproduction of athletic potential and organizational adaptation under external systemic factors.[47]

Ihor Hrynchenko holds a PhD in Pedagogy and is an Associate Professor at the Department of Olympic and Professional Sports, Sports Games and Tourism at H. S. Skovoroda Kharkiv National Pedagogical University, Kharkiv, Ukraine.

Serhii Palevych holds a PhD in Physical Culture and Sports and is an Associate Professor and Head of the Department of Special Physical and Combat Training at the National Academy of the Security Services of Ukraine, Kyiv, Ukraine.

Ivan Danylishyn is a Senior Teacher at the Department of Physical Education, Special Physical Training and Sports at Ivan Kozhedub Kharkiv National Air Force University, Kharkiv, Ukraine.

Olena Chaika is a PhD-Candidate of Sciences in Physical Culture and Sports at the Department of Physical Education, Special Physical Training and Sports at Ivan Kozhedub Kharkiv National Air Force University, Kharkiv, Ukraine.

Vitalii Kyrpenko holds a PhD in Physical Culture and Sport and is an Associate Professor and Head of the Department of Physical Education, Special Physical Training and Sports at Ivan Kozhedub Kharkiv National Air Force University, Kharkiv, Ukraine.

references

1 D. Andriienko, D. Horiunov, V. Hrudova, Yu. Markuts, T. Marshylok, R. Neiter, I. Piddubnyi, I. Studennikova, and D. Topolskov, *Zvit pro priami zbytky infrastruktury vid ruinatsii vnaslidok viiskovoi ahresii Rosii proty Ukrainy stanom na lystopad 2024 roku* [Report on direct infrastructure damages from destruction resulting from Russia's military aggression against Ukraine as of November 2024] (Kyiv School of Economics, 2025). Available at: https://kse.ua/wp-content/uploads/2025/02/KSE_Damages_Report-November-2024-UA.pdf; *Sport pid obstrilamy, ale neskorenyi: Ukraina zaklykala zakhystyty sport u chasy viiny na zasidanni EPAS* [Sport under fire but unyielding: Ukraine called for the protection of sport in times of war at the EPAS meeting] (Ministerstvo molodi ta sportu Ukrainy [Ministry of Youth and Sports of Ukraine], May 15, 2025a). Available at: https://mms.gov.ua/news/sport-pid-obstrilamy-ale-neskorenyi-ukraina-zaklykala-zakhystyty-sport-u-chasy-viiny-na-zasidanni-epas.

2 Francesca Giordano, Shannon Lipscomb, Philip Jefferies, and Kyong-Ah Kwon, "Resilience processes among Ukrainian youth preparing to build resilience with peers during the Ukraine-Russia war," *Frontiers in Psychology* vol. 15, no. 1331886 (2024). Available at: http://doi.org/10.3389/fpsyg.2024.1331886; *Impact of war on youth in Ukraine – 2024* (United Nations Development Programme & Ministry of Youth and Sports of Ukraine, 2024). Available at: https://www.undp.org/ukraine/publications/impact-war-youth-ukraine-2024.

3 *Long-term athlete development* (IOC Medical and Scientific Commission: International Olympic Committee, 2007).

4 Urie Bronfenbrenner, *The Ecology of Human Development: Experiments by Nature and Design* (Harvard University Press, 1979).

5 *Building resilience of children affected by war in Ukraine through inclusive sports* [case study] (United Nations Children's Fund, 2023). Available at: https://www.unicef.org/documents/building-resilience-children-affected-war-ukraine-through-inclusive-sports.

6 Marijke Taks, "Social impacts of sport in a changing world," *European Sport Management Quarterly* vol. 23 no. 1 (2023): 1–11. Available at: doi:10.1080/16184742.2023.2165034.

7 *Russian Occupation Update* (Institute for the Study of War, August 12, 2025), see: https://understandingwar.org/backgrounder/russian-occupation-update-august-12-2025; *Geneva Convention (IV) relative to the protection of civilian persons in time of war* (International Committee of the Red Cross, 1949). Available at: https://ihl-databases.icrc.org/en/ihl-treaties/geneva-conventions-1949.

8 Morgan Wack, Beatrice Magistro, and Kevin Aslett, "Silence in the stands: Assessing the impact of Russian state-linked "sportswashing" on online fan behavior following the full-scale invasion of Ukraine," *Social Science Quarterly* vol. 106, no. 1 (2025). Available at: doi.10.1111/ssqu.13485.

9 Tianxiang Lan, "An ethical assessment of individual-targeting sports sanctions on Russian athletes," *Res Publica* (2025). Available at: doi:10.1007/s11158-025-09714-1; *War & Sanctions: Sports section. Monitoring of the use of sports for propaganda purposes* (Online database: National Agency on Corruption Prevention, 2025). Available at: https://sanctions.nazk.gov.ua/en/sport-sanctions/.

10 Andriienko et al., 2025; I. B. Hrynchenko, O. A. Sviertniev, I. M. Sobko, and Ye. P. Kozak, *Adaptyvni upravlinski pidkhody do vidnovlennia ta rozvytku sfery fizychnoi kultury i sportu v Ukraini v umovakh voiennoho chasu* [Adaptive management approaches to restoring and developing physical culture and sports in Ukraine during wartime] (Pedahohichna akademiia: naukovi zapysky [Pedagogical Academy: scientific notes] 20, 2025a). Available at: http://doi.org/10.5281/zenodo.16456672.

11 Iryna Sobko, Vadym Adamchuk, Ihor Hrynchenko, and Tymur Bursala, "Current status and prospects for the development of Ukraine's sports infrastructure: An analytical review," *Health Technologies* vol. 3, no. 1 (2025): 36–44. Available at: http://doi.org/10.58962/HT.2025.3.1.36-44.

12 Giordano et al., 2024; Volodymyr Prykhodko, Mykola Dziubenko, Natalia Chekmarova, Olena Cherniavska, and Svitlana Chernihivska, "Pokrashchennia stanu fizychnoi kultury i sportu v hromadakh pid chas viiny i povoiennoho vidnovlennia" [Improvement of physical culture and sports in communities during war and post-war reconstruction], *Naukovyi chasopys Ukrainskoho derzhavnoho universytetu imeni Mykhaila Drahomanova* [Scientific hours of the Mykhailo Drahomanov Ukrainian State University] vol. 15, no. 10 (2024a):181–88. Available at: http://doi.org/10.31392/UDU-nc.series15.2024.10(183).34; Ihor Hrynchenko, Iryna Sobko, Vitalii Kyrpenko, and Serhii Palevych, "Sports infrastructure in Ukraine during war and post-war reconstruction: Analysis, challenges, and modernisation mechanisms," *Educational Challenges* vol. 30, no. 2 (2025b): 153–64. Available at: doi:10.34142/2709-7986.2025.30.2.12; Martin Kölbel, "Sporting pathways to integration: A comprehensive study on the integration of Ukrainian teenage war refugees through sports initiatives," *Current Issues in Sport Science* vol. 9, no. 4 (2024). Available at: http://doi.org/10.36950/2024.4ciss026.

13 "Champions of terror: Russia uses sport as a tool of propaganda and to circumvent sanctions," *War & Sanctions* (Online database: Defence Intelligence of Ukraine & Ministry of Youth and Sports of Ukraine, 2025). Available at: https://war-sanctions.gur.gov.ua/en/sport/persons.

14 "As the world awaits Olympics 2024, Russian missiles kill Ukrainian athletes and destroy sports infrastructure," *United24 Media* (2025). Available at: https://united24media.com/life-in-ukraine/as-the-world-awaits-olympics-2024-russian-missiles-kill-ukrainian-athletes-and-destroy-sports-infrastructure-1241.

15 Andriienko et al., 2025.

16 Andriienko et al., 2025.

17 Hrynchenko et al., 2025b; Prykhodko et al., 2024.

18 "Study: Ukrainian children's health has declined amid ongoing war," *Rubryka* (September 7, 2023). Available at: https://rubryka.com/en/2023/09/07/yak-zminyvsya-stan-zdorov-ya-ditej-za-chas-vijny-rezultaty-pershogo-velykogo-doslidzhennya-shhodo-fizkultury-ta-sportu/.

19 *Proiekt postanovy Kabinetu Ministriv Ukrainy pro zatverdzhennia Derzhavnoi tsilovoi sotsialnoi prohramy rozvytku fizychnoi kultury i sportu na period do 2030 roku* [Draft resolution of the Cabinet of Ministers of Ukraine on approval of the State Strategic Social Program for the Development of Physical Culture and Sports for the Period up to 2030] (Ministry of Youth and Sports of Ukraine, August 1, 2025). Accessed December 15, 2025. Available at: https://mms.gov.ua/npas/proiekt-postanovy-kabinetu-ministriv-ukrainy-pro-zatverdzhennia-derzhavnoi-tsilovoi-sotsialnoi-prohramy-rozvytku-fizychnoi-kultury-i-sportu-na-period-do-2030-roku.

20 *United24 Media*, 2025.

21 Sobko et al., 2025; *The socio-economic impact of the war in Ukraine: Updated assessment and needs for recovery*. UNDP Ukraine (United Nations Development Programme, 2024). Available at: https://www.undp.org/ukraine/publications/socio-economic-impact-war-ukraine-2024.

22 *Matvii Bidnyi: V Ukraini sportom zaimaiutsia 15% liudei, todi yak v Yevropi – 38%* [Matvii Bidnyi: 15% of people in Ukraine participate in sports, compared to 38% in Europe] *Radio France Internationale*, July 31, 2024. Available at: https://www.rfi.fr/uk/європа/20240731-матвій-бідний-в-україні-спортом-займаються-15-людей-тоді-як-в-європі-38; *Informatsiinyi dovidnyk "Ukraina sportyvna" za 2020 rik* [Information handbook "Ukraine sporting" for 2020] (Ministerstvo molodi ta sportu Ukrainy [Ministry of Youth and Sports of Ukraine], 2020). Available at: https://mms.gov.ua/fizichna-kultura/statistichna-zvitnist/shchorichnij-informacijnij-dovidnik-ukrayina-sportivna.

23 Institute for the Study of War, 2025.

24 K. A. Hacker, L. Mykyta, & J. Wright, "The social and health consequences of the war in Ukraine: A focus on vulnerable populations," *Global Public Health* vol. 19, no. 1 (2024). Available at: http://doi.org/10.1080/17441692.2024.2294831.

25 *The situation of children in Ukraine: Impact of war on education and well-being* (United Nations Children's Fund, 2024). Available at: https://www.unicef.org/ukraine/reports/situation-of-children-in-ukraine-2024.

26 N. Svirshchuk & O. Kalinska, "Optymizatsiia fizychnoi pidhotovky uchniv serednikh klasiv na osnovi zastosuvannia trenuvalnykh zavdan na urokakh fizychnoi kultury za variatyvnym modulem 'Turyzm'" [Optimization of physical training for middle-school students based on training tasks in physical education classes for the "Tourism" module], *Aktualni problemy fizychnoho vykhovannia ta metodyky sportyvnoho trenuvannia* [Current problems of physical education and sports training methods] vol. 1 (2024): 19–34. Available at: https://vspu.net/apfv/index.php/journal/article/view/2.

27 V. P. Prykhodko, A. S. Voloshchuk, & M. V. Mykhailychenko, "Osoblyvosti psykholoho-pedahohichnoho suprovodu sportsmeniv vysokoï kvalifikatsiï v umovakh povnomasshtabnoï viiny" [Peculiarities of psycho-pedagogical support for elite athletes in the conditions of full-scale war], *Sportyvnyi visnyk Prydniprovia* [Sports Bulletin Prydniprovia] vol. 1 (2025): 44–51. https://doi.org/10.33359/2663-8759.2025.1.333595; UNDP & Ministry of Youth and Sports of Ukraine, 2024.

28 *Proiekty natsiprohramy "Rozvytok system kultury ta sportu". Prohrama Prezydenta Ukrainy "Rekonstruktsiia 18 sportyvnykh internativ ta 100 DIuSSh"* [Projects of the national program "Development of the system of culture and sport". Program of the President of Ukraine "Reconstruction of 18 sports centers and 100 DIuSSh"] (Platforma vidnovlennia Ukrainy [Platform of the revival of Ukraine], n.d.). Accessed December 15, 2025. Available at: https://recovery.gov.ua/project/program/develop-culture-and-sport-systems.

29 *Statement on the conditions of participation for individual neutral athletes* (International Olympic Committee, Press Release December 8, 2025).

30 Lan, 2025; *National Agency on Corruption Prevention*, 2025; *War & Sanctions*, 2025.

31 Hrynchenko et al., 2025b.

32 *United24 Media*, 2025; UNDP & Ministry of Youth and Sports of Ukraine, 2024.

33 Taks, 2023.

34 Giordano et al., 2024.

35 Veerle De Bosscher, Simon Shibli, Hans Westerbeek, and Maarten van Bottenburg, *Successful elite sport policies: An international comparison of the sports policy factors leading to international sporting success in 15 Nations (SPLISS 2.0)* (Meyer & Meyer Sport, 2015). Available at: https://events.eventact.com/wingate/21996/De%20Bosscher%20-%20Extended%20Abstract.pdf.

36 *Zvit pro rezultaty vykonannia Derzhavnoi tsilovoi sotsialnoi prohramy rozvytku fizychnoi kultury i sportu za 2024 rik* [Report on the results of the State Targeted Social Program for the development of physical culture and sports for 2024] (Ministerstvo molodi ta sportu Ukrainy [Ministry of Youth and Sports of Ukraine], 2025). Available at: https://mms.gov.ua/storage/app/sites/16/Fizychna_kultura/zvit%20fk%20programa/2024/pz.pdf

37 Svirshchuk and Kalinska, 2024.

38 Per G. Svensson and Marion E. Hambrick, "Exploring how external stakeholders shape social innovation in sport for development and peace," *Sport Management Review* vol. 22, no. 4 (2019): 540–54. Available at: http://doi.org/10.1016/j.smr.2018.07.002.

39 Cabinet of Ministers of Ukraine, *Pro skhvalennia Kontseptsii Derzhavnoi tsilovoi sotsialnoi prohramy rozvytku fizychnoi kultury i sportu na period do 2030 roku (Rozporiadzhennia № 525-r)* [On the approval of the Concept of the State Target Social Program for the Development of Physical Culture and Sports for the period up to 2030] (May 30, 2025). Available at: https://zakon.rada.gov.ua/laws/show/525-2025-%D1%80.

40 Prykhodko et al., 2024.

41 Andriienko et al., 2025.

42 Institute for the Study of War, 2025; War & Sanctions, 2025.

43 Andriienko et al., 2025.

44 Lan, 2025; Wack, Magistro, and Aslett, 2025.

45 De Bosscher et al, 2025.

46 UNICEF, 2023.

47 Svensson and Hambrick, 2019.

University staff's mental health in wartime

Personal experiences, emotional well-being, and support mechanisms

by **Yuliia Sytnykova**, **Liudmyla Rybalko**, and **Valentyna Tyurina**

abstract

The ongoing full-scale war in Ukraine has significantly transformed the higher education system, placing increased professional demands on faculty members under prolonged stress. This study empirically examines the psycho-emotional well-being and burnout-related symptoms of 94 academic staff from Kharkiv, Sumy, and Dnipro. Data collected via adaptive self-report instruments were analyzed using Spearman's rank correlation. Results indicate substantial emotional strain, with 79.8% of respondents reporting moderate-to-high emotional exhaustion. The correlation analysis showed that respondents with direct personal connections to the war, such as relatives in the Armed Forces, were significantly more stressed and emotionally exhausted. Interestingly, despite high emotional exhaustion, negative affective reactions remained low, reflecting how collective professional identity and civil obligation as non-material resources mitigate cynicism and counteract the traditional Maslach Burnout Inventory model. Furthermore, functional impairment correlated powerfully with internal emotional exhaustion rather than external infrastructural disruptions. Consequently, support strategies must address individual trauma loads, reinforcing mission and purpose as key non-material resources to reduce long-term professional attrition.

KEYWORDS: University lecturers, wartime Ukraine experience, occupational burnout, work-related functioning, wartime stressors.

The full-scale invasion of Ukraine has forced university lecturers into working conditions that few education systems in the world have ever encountered. Alongside routine academic responsibilities, they now navigate air-raid alerts, displacement, infrastructural instability, separation from family members serving in the Armed Forces, and the ongoing uncertainty of daily life. In this environment, the professional role of a lecturer becomes inextricably linked to the personal experience of war. Moreover, their academic work, including teaching and advising, persists amidst an existential threat. This underscores that learning continues within universities not because conditions allow it, but because society demands it and, crucially, because it serves as a vital existential necessity for the lecturers themselves. The images show university professors in their damaged and ruined universities trying to collect and save their professional and personal stuff.

This convergence of professional and personal pressures has no close analogue in pre-war occupational stress. For international scholars, the Ukrainian case provides a unique lens through which to observe how educators maintain professionalism when the usual balance between demands and resources is radically disrupted. It raises some questions that transcend national borders: How does academic work adapt when crisis becomes the norm? What allows lecturers to continue teaching under conditions that would typically paralyze institutional functioning? And which psychological resources remain vital when material and organizational supports erode?



Interior of the H. S. Skovoroda Kharkiv National Pedagogical University building after being shelled by the Russian Federation: university faculty members arrived to retrieve their remaining belongings and clean up shattered glass in the classrooms. PHOTO: PRIVATE ARCHIVE

Burnout, which is classically defined by emotional exhaustion, depersonalization, and reduced personal accomplishment,[1] provides a central framework for understanding these processes. While burnout has long been recognized as a chronic challenge in global higher education, research in stable environments assumes that job demands and institutional resources exist within relatively predictable boundaries. The Job Demands-Resources model[2] explains this dynamic well under normal circumstances. However, in wartime, the "demands-resources" equation undergoes a profound change. Demands multiply in both intensity and unpredictability, while some resources, like emotional, organizational, and infrastructural, erode simultaneously.

RECENT STUDIES FROM Ukraine[3] clearly highlight this shift. Emotional Exhaustion among university faculty has risen dramatically, reflecting the dual burden of professional instability and personal threat exposure. The depersonalization, as the cynicism component, is typically expected to increase in parallel. However, it remains strikingly low in several wartime samples, as established during the study. This suggests that non-material resources, such as civic duty (teaching), moral responsibility, professional identity, and solidarity, may serve as protective mechanisms, enabling lecturers to sustain their professionalism despite deep emotional strain. This phenomenon challenges linear models of burnout and invites a reconsideration of how resilience operates under extreme conditions.

Despite growing qualitative accounts, one significant gap persists: we still lack systematic quantitative evidence linking specific wartime stressors, for instance, relocation, institutional damage, proximity to violence, and personal involvement in the war, to measurable psycho-emotional outcomes among lecturers. Similarly, the direct correlational mechanism through which emotional exhaustion leads to functional impairment remains insufficiently examined in the current wartime context. Addressing these gaps is not only scientifically important but also essential for informing university policies that support academic staff working under crisis conditions. Therefore, this study proceeds with an empirical investigation to provide the necessary correlational data on the mechanisms through which extreme war conditions influence stress, burnout, and functional impairment among faculty in the most affected regions of Ukraine.

Aim and objectives

The aim of this study is to empirically analyze the correlational links between specific, quantifiable wartime stressors and the primary dimensions of burnout (emotional exhaustion) and functional impairment among university lecturers in the conflict-affected regions of Eastern Ukraine. To achieve this aim, the following specific objectives were established: 1) to quantify the prevalent levels of perceived stress, emotional exhaustion, functional impairment (including negative affective reactions) among the surveyed lecturers; 2) to analyze the strength and direction of associations (using Spearman's rank correlational) between lecturers' personal wartime exposure (e.g., relocation status,

relatives in the Armed Forces) and their measured psycho-emotional outcomes (emotional exhaustion and perceived stress); 3) to examine and compare the strength of the correlations between emotional exhaustion and functional impairment, and between external structural stressors (e.g., university damages) and functional impairment, thus formulating practical recommendations for the academic community in crisis context.

Literature review

Occupational burnout among university faculty is widely conceptualized as a dysfunctional response to prolonged imbalance between job demands and available personal or organizational resources, typically manifesting through emotional exhaustion (EE), depersonalization (DP), and reduced professional efficacy. Pre-war systematic reviews consistently demonstrate that burnout among academics is shaped by sociodemographic and psychosocial factors, with younger age, lower professional experience, elevated emotional labour, and organizational constraints being the strongest predictors of EE and DP.[4] Longitudinal syntheses from 2005 to 2020 similarly highlight the persistent vulnerability of university lecturers to emotional depletion due to increasing workload demands and declining institutional support.

This pattern is reinforced by a recent systematic review and meta-analysis, which confirmed that job stress is a robust and consistent burnout predictor across higher education settings globally.[5] Empirical studies in stable contexts further confirm that EE plays a central role in deteriorating professional functioning. It is significantly associated with productivity loss, reduced teaching quality, absenteeism, and presenteeism.[6] Actual research on resilience additionally shows that internal resources can mitigate the progression from emotional fatigue to cynicism and impaired professional functioning.[7]

However, psycho-emotional risks for educators escalate not only in war but also in other large-scale crises. A recent comprehensive review covering the pandemic and post-pandemic years (2020–2023) revealed that teachers worldwide experienced substantial increases in burnout indicators, stress, workload, and emotional instability due to rapidly changing teaching conditions and heightened demands.[8] Studies conducted during the armed conflict in eastern Ukraine after 2014 already documented that proximity to hostilities, personal danger, displacement, and infrastructural disruption substantially intensify stress levels and accelerate the development of burnout among educators.[9]

SIMILARLY, STUDIES AMONG Ukrainian students show that exposure to wartime conditions leads to heightened perceived stress and anxiety, emphasizing the broad psychosocial impact of conflict within educational communities.[10] Really, the full-scale invasion in 2022 amplified these risks to an unprecedented degree, combining extreme personal stressors, as home loss, repeated evacuations, threats to life, service of relatives in the Armed Forces, in other words, with radically altered work conditions.

Multi-wave wartime investigations (2022–2024) demonstrate a continuous intensification of EE and a gradual rise in DP, suggesting that prolonged exposure to traumatic events and chronic instability depletes emotional resources in line with the Conservation of Resources (COR) theory.[11] These conclusions are corroborated by studies reporting that Emotional Exhaustion is the most persistent and dominant component of burnout among lecturers during the war.[12]

The war also introduced a set of environmental and technological stressors that further burden academic staff: sudden transitions to fully remote teaching, disrupted internet connectivity, power outages, infrastructural instability, and increased administrative complexity. Investigations of technology integration and pedagogical practice in wartime institutions reveal that these conditions substantially increase cognitive load, compromise teaching quality, and heighten emotional strain.[13]

“ACTUAL RESEARCH ON RESILIENCE ADDITIONALLY SHOWS THAT INTERNAL RESOURCES CAN MITIGATE THE PROGRESSION FROM EMOTIONAL FATIGUE TO CYNICISM AND IMPAIRED PROFESSIONAL FUNCTIONING.”

Complementary research on university employees’ psychological state highlights widespread anxiety linked to personal and familial threat, uncertainty about the future, instability of living conditions, and the need for frequent relocation or sheltering during bombardments.[14] These stressors collectively contribute to sleep disturbances, emotional instability, decreased motivation, and loss of professional continuity, which are frequently reported by Ukrainian academic staff during the ongoing crisis.[15] Additional findings indicate that demands associated with distance learning intensify both EE and DP through blurred work-life boundaries and constant monitoring pressures.[16]

Despite the severity of these conditions, a distinct pattern has been consistently observed in Ukrainian wartime studies: while EE levels are significantly elevated, DP remains comparatively low. This atypical divergence from classical MBI trajectories suggests that moral obligation, professional identity, and civic responsibility serve as important non-material resources buffering the transition from emotional depletion to cynicism.[17] Within the Conservation of Resources (COR) framework, these internal resources may function as protective factors that slow or prevent the degradation of emotional exhaustion into professional disengagement and negative affective reactions.

Overall, the literature demonstrates that extreme war conditions produce a unique psychosocial profile among university lecturers: high levels of emotional exhaustion, closely tied to personal wartime stressors, coexist with a preserved or even strengthened professional identity, which inhibits the develop-



Ihor Hrynchenko, PhD in Education and Associate Professor at the Department of Olympic and Professional Sport, Sports Games and Tourism, stands at the main entrance of H. S. Skovoroda Kharkiv National Pedagogical University, destroyed by Russian shelling. PHOTO: PRIVATE ARCHIVE

ment of depersonalization. However, despite the breadth of research on burnout during the war, a notable lack of systematic quantitative evidence remains regarding the specific wartime stressors (e.g., personal involvement in the war, relocation, university damage) that link to distinct psycho-emotional outcomes.

Crucially, the direct correlational pathway between emotional exhaustion and functional impairment (FI) has not been sufficiently examined in the wartime context. These gaps underscore the need for an empirical correlational study that can elucidate the mechanisms by which extreme war conditions affect stress, emotional exhaustion, and functional impairment among lecturers in regions directly impacted by the conflict.

Research hypotheses

Based on the review of the literature on occupational stress and crisis management, the following hypotheses were formulated for empirical testing. The primary hypothesis (H1) posits that there is a positive and significant correlation between the personal proximity to wartime stressors (e.g., relatives in the Armed Forces, relocation) and the intensity of negative psycho-emotional outcomes (perceived stress, emotional exhaustion). Secondly, we hypothesize (H2) that the strength of the correlation between emotional exhaustion and functional impairment will be stronger than the correlation between functional impairment and external structural stressors (e.g., university damages), indicating that functional decline is primarily an internal consequence of depletion.

Methodology

This study was conducted as an anonymous online survey with a quantitative empirical design. This approach was chosen due to security constraints associated with martial law, as well as the need to reach respondents from different regions. This survey is targeted at university lecturers from the Kharkiv, Sumy, and Dnipro regions, regions located in eastern Ukraine, and exposed to constant shelling and heightened danger throughout the study period.

Data were gathered through a Google Form questionnaire developed by the authors, consisting of two main thematic sections. The first section covered participants' socio-demographic characteristics and their experience of living and working under wartime conditions. The second section assessed their psycho-emotional state and teaching practice under prolonged stress conditions. This component included items conceptually adapted from internationally validated psychometric instruments. Specifically, perceived stress was assessed using a single-item measure conceptually derived from the Perceived Stress Scale (PSS-10).[18]

Emotional exhaustion was measured using a composite index of 2–3 items based on the Maslach Burnout Inventory – Educator Survey,[19] adapted to facilitate rapid evaluation of faculty experiences under high-stress wartime conditions. To accurately reflect the unique wartime professional context, functional impairment (FI) was assessed through a composite index capturing work-related difficulties (e.g., reduced concentration) and motivational decline in teaching activities. Additionally, negative affective reactions (NAR) were captured through items measuring increased irritability toward students and colleagues, reflecting an adapted form of the cynicism component of burnout. All items were ranked using 5-point or 10-point Likert-type scales, enabling both descriptive and correlation statistical analyses.

A total of 94 university lecturers completed the survey. Data collection took place between May and July 2025. This timeframe was marked by intensive shelling and significant emotional strain on the civilian population. Data were processed in Microsoft Excel for initial data entry and descriptive statistics. All inferential

Table 1. Socio-demographic characteristics of study participants (N = 94)

Variable	Category	*n*	%
Gender	Female	67	71.3
	Male	27	28.7
University type	State University	93	98.7
	Other	1	1.1
Age	Up to 25 years	1	1.1
	26–35	11	11.7
	36–45	20	21.3
	46–60	43	45.7
	Over 60 years	19	20.2
Academic Seniority	Up to 5 years	11	11.7
	6–10	7	7.4
	11–20	14	14.9
	21–30	38	40.4
	Over 30 years	24	25.5

Table 2. War-related contextual characteristics of study participants (N = 94)

Variable	Category	*n*	%
Relocation Status	Temporarily Relocated	36	38.3
	Remained in place	33	35.1
	Temporarily relocated and subsequently returned	25	26.6
Teaching Format	Online Learning	58	61.7
	Face-to-face	10	10.6
	Blended Format	26	27.7
Workload Change	Increased	56	59.5
	No Change	24	25.5
	Decreased	14	14.9
Institutional Damage	Confirmed Damage	67	71.3
	No Reported Damage	26	27.7

statistical analyses were subsequently conducted using Jamovi Cloud, an open-source platform built on the R programming environment. The platform was selected due to its transparency, reproducibility, and suitability for non-parametric statistical analysis. To test the formulated hypotheses, Spearman's rank correlation coefficient (ρ) was employed to examine the strength and direction of the associations between the study variables.

Result of study

1. Demographic and professional characteristics of participants

The study involved 94 university lecturers from the Kharkiv, Sumy, and Dnipro regions. The cohort, consisting predominantly of female lecturers (71.3%, n = 67), and nearly all participants (98.7%) were employed at state universities. Owing to the categorical nature of the demographic variables, age and academic seniority (teaching experience, TE) were summarized by frequency distribution. The most represented age group was 46–60 years (45.7%), followed by the 36–45 years' group (21.3%) and the respondents over 60 years (20.2%). Similarly, the largest professional experience groups were those aged 21–30 years (40.4%) and those with more than 30 years of experience (25.5%), indicating a mature cohort with established careers and their own teaching style based on the appropriate moral values. Contextual data related to wartime experience revealed pronounced disruption in participants' personal and professional lives.

Specifically, 38.3% (n = 36) reported having temporarily relocated from their permanent place of residence, while an additional 26.6% (n = 25) experienced displacement but later returned. Approximately 35.1% (n = 33) remained in their original location throughout the study war period. Considering the prevailing security environment in these frontline regions, the most prevalent teaching modality was online learning (61.7%), followed by a blended format (10.6%).

Furthermore, a considerable portion of our participants, 71.3% (n = 65), confirmed that their educational institution had suffered direct physical damage or partial destruction due to shelling. The majority of participants (59.5%) reported that their workload had increased significantly or slightly since the start of the war. The reasons for it were not examined during this study. Notably, 79.8% (n = 75) of the respondents reported having family members or close acquaintances serving in the Armed Forces of Ukraine, underscoring the high level of personal involvement and continuous threat exposure within the sample, which is likely a source of vague apprehension and anxiety. These contextual variables illustrate the acute and multifaceted stressors that influence the participants' psycho-emotional state. In our research, they were named as war-related contextual characteristics. A detailed breakdown of the socio-demographic and war-related contextual variables, including the specific categories for age and seniority, is provided in Tables 1 and 2.

2. Psycho-emotional state and job satisfaction in the wartime context

The conducted data analysis revealed significant findings regarding the psycho-emotional state of the faculty members under continuous wartime conditions, which were presented here.

The direct assessment of perceived stress, using a 10-point scale, showed a high mean score of M = 7.48 (SD = 2.26). This also aligns with the self-reported impact of the war on daily life, which averaged M = 8.26 on a 10-point scale (SD = 1.76). It confirms a profound disruption to routine and pervasive psycho-

Table 3. Descriptive statistics for psycho-emotional variables in the wartime context (N=94)

Variable	Scale range	Mean, M	Standard deviation, SD	Min	Max
Perceived stress	1–10	7.48	2.26	1	10
War's impact on daily life	1–10	8.26	1.76	3	10
Emotional exhaustion	0–4	2.43	1.13	0	4
Negative affective reactions	0–4	0.94	1	0	3
Generalised distress index	0–4	1.96	1.22	0	4
Functional impairment	0–4	1.81	1.23	0	4
Job dissatisfaction	0–4	1.69	0.97	0	4

logical distress within the sample as one of the infinite destructive consequences that war can have on people. (Note that the selected scale range for the burnout items was 0–4, where 4 represents the highest frequency/level.)

Moreover, this finding is strongly corroborated by the assessment of other symptoms related to professional burnout. A substantial number of lecturers (52.1%, n = 49) reported noticing some common symptoms (fatigue, apathy, irritability), and a striking number of those respondents (73.5%, n = 36) directly linked their diminished condition to the military events in Ukraine. They stated that their fatigue, apathy, and irritability were solely dependent on war conditions. The emotional exhaustion (EE) score was markedly elevated, with a mean of 2.43 (SD = 1.13), indicating a high frequency of feeling emotionally drained. In contrast, negative affective reactions (NAR) (reflecting cynicism and irritability and were considered in this study as a combined index NAR) were found to be relatively low, averaging M = 0.94 (SD = 1.0), suggesting the preservation of professional empathy despite the personal difficulty and war threats.

Furthermore, the analysis of specific psycho-emotional symptoms showed high levels of non-specific distress. The composite index for generalized distress (anxiety, sleep disturbance, and hopelessness) averaged M = 1.96 (SD = 1.22), which forms a persistent emotional background for academic activity. The high standard deviation indicates significant variability in individual trauma processing, suggesting that while some faculty members maintain resilience, a substantial subgroup operates at the limit of their psychological endurance. This distress serves as the latent kick for emotional exhaustion, explaining why professional functioning becomes increasingly challenging to sustain without targeted psychological interventions.

A comparison of the results shows that the level of functional impairment (M = 1.81, SD = 1.23) is slightly higher than job dissatisfaction (M = 1.69, SD = 0.97). This suggests that while lecturers face significant cognitive challenges, such as difficulty concentrating, their professional identity remains largely intact. The emotional strain is evident, as 18.1% of the respondents reported frequent crying, which highlights the substantial effort required to continue working under such conditions. Ultimately, these findings indicate that academic work provides a sense of stability and normalcy. Although the war limits their capacity to perform specific tasks, it does not undermine their professional commitment, suggesting that maintaining work duties is a key practical way of coping with the ongoing war. A summary of the descriptive statistics for all measured psycho-emotional variables is presented in Table 3.

TO PROVIDE A MORE granular assessment of professional burnout within the faculties, the frequency distribution for emotional exhaustion (EE) and negative affective reactions (NAR) was categorized into three established levels (low, moderate, high), consistent with the Maslach Burnout Inventory scoring framework. The cutoff points for these levels were determined using the quartile method (Q_1 and Q_3) applied to the sample's scores. The analysis revealed a critical level of strain regarding emotional resources, where a significant majority of the sample reported high or moderate exhaustion.

"WHILE MOST LECTURERS CONTINUE TO FULFIL THEIR PROFESSIONAL DUTIES, THEY DO SO AT A HIGH PERSONAL COST, APPROACHING THE LIMITS OF THEIR EMOTIONAL ENDURANCE."

The distribution analysis of emotional exhaustion (EE) highlights the widespread nature of the crisis within the academic community. With 79.8% of participants falling into the moderate or high EE categories, it is clear that most faculty members operate within a "high-risk zone". While only 20.2% of respondents remain in the low-risk category, the prevalence of moderate exhaustion (59.6%) suggests a state of chronic strain. Therefore, it can be assumed that, while most lecturers continue to fulfil their professional duties, they do so at a high personal cost, approaching the limits of their emotional endurance.

In sharp contrast, the distribution of negative affective reactions (NAR) revealed significant preservation of professional empathy. The very low mean score of M = 0.94 (SD = 1.0) confirms that cynicism and detachment are now rare among faculty members. Specifically, approximately 75.5% (n = 71) of our questionnaire participants reported low or minimal levels of negative affective reactions (scores of 1 or less). In comparison, only 24.5%

Table 4. Spearman's rank correlation matrix of wartime stressors, burnout indicators, and professional functioning

Variables	Age	TE	RE	UD	RAF	SL	EE	NAR	FI	JDS
Age	1									
TE	0.780***	1								
RE	0.085	0.003	1							
UD	0.112	0.012	0.518***	1						
RAF	-0.212*	-0.094	-0.065	-0.010	1					
SL	-0.091	-0.006	0.132	0.123	0.403***	1				
EE	-0.195	-0.154	0.191	0.16	0.317**	0.586***	1			
NAR	-0.286**	-0.162	0.056	-0.118	0.180	0.263*	0.465***	1		
FI	-0.121	-0.145	0.214*	0.148	0.160	0.408***	0.737***	0.562***	1	
JDS	-0.025	0.055	-0.04	-0.075	0.207*	0.306**	0.294**	0.471***	0.451***	1

Note. Spearman's rank correlation matrix (ρ) between wartime stressors and psycho-emotional outcomes (N=94,df=92). Stressors: RAF (relatives/colleagues in the Armed Forces), RE (relocation after 24.02.2022), UD (university damages/closures), Age, TE (teaching experience). Outcomes: SL (perceived stress level), EE (emotional exhaustion), NAR (negative affective reactions), FI (functional impairment), JDS (job dissatisfaction). Significance levels: *p <.05; **p <.01; ***p <.001.

(n = 23) of them reported scores greater than 1, which indicates that it is a subgroup at risk for professional detachment. This divergence in burnout components highlights that the primary impact of the war is emotional exhaustion (EE), while negative affective reactions (NAR) show high resilience.

3. Correlation of wartime stressors and psycho-emotional outcomes

A correlation analysis was performed to empirically examine the hypothesized association between exposure to wartime contextual factors and the severity of psycho-emotional outcomes. Given the ordinal measurement level and the non-normal distribution of the data, Spearman's rank correlation coefficient was applied.

To ensure rigorous interpretation of the result, the correlation strength was evaluated in accordance with widely recognized effect size criteria proposed by Cohen[20]: negligible (ρ<.10), weak (.10<ρ<.29), moderate (.30<ρ<.49), and strong (ρ>.50). The obtained correlation matrix, displaying the coefficients between all studied variables (N = 94), is presented in Table 4.

OUR CORRELATION MATRIX analysis revealed several statistically significant and theoretically essential relationships. Some details were considered. Firstly, it was proven that the key dependent variables, such as stress level (SL) and emotional exhaustion (EE), were the most sensitive to personal and existential threat factors. The strongest external correlation with stress was found for the war-related factor of "relatives or colleagues in the Armed Forces" (ρ=0.403, p <.001), indicating a moderate correlation. This factor also demonstrated a moderate relationship with emotional exhaustion (ρ=0.317, p <.01). Therefore, the results obtained confirm our initial hypothesis that the emotional burden and constant anxiety associated with having loved ones in high-risk zones are primary external determinants of psychosocial distress and personal imbalance. By contrast, objective structural losses, such as university damages/closures (UD), showed only a weak correlation with SL (ρ=0.123) and EE (ρ=0.161). This fact suggests that personal threat takes precedence over material loss in the lecturers' experience.

Furthermore, the analysis indicated that, although there is a weak link between relocation (RE) and stress level (ρ=0.132), there is a moderate correlation between RE and emotional exhaustion (ρ=0.191) and functional impairment (FI) (ρ=0.214,p <.05). It should be noted that more than 60% of respondents are forcibly displaced persons or have experienced displacement for a certain period of time. Therefore, despite forced displacement being a less acute stressor, it becomes a chronic source of exhaustion and a practical impediment to carrying out work duties.

In addition, significant internal links were identified between the psycho-emotional outcomes. Emotional exhaustion, for example, was found to have a strong correlation with stress levels (ρ=0.586, p<.001), as well as an exceptionally strong correlation with functional impairment (FI) (ρ=0.737, p<.001). The coefficient obtained was the highest observed in the correlation matrix (Table 4), suggesting a strong association between emotional exhaustion and certain cognitive difficulties, such as impaired concentration and reduced motivation.

THIS CONFIRMS OUR second hypothesis, demonstrating that internal depletion is the primary driver of functional decline. The analysis of the correlation matrix with regard to negative affective reactions (NAR) demonstrated weak and negligible correlations with most external factors, supporting the finding that NAR was present at low levels among the sample of respondents.

However, factor NAR revealed a moderate negative correlation with age (ρ=-0.286, p<.01). This suggests that younger lecturers may be more susceptible to cynicism and professional detachment than their older colleagues, reflecting differences in professional resilience that accrue across generations.

In summary, the correlational analysis provides robust evidence of a clear, sequential pathway of distress among academic staff. Moreover, it confirms that the psycho-emotional state is fundamentally a function of personalized acute threat exposure, specifically having relatives or colleagues in the Armed Forces (ρ=0.403), which rapidly translates into chronic internal depletion (from SL to EE, ρ=0.586), serving as the primary antecedent of functional impairment (from EE to FI, ρ=0.737). This pattern aligns with the stress-spillover and demand-resource models, in which personal life demands overwhelm professional coping resources. However, the findings also highlight the presence of protective factors, as demonstrated by the statistically significant negative correlation between age and NAR (ρ=-0.286, p<.01). This suggests that professional maturity acts as a buffer against cynicism. The obtained empirical data provide a solid basis for subsequent discussions on theoretical implications and the development of targeted crisis intervention strategies.

Discussion

Really, the main goal of our study was to empirically evaluate the psychosocial condition and professional burnout of Ukrainian academic staff during the full-scale war, with particular attention to the correlation between defined contextual stressors and the measured outcomes. So, the results obtained shown that, despite demonstrating substantial resilience in their professional identity, the academic staff is experiencing pronounced emotional strain. This suggests a critical dichotomy in the manifestation of burnout under prolonged crisis conditions, and it is a phenomenon that necessitates a contextually grounded theoretical interpretation.[21]

"A KEY FINDING OF OUR STUDY IS THE MARKED DIVERGENCE BETWEEN HIGH EMOTIONAL EXHAUSTION (EE) AND THE SUSTAINED LOW MEAN LEVEL OF NEGATIVE AFFECTIVE REACTIONS (NAR)."

The descriptive findings, namely, the high prevalence of emotional exhaustion (EE) (79.8% in the moderate-to-high range) and elevated self-reported perceived stress level (ρ=0.586,p < .001), are consistent with established literature on trauma-exposed professionals in high-demand, low-resource environments. This is strongly supported by recent evidence showing significantly increased burnout among Ukrainian educators under prolonged conflict conditions.[22]

Similarly, studies of social field and IT professionals exposed to military stressors or crisis-driven workloads report elevated levels of emotional exhaustion and perceived stress levels in comparable environments.[23] Critically, this pattern is consistent with broader psychosocial models of burnout among aid workers and crisis professionals,[24] which emphasize the primary role of workplace stressors and emotional coping strategies. This perspective is further supported by the fundamental principles of the Conservation of Resources (COR) theory,[25] which posits that stress stems directly from the actual or anticipated loss of valued resources.

Furthermore, the conducted correlational analysis established a clear etiological mechanism for the observed distress, showing that the most potent external drivers of both perceived stress (ρ=0.403, p < .001) and emotional exhaustion (ρ=0.317, p= .002) were rooted in structural disruption but in the immediate personal connection to the war effort, namely having relatives or colleagues in the Armed Forces (RAF). This finding aligns with existing models that describe the potential impact of conflict-related stressors on professional well-being.[26] These models theorize that the primary impact on functional capacity follows an indirect pathway through chronic, war-related daily stressors, such as worry over loved ones (like relatives or colleagues in the Armed Forces).

For the educational sector, this means that the core threat to teaching quality originates not primarily from institutional challenges (e.g., damaged infrastructure, UD), but from the unmitigated, individual emotional toll of the war. The negative correlation between institutional damage (UD) and emotional strain that we observe confirms this, indicating that traumatic stress from the personal sphere prevails over the organizational demands of the university. Similar observations regarding the predominance of psychosocial stressors over organizational challenges have been documented in studies of other critical sectors.[27]

A key finding of our study is the marked divergence between high emotional exhaustion (EE) and the sustained low mean level of negative affective reactions (NAR). This result suggests a possible deviation from the traditionally assumed linear progression of the Maslach Burnout Inventory (MBI) model,[28] (which posits that high EE inevitably precedes depersonalization (cynicism). This fact is best interpreted through the lens of collective professional identity and purpose. Namely, in the context of the war, the sustained low level of NAR (M = 0.94) suggests that the academic community maintains a state of active moral engagement. The sustained professional empathy and connection, despite overwhelming fatigue, functions as a powerful collective coping strategy rooted in a sense of civic obligation to the educational mission.[29]

This perceived purpose acts as a potent, non-material job resource within the Job Demands-Resources (JD-R) model, actively mitigating the development of cynicism even as emotional reserves are depleted. Moreover, this framework, which links job resources to well-being and engagement, is robustly supported by systematic literature reviews[30] and research demonstrating the protective role of resilience against burnout among univer-

sity faculty[31]. The established link between the JD-R framework and teacher resilience[32] also confirms that this adaptive capacity serves as a crucial buffer against detachment.

The analysis of functional outcomes in the present study suggests that emotional strain may lead to occupational decline. Specifically, we observed a robust positive strong correlation between EE and functional impairment (FI) (ρ=0.737***), suggesting that depletion of emotional resources may serve as a proximal antecedent of functional impairment. This pattern is consistent with the resource-depletion processes described in the Job Demands-Resources (JDR) model, whereby high job demands combined with limited emotional resources can undermine performance. Although no prior study has directly quantified this specific relationship among Ukrainian academic staff, previous research has documented substantial increases in burnout dimensions and associated functional challenges during the wartime context[33].

Furthermore, the statistically significant negative correlation between NAR and Age ρ=-0.286, p=.005) suggests that greater age may confer a protective effect against cynicism. While this correlation is based on our empirical data, general systematic reviews indicate that sociodemographic factors, including age, are important determinants of burnout prevalence.[34] This is consistent with the theoretical framework of resource accumulation,[35] whereby older, established faculty may possess more developed coping strategies, greater professional resilience, and a clearer sense of professional identity, potentially buffering them from questioning the value of their work relative to younger colleagues experiencing heightened career and existential uncertainty.[36]

"THESE RESULTS UNDERSCORE THE CRITICAL INFLUENCE OF INDIVIDUAL TRAUMA, HIGHLIGHTING THE NEED FOR TARGETED, RESOURCE-BASED SUPPORT FOR THE ACADEMIC COMMUNITY."

Overall, these findings provide robust empirical evidence concerning the burnout dynamics among Ukrainian academic staff in the context of the ongoing war. All hypotheses concerning the leading role of personal stressors (H1), the direct link between emotional exhaustion and functional decline (H2) were confirmed. These results underscore the critical influence of individual trauma, highlighting the need for targeted, resource-based support for the academic community.

Conclusion

The empirical findings of this study offer a critical snapshot of the psychosocial condition of Ukrainian academic staff, highlighting the dichotomy between profound emotional strain and resilient professional identity during the full-scale war. The primary conclusion is that emotional exhaustion (EE) is highly prevalent (79.8%), driven predominantly by the personal trauma load (relatives/colleagues in the Armed Forces – RAF), which is consistent with the stress-spillover hypothesis and models of distress in conflict-affected populations.

Crucially, the negative affective reactions (NAR) dimension remains remarkably low, suggesting that a strong sense of moral engagement and civic obligation acts as a powerful non-material Job Resource within the academic community, mitigating the development of cynicism despite high EE. Furthermore, the analysis confirmed that the depletion of emotional resources (EE) translates directly into functional impairment (FI), while greater age offers a protective factor against cynicism.

This research offers a significant theoretical contribution by providing quantitative empirical support for the non-linear progression of the Maslach Burnout Inventory (MBI) model in high-stakes, purpose-driven environments. It demonstrates that collective identity and moral purpose can serve as crucial moderating variables, challenging the assumption of an automatic transition from exhaustion to professional detachment (cynicism).

Consequently, the practical implications of these findings are direct and vital for institutional policy. Given that the main stressor is the personal toll of the war (RAF), universities must shift focus from structural repairs to providing accessible, confidential, and sustained psycho-emotional support programs tailored to coping with non-work-related trauma. Simultaneously, institutional leadership should actively recognise, value, and promote the academic mission not merely as a job requirement, but as a crucial contribution to national resilience and post-war recovery; this reinforcement of moral purpose should be integrated into institutional communications as a resource (in line with the Job Demands-Resources model). Finally, intervention programs should be specifically targeted: while general support is needed for all staff experiencing EE, specialised training in coping mechanisms and professional identity confirmation may be particularly beneficial for younger faculty members (who have demonstrated higher vulnerability to NAR) to help them accrue professional resilience more quickly.

In conclusion, addressing the "exhaustion-impairment" link while fostering the "mission-empathy" buffer is essential for preserving the human capital of Ukrainian higher education during and after the conflict.

Limitations

The interpretation of this study's findings should be approached with an awareness of several methodological limitations arising from the unique circumstances of data collection. First, the non-probability, convenience sampling approach was dictated by the security risks inherent to research under martial law, which fundamentally restricts the generalizability of the results beyond the specific cohort of lecturers from the surveyed regions. Second, the reliance on self-reported data renders the results susceptible to biases inherent in survey research, such as social

desirability bias and recall bias, particularly when participants retrospectively evaluate their exposure to stress.

Due to the cross-sectional design of the study, which captured data at a single temporal point (May-July 2025), no causal inferences can be drawn. This design also limits the ability to assess the long-term dynamics of change in psycho-emotional states over the extended conflict period. Finally, the pervasive emotional context of active conflict during the data collection period must be acknowledged as a factor that may have influenced both the stability and patterns of participants' psycho-emotional short-term self-assessments.

In light of these reasons, future longitudinal studies, ideally employing probability sampling where circumstances permit, would be invaluable in verifying and extending the insights presented here. Such research could further explore the sustainability of professional resilience and the long-term impact of chronic wartime stress on the academic sector.

Yuliia Sytnykova, PhD in Education, is an Associate Professor at the Department of Applied Mathematics, Kharkiv National University of Radio Electronics, Kharkiv, Ukraine.

Liudmyla Rybalko is Doctor of Science (Pedagogy) and Professor at the Department of Educology and Innovative Pedagogy, H.S. Skovoroda Kharkiv National Pedagogical University, Kharkiv, Ukraine.

Valentyna Tyurina is Doctor of Science (Pedagogy) and Professor at the Department of Sociology and Psychology, Educational and Scientific Institute, Kharkiv National University of Internal Affairs, Kharkiv, Ukraine.

references

1 Christina Maslach and Susan E. Jackson, "The Measurement of Experienced Burnout," *Journal of Organizational Behavior* vol. 2, no. 2 (1981): 99–113. https://doi.org/10.1002/job.4030020205

2 Evangelia Demerouti, Arnold B. Bakker, Friedhelm Nachreiner, and Wilmar B. Schaufeli, "The Job Demands-Resources Model of Burnout," *Journal of Applied Psychology* vol. 86, no. 3 (2007): 499–512. https://psycnet.apa.org/doi/10.1037/0021-9010.86.3.499; Arnold B. Bakker and Evangelia Demerouti,"The Job Demands-Resources Model: State of the Art," *Journal of Managerial Psychology* vol. 22, no. 3 (2007): 309–28. https://doi.org/10.1108/02683940710733115

3 Ilona Kostikova, Liudmyla Holubnycha, Yuliia Sytnykova, Tetiana Shchokina, Natalia Soroka, and Svitlana Tarasova, "University Teachers' Psychological State during the Stress of Online Education after Pandemic in Wartime in Ukraine," *International Journal of Emerging Technologies in Learning (iJET)* vol. 18, no. 13 (2022): 152–62. https://online-journals.org/index.php/i-jet/article/view/39825; Nataliia Saveliuk, "Perezhyvannia stresu v umovakh viiny: Dosvid ukrainskoho studentstva [Experiencing stress in wartime: The experience of Ukrainian students]," *Psychology: Reality and perspectives* vol. 1, no. 18 (2022): 141–52. https://doi.org/10.35619/praprv.v1i18.282; Natalia Tsybuliak, Yana Suchikova, Ludmila Shevchenko, Anastasia Popova, Serhii Kovachev, and Olha Hurenko, "Burnout Dynamic among Ukrainian Academic Staff during the War," *Scientific Reports* 13 (2023): 17975. https://doi.org/10.1038/s41598-023-45229-6; Yuliia Sytnykova, Tatyana Petrenko, Oksana Bezkorovaina, and Anastasiia Ptushka, "Challenges for Universities to Online Technologies Implementation in the Conditions of War in Ukraine," *Information Technologies and Learning Tools (ITLT)* vol. 99, no. 1 (2024): 193–208. https://doi.org/10.33407/itlt.v99i1.5436; Yana Suchikova, Uliana Kolomiiets, Anastasia Popova, Hanna Lopatina, and Natalia Tsybuliak, "Calm me down, or I'll leave: Anxiety and institutional support among Ukrainian academic staff during wartime," *BMC Public Health* vol. 24, no. 1 (2024): 3483. https://doi.org/10.1186/s12889-024-21040-4; Anastasiia Sydorenko, Lennart Kiel, and Helle Spindler, "Psychosocial Challenges of Ukrainian Healthcare Professionals in Wartime: Addressing the Need for Management Support," *Social Science & Medicine* vol. 364 (2025): 117504. https://doi.org/10.1016/j.socscimed.2024.117504

4 Henry Cadena-Povea, Marco Hernández-Martínez, Gabriela Bastidas-Amador, and Hugo Torres-Andrade, "What Pushes University Professors to Burnout? A Systematic Review of Sociodemographic and Psychosocial Determinants," *International Journal of Environmental Research and Public Health* vol. 22, no. 8 (2025): 1214. https://doi.org/10.3390/ijerph22081214

5 Shi Yingying, Muhd Khaizer Omar, and Normala Ismail, "Job stress and burnout among lecturers: a systematic literature review and meta analysis," *Frontiers in Psychology*, vol. 16 (2025): 1673812. https://doi.org/10.3389/fpsyg.2025.1673812

6 Shaimma A. A. M. Amer, Sally F. Elotla, Abeer E. Ameen, Jaffer Shah, and Ahmed M. Fouad, "Occupational Burnout and Productivity Loss: A Cross-sectional Study among Academic University Staff," *Frontiers in Public Health* vol. 10 (2022): 861674. https://doi.org/10.3389/fpubh.2022.861674

7 Maria Jose Alban Guijarro, Luis Chauca-Bajaña, Carlos Martínez Florencia, Jose Dijnel Alban Sanchez, Miguel Álvarez Aviles, Denisse Arroyo-Apolo, Andrea Ordoñez Balladares, et al., "Burnout Syndrome and the Protective Role of Resilience among University Professors: A Cross-sectional Study of Associated Psychosocial and Physical Factors," *Frontiers in Psychology* vol. 16 (2025): 1616489. https://doi.org/10.3389/fpsyg.2025.1616489

8 A.D. Zbanca, A.R. Nut, M. Boncut, L. Matei, V.T. Grosu, "A literature review of burnout in the post pandemic era among teachers (2020 -2023)," *Bulletin of the Transylvania University of Braşov. Series IX: Sciences of Human Kinetics* vol. 17(66), no 2 (2024): 235–246. https://doi.org/10.31926/but.shk.2024.17.65.2.26

9 Andriy Girnyk, Yulia Donets, Sergiy Bogdanov, Viktoriya Solovyova, and Lyudmyla Romanenko, "Explorative Study of Psychosocial Stress Factors That Cause Professional Burnout among Teachers Who Live Near the Front-line Zone in the East of Ukraine," in *MHGC Proceedings of "Mental Health Global Challenges XXI Century"* (2018): 18–22. http://doi.org/10.32437/MHGCProceedings.Issue-2018

10 Saveliuk, "Perezhyvannia stresu v umovakh viiny: Dosvid ukrainskoho studentstva."

11 Stevan Hobfoll, "Social and Psychological Resources and Adaptation," *Review of General Psychology* vol. 6, no. 4 (2002): 307–24. https://doi.org/10.1037/1089-2680.6.4.307

12 Tsybuliak et al., "Burnout Dynamic among Ukrainian Academic Staff during the War."

13 Yuliia Sytnykova, Maryna Shlenova, Yevhenii Kyrpenko, Vitalii Kyrpenko, Nataliia Konoplenko, and Ihor Hrynchenko, "Teaching Technologies Online: Changes of Experience in Wartime in Ukraine," *International Journal of Emerging Technologies in Learning (iJET)* vol. 18, no. 18 (2023): 165–76. Available at: https://online-journals.org/index.php/i-jet/article/view/40491; Sytnykova et al., "Challenges for Universities to Online Technologies Implementation in the Conditions of War in Ukraine."

14 Natalia Tsybuliak, Uliana Kolomiiets, Hanna Lopatina, Anastasia Popova, and Yana Suchikova, "Anxiety among Ukrainian Academic Staff during Wartime," *Scientific Reports* vol. 14 (2024): 27152. https://doi.org/10.1038/s41598-024-78052-8; Kostikova et al.,"University Teachers' Psychological

State during the Stress of Online Education after Pandemic in Wartime in Ukraine."

15 Liudmyla M. Hanushchak-Yefimenko, Liudmyla Ye. Halavska, and Svitlana I. Arabuli, "The Professional Health of the Teacher as the Basis of the Well-being of Effective Pedagogical Activity and the Guarantee of the Development of Social Responsibility of the Institution of Higher Education in the Conditions of War," *Journal of Strategic Economic Research*, no. 6 (2024): 17–27. https://doi.org/10.30857/2786-5398.2023.6.2

16 Svitlana Kyrychenko, "Burnout Syndrome among Higher Education Instructors as a Consequence of Distance Learning," *ScienceRise: Pedagogical Education* vol. 2, no. 63 (2025): 26–30. https://doi.org/10.15587/2519-4984.2025.332087

17 Hanushchak-Yefimenko et al., "The Professional Health of the Teacher as the Basis of the Well-being of Effective Pedagogical Activity and the Guarantee of the Development of Social Responsibility of the Institution of Higher Education in the Conditions of War."

18 Sheldon Cohen, Tom Kamarck, and Robin Mermelstein, "A Global Measure of Perceived Stress," *Journal of Health and Social Behavior* vol. 24, no. 4 (1983): 385–96. https://doi.org/10.2307/2136404

19 Christina Maslach, Susan E. Jackson, and Michael P. Leiter, *Maslach Burnout Inventory*, 3rd ed. (Palo Alto, CA: Consulting Psychologists Press, 1996). Available at: https://www.researchgate.net/publication/277816643_The_Maslach_Burnout_Inventory_Manual

20 Jacob Cohen, *Statistical Power Analysis for the Behavioral Sciences*, 2nd ed. (Routledge, 1988). https://doi.org/10.4324/9780203771587

21 Liudmyla Karamushka, and Antonina Shevchenko, "Empirical Study of Mental Health Characteristics of Managers and Teaching Employees of Educational Institutions in the Conditions of War," *Kyiv Journal of Modern Psychology and Psychotherapy* vol. 3 (2022): 29–42. https://doi.org/10.48020/mppj.2022.01.02; Tsybuliak et al., "Burnout Dynamic among Ukrainian Academic Staff during the War"; Suchikova et al., "Calm me down, or i'll leave: Anxiety and institutional support among Ukrainian academic staff during wartime."

22 Tsybuliak et al.,"Burnout Dynamic among Ukrainian Academic Staff during the War"; Kostikova et al., "University Teachers' Psychological State during the Stress of Online Education after Pandemic in Wartime in Ukraine."

23 Olena Litovchenko, Volodymyr Kapustnyk, Igor Zavgorodnii, Tetiana Merkulova, Mykhailo Lysak, Iryna Perova, and Irina Boeckelmann, "Emotional Burnout and Professional Stress among Social Field Workers during Crisis Events: Pandemic and Military Conflict," *Ukrainian Journal of Occupational Health* vol. 19, no. 3 (2023): 172–80. https://doi.org/10.33573/ujoh2023.03.172; Ivanna Alekseeva, and Natalia Demchenko, "Psychological Factors of Occupational Burnout of IT Professionals during Military Conflict," *Proceedings of the National Aviation University Pedagogy Psychology* vol. 2, no. 25 (2024). https://doi.org/10.18372/2411-264X.25.19354

24 Cheryl Yunn S. Foo, Alvin K. Tay, Yexinyu Yang, and Helena Verdeli, "Psychosocial Model of Burnout among Humanitarian Aid Workers in Bangladesh: Role of Workplace Stressors and Emotion Coping," *Conflict and Health* vol. 17, no. 17 (2023): https://doi.org/10.1186/s13031-023-00512-1

25 Hobfoll, "Social and Psychological Resources and Adaptation."

26 Kenneth E. Miller, and Andrew Rasmussen, "War Exposure, Daily Stressors, and Mental Health in Conflict and Post-conflict Settings: Bridging the Divide between Trauma-focused and Psychosocial Frameworks," *Social Science & Medicine* vol. 70, no. 1 (2010): 7–16. https://doi.org/10.1016/j.socscimed.2009.09.029; Kenneth E. Miller, and Andrew Rasmussen, "War Exposure, Daily Stressors, and Mental Health 15 Years On: Implications of an Ecological Framework for Addressing the Mental Health of Conflict-affected Populations," *Epidemiology and Psychiatric Sciences* vol. 33, no. e78 (2024): 1–10. https://doi.org/10.1017/S2045796024000830

27 Sydorenko et al., "Psychosocial Challenges of Ukrainian Healthcare Professionals in Wartime: Addressing the Need for Management Support."

28 Christina Maslach, and Michael P. Leiter, "Understanding the Burnout Experience: Recent Research and Its Implications for Psychiatry," *World Psychiatry* vol. 15, no. 2 (2016): 103–11. https://doi.org/10.1002/wps.20311

29 Karamushka and Shevchenko,"Empirical Study of Mental Health Characteristics of Managers and Teaching Employees of Educational Institutions in the Conditions of War"; Hanushchak-Yefimenko et al., "The Professional Health of the Teacher as the Basis of the Well-being of Effective Pedagogical Activity and the Guarantee of the Development of Social Responsibility of the Institution of Higher Education in the Conditions of War."

30 Michael D. Galanakis, and Elli Tsitouri, "Positive Psychology in the Working Environment. Job Demands-Resources Theory, Work Engagement and Burnout: A Systematic Literature Review," *Frontiers in Psychology* 13 (2022): 1022102. https://doi.org/10.3389/fpsyg.2022.1022102

31 Blanca R. García-Rivera, Ignacio A. Mendoza-Martínez, Jorge L. García-Alcaraz, Jesús E. Olguín-Tiznado, Claudia Camargo Wilson, Monica F. Araníbar, and Pedro García-Alcaraz, "Influence of Resilience on Burnout Syndrome of Faculty Professors," *International Journal of Environmental Research and Public Health* 19, no. 2 (2022): 910. https://doi.org/10.3390/ijerph19020910; Guijarro et al., "Burnout Syndrome and the Protective Role of Resilience among University Professors: A Cross-sectional Study of Associated Psychosocial and Physical Factors."

32 Helena Granziera, Rebecca Collie, and Andrew Martin, "Understanding Teacher Wellbeing Through Job Demands-Resources Theory," in *Cultivating Teacher Resilience*, ed. by C. F. Mansfield (Singapore: Springer, 2021), 229–44. https://doi.org/10.1007/978-981-15-5963-1_14

33 Sytnykova et al., "Teaching Technologies Online: Changes of Experience in Wartime in Ukraine;" Natalia Tsybuliak, Uliana Kolomiiets, Anastasia Popova, Hanna Lopatina, Yuriy Petrushenko, and Yana Suchikova, "Progressive Intensification of Burnout among Academic Staff during the War," *Humanities and Social Sciences Communications* vol. 12 (2025): 1994. https://doi.org/10.1057/s41599-025-06322-5

34 Cadena-Povea et al., "What Pushes University Professors to Burnout? A Systematic Review of Sociodemographic and Psychosocial Determinants"

35 Hobfoll, "Social and Psychological Resources and Adaptation."

36 García-Rivera et al., "Influence of Resilience on Burnout Syndrome of Faculty Professors."



University professors and lecturers delivering physics lessons to schoolchildren at the STEM Center in Kharkiv. PHOTO: AUTHOR

PERFORMING EDUCATION AGAINST ALL ODDS

Experiences from H. S. Skovoroda Kharkiv National Pedagogical University

There are many difficulties and challenges for higher education in war zones. Rector Yurii Boichuk and Vice-Rector Volodymyr Borysov, at H. S. Skovoroda Kharkiv National Pedagogical University in Kharkiv, have personal experience of providing education against all odds. They describe how they have been organizing the educational programs at their university; Yurii Boichuk presents the work with strengthening the education for Children with Special Needs (SEN) and Volodymyr Borysov describes the importance of providing both online and offline education in times of war.

The educational and scientific laboratory of special and inclusive education

In 2024, the university staged a successful international cooperation with the United Nations Children's Fund (UNICEF) with the project "Strengthening inclusive education for children with special educational needs, in particular children with disabilities, in the Kharkiv region"(UKR/PCA2024395/PD2024482). It was aimed at creating a safe, barrier-free, and comfortable educational environment for children with Special Educational Needs (SEN) in the Kharkiv frontline region, in order to support children in their development and socialization. Because of the war, in recent years there has been a tendency toward an increase in the number of children with special educational needs in Ukraine. This is due to the consequences of the war, the impact of environmental and social factors on health, and increased effectiveness in diagnosing psychophysical disorders.

The listed factors have caused physical and psychological trauma to a significant number of children, who consequently require corrective and developmental assistance. In the context of such changes, it is important not only to expand opportunities for inclusive education, but also to ensure that specialists are trained who are capable of working effectively with children with SEN using modern methods and technologies. High-quality training of future specialists in the field of special and inclusive education is impossible without practical mastery of modern technologies for corrective and developmental assistance.

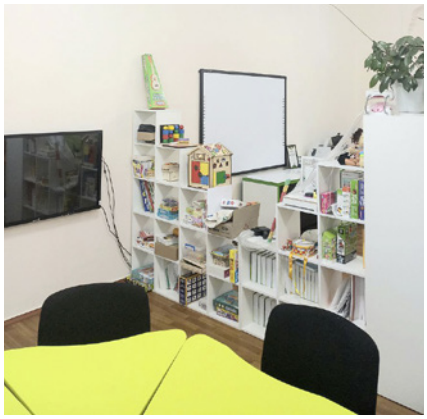
FOR THIS PURPOSE, the Educational and Scientific Laboratory of Special and Inclusive Education was created as a structural unit within the Department of Special Pedagogy at H. S. Skovoroda Kharkiv National Pedagogical University's Faculty of Natural, Special and Health Education. UNICEF helped to equip the laboratory. Its main tasks are:

1. Developing practical skills for university students majoring in 016 "Special Education" when providing corrective and developmental assistance to children with special educational needs.
2. Mastering modern technologies that support psychological and pedagogical activities and interaction between students.
3. Obtaining experimental material by students in the specialism "Special Education" for use in writing bachelor's and master's qualification works and conducting research.
4. Carrying out consultative and educational activities for parents of children with SEN.
5. Providing methodological assistance to educational institutions offering inclusive education, and to special educational institutions in the Kharkiv region, in order to offer a wide range of services to children and their families.
6. Developing educational content for teachers who provide corrective and developmental services to children with special educational needs.
7. Holding seminars, courses, and round tables with students, teachers, and lecturers in order to develop the inclusive competence of inclusive education specialists.
8. Developing methodological recommendations for organizing work with children with special educational needs in pre-school and general secondary (special) educational institutions.

THE MAIN FUNCTIONS of the laboratory are:

1. Studying, summarizing, and disseminating national and international experiences in the field of providing educational and corrective developmental services to children with special educational needs; developing the regulatory and legal framework for innovative pedagogical activities; and familiarizing education workers in the Kharkiv region with this framework.
2. Providing scientific, methodological, and organizational support for experimental pedagogical research in pre-school and general educational institutions in the Kharkiv region.
3. Exercising general control over the progress of experimental pedagogical research at the regional level in Kharkiv.
4. Providing corrective and developmental services and classes to children with special educational needs.
5. Providing consultations to parents of children with special educational needs on issues of development, education, and upbringing in the family environment.
6. Offering scientific and methodological support for advanced training courses for students, teachers, and lecturers at pre-school and general educational institutions in the Kharkiv region that deliver educational, corrective, and developmental services to children with special educational needs.
7. Organizing, coordinating, and conducting scientific and practical conferences, seminars, round tables, etc. on the problem, preparation, and publication of scientific, methodological, and informational publications.
8. Cooperation with international organizations, as well as with the National Academy of Pedagogical Sciences of

"BECAUSE OF THE WAR, IN RECENT YEARS THERE HAS BEEN A TENDENCY TOWARD AN INCREASE IN THE NUMBER OF CHILDREN WITH SPECIAL EDUCATIONAL NEEDS IN UKRAINE."

Laboratory equipment for children with special educational needs. PHOTO: AUTHOR




Laboratory equipment for parents, teachers, and lecturers who care for and work with children with special educational needs. PHOTO: AUTHOR

Ukraine, different national research institutes, institutions, and higher educational institutions, the Kharkiv Academy of Continuing Education, and the All-Ukrainian Association of Correctional Teachers.

THE LABORATORY was equipped with special tools (see above) for the correction of the psychophysical development of children with special educational needs within the framework of the implementation of the United Nations Children's Fund (UNICEF) project "Strengthening inclusive education for children with special educational needs, in particular children with disabilities, in the Kharkiv region" (UKR/PCA2024395/PD2024482).

Result of the laboratory work

During 2024–2025, information about 5,522 children with SEN was collected and analyzed, including for the age groups 0–5, 6–18, and 18+. This information was analyzed in the following areas: location, type of education, categories of difficulty, access to services, service needs, and parents' willingness to participate in programs.

Seven professional development programs were developed by the university for teachers, including teachers of the deaf, teachers of the blind, speech therapists, and special education teachers (remedial psychologists, teachers of the mentally disabled, psychologists, physical education teachers specializing in rehabilitation, etc.). 140 teachers were trained in frontline communities in Kharkiv, and 586 specialists took part in training sessions at the laboratory (see above).

The university developed master's programs to train specialists to work with children with these needs. In 2024–2025, 140 master's applicants enrolled in the specializations 016 Special Education and 053 Psychology. The educational programs "Education of the visually impaired. Education for the deaf and hard of hearing" and "Rehabilitation Psychology" were developed. Seven programs were developed for working with children with various categories of educational difficulties. 12,945 classes were aonducted for children with SEN, with 320 children receiving services thanks to the efforts of 123 specialists.

DURING 2024—2025, 496 educational institutions (228 pre-school educational institutions and 268 general secondary educational institutions) were surveyed. Google questionnaires were used, and administrative resources were consulted. An analytical report with detailed statistics and conclusions was prepared by the laboratory. Services using the laboratory's equipment were provided to 1,200 children. Different equipment has been transferred to the educational institutions in 15 Kharkiv communities, and to 5 education departments in the Kharkiv region.

Different programs were provided for parents. Six educational and awareness programs were developed that took into account different types of developmental disorders in children (hearing, vision, speech, intellect, etc.). Some courses were also organized for parents, with 96 online classes (October-November 2024), 84 online meetings (December 2024–June 2025), and 22 offline meetings held with parents in Kharkiv communities. 1,003 parents were involved in meetings. With this, parents gained knowledge of how to better support their children's learning and development at home.

The laboratory work was thus implemented comprehensively, covering all key target groups – children with SEN, teachers, parents, and educational institutions. Significant improvements were achieved in understanding the situation at both the city and regional levels in Kharkiv, ensuring access to quality services, staff training, and specialist equipment for inclusive educational institutions.

Yurii Boichuk is Rector at H. S. Skovoroda Kharkiv National Pedagogical University, Kharkiv, Ukraine.

PHOTO: AUTHOR



Schoolchildren taking lessons in biology, physics, and chemistry. Spring 2025, a series of online classes designed to help students prepare for university entrance exams was delivered at the Skovoroda Hub in the shelter of the main building of H. S. Skovoroda Kharkiv National Pedagogical University.





University lecturers holding classes in shelters and basements at Kharkiv lyceums #162 and #153.

The Skovoroda Hub and the STEM Center

Offering education both online and offline

The Skovoroda Hub

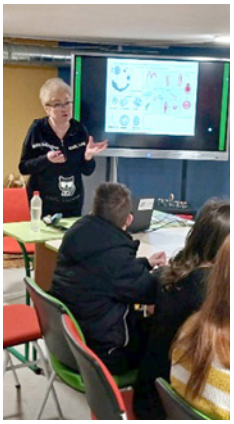
The Skovoroda Hub is a free educational environment created for all learners at H. S. Skovoroda Kharkiv National Pedagogical University, in Kharkiv, Ukraine. The Skovoroda Hub began operation on February 2, 2023. The idea for its creation arose during the Russian-Ukrainian war because of the need for online education. From the very beginning, the hub has been an environment that combines the work of our lecturers, professors, and speakers with modern digital technologies. The hub uses Google platforms to develop its website; Telegram, WhatsApp, and YouTube accounts to disseminate information; and Zoom and Google Meet to hold online classes.[1] Initially, only schoolchildren were invited to the hub. The hub began by working exclusively online because of the security situation in Kharkiv. However, "STEM education for all" later began working offline with schoolchildren in the university's bomb shelter, providing offline classes held under the title "STEM education. Physics, chemistry and biology offline".[2]

The hub now operates in several areas, providing schoolchildren from local communities in the Kharkiv region with the opportunity to acquire new knowledge and skills. University specialists conduct methodological and educational seminars, workshops, lectures, and training sessions on a variety of topical issues. All activities are reflected on the hub's website, where information is constantly updated and disseminated through social networks.[3]

IN 2025 THE SKOVORODA Hub website[4] demonstrated stable activity and audience interest, collecting 42,265 views, 5,445 hours of viewing time, 431 new subscribers, and 624,984 impressions with a CTR of 3.7%. This indicates that the content is well indexed and actively consumed through searches, recommendations, and external sources. The most noticeable surge in activity occurred during the exam period in June.The channel is characterized by pronounced seasonality, as is typical of educational content, and the high retention and click-through rates of individual videos highlight the quality of the topics and presentation. Successful videos can serve as a benchmark for creating further content.

A Telegram channel run by the Skovoroda Hub is used to promote the hub's events, with more than 1,000 pupils, students, and teachers from Ukraine, the United Kingdom, Germany, Poland, and France participating.[5] Currently, the subscriber base consists of pupils and students at all levels of higher education; of university staff, school teachers, and employees at H. S. Skovoroda Kharkiv National Pedagogical University; and of ordinary citizens from local communities.[6] The hub was expanded in order to provide an environment in which participants in the educational process – that is, school teachers and university lecturers – have the opportunity to improve their digital skills. University staff and schoolteachers have the possibility to improve their skills in applying digital technologies in the educational process, from working with electronic learning materials to introducing interactive services and digital formats for presenting information. This approach ensured the development of a common digital environment where all participants, regardless of their role, are able to master new tools, increase the effectiveness of their interactions, work with information at a qualitatively new level, and confidently use digital technologies in their daily and professional activities.

In the first half of 2025, a series of meetings titled "Digital Education for





University lecturers holding offline classes at two Kharkiv lyceums.



The Skovoroda Hub demonstrates experiments in physics and chemistry for students at the "Metroschool".

All – From Digital Literacy to Digital Mastery" was held for schoolteachers and university staff. An intensive course was also organized in 2025. The content of the classes was aligned with the school computer science curriculum, and the flexible teaching methodology considered the age characteristics of the participants and was adapted to their needs. The classes were held at the Skovoroda Hub from April to May 2025 in an offline format. Also, as part of the hub's work, in November 2025, lecturers from the Faculty of Foreign Philology held a series of webinars on "Methods of teaching English in mixed-level groups of students". Teachers, lecturers, and students from various educational institutions in Ukraine joined the webinars online, with up to 30 participants attending each event. The webinars covered the advantages and disadvantages of teaching foreign languages in multi-level groups of students; strategies for organizing English language teaching; issues relating to the differentiation of content, process, and learning outcomes; and techniques for adapting teaching materials to the needs of students.

THE MOST POPULAR activity in the hub is preparation for exams. The exams are online tests required for university entrance in Ukraine. The National Multi-Subject Test is used for bachelor's degrees, while the Unified Entrance Examination test is mandatory for all master's degrees. It includes a foreign language test and a general academic competence test (consisting of verbal and logical blocks of professional knowledge in the respective specialism, e.g. law, economics, management). The Unified Entrance Test is a test of research methodology skills and is required for entrance to PhD studies.

During 2025, more than 300 participants from Kharkiv city and the Kharkiv regions (such as Lozovsky, Zolochivsky, Izyumsky), Kryvyi Rih city in the Dnipropetrovsk region, Germany, the Netherlands, Ireland, and other countries joined the preparatory classes in mathematics, Ukrainian, and English for the Unified Entrance Test. More than 100 participants from different cities throughout Ukraine (including Kharkiv, Kyiv, Vinnytsia, and Lviv) joined the preparatory classes for the National Multi-Subject Test covering the Ukrainian language, mathematics, the history of Ukraine, the English language, biology, physics, and chemistry, as well as preparation for writing a motivational letter for applying to university.

"THE MOST POPULAR ACTIVITY IN THE HUB IS PREPARATION FOR EXAMS."

The STEM Center

The term "STEM education" is an abbreviation of science, technology, engineering, and mathematics. Throughout 2025, the STEM Center operated at the Skovoroda Hub at H. S. Skovoroda Kharkiv National Pedagogical University.[7] The STEM Center provided theoretical and practical training for university students in the implementation of STEM education in their professional teaching activities; conducted training courses for scientific, teaching, and pedagogical staff; conducted classes for schoolchildren; and organized and conducted events to promote STEM education (developing and disseminating online content, holding conferences, etc.), as well as developing and testing scientific and methodological support for the implementation of STEM education.

IN ORDER TO PROVIDE theoretical and practical training for university students in the implementation of STEM education in their professional teaching activities, the content of educational programs was improved for training pre-service teachers of mathematics, physics, chemistry, biology, and computer science, for both bachelor's and master's students.[8]

In 2025, the Institute of Postgraduate Education at H. S. Skovoroda Kharkiv National Pedagogical University organized training courses at the STEM Center for supporting teaching staff in the implementation of STEM education. This consisted

of three modules: general training, psychological and pedagogical training, and professional training.[9] A specialized advanced training course for secondary school Computer Science teachers on the topic of STEM technologies in education has also been developed and implemented.[10] The special course program (30 or 18 hours) covered the practical issues of implementing STEM education in secondary schools such as implementing the didactic principles of the "New Ukrainian School" reform or how to employing the latest tools for student activities.

In 2025, under the coordination of the STEM Center at the Skovoroda Hub for blended education,[11] online and offline classes in STEM education were held for schoolchildren.

Online and offline classes

After six years of online learning – two years of pandemic and four years of the Russian-Ukrainian war – schoolchildren need live interaction, socialization, and communication. Offline classes for schoolchildren in grades 7–11 were prepared and conducted by the Department of Physics and Chemistry in the first semester of 2025.

Offline classes were also held with schoolchildren in grades 7–11 at the departments of the Faculty of Natural, Special and Health Education in the first semester in 2025.

In addition, online classes were conducted with schoolchildren in grades 7–11 by our professors and lecturers at the Department of Physics and Chemistry in 2025.

As part of its cooperation with schools in Kharkiv, the STEM Center at H. S. Skovoroda Kharkiv National Pedagogical University joined the "Weekend University" project, an educational marathon for schoolchildren in Kharkiv and the Kharkiv region organized by local universities. In February 2025, university professors and lecturers provided classes to schoolchildren from various schools in Kharkiv, held not at the university but at the Metroschool (situated in Kharkiv's underground Metro system) and at some of the city's underground schools.[12] For example, at an underground school in the Novobavarsky district of Kharkiv, a class on 'Robots and Digital Learning' was held for 10th and 11th grade students in which university lecturers presented the possibilities of working with modern technologies in robotics.[13]

In March 2025, the Kharkiv Palace of Children's and Youth Creativity hosted a math tournament titled "Pyramid" in a bomb shelter. It aimed at integrating a STEM-oriented approach to education with the requirements of school reforms. The event was attended by seventh-grade students from 23 lyceums in Kharkiv and was an important event in mathematics, especially in the context of a total of four years of online learning in Kharkiv and the region due to the full-scale Russian invasion.[14]

THE UNIVERSITY continues to develop online and partly offline education, digital learning, and STEM initiatives, despite the challenges of war. It highlights real achievements, support for children, teacher training, and the creation of innovative learning spaces. It shows resilience, educational transformation, and community engagement in crisis conditions. The combination of statistical evidence, practical activities, and human-centered support makes education both informative and inspiring, demonstrating how education can remain a powerful force for stability, recovery, and future development.

Volodymyr Borysov is Vice-Rector at H. S. Skovoroda Kharkiv National Pedagogical University, Kharkiv, Ukraine.

references

1 The website is https://sites.google.com/hnpu.edu.ua/khnpu-eduhub; the Telegram channel is https://t.me/eduhubKhnpu; and the YouTube channel is https://www.youtube.com/channel/UCYI0yA8sHKYb81c3-ECJNKQ.

2 The hub is governed by the Regulations on the Educational Hub.

3 The Skovoroda Hub website, created by the Center for Digitalization of Education at H. S. Skovoroda Kharkiv National Pedagogical University using the Google Sites platform, is the main information resource providing comprehensive and up-to-date information about the hub's activities. To enable asynchronous operations, all videos of meetings, seminars, lectures, and training sessions are posted on the Skovoroda Hub YouTube channel in separate thematic blocks. See https://sites.google.com/hnpu.edu.ua/khnpu-eduhub

4 Ibid.

5 This was achieved thanks to the active work of the public relations department, which effectively advertised and promoted the hub on social networks.

6 Information on the Skovoroda Hub is distributed via the WhatsApp, Facebook, and Instagram accounts of H. S. Skovoroda Kharkiv National Pedagogical University, in addition to distributing letters to local communities. This comprehensive approach allows information to be effectively communicated to different target groups and ensures maximum coverage.

7 The center was based at the Skovoroda Hub for blended learning, the Faculty of Physics and Mathematics, and the Faculty of Natural Sciences, Special and Health Education, in accordance with the Regulations on the STEM Center. See: http://hnpu.edu.ua/sites/default/files/files/Normat_dokum/Pol/Pol_STEM_tsentr.pdf.

8 The topics of master's students' research were also expanded to include the implementation of STEM education in secondary schools. During the center's operation, thematic academic disciplines and blocks of elective academic disciplines were developed and implemented for bachelor's and master's students. See http://smc.hnpu.edu.ua/studentu/dytsypliny-za-vyborom/10-studentu/19-bloky-vilnogo-vyboru-bakalavry.

9 A course on STEM Technologies in the Educational Process, designed to correspond to 5 ECTS credits (150 hours, duration of study 1 month), was offered. See https://drive.google.com/file/d/1LNMBO3GwCBKxPrjkzbc1cxP-lfcVbU0m/view.

10 See https://drive.google.com/file/d/1_5wa23uJSDxMeAso8ozJYELn-fu8FibC/view.

11 See https://sites.google.com/hnpu.edu.ua/khnpu-eduhub/%D0%B2%D0%B5%D0%BA%D1%82%D0%BE%D1%80%D0%B8?authuser=0.

12 See also: Ilona Kostikova, Volodymyr Borysov, Tamila Shcheblykina, Maryna Vasylieva, and Olha Pochuieva, "Resilience of school infrastructure: Children's right to education in wartime Ukraine", *Baltic Worlds*, vol. 19, no. 1, 78–87. Available at: https://balticworlds.com/resilience-of-school-infrastructure/.

13 High school students explored the possibilities of programmable electronic circuits, working with the "Znatok" constructor and the Arduino Nano microchip, and used Makey Makey to turn ordinary objects into interactive sensors. See: https://www.facebook.com/share/p/1XjAM4Nd4V/.

14 See https://www.facebook.com/share/p/16F6Dp1YhW/.