

Liudmyla Romanovska

Doctor of Pedagogy, Professor
Khmelnitskyi National University
29016, 11 Instytutaska Str., Khmelnytskyi, Ukraine
<https://orcid.org/0000-0001-7547-4575>

Oksana Kravchuk*

PhD in Economics, Associate Professor
Kyiv National Economic University named after Vadym Hetman
03057, 54/1 Beresteiskyi Ave., Kyiv, Ukraine
<https://orcid.org/0000-0002-6337-7759>

Iryna Varis

PhD in Economics, Associate Professor
Kyiv National Economic University named after Vadym Hetman
03057, 54/1 Beresteiskyi Ave., Kyiv, Ukraine
<https://orcid.org/0000-0002-9502-5045>

Digital overload and burnout in higher education

Article's History:

Received: 15.12.2025
Revised: 20.04.2026
Accepted: 25.05.2026
Published: 29.06.2026

Suggested Citation:

Romanovska, L., Kravchuk, O., & Varis, I. (2026). Digital overload and burnout in higher education. *Scientific Bulletin of Mukachevo State University. Series "Pedagogy and Psychology"*, 12(2), 47-64. doi: 10.52534/msu-pp2.2026.47.

Abstract. The study's relevance stems from the expansion of the digital educational environment, in which students and teachers face not only intensive use of technology but also information overload, constant availability, fragmented communication, cognitive strain, and limited opportunities for recovery. The article's purpose was to systematise the manifestations of digital overload and digital burnout in higher education, identify their stages, clarify role-specific differences between students and teachers, and determine the institutional conditions that intensify or mitigate the risk of burnout. The methodological basis of the study comprised a narrative review, conceptual analysis, comparative analysis, typological generalisation, and model building, drawing on recent research on technostress, academic and occupational burnout, online learning fatigue, videoconferencing exhaustion, digital resilience, and psychological well-being in educational organisations. The findings showed that digital burnout has a multidimensional structure encompassing emotional, cognitive, behavioural, social and physiological manifestations. A developmental continuum was substantiated, ranging from episodic digital stress to digital fatigue, digital overload and clinically significant burnout. An authorial typology of role-specific manifestations of digital burnout was developed: among students, it is associated with academic exhaustion, procrastination, declining motivation, weakened learning identity and reduced sense of belonging; among teachers, it is associated with emotional exhaustion, digital pedagogical insecurity, depersonalisation of online interaction, hidden digital labour and reduced teaching quality. The article proposed a conceptual model of digital burnout in higher education, organised by stages, role-specific manifestations, and institutional outcomes. The practical value of the study lies in substantiating differentiated prevention measures for students, teachers, and higher education administrators, with consideration of digital boundaries, workload governance, support systems, early diagnosis, and crisis-related contextual conditions

*Corresponding author
(oksana.kravchuk@kneu.edu.ua)

Keywords: digital burnout; technostress; academic exhaustion; teacher well-being; online learning fatigue; wartime education



INTRODUCTION

Digital transformation has become a structural condition of contemporary higher education rather than an additional technological layer. Learning management systems, videoconferencing platforms, digital assessment tools, electronic communication channels, automated scheduling, and artificial intelligence-based applications increasingly mediate everyday interaction among students, teachers, and higher education institutions, expanding access to education, enhancing the flexibility of learning, and ensuring the continuity of the educational process, particularly during crisis periods. At the same time, these processes have intensified the psychological burden on participants of the educational process by multiplying the number of channels, tasks, notifications, interfaces and expectations that an individual is forced to process simultaneously. The accumulated burden increasingly manifests not as temporary fatigue but as a persistent digital burnout syndrome that requires systematic scientific understanding. The issue of digital overload and burnout has received substantial empirical support in several recent studies.

A. Aria *et al.* (2024) applied grey Delphi and grey-DEMATEL methods to identify the factors influencing students' academic burnout in online learning during the COVID-19 pandemic. The authors established a causal hierarchy of factors. They showed that technological barriers and a lack of institutional support serve as primary triggers, initiating a cascade of secondary factors – emotional exhaustion and decreased motivation. In contrast, the online learning format itself has a secondary effect relative to the quality of organisational support. L.Z. Chong *et al.* (2025) conducted a review of the factors contributing to burnout across different student populations. The researchers systematised the factors by level (individual, academic, social). They concluded that students' academic burnout is a multifactorial phenomenon in which the burden of digital tools overlaps with classical academic stressors, intensifying the cumulative effect of exhaustion rather than acting as a separate, independent factor. P.D. Deep & Y. Chen (2025) examined the relationships among student burnout, mental health, and online learning fatigue during the COVID-19 period, separately considering the roles of institutional support and artificial intelligence. The authors concluded that insufficient institutional support is a stronger predictor of burnout than the intensity of digital technology use itself, and that AI-based tools may either alleviate or intensify the burden depending on how they are integrated into the learning process. H. Li & J. Yang (2025) analysed the role of loneliness in the development of burnout during online learning in the COVID-19 period. The study demonstrated that loneliness functions not as a side effect but as a structural mediator between students' digital isolation and emotional exhaustion, meaning that social deprivation within the digital environment constitutes an independent pathogenic mechanism of digital burnout, distinct from purely workload-related factors.

J.N. Bailenson (2021) theoretically explained the causes of videoconferencing fatigue (Zoom fatigue), linking it to nonverbal overload, mirror anxiety from constantly viewing one's own image, reduced mobility and increased cognitive load during synchronous video communication. The author's four-cause model became the conceptual basis for subsequent empirical scales measuring digital fatigue. G. Fauville *et al.* (2021) operationalised Zoom exhaustion as a multidimensional construct encompassing general, visual, social, motivational and emotional fatigue, developing a corresponding measurement scale. The researchers demonstrated that different dimensions of fatigue exhibit distinct escalation dynamics and respond differently to the duration and frequency of video interaction, enabling early diagnosis of digital burnout through individual subscales rather than solely an aggregate score. B.-C. Chen *et al.* (2024) investigated the effects of teachers' perceived competence in using information and communication technologies and of workplace anxiety on their well-being, with emotional exhaustion mediating the relationship. The authors found that low perceived digital competence reduces teachers' subjective well-being indirectly, through emotional exhaustion, rather than directly, which indicates that competence is a key resource for counteracting digital burnout within the job demands-resources framework. N.S. Bobro (2024) examined the features of digital transformation in Ukrainian higher education and showed that digitalisation changes not only the technological infrastructure of educational institutions but also the very organisation of the educational process and the nature of interaction among its participants, generating new requirements for teachers' professional activity.

O. Soroka (2025) analysed the transformation of higher education teachers' professional activity under conditions of digitalisation and concluded that the expansion of teachers' digital responsibilities (content design, online communication, digital assessment) occurs without a proportional revision of normative workload, which creates a hidden, statistically invisible reserve of professional overload. O.A. Prokopenko (2025) documented manifestations of emotional exhaustion and fatigue among students under wartime conditions, showing that wartime stressors (anxiety about safety, interruption of the learning process, forced displacement) overlap with the digital burden of distance learning, intensifying burnout symptoms beyond the additive level observed under peacetime conditions. UNESCO and the International Task Force on Teachers for Education 2030 (2024), in a global report, established that the sustainability of education systems depends directly on institutions' capacity to support teachers' professional well-being and reduce excessive stress-related workload, which positions institutional support as a structural rather than auxiliary factor in burnout prevention. The synthesis of the studies reviewed above demonstrated that digital overload and burnout within the higher education system constitute a multidimensional phenomenon that manifests differently

for students and teachers, is mediated by institutional support and digital competence, and, in the Ukrainian context, is further complicated by the overlap of wartime stressors with the digital demands of the educational process. These findings substantiated the need to systematise the manifestations of digital overload and burnout and to clarify their staged progression and early diagnostic markers.

The purpose of the article was to systematise the manifestations of digital overload and digital burnout in higher education, to clarify their stage-based dynamics, early diagnostic markers and specific patterns of manifestation among students and teachers. The research tasks included distinguishing digital stress, digital fatigue, digital overload and digital burnout as related but distinct phenomena; identifying emotional, cognitive, behavioural, social and physiological symptoms; comparing the specific manifestations among students and teachers; and substantiating preventive implications for higher education institutions. The scientific novelty lay in conceptualising digital burnout as a multidimensional, stage-based syndrome that develops through the interaction of individual resources, digital demands, educational roles and institutional support.

MATERIALS AND METHODS

The article was structured as a narrative conceptual review. The material was selected from recent peer-reviewed publications and authoritative institutional reports on technostress, burnout, online learning fatigue, teacher well-being, digital transformation of education and student mental health. Preference was given to studies published within the last five years. The synthesis proceeded in four stages: conceptual delimitation of key terms; grouping of symptoms by functional domains; comparison of student and teacher manifestations; and formulation of prevention-oriented implications. This methodological approach enabled the integration of empirical findings without creating a new statistical sample and was consistent with the study's review-based design. The study was designed as a theoretical and review-based analysis to develop a conceptual understanding of digital burnout in higher education. The research material comprised scholarly publications on digital burnout, technostress, Zoom fatigue, online learning fatigue, academic burnout, teacher burnout, digital overload, and digital well-being in higher education. In addition, institutional reports and analytical documents on teachers' work-related stress and the transformation of education under digitalisation were used, directly supporting the interpretation of institutional risks and the development of prevention strategies.

The selection of sources was based on four criteria. First, the publication had to address digital strain, burnout, technostress, online learning, videoconferencing fatigue, or related psychological and organisational consequences of digitalisation. Second, priority was given to studies published in the past five years, with earlier foundational works retained only if they provided conceptual or methodological grounding for the analysis of burnout, technostress,

or academic burnout. Third, sources were included only if their content was directly used in the article's argument. Fourth, Ukrainian studies were included when they helped explain the wartime context of digital education, student resilience, emotional exhaustion, psychological insecurity, and disrupted learning routines.

The research was conducted in several stages. At the first stage, the conceptual field was defined by distinguishing episodic digital stress, digital fatigue, digital overload, and digital burnout. The boundaries between these four states were delineated on theoretical and symptomatic grounds rather than through empirically derived thresholds: each subsequent state was distinguished from the previous one by the conceptual definitions established in the foundational burnout and technostress literature, and the qualitative shift in the dominant symptom domain reported across the reviewed empirical studies – from isolated, reversible reactions characteristic of episodic digital stress, to cumulative and recurrent symptoms characteristic of digital fatigue, to cross-domain accumulation (cognitive, emotional, behavioural) characteristic of digital overload, to the stable, multidimensional and functionally impairing symptom pattern characteristic of digital burnout. No numerical cut-off scores were applied, since the underlying sources themselves are heterogeneous in measurement; the distinction is therefore analytical-conceptual rather than psychometric. This stage helped avoid reducing digital burnout to general screen fatigue or ordinary tiredness. At the second stage, the selected literature was analysed across the main domains of manifestation: emotional, cognitive, behavioural, social, and physiological. At the third stage, the manifestations of digital burnout among students and teachers were compared to identify role-specific differences in academic participation, self-regulated learning, professional identity, digital pedagogical confidence, hidden digital labour, and institutional expectations. At the fourth stage, the identified manifestations were systematised into stage- and role-sensitive typologies. At the final stage, the results of the analytical synthesis were generalised into a conceptual model of digital burnout in higher education, structured by stages, role-specific manifestations, and institutional outcomes.

The methodological basis of the study comprised conceptual analysis, comparative analysis, narrative literature review, typological generalisation, and model building. Conceptual analysis was used to clarify the relationships among digital stress, fatigue, overload, and burnout. A comparative analysis was conducted to identify differences between student- and teacher-specific manifestations of digital burnout. A narrative literature review was used to synthesise empirical and theoretical findings across diverse research contexts. Typological generalisation enabled the grouping of symptoms, risk amplifiers, protective factors, and prevention priorities into coherent analytical categories. Model building was used to present the interactions among digital demands, resources, role-specific manifestations, institutional factors, and possible outcomes. The

institutional priorities and practical recommendations presented in the Results section were not derived deductively from a single theoretical premise or statistically inferred from primary data, as no primary data were collected. Instead, they were obtained through a two-step procedure of typological generalisation combined with interpretive synthesis of institutional sources: first, recurring protective and risk factors reported across the reviewed empirical studies were grouped into typological categories (e.g., technical support, communication norms, workload design, psychological assistance); second, these categories were cross-checked against the recommendations and structural conditions identified in institutional reports (UNESCO, OECD) to ensure that the resulting priorities were grounded in documented institutional practice rather than in the authors' inference alone. Where a recommendation could not be traced to either a recurring empirical pattern or an institutional source, it was excluded from the Results. The study did not involve primary empirical data collection, including surveys, experiments or interviews. Therefore, no experimental sample was formed, and no direct interaction with respondents took place. The analytical units of the study were scholarly concepts, empirical findings from previous studies, symptom descriptions, institutional factors and prevention mechanisms identified in the reviewed literature. The study's reproducibility was ensured by the explicit description of the source selection criteria, the analytical stages and the categories used for systematisation. Other researchers could replicate the analytical procedure by applying the same criteria to the literature on digital burnout, technostress, online learning fatigue and teacher burnout in higher education.

RESULTS AND DISCUSSION

Conceptual boundaries of digital overload and digital burnout

A clear distinction between digital stress, digital fatigue, digital overload, and digital burnout is necessary because these concepts represent different levels of severity and require distinct interventions. Digital stress is a situational response to a specific technological challenge, such as a platform failure, an unfamiliar interface, an unexpected online assessment, or a sudden increase in digital communication. It is typically short-term, reversible, and linked to an identifiable trigger. Digital fatigue is a prolonged state of physical, cognitive, and emotional tiredness caused by intensive technology use; it is reversible through rest, ergonomic adjustments, and reduced digital exposure. Digital overload arises when digital demands systematically exceed an individual's adaptive resources and standard recovery no longer restores functioning. Digital burnout is the most severe stage, in which chronic digital overload is associated with emotional exhaustion, detachment, cynicism, reduced effectiveness, and persistent psychosomatic consequences.

This differentiation aligns with the logic of burnout theory. C. Maslach & M.P. Leiter (2016) conceptualised burnout as a psychological syndrome involving exhaustion,

cynicism or detachment, and reduced efficacy, while the World Health Organisation (2019) defines burnout as an occupational phenomenon resulting from chronic workplace stress that has not been successfully managed. In higher education, however, the boundaries between work, study, and personal life are increasingly mediated by digital platforms. Students may experience study-related burnout, while teachers experience occupational burnout; nevertheless, both groups are embedded in the same digital educational ecosystem. The classical burnout model, therefore, requires extension to account for the technological architecture of interaction, including constant connectivity, platform switching, notification pressure, online visibility, and the absence of clear boundaries for recovery.

Research on technostress helped identify the digital sources of this syndrome. M. Salanova *et al.* (2013) described technostrain and technoaddiction as two important psychological experiences associated with the use of information and communication technologies. Technostrain includes anxiety, fatigue, scepticism and inefficacy beliefs related to technology use, whereas technoaddiction refers to excessive and compulsive technology use. M. Tarafdar *et al.* (2019) later distinguished between techno-distress and techno-eustress, demonstrating that technology use is not inherently harmful, as its effects depend on the balance between digital demands, individual control, available resources, perceived meaning and design conditions. This distinction is particularly relevant to higher education, where digital tools can support autonomy, participation, and inclusion when well designed and accompanied by adequate training. However, when technologies are introduced rapidly, fragmented across platforms, and used without pedagogical moderation, they become a source of chronic overload rather than educational empowerment. It was emphasised in the present analysis that the author's "design conditions" are not external to the demands-resources balance but constitute one of its inputs: the interface itself is a fixed structural demand, while institutional, pedagogical and managerial choices determine whether that fixed demand is compensated by adequate resources (training, scheduling, optional camera use, session length) or left unmitigated. Digital burnout, therefore, does not originate from either ergonomics or management in isolation, but from the interaction between a platform's built-in design constraints and the institutional capacity to buffer them.

Digital burnout should also be distinguished from general screen fatigue. Screen fatigue primarily refers to tiredness from prolonged screen exposure. Digital burnout has a broader psychosocial profile: it includes emotional exhaustion after digital interactions, cognitive fragmentation from constant task-switching, behavioural avoidance of digital tasks, social distancing from online communication, and physiological symptoms such as headaches, eye strain, sleep disruption, and musculoskeletal pain. R. Riedl (2012) demonstrated that technostress is associated with biological stress responses, including changes in cardiovascular activity and stress hormone levels,

indicating that digital overload has bodily consequences and cannot be reduced to a purely subjective complaint. N. Dragano & T. Lunau (2020) also discussed the relationship between technostress at work and mental health risks, confirming that chronic and poorly regulated digital demands may acquire clinical significance. The measurement of digital burnout remains an emerging field. S.-Y. Choi & J.-H. Kim (2024) validated the Korean version of the Digital Burnout Scale among university students, showing that digital burnout is becoming increasingly operationalised and measurable in higher education contexts. At the same time, digital burnout in higher education requires instruments sensitive to role-specific manifestations. A student may show signs of burnout by avoiding synchronous classes, postponing online assignments, or losing their academic identity. A teacher may show burnout by minimising feedback, delaying online responses, relying on repetitive templates, or emotionally distancing themselves from students. Therefore, digital burnout should be conceptualised not only as a psychological state but also as a pattern of educational participation that affects the quality of learning and institutional relations.

The job demands-resources perspective offered a useful analytical framework for interpreting this process. According to A.B. Bakker & E. Demerouti (2017), job demands increase the risk of exhaustion, whereas resources can buffer the negative impact of demands and support engagement. In digital higher education, digital demands include the volume of information, the number of platforms, the frequency of synchronous sessions, the complexity of digital tools, constant availability, and the uncertainty of technological change. Digital resources include training, platform usability, institutional support, autonomy, peer support, recovery time, and digital competence. When digital demands are high and resources are insufficient, the risk of burnout increases. Conversely, when digital tools are meaningful, predictable, and well supported, they can become resources for learning and teaching. This explained why the same technology can be experienced as enabling by one user and exhausting by another.

Multidimensional symptoms and stage progression in digital burnout

Digital burnout manifests across five interrelated domains: emotional, cognitive, behavioural, social and physiological. Emotional manifestations typically appear first, including irritability, frustration, and anxiety before online interactions; emotional depletion after videoconferences; and a loss of enthusiasm for digital tasks. B.-C. Chen *et al.* (2024) found that teachers' perceived competence in using information and communication technologies was associated with lower emotional exhaustion and higher well-being, while workplace anxiety affected well-being indirectly through emotional exhaustion. This finding suggested that digital demands influence well-being not only directly but also through the gradual depletion of emotional resources. Among students, emotional depletion may be

accompanied by discouragement about learning and by the perception that online participation has become mechanical rather than meaningful.

Cognitive manifestations are central because digital education requires sustained attention, rapid information processing, memory updating and continuous task switching. J.N. Bailenson (2021) theoretically explained that videoconferencing may intensify cognitive effort because participants need to process enlarged facial cues, monitor their own image, compensate for reduced mobility and interpret limited nonverbal signals. Within the demands-resources logic applied in the present analysis, Beilenson's interface-level mechanisms (mirror anxiety, enlarged facial cues, restricted mobility) were read as a particular, fixed category of digital demand rather than as a self-contained explanation competing with M. Tarafdar *et al.* (2019) framework; the platform's design sets the baseline cognitive load, while institutional and pedagogical decisions on top of that baseline (camera-optional policies, session length, scheduled breaks) determine whether this load accumulates into fatigue, overload or burnout. J.M. Basch *et al.* (2025) demonstrated that evidence-based interventions can reduce Zoom fatigue in university online education, suggesting that this form of fatigue is linked to modifiable conditions of digital interaction. Typical cognitive symptoms include reduced concentration, slowed information processing, impaired working memory, difficulty making decisions and the subjective experience of mental fog.

Behavioural symptoms can be interpreted as attempts to reduce overload, although they may become maladaptive over time. Students may postpone watching recorded lectures, avoid using online platforms, delay submitting assignments, keep their cameras off, or attend synchronous classes while multitasking. Teachers may delay feedback, reduce consultation time, simplify course design or avoid complex digital tools. F. Saleem *et al.* (2024) found that technostress among students reduces the quality of online learning, while instructor and university support can buffer its negative effects. Similarly, C.B. Califf & S. Brooks (2020), in a study of K-12 teachers, demonstrated that techno-stressors may contribute to burnout and turnover intentions when literacy facilitation is insufficient.

Social manifestations are paradoxical because digital technologies increase the technical capacity for communication without necessarily improving the quality of social presence. Students may feel lonely despite constant online contact, and teachers may feel emotionally distant from students who appear as icons, avatars or silent participants. H. Li & J. Yang (2025) showed that loneliness is an important factor in online learning burnout. A.-M. Caizan *et al.* (2024) demonstrated that technostress creators and inhibitors vary across cultural contexts and differ between teachers and students. This finding supported the interpretation that social fatigue may arise not from a lack of communication but from an excess of fragmented, emotionally thin digital interactions.

Physiological manifestations include headaches, eye strain, musculoskeletal pain, sleep disturbance and psychosomatic symptoms. W. Emmamally *et al.* (2024) described Zoom exhaustion and fatigue among nursing students, showing that prolonged participation in online educational formats is associated with physical, cognitive and emotional exhaustion. Sleep disturbance is particularly important because it can link digital overload to cognitive decline and emotional instability. When students or teachers work late, check messages at night or remain psychologically connected to platforms after the formal end of the day, recovery is incomplete. The International Labour Organisation (2017) noted that information and communication technology-enabled work can be performed at any time and from almost anywhere, which blurs boundaries between work and private life. By analogy, in higher education, this boundary problem affects both teaching and studying.

These symptoms develop along a continuum rather than as isolated complaints. The first stage is episodic digital stress, which remains situational and reversible. The

second stage is digital fatigue, in which tiredness persists after intensive digital sessions but improves with rest and behavioural adjustment. The third stage is digital overload, in which digital demands consistently exceed available resources, leading to chronic symptoms. The fourth stage is digital burnout, characterised by stable emotional exhaustion, detachment and reduced effectiveness that impair educational functioning. C. Leclercq & I. Hansez (2024) emphasised that prevention should consider the temporal stages of burnout, as interventions effective at early stages may be insufficient once chronic exhaustion has developed.

The reviewed literature showed that digital overload and digital burnout develop gradually and involve emotional, cognitive, behavioural, social and physiological manifestations. For analytical purposes, these manifestations were organised into a continuum of stages, progressing from episodic digital stress to digital fatigue, overload, and burnout. Table 1 summarises the dominant symptoms at each stage and the corresponding institutional responses that may prevent further progression.

Table 1. Stage continuum of digital overload and digital burnout in higher education

Stage	Dominant manifestations	Recommended institutional response
Episodic digital stress	Situational irritation caused by technical problems; mild anxiety before using a new platform; short-term decline in concentration; temporary eye strain or muscle tension; symptoms disappear after the stressor is removed	Prompt technical support; clear and concise digital instructions; short breaks during digital activities; introductory training in basic digital skills; reduced uncertainty when new platforms are introduced
Digital fatigue	Tiredness after prolonged online sessions; reduced attention and slower information processing; headaches, eye strain, neck or back discomfort; lower motivation for digital interaction; need for rest and recovery	Structured breaks between online activities; limits on the duration of synchronous sessions; ergonomic guidance; realistic planning of digital workload; encouragement of recovery practices and sleep hygiene
Digital overload	Persistent exhaustion that does not disappear after ordinary rest; mental fog and information overload; procrastination of digital tasks; sleep disruption; avoidance of online communication; weakened social connections and growing emotional distancing	Digital boundary policies; reduction of platform fragmentation and duplicated communication channels; review of hidden digital workload; access to psychological counselling; peer support mechanisms; flexible deadlines where justified
Digital burnout	Chronic emotional exhaustion; depersonalisation or cynicism toward digital interaction; reduced academic or professional effectiveness; psychosomatic complaints; absenteeism or presenteeism; loss of motivation and sense of efficacy	Professional psychological support; temporary reduction or redistribution of digital workload; organisational redesign of digital processes; long-term recovery planning; monitoring of relapse risk; institutional recognition of digital labour

Note: the stages should be understood as a continuum rather than a strictly linear sequence; depending on individual and institutional resources, progression may slow down, stop, or reverse at any stage

Source: developed by the authors based on C. Maslach & M.P. Leiter (2016), J.N. Bailenson (2021), G. Fauville *et al.* (2021), W. Emmamally *et al.* (2024), C. Leclercq & I. Hansez (2024), J.M. Basch *et al.* (2025)

Table 1 showed that early stages of digital distress can often be managed through relatively simple organisational measures, such as technical support, structured breaks and clearer digital instructions. However, when fatigue develops into overload or burnout, individual self-regulation becomes insufficient. At these stages, higher education institutions need to address the structure of digital workload, communication norms, platform fragmentation and access to psychological support. Thus, digital burnout was interpreted not only as an individual psychological reaction but also as an institutional risk that requires systematic prevention. This progression is visualised in Figure 1.

Figure 1 demonstrated that the progression of digital burnout is not linear or predetermined. With sufficient protective resources, such as digital self-regulation, social support, ergonomic organisation of digital work and institutional support, progression may be slowed, stopped or reversed. The most important transition points were the movement from episodic stress to digital fatigue, from fatigue to chronic overload and from overload to burnout. Each stage was associated with specific marker symptoms, making early identification and stage-specific interventions essential to prevent severe academic, professional, and health-related consequences.

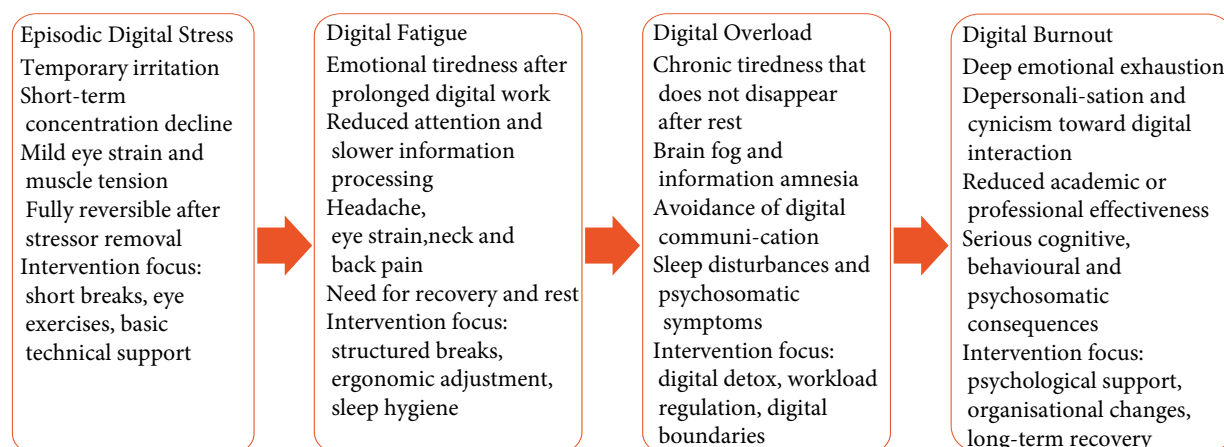


Figure 1. Continuum of digital burnout progression: from episodic digital stress to clinically significant burnout

Source: developed by the authors

Student-specific manifestations in digital learning environments

Student digital burnout is shaped by students' specific developmental and academic positions. Unlike employees with an established professional identity, students are still forming their academic self-concept, professional expectations, learning routines and autonomy. W.B. Schaufeli *et al.* (2002) conceptualised student burnout through exhaustion from study demands, cynicism toward study and feelings of inefficacy as a student. In the digital environment, these components may be intensified by constant online access to assignments, fragmented communication and the pressure to self-regulate learning without the usual spatial and temporal boundaries of campus life. Academic exhaustion is the most visible manifestation. It appears as fatigue after online lectures, difficulty concentrating on recorded materials, loss of interest in learning and the sense that every platform requires additional effort. A. Aria *et al.* (2024) identified factors affecting academic burnout in online education during the pandemic and analysed their cause-and-effect relationships using grey Delphi and grey-DEMATEL techniques. L.Z. Chong *et al.* (2025) reviewed student burnout across different populations and highlighted academic workload, perfectionism, low self-efficacy and limited support as recurring determinants. In digital learning, these factors can acquire a technological dimension: workload becomes dispersed across platforms, the possibility of endless revision reinforces perfectionism, and self-efficacy increasingly depends on students' ability to navigate digital tools.

Motivational decline is another important symptom. Students experiencing digital overload may attend online classes formally while remaining emotionally disengaged; they may keep cameras off, avoid discussion, submit minimal assignments or postpone asynchronous tasks. P.D. Deep & Y. Chen (2025) linked student burnout and mental health in higher education to online learning fatigue, insufficient institutional support and the emerging role of artificial intelligence in digital learning environments.

Together, studies on student burnout suggested that exhaustion, low self-efficacy and insufficient institutional support may reduce academic engagement and performance, especially in digitally mediated learning environments. This circular dynamic is particularly dangerous in digital environments because missed online tasks accumulate quickly and remain less visible to teachers until the student is already deeply disengaged. Digital procrastination is not merely poor time management; it often serves as an avoidance strategy in response to overload. A student may postpone opening a learning platform because it is associated with unread messages, deadlines, recorded lectures and evaluation anxiety. This differs from ordinary academic procrastination because the digital interface itself becomes a trigger. When a student avoids the platform, information gaps grow; as these gaps grow, anxiety and avoidance intensify. This mechanism may explain why digital overload can transform a flexible educational environment into a source of cumulative pressure.

Another student-specific consequence is the weakening of academic identity and sense of belonging. Online learning reduces informal peer contact, spontaneous communication with teachers and embodied participation in university life. E. Marsh *et al.* (2024) demonstrated that information overload and fear of missing out are associated with stress, exhaustion and mental health risks in digital workplace environments. Although this study was conducted in a workplace context, its findings are relevant for higher education because students also experience information overload and fear of missing important digital messages. Applied to higher education, this finding highlighted that digital participation is beneficial only when it is socially meaningful, predictable and psychologically safe. If digital learning is experienced as isolated task completion, the student may gradually lose a sense of belonging to an academic community.

The Ukrainian wartime context adds specific risks. A.I. Burovytska (2024) emphasised the distinctive features of student resilience during wartime learning, while

O.A. Prokopenko (2025) documented emotional exhaustion and fatigue among students during war. L.A. Prokofieva (2024) described the psychological state of student youth under wartime conditions, including stress, psychological insecurity, distance learning challenges and somatic manifestations. In this context, war should not be treated solely as a factor that intensifies the impact of digital demands; it also serves as an independent source of several of the symptoms described above. Anxiety about personal and family safety, grief, forced displacement, interrupted study routines and air-raid-related sleep disruption arise directly from wartime conditions and would be present, at least in part, even in the absence of any digital workload. Alongside this direct pathway, war also operates as a moderator: it reduces the resources available to cope with digital demands – through unstable electricity and internet connectivity, the absence of a safe and quiet space for synchronous classes, relocation-related loss of routine, and a diminished psychological reserve for handling platform fragmentation and notification pressure – thereby amplifying the effect of a given level of digital load on exhaustion. The two pathways are not mutually exclusive: safety-related anxiety and disrupted learning routines are best explained as direct effects of war, whereas digital procrastination, fatigue from synchronous sessions and platform avoidance are better explained as digital-demand effects that war moderates rather than originates. In this context, digital burnout cannot be reduced to mere screen time; rather, it emerges at the intersection of digital

learning, insecurity, disrupted routines, displacement, reduced resources and prolonged uncertainty.

Protective resources among students include resilience, academic self-efficacy, peer support, supportive teacher feedback, predictable digital course design and flexible learning formats. A.I. Burovytska (2024) and L.Z. Chong *et al.* (2025) indicated that resilience, self-efficacy and support can reduce the risks associated with academic exhaustion. However, this did not imply that students should be expected to overcome digital burnout on their own. Individual resilience was most effective when institutions provide a coherent platform architecture, accessible support, clear communication rules and opportunities for social connection. Digital burnout in higher education does not manifest in the same way among students and teachers because their institutional roles, expectations, resources and digital workloads differ structurally. Students mainly experience digital burnout due to academic self-regulation, fragmented learning tasks, evaluation pressure, and a diminished sense of belonging to the university community. Teachers, in contrast, experience it through digital pedagogical responsibility, permanent availability, platform fragmentation, administrative digitalisation and emotional labour in online interaction. Therefore, a role-sensitive comparison is necessary to avoid reducing digital burnout to a general consequence of screen time. The key differences between student-specific and teacher-specific manifestations are systematised in Table 2.

Table 2. Symptom profiles of digital burnout: student-specific and teacher-specific manifestations across functional domains

Dimension	Student-specific manifestations	Teacher-specific manifestations	Analytical implication
Emotional manifestations	Academic exhaustion; frustration with platform overload; discouragement; emotional detachment from learning; anxiety related to assessment, deadlines and uncertainty	Emotional exhaustion; digital pedagogical insecurity; frustration with constant adaptation; depersonalisation of online interaction; anxiety about teaching quality and student engagement	Emotional exhaustion is common to both groups, but students experience it mainly due to learning pressure, whereas teachers experience it primarily due to responsibility for maintaining the educational process
Cognitive manifestations	Reduced concentration; brain fog; difficulty processing recorded materials; overload from dispersed tasks; lower academic self-efficacy	Cognitive overload from multitasking during teaching, continuous monitoring of several communication channels, decision fatigue, and reduced pedagogical creativity	Cognitive overload among students is linked to fragmented learning inputs, while among teachers it is linked to simultaneous instructional, technological and administrative demands
Behavioural manifestations	Avoidance of learning platforms; postponed assignments; camera-off behaviour; minimal participation; digital procrastination	Delayed feedback, reduced consultation time, simplified online course design, avoidance of complex digital tools, and reliance on templates and routine formats	Behavioural withdrawal manifests differently: students withdraw from participation, whereas teachers reduce pedagogical complexity and interaction intensity
Social manifestations	Weakened sense of belonging; reduced peer interaction; isolation despite constant connectivity; limited informal communication with groupmates and teachers	Emotional distancing from students; reduced sense of teaching presence; interaction with silent or passive online audiences; fragmented collegial communication	Social disconnection affects both learning and teaching communities, but students lose peer belonging, while teachers lose relational feedback and professional interaction
Physiological manifestations	Headaches, eye strain, sleep disruption, musculoskeletal discomfort and fatigue are linked to prolonged digital study sessions	Physical fatigue from extended synchronous teaching; voice strain; eye strain; sleep disruption caused by late preparation, assessment or online communication	Physiological symptoms indicate that digital burnout is embodied and cannot be reduced solely to a subjective psychological complaint

Table 2. Continued

Dimension	Student-specific manifestations	Teacher-specific manifestations	Analytical implication
Role-related pressures	Formation of academic identity; pressure to self-regulate learning; uncertainty about expectations; dependence on clear digital course organisation	Responsibility for course quality; pressure to innovate digitally; administrative reporting; accountability for student outcomes and satisfaction	Role pressure explains why the same digital environment poses different risks: students must adapt to learning demands, while teachers must design and manage them
Structural factors	Limited control over course design; dependence on teacher clarity; variability in platform use across disciplines; unequal access to devices and a stable internet connection	High platform fragmentation; increased administrative workload; insufficient digital pedagogical training; institutional expectations of constant digital competence	Structural factors indicate that burnout prevention should target institutional design rather than individual coping strategies alone

Source: developed by the authors

The comparison presented in Table 2 demonstrated that student and teacher digital burnout share several mechanisms, including emotional exhaustion, cognitive overload, behavioural avoidance, social disconnection and physiological strain. However, these mechanisms have different structural origins and role-specific expressions. For students, digital burnout is closely linked to academic identity formation, demands of self-regulation, fragmented digital workloads, uncertainty about expectations, and diminished peer belonging. For teachers, it is shaped by pedagogical responsibility, platform complexity, administrative digitalisation, emotional labour and expectations of continuous availability. The role-related pressures and structural factors included in Table 2 showed that these differences are not incidental but systemic: the same digital platform imposes different demands on participants depending on their institutional role. The institutional implications of these structural differences – including risk trajectories, risk amplifiers and differentiated prevention priorities – were analysed in Table 3.

Teacher-specific manifestations and institutional consequences

Teacher digital burnout has dual significance: it harms teachers' well-being and weakens the educational environment in which students learn. Teachers are expected to redesign courses, master new tools, manage synchronous and asynchronous communication, provide rapid feedback, maintain emotional contact with students, and comply with institutional reporting requirements. O. Soroka (2025) argued that digitalisation transforms the professional activity of higher education teachers by changing teaching methods, communication formats and requirements for working with digital educational tools. For many teachers, digital transformation therefore means not only learning new tools but also reconstructing professional identity and pedagogical authority. Emotional exhaustion among teachers is often linked to the feeling of permanent availability. Online consultations, email, messenger groups, learning platforms, and administrative channels create a situation in which work can enter at any point in the day. C.B. Califf & S. Brooks (2020), in a study of K-12 teachers, found that techno-stressors are associated with burnout and turnover intention, while

P. Solís *et al.* (2023) showed that perceived organisational support is closely related to teachers' technostress and should be considered when analysing institutional conditions of digital strain. These findings suggested that teacher burnout should not be individualised as a personal weakness; rather, it reflects the design of institutional demands and support systems.

Digital pedagogical insecurity is another specific manifestation. A teacher may be highly competent in face-to-face teaching but feel uncertain about online facilitation, digital assessment, multimedia content creation, or managing silent online groups. X. Yang & J. Du (2024) demonstrated that teacher self-efficacy, online pedagogical and content knowledge, and emotion regulation are significantly associated with teacher digital burnout, with emotion regulation acting as an important mediating factor. This is particularly important in higher education, where teachers often possess deep disciplinary expertise but have unequal access to training in pedagogical technology. When digital competence is perceived as insufficient, each new platform or institutional requirement may threaten professional self-esteem. Depersonalisation in digital teaching differs from depersonalisation in traditional professional burnout. It may appear as emotional distancing from students who do not turn on cameras, formalised communication, reduced empathy toward academic difficulties, or the perception that online students are less real and less responsive. I.S. Lembryk & R.Yu. Pryimak (2018) identified emotional burnout among medical university teachers before the period of forced digitalisation. This allowed digital depersonalisation to be interpreted not as a completely new problem but as a transformation of an earlier burnout risk under digital teaching conditions.

Reduced professional effectiveness is manifested in simplified online course design, repetitive digital tasks, delayed feedback, avoidance of innovative tools, and lower teaching satisfaction. A. Valiao (2025) found that faculty members may report high technostress while also perceiving high job satisfaction and improved performance due to technology integration, which showed that the relationship between technostress and professional effectiveness is complex rather than uniformly negative. At the same time, S.T. Dhayinta *et al.* (2025) emphasised that teacher burnout

during the digital transition affects the quality of learning and requires better technical support, continuous digital training, and a reduced administrative burden. Teacher burnout, therefore, becomes a student issue as well. When teachers are exhausted, they are less able to create engaging learning environments, provide timely feedback, and notice early signs of student disengagement.

Teacher burnout also has organisational consequences. D.J. Madigan & L.E. Kim (2021) showed that teacher burnout and job satisfaction are important predictors of teachers' intentions to leave the profession. L.E. Kim *et al.* (2019) demonstrated that teacher personality traits are associated with teacher effectiveness and burnout. However, these individual characteristics should not be interpreted as a substitute for reducing chronic organisational overload. C.-M. Răducu & E. Stănculescu (2022), in a study of kindergarten and primary school teachers, identified burnout profiles associated with work-related stressors, including workload, classroom resources, professional recognition needs and collegial relations. The OECD (2023) similarly showed that teachers' work-related stress is shaped by multiple layers of stressors and is associated with job satisfaction and plans to remain in the profession. Together, these findings supported the view that digital burnout is an institutional risk factor rather than merely a private psychological problem.

Institutional consequences include lower teaching quality, higher absenteeism and presenteeism, reduced innovation, conflicts with administration, weakened collegial collaboration and potential staff turnover. G. Mesh *et al.* (2025) discussed how teacher burnout may undermine instructional effectiveness, teacher-student relationships, student motivation and academic performance. A. Salama (2025) analysed tertiary teacher burnout as a complex phenomenon shaped by emotional exhaustion, motivation, professional self-achievement, administrative and collegial support, and professional development needs. For universities, this meant that digital transformation strategies must incorporate teacher well-being as a central quality criterion. The reviewed studies showed that digital burnout in higher education has a common psychological basis but different role-specific expressions. Students and teachers experience emotional exhaustion, cognitive overload and social disconnection; however, these symptoms are embedded in different institutional roles. For students, digital burnout primarily affects academic participation, self-regulated learning and academic identity formation. For teachers, it affects pedagogical confidence, professional identity, teaching quality and the capacity to support students. Therefore, Table 3 presents an authorial typology of role-specific manifestations of digital burnout in higher education.

Table 3. Analytical typology of digital burnout in higher education: role-specific institutional pressures, risk trajectories and prevention priorities

Typological dimension	Student-specific	Teacher-specific	Interpretive meaning
Role core affected	Academic participation, learning motivation, academic identity formation and self-regulated study	Professional identity, teaching quality, digital pedagogical confidence and capacity to support students	Digital burnout strikes at the central role function of each group: learning and academic development for students, teaching and pedagogical responsibility for teachers. When this core is affected, recovery requires not only symptom reduction but reconstruction of role engagement
Institutional pressure manifestation	Dependence on course clarity, limited control over digital learning design, dispersed workload across platforms and uncertainty of expectations	Platform fragmentation, administrative digitalisation, permanent availability, reporting requirements and pressure to innovate digitally	Institutional pressure is role-specific and structurally embedded: students are primarily affected by poorly coordinated digital learning environments, while teachers are affected by the expansion of invisible digital labour that is neither recognised nor bounded by policy
Long-term risk trajectory	Lower academic performance, weakened academic self-efficacy, dropout risk, negative professional expectations and delayed career development	Reduced teaching quality, lower job satisfaction, turnover intention, loss of experienced staff and weakened institutional resilience	Digital burnout accumulates into long-term academic, professional and organisational losses that extend far beyond the individual. The mutual reinforcement between student disengagement and teacher exhaustion means that unaddressed burnout in one group accelerates burnout in the other
Risk amplifiers	Perfectionism, low academic self-efficacy, lack of feedback, weak peer support, wartime instability and displacement as resource-depleting moderators of digital load, disrupted routines and safety-related anxiety as direct, digitally independent stressors that add to the symptom burden independently of digital workload	High workload; insufficient digital support; rapid technological change; institutional pressure; invisible emotional labour; permanent availability	Risk amplifiers are role-specific and require differentiated prevention strategies. For students in wartime contexts, amplifiers operate through two distinct pathways – as moderators of digital demands and as independent stressors – and prevention must address both pathways separately

Table 3. Continued

Typological dimension	Student-specific	Teacher-specific	Interpretive meaning
Protective resource configuration	Resilience, peer support, predictable course design, supportive teacher feedback, flexible learning formats and clear communication rules	Organisational support, digital pedagogical training, autonomy in course design, collegial mentoring, realistic workload and digital boundaries	Protective factors combine individual and institutional resources. Individual resilience is effective only when supported by a coherent educational environment; institutional design is the necessary condition, not an optional supplement
Priority prevention focus	Clarity of learning expectations; reduction of fragmented digital workload; flexible deadlines; strengthening peer interaction; and accessible psychological and academic support	Governance of digital workload; reduction of duplicated communication channels; pedagogical technology support; recognition of online communication as labour; institutional protection against permanent availability	Prevention must be role-sensitive rather than universal. Students need structured learning design and relational support; teachers need workload governance and institutional recognition of digital labour. Generic recommendations such as «take breaks» are insufficient for either group at the overload and burnout stages

Source: developed by the authors

Table 3 extended the descriptive comparison in Table 2 by identifying the institutional mechanisms through which digital burnout develops, and the differentiated responses required at each level. The most analytically significant finding was that digital burnout affects the core role of each group: for students, it undermines the formation of academic identity and the capacity for self-regulated learning; for teachers, it erodes pedagogical confidence and the quality of educational relationships. Both processes are self-reinforcing – burned-out teachers reduce the support available to students, while disengaged students intensify teachers' sense of inefficacy – so digital burnout must be addressed as an ecosystem-level risk rather than as a set of parallel individual problems. The typology also showed that prevention cannot be universal: students require a structured learning architecture and relational support, whereas teachers require workload governance, pedagogical technology support and institutional recognition that digital communication constitutes labour.

Prevention-oriented logic for higher education institutions

Preventing digital burnout requires a stage- and role-sensitive approach. At the stage of episodic digital stress, the most effective measures are simple and immediate: clear technical instructions, accessible support, predictable platform use and short breaks. At the stage of digital fatigue, institutions should regulate the duration and density of synchronous online sessions, encourage ergonomic practices and design timetables that allow recovery. At the stage of digital overload, individual advice is insufficient; institutions must review digital workload, reduce platform fragmentation, establish communication boundaries and provide psychological support. At the stage of burnout, professional help and organisational redesign become necessary. The first institutional priority is digital workload governance. Digital transformation often creates an invisible accumulation of micro-tasks: notifications, platform checks, repeated logins, file uploads, online forms, parallel communication channels and duplicated reporting. These

tasks may appear small individually but become exhausting collectively. A. Khedhaouria & A. Cucchi (2019) showed that technostress creators and personality traits may combine into distinct configurations associated with job burnout, thereby confirming that the interaction between technological demands and individual resources shapes digital strain. P. Solís *et al.* (2023) demonstrated that perceived organisational support is closely related to teachers' technostress. Higher education institutions should therefore audit not only formal teaching hours but also the hidden digital labour required from students and teachers.

The second priority is developing digital boundaries. Boundary regulation includes rules for response time, limits on evening communication, predictable deadlines, reduced channel duplication and explicit separation between urgent and non-urgent messages. These measures are particularly important because digital platforms can normalise permanent availability. Boundary policies should protect both students and teachers: students need protected recovery time and clarity about expectations, while teachers need institutional recognition that online communication is labour. Without such recognition, digital platforms become mechanisms of techno-invasion. The third priority is support for digital competence and digital pedagogical confidence. Training should not be reduced to technical tutorials. It should include pedagogical scenarios, online interaction strategies, inclusive design, assessment integrity, emotional regulation and ways to reduce cognitive load. L. Nascimento *et al.* (2024) introduced the concept of techno-eustress among higher education teachers, showing that technology can also generate positive stress when users have sufficient resources and perceive digital demands as meaningful challenges. This insight is important because prevention should not reject digitalisation; rather, it should transform harmful digital pressure into manageable and purposeful digital engagement.

The fourth priority is social support. Digital burnout grows when individuals feel alone with digital demands. Students need peer support, mentoring, teacher feedback and opportunities for informal interaction. Teachers need

collegial communities, exchange of digital teaching practices, mentoring and administrative acknowledgement of digital labour. B. Aghayani & A. Syahid (2025), in the context of foreign language teaching, highlighted the relevance of teacher resilience for professional well-being. However, resilience should be understood not as an individual obligation but as a relational and organisational capacity. Similarly, student resilience develops more effectively when the educational environment provides psychological safety and reliable support. The fifth priority is early diagnosis. Higher education institutions can monitor non-clinical markers such as a sudden decline in attendance, delayed submissions, persistent camera avoidance, low participation, delayed teacher responses, cancellation of consultations, repeated technical frustrations and increased complaints about workload. These markers should not be used for punitive control; their purpose is to identify points where support can prevent progression from overload to burnout. The Korean version of the Digital Burnout Scale, validated by S.-Y. Choi & J.-H. Kim (2024), together with broader burnout prevention approaches, can inform the development of screening tools adapted to higher education.

The final priority is context sensitivity. In Ukraine, digital burnout prevention must consider wartime disruptions, unstable electricity and internet access, psychological insecurity, displacement and unequal access to devices. These wartime conditions should not be treated as a single undifferentiated risk category, since they affect digital burnout through two distinct pathways that require different institutional responses. Insecurity, displacement and psychological strain act directly on well-being, independently of digital workload, and call for trauma-informed communication, flexible assessment and accessible psychological counselling regardless of how digital education is organised. Unstable electricity and internet access, and unequal access to devices act as moderators that erode the resources available for coping with digital demands and call for infrastructure support, specifically reduced digital workload. Standard digital well-being recommendations may be insufficient when students and teachers are simultaneously coping with war-related stressors. Therefore, universities should combine digital workload policies with trauma-informed communication, flexible assessment, psychological counselling and infrastructure support, applying the first two measures primarily to the direct pathway and the latter two primarily to the moderating pathway. The goal is not to reduce academic standards but to make digital participation in education sustainable under exceptional conditions.

Figure 2 presents a conceptual model of digital burnout in higher education, organised by stages, role-specific manifestations and institutional outcomes. The model brought together the progression from episodic digital stress to digital fatigue, digital overload and digital burnout; the multidimensional symptom structure of this process; and the different ways in which digital burnout manifests among students and teachers. It also showed that digital burnout is shaped not only by individual reactions to technology

but also by digital workload, platform fragmentation, communication norms, organisational support and contextual conditions, with wartime conditions entering the model along two separate arrows – a direct arrow into the symptom layer and a moderating arrow into the demands-resources balance – rather than a single amplifying arrow. In this sense, the model explained how digital demands and resources may lead to either a burnout trajectory or sustainable digital engagement, depending on the balance between institutional pressures and protective mechanisms.

Figure 2 demonstrates that digital burnout is not a linear psychological reaction to screen time but rather a systemic process shaped by the interplay among digital demands, individual resources, role-specific pressures, and organisational conditions. The model showed that the stages of digital strain progressed from episodic stress to fatigue, overload, and burnout, with symptoms emerging across emotional, cognitive, behavioural, social, and physiological domains. It also highlighted that students and teachers might be exposed to the same digital educational environment yet experience different mechanisms of burnout because their roles, responsibilities, and resources differ. For students, the key risks included academic exhaustion and motivational decline, digital procrastination and platform avoidance, and weakened belonging and academic identity. For teachers, the risks included emotional exhaustion, digital pedagogical insecurity, depersonalisation, administrative overload, and hidden digital labour.

The model also emphasised the decisive role of institutional structures. It distinguished organisational and contextual amplifiers – including platform fragmentation, duplicated communication, permanent availability, and insufficient support – from protective factors such as digital boundaries, training, peer and collegial support, predictable course design, and trauma-informed policies. This distinction showed that the same contextual conditions could either intensify or mitigate digital burnout, depending on whether institutional responses strengthened or depleted available resources, with outcomes ranging from a burnout trajectory to sustainable digital engagement, well-being, and learning quality. Contextual factors were especially important in Ukraine, where wartime disruptions, unstable infrastructure, displacement, and psychological insecurity reduced opportunities for recovery and increased the burden of digital participation. Within the model, this contextual influence was represented as operating along two pathways rather than as a single contextual amplifier: war contributed directly to the symptom layer – most visibly the emotional and physiological domains – regardless of digital load, and it simultaneously moderated the demands-resources balance by reducing the resources available to offset digital demands. Collapsing these two pathways into one would misrepresent the model, since interventions that strengthen digital resources (e.g., platform usability, workload governance) address only the moderating pathway and leave the direct, war-originated symptom burden untouched. Therefore, the proposed conceptual model

provided a basis for developing targeted prevention strategies that combined individual support with institutional responsibility. Such strategies should not be limited to recommendations for reducing screen time. However, they

should also address the organisation of digital learning, the governance of digital workload, the recognition of hidden digital labour, and the creation of sustainable conditions for digital education.

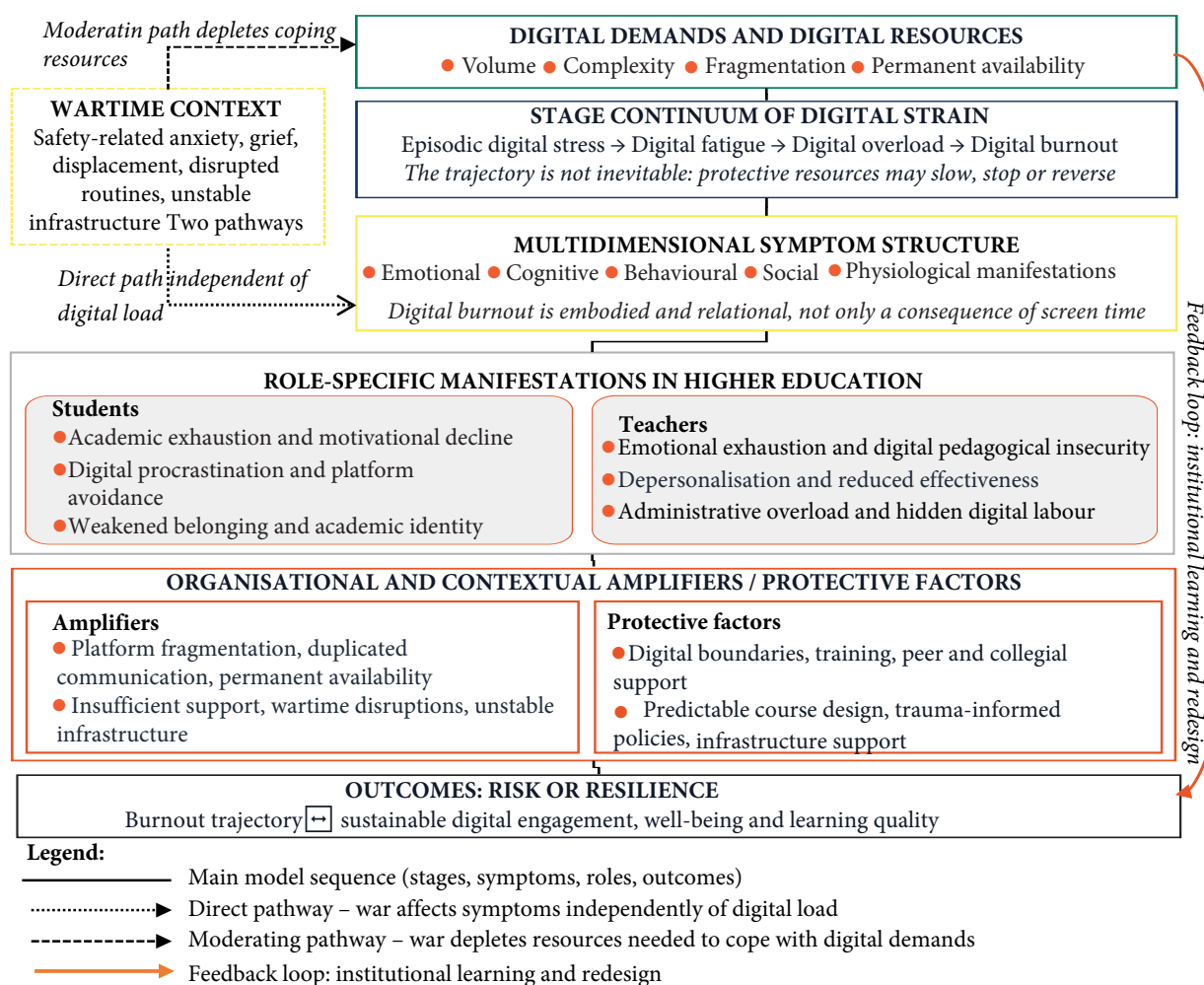


Figure 2. Conceptual model of digital burnout in higher education by stages, role-specific manifestations and institutional outcomes

Source: developed by the authors

Discussion of digital burnout as a stage-based and role-sensitive phenomenon

The results of this review confirmed that digital burnout in higher education should be understood as a distinct socio-technical form of exhaustion rather than a simple extension of general screen fatigue. The proposed distinction between episodic digital stress, digital fatigue, digital overload and digital burnout was important because it clarified different levels of severity and distinct prevention needs. This finding was consistent with the broader burnout literature, which views burnout as a chronic process rather than a sudden state. C. Leclercq & I. Hansez (2024) emphasised that burnout prevention should be adapted to temporal stages, since interventions that are useful at early stages may no longer be sufficient once chronic exhaustion has developed. Therefore, the stage continuum proposed in this

article contributed to the literature by translating this temporal logic into the specific context of digitally mediated higher education.

The first important finding was that digital burnout has a multidimensional symptom structure. Emotional exhaustion, cognitive overload, behavioural avoidance, social disconnection and physiological strain did not appear as separate phenomena; rather, they reinforced one another. This interpretation was supported by research on videoconferencing fatigue. J.N. Bailenson (2021) explained Zoom fatigue through nonverbal overload, mirror anxiety, reduced mobility and increased cognitive effort, while G. Fauville *et al.* (2021) operationalised Zoom exhaustion and fatigue as a multidimensional construct. The proposed synthesis extended this logic beyond videoconferencing, showing that digital burnout in higher education encompassed not

only fatigue after synchronous online meetings but also dispersed digital tasks, platform fragmentation, permanent availability, reduced sense of belonging, and bodily discomfort. Thus, the key issue was not only the amount of time spent online but also the structure and quality of digital participation.

The second finding concerned the role of institutional design. The results showed that digital burnout was more likely when digital demands were high and institutional resources were insufficient. This aligned with the job demands-resources theory, which explains burnout as an imbalance between demands and available resources and emphasises that resources can buffer the negative effects of demands (Bakker & Demerouti, 2017). In the digital educational environment, demands include the number of platforms, task fragmentation, unclear communication rules, rapid technological change, administrative reporting and permanent availability. Resources include training, autonomy, platform usability, predictable course design, peer support, recovery time and psychological assistance. This interpretation was also consistent with the technostress literature. M. Tarafdar *et al.* (2019) distinguished techno-distress from techno-eustress, showing that technology is not inherently harmful; its effects depend on whether digital demands are perceived as manageable and meaningful. Similarly, L. Nascimento *et al.* (2024) demonstrated that techno-eustress can emerge among higher education teachers when sufficient resources are available. Therefore, the practical implication was not to reject digitalisation but to redesign it to reduce harmful pressure and strengthen meaningful digital engagement.

The third finding was that digital burnout is role-specific. Students and teachers may participate in the same digital educational environment, but they do not experience the same risks in the same way. For students, digital burnout was primarily associated with academic exhaustion, pressure to self-regulate, fragmented assignments, reduced motivation, procrastination, and a weakened sense of belonging. This finding aligns with the academic burnout literature. W.B. Schaufeli *et al.* (2002) conceptualised student burnout as study-related exhaustion, cynicism and feelings of inefficacy. A. Aria *et al.* (2024) identified factors affecting academic burnout in online education during the pandemic. It analysed their cause-and-effect relationships using the grey Delphi and grey DEMATEL techniques. At the same time, L.Z. Chong *et al.* (2025) identified academic workload, perfectionism, self-efficacy and support as recurring determinants of student burnout. The present study added that these determinants take technological form in digital learning: workload is distributed across platforms, deadlines are constantly visible, and self-efficacy depends in part on the ability to manage digital tools and communication channels.

For teachers, digital burnout was linked to a distinct configuration of pressures. It was shaped by digital pedagogical insecurity, emotional labour, permanent availability, administrative digitalisation, platform fragmentation

and responsibility for learning outcomes. This finding was supported by studies showing that teacher technostress is associated with emotional exhaustion, reduced well-being and turnover intentions. C.B. Califf & S. Brooks (2020), in a study of K-12 teachers, demonstrated that techno-stressors can contribute to burnout and turnover intention when literacy facilitation is insufficient. B.-C. Chen *et al.* (2024) showed that teachers' perceived competence in using information and communication technologies is associated with lower emotional exhaustion and higher well-being, while X. Yang & J. Du (2024) linked teachers' digital burnout to self-efficacy, online pedagogical and content knowledge, and emotion regulation. These findings supported the interpretation that teacher digital burnout is not merely an individual inability to adapt to technology; it is also a consequence of how digital pedagogical work is organised, supported and recognised.

The comparison between students and teachers also showed that burnout in one group can affect the other. Burned-out teachers may provide delayed feedback, simplify digital course design, reduce consultation time and become less emotionally available to students. This can weaken student engagement and increase student uncertainty. Conversely, disengaged, silent or absent students can intensify teachers' sense of inefficacy and emotional exhaustion. G. Mesh *et al.* (2025) discussed how teacher burnout may undermine instructional effectiveness, teacher-student relationships, student motivation and academic performance, while D.J. Madigan & L.E. Kim (2021) showed that teacher burnout and job satisfaction are closely related to intentions to leave the profession. These findings indicated that digital burnout should be treated as an educational ecosystem risk rather than a private psychological difficulty. The consequences extend from individual well-being to teaching quality, student achievement, staff retention and institutional resilience.

The Ukrainian context strengthened this argument. Under wartime conditions, digital education does not function as an ordinary flexible learning format. It often serves as a continuity mechanism amid insecurity, displacement, unreliable electricity and internet access, disrupted routines and psychological strain. It was therefore necessary to distinguish two pathways through which war is connected to the manifestations described above, rather than treating it as a single undifferentiated amplifier of digital load. First, war operated as a direct, digitally independent stressor: safety-related anxiety, grief, forced displacement and interrupted study or teaching routines arose from wartime conditions themselves and would generate emotional and physiological symptoms even in the absence of any digital workload. Second, war operated as a moderator of the digital demands-resources balance: unstable electricity and internet connectivity, the absence of a safe and quiet space for synchronous participation, relocation-related disruption of routine, and a reduced psychological reserve all lowered the resources available to cope with a given level of digital demand, thereby amplifying its effect on exhaustion. The

reviewed Ukrainian literature supported both pathways, not just the second. Therefore, Ukrainian students and teachers may experience digital burnout not only due to technology use but also as part of a broader stress ecology. The reviewed Ukrainian studies on student resilience, wartime emotional exhaustion and the psychological state of student youth supported the conclusion that digital overload in Ukraine interacts with anxiety, uncertainty and reduced recovery opportunities. In contrast, a substantial part of the symptomatology they document – security-related anxiety, grief, and disruption of study and teaching routines – should be attributed directly to the war itself rather than to its interaction with digital demands. This made general digital well-being recommendations insufficient. In such a context, prevention must include trauma-informed communication, flexible assessment, infrastructure support and accessible psychological counselling.

The proposed conceptual model also had methodological significance. It linked three analytical levels often treated separately: the stage progression of burnout, its multidimensional symptom structure, and role-specific manifestations. This integration enabled the examination of digital burnout not only as a measurable psychological construct but also as a pattern of educational participation. S.-Y. Choi & J.-H. Kim (2024) validated the Korean version of the Digital Burnout Scale, indicating that the phenomenon is becoming more operationalised. However, higher education requires instruments capable of capturing the various forms of burnout among students and teachers. For students, diagnostic markers may include digital procrastination, camera avoidance, delayed submissions, reduced participation, and loss of academic belonging. For teachers, markers may include delayed feedback, reduced consultation time, simplified course design, avoidance of complex tools, and emotional distancing from students. Therefore, future diagnostic tools should be sensitive to both shared symptoms and role-specific expressions. Future Ukrainian instruments should also be able to statistically separate the direct and moderating contributions of war, rather than collapsing wartime experience into a single composite risk variable, since the present conceptual synthesis does not allow this separation to be quantified.

The findings also had practical implications for higher education management. Prevention should not be limited to individual advice, such as taking breaks, improving time management or reducing screen time. These measures may be useful in the early stages of episodic digital stress and digital fatigue, but they are insufficient when overload becomes chronic. At the institutional level, universities need digital workload governance, clearer communication rules, reduced platform fragmentation, recognition of online communication as labour, support for digital pedagogical competence and systematic monitoring of early warning signs. F. Saleem *et al.* (2024) showed that instructor and university support can buffer the negative effect of technostress on online learning quality, while P. Solís *et al.* (2023) demonstrated the importance of perceived organisational

support in relation to teachers' technostress. These findings confirm that institutional support is essential for preventing digital burnout, not just an extra resource. Specifically, for Ukraine, support must target two key areas: the direct pathway – including safety, psychological first aid, and flexible routines – and the moderating pathway – encompassing infrastructure, connectivity, and quiet study and teaching spaces. Addressing digital load alone won't suffice, as it doesn't tackle symptoms caused directly by war.

At the same time, the proposed interpretation had certain limitations. The article was based on a narrative and conceptual synthesis rather than primary empirical data. Therefore, the proposed typologies and model should be treated as theoretically grounded analytical tools that require further empirical validation. Future research should test the stage continuum and role-specific markers through surveys, interviews and longitudinal studies across diverse higher education contexts. It would also be useful to compare digital burnout trajectories across stable, crisis and wartime educational environments. For Ukraine, particular attention should be paid to how infrastructural instability, displacement, security threats and hybrid learning formats shape digital exhaustion and recovery. Such studies would enable a move from conceptual systematisation to evidence-based institutional interventions. Overall, the discussion confirmed the article's central finding: digital burnout in higher education is not a purely individual reaction to technology but a systemic process shaped by the interaction of digital demands, personal and social resources, educational roles and institutional conditions. This means that responsibility for prevention cannot be placed solely on students or teachers. Sustainable digital education requires institutions to design digital environments that are pedagogically meaningful, psychologically safe, technically reliable and compatible with human recovery.

CONCLUSIONS

Digital overload and digital burnout in higher education are multidimensional phenomena that cannot be reduced to screen fatigue or insufficient digital skills. The review showed that digital burnout arises from the interplay of technological demands, educational roles, emotional labour, cognitive load, social isolation, bodily strain, and insufficient institutional support. Its manifestations include emotional exhaustion, irritability, anxiety, mental fog, attention decline, procrastination, digital avoidance, loneliness, depersonalisation of online interaction, sleep disturbance, headaches, eye strain, and psychosomatic symptoms. The article presented a stage-based continuum from episodic digital stress to digital fatigue, overload, and burnout. This continuum is important because each stage requires different preventive measures. Early digital stress may be addressed through technical support and short breaks; digital fatigue requires adjustments to workload and ergonomics; digital overload requires institutional redesign of digital demands; and digital burnout requires professional psychological help and long-term organisational changes.

The most important early markers are chronic fatigue that persists despite rest, mental fog, systematic procrastination, avoidance of digital interaction, screen-related detachment, and persistent psychosomatic symptoms.

The comparison of students and teachers demonstrated that the same syndrome has role-specific forms. Students are more vulnerable to academic exhaustion, motivational decline, digital procrastination and platform avoidance, and weakened academic identity and reduced belonging. Teachers are more vulnerable to emotional exhaustion, digital pedagogical insecurity, depersonalisation of online interaction, reduced professional effectiveness, and turnover intention. These processes are mutually reinforcing: burned-out teachers provide weaker support, while burned-out students reduce engagement and intensify teachers' sense of inefficacy. Therefore, digital burnout must be addressed within the educational ecosystem. In Ukrainian higher education, wartime conditions shaped the problem through two distinct mechanisms rather than intensification alone. War acted directly on students and teachers as an independent source of safety-related anxiety, disrupted routines, and psychological strain, while also serving as a moderator that depleted the resources (infrastructure, connectivity, recovery time) needed to cope with digital demands, thereby intensifying the impact of

any given level of digital workload. Forced digitalisation, infrastructural instability, and cumulative psychological stress, therefore, combined with, rather than merely amplifying, the wartime burden itself. The practical implication was that universities should integrate digital workload governance, communication boundaries, digital competence development, social support, early diagnosis, and context-sensitive psychological services that separately addressed war-related distress and digitally mediated overload. Future research should develop validated diagnostic instruments for different groups of higher education participants, test intervention programmes in hybrid and wartime contexts, empirically disentangle the direct and moderating effects of war on digital burnout symptomatology, and examine how institutional digital policies influence long-term educational resilience.

ACKNOWLEDGEMENTS

None.

FUNDING

None.

CONFLICT OF INTEREST

None.

REFERENCES

- [1] Aghayani, B., & Syahid, A. (2025). Teacher burnout and resilience. In *Positive psychology in foreign language teaching* (pp. 55-84). Hershey: IGI Global. [doi: 10.4018/979-8-3373-2449-4.ch002](https://doi.org/10.4018/979-8-3373-2449-4.ch002).
- [2] Aria, A., Jafari, P., & Behifar, M. (2024). Identification of factors affecting student academic burnout in online education during the COVID-19 pandemic using grey Delphi and grey-DEMATEL techniques. *Scientific Reports*, 14(1), article number 3989. [doi: 10.1038/s41598-024-53233-7](https://doi.org/10.1038/s41598-024-53233-7).
- [3] Bailenson, J.N. (2021). Nonverbal overload: A theoretical argument for the causes of Zoom fatigue. *Technology, Mind, and Behavior*, 2(1), 1-6. [doi: 10.1037/tmb0000030](https://doi.org/10.1037/tmb0000030).
- [4] Bakker, A.B., & Demerouti, E. (2017). Job demands-resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), 273-285. [doi: 10.1037/ocp0000056](https://doi.org/10.1037/ocp0000056).
- [5] Basch, J.M., Albus, P., & Seufert, T. (2025). Fighting Zoom fatigue: Evidence-based approaches in university online education. *Scientific Reports*, 15(1), article number 7091. [doi: 10.1038/s41598-025-90973-6](https://doi.org/10.1038/s41598-025-90973-6).
- [6] Bobro, N.S. (2024). Features of digital transformation of higher education. *Investments: Practice and Experience*, 3, 76-80. [doi: 10.32702/2306-6814.2024.3.76](https://doi.org/10.32702/2306-6814.2024.3.76).
- [7] Burovytska, A.I. (2024). Features of student resilience during learning in wartime conditions. *Scientific Notes. Series: Psychology*, 2, 17-23. [doi: 10.32782/cusu-psy-2024-2-2](https://doi.org/10.32782/cusu-psy-2024-2-2).
- [8] Califf, C.B., & Brooks, S. (2020). An empirical study of techno-stressors, literacy facilitation, burnout, and turnover intention as experienced by K-12 teachers. *Computers & Education*, 157, article number 103971. [doi: 10.1016/j.compedu.2020.103971](https://doi.org/10.1016/j.compedu.2020.103971).
- [9] Cazan, A.-M., Maican, C.I., & Cocoradă, E. (2024). Technostress and time spent online: A cross-cultural comparison for teachers and students. *Frontiers in Psychology*, 15, article number 1377200. [doi: 10.3389/fpsyg.2024.1377200](https://doi.org/10.3389/fpsyg.2024.1377200).
- [10] Chen, B.-C., Wu, Y.-T., & Chuang, Y.-T. (2024). The impact of teachers' perceived competence in information and communication technology usage and workplace anxiety on well-being, as mediated by emotional exhaustion. *Frontiers in Psychology*, 15, article number 1404575. [doi: 10.3389/fpsyg.2024.1404575](https://doi.org/10.3389/fpsyg.2024.1404575).
- [11] Choi, S.-Y., & Kim, J.-H. (2024). Validity and reliability of the Korean version of the digital burnout scale. *Frontiers in Public Health*, 12, 1386394. [doi: 10.3389/fpubh.2024.1386394](https://doi.org/10.3389/fpubh.2024.1386394).
- [12] Chong, L.Z., Foo, L.K., & Chua, S.-L. (2025). Student burnout: A review on factors contributing to burnout across different student populations. *Behavioral Sciences*, 15(2), article number 170. [doi: 10.3390/bs15020170](https://doi.org/10.3390/bs15020170).
- [13] Deep, P.D., & Chen, Y. (2025). Student burnout and mental health in higher education during COVID-19: Online learning fatigue, institutional support, and the role of artificial intelligence. *Higher Education Studies*, 15(2), article number 381. [doi: 10.5539/hes.v15n2p381](https://doi.org/10.5539/hes.v15n2p381).

- [14] Dhayinta, S.T., Nasir, M., & Zulfaida, A. (2025). Teacher burnout in the digital transition: Implications for learning quality. *Educatum: Scientific Journal of Education*, 3(1), 26-34. doi: [10.59165/educatum.v3i1.171](https://doi.org/10.59165/educatum.v3i1.171).
- [15] Dragano, N., & Lunau, T. (2020). Technostress at work and mental health: Concepts and research results. *Current Opinion in Psychiatry*, 33(4), 407-413. doi: [10.1097/yco.0000000000000613](https://doi.org/10.1097/yco.0000000000000613).
- [16] Emmamally, W., Wentzel, D., & Brysiewicz, P. (2024). Describing Zoom exhaustion and fatigue in nursing students at a university in South Africa. *Health SA Gesondheid*, 29, article number a2675. doi: [10.4102/hsag.v29i0.2675](https://doi.org/10.4102/hsag.v29i0.2675).
- [17] Fauville, G., Luo, M., Queiroz, A.C.M., Bailenson, J.N., & Hancock, J. (2021). Zoom exhaustion & fatigue scale. *Computers in Human Behavior Reports*, 4, article number 100119. doi: [10.1016/j.chbr.2021.100119](https://doi.org/10.1016/j.chbr.2021.100119).
- [18] International Labour Organisation. (2017). *Working anytime, anywhere: The effects on the world of work*. Retrieved from <https://www.ilo.org/publications/working-anytime-anywhere-effects-world-work/>.
- [19] Khedhaouria, A., & Cucchi, A. (2019). Technostress creators, personality traits, and job burnout: A fuzzy-set configurational analysis. *Journal of Business Research*, 101, 349-361. doi: [10.1016/j.jbusres.2019.04.029](https://doi.org/10.1016/j.jbusres.2019.04.029).
- [20] Kim, L.E., Jörg, V., & Klassen, R.M. (2019). A meta-analysis of the effects of teacher personality on teacher effectiveness and burnout. *Educational Psychology Review*, 31(1), 163-195. doi: [10.1007/s10648-018-9458-2](https://doi.org/10.1007/s10648-018-9458-2).
- [21] Leclercq, C., & Hansez, I. (2024). Temporal stages of burnout: How to design prevention? *International Journal of Environmental Research and Public Health*, 21(12), article number 1617. doi: [10.3390/ijerph21121617](https://doi.org/10.3390/ijerph21121617).
- [22] Lembryk, I.S., & Pryimak, R.Yu. (2018). Emotional burnout syndrome in a medical university teacher. *Medical Practice*, 5-6, 180-186. doi: [10.31640/jvd.5-6.2018\(31\)](https://doi.org/10.31640/jvd.5-6.2018(31)).
- [23] Li, H., & Yang, J. (2025). Managing online learning burnout via investigating the role of loneliness during COVID-19. *BMC Psychology*, 13(1), article number 151. doi: [10.1186/s40359-025-02419-3](https://doi.org/10.1186/s40359-025-02419-3).
- [24] Madigan, D.J., & Kim, L.E. (2021). Towards an understanding of teacher attrition: A meta-analysis of burnout, job satisfaction, and teachers' intentions to quit. *Teaching and Teacher Education*, 105, article number 103425. doi: [10.1016/j.tate.2021.103425](https://doi.org/10.1016/j.tate.2021.103425).
- [25] Marsh, E., Perez Vallejos, E., & Spence, A. (2024). Overloaded by information or worried about missing out on it: A quantitative study of stress, burnout, and mental health implications in the digital workplace. *SAGE Open*, 14(3). doi: [10.1177/21582440241268830](https://doi.org/10.1177/21582440241268830).
- [26] Maslach, C., & Leiter, M.P. (2016). Understanding the burnout experience: Recent research and its implications for psychiatry. *World Psychiatry*, 15(2), 103-111. doi: [10.1002/wps.20311](https://doi.org/10.1002/wps.20311).
- [27] Mesh, G., Rivas, J., & Chan, R. (2025). The impact of teacher burnout on student achievement. *Revista El Labrador*, 10(03), 219-232. doi: [10.61285/r.e.l.-uisil.v10i03.200](https://doi.org/10.61285/r.e.l.-uisil.v10i03.200).
- [28] Nascimento, L., Correia, M.F., & Califf, C.B. (2024). Towards a bright side of technostress in higher education teachers: Identifying several antecedents and outcomes of techno-eustress. *Technology in Society*, 76, article number 102428. doi: [10.1016/j.techsoc.2023.102428](https://doi.org/10.1016/j.techsoc.2023.102428).
- [29] OECD. (2023). *Unravelling the layers of teachers' work-related stress*. Paris: OECD Publishing. doi: [10.1787/bca86c20-en](https://doi.org/10.1787/bca86c20-en).
- [30] Prokofieva, L.A. (2024). Features of the psychological state of student youth in conditions of war. *Higher Education of Ukraine in the Context of Integration into the European Educational Space*, 92(1(2)), 146-156. doi: [10.38014/osvita.2023.92.13](https://doi.org/10.38014/osvita.2023.92.13).
- [31] Prokopenko, O.A. (2025). Emotional exhaustion and fatigue of students during war. *Problems of Modern Transformations. Series: Pedagogy*, 7, 1-6. doi: [10.54929/2786-9199-2025-7-10-01](https://doi.org/10.54929/2786-9199-2025-7-10-01).
- [32] Răducu, C.-M., & Stănculescu, E. (2022). Teachers' burnout risk during the COVID-19 pandemic: Relationships with socio-contextual stress – a latent profile analysis. *Frontiers in Psychiatry*, 13, article number 870098. doi: [10.3389/fpsy.2022.870098](https://doi.org/10.3389/fpsy.2022.870098).
- [33] Riedl, R. (2012). On the biology of technostress. *ACM SIGMIS Database: The Database for Advances in Information Systems*, 44(1), 18-55. doi: [10.1145/2436239.2436242](https://doi.org/10.1145/2436239.2436242).
- [34] Salama, A. (2025). Tertiary teacher burnout. In *Teacher burnout from a complex systems perspective* (pp. 155-178). Cham: Springer. doi: [10.1007/978-3-031-85024-0_8](https://doi.org/10.1007/978-3-031-85024-0_8).
- [35] Salanova, M., Llorens, S., & Cifre, E. (2013). The dark side of technologies: Technostress among users of information and communication technologies. *International Journal of Psychology*, 48(3), 422-436. doi: [10.1080/00207594.2012.680460](https://doi.org/10.1080/00207594.2012.680460).
- [36] Saleem, F., Chikhaoui, E., & Malik, M.I. (2024). Technostress in students and quality of online learning: Role of instructor and university support. *Frontiers in Education*, 9, article number 1309642. doi: [10.3389/feduc.2024.1309642](https://doi.org/10.3389/feduc.2024.1309642).
- [37] Schaufeli, W.B., Martínez, I.M., Pinto, A.M., Salanova, M., & Bakker, A.B. (2002). Burnout and engagement in university students. *Journal of Cross-Cultural Psychology*, 33(5), 464-481. doi: [10.1177/0022022102033005003](https://doi.org/10.1177/0022022102033005003).
- [38] Solís, P., Lago-Urbano, R., & Real Castela, S. (2023). Factors that impact the relationship between perceived organizational support and technostress in teachers. *Behavioral Sciences*, 13(5), article number 364. doi: [10.3390/bs13050364](https://doi.org/10.3390/bs13050364).
- [39] Soroka, O. (2025). Transformation of professional activity of higher education teachers in the conditions of digitalisation. *Prospects and Innovations of Science*, 1(47), 1099-1111. doi: [10.52058/2786-4952-2025-1\(47\)-1099-1111](https://doi.org/10.52058/2786-4952-2025-1(47)-1099-1111).

- [40] Tarafdar, M., Cooper, C.L., & Stich, J. (2019). The technostress trifecta: Techno eustress, techno distress and design: Theoretical directions and an agenda for research. *Information Systems Journal*, 29(1), 6-42. doi: 10.1111/isj.12169.
- [41] UNESCO & International Task Force on Teachers for Education 2030. (2024). *Global report on teachers: Addressing teacher shortages and transforming the profession*. Paris: UNESCO. doi: 10.54675/FIGU8035.
- [42] Valiao, A. (2025). Technostress and its impact on the job performance of teachers. *Journal of Interdisciplinary Perspectives*, 3(2), 352-361. doi: 10.69569/jip.2024.0692.
- [43] World Health Organisation. (2019). *Burn-out an occupational phenomenon: International classification of diseases*. Retrieved from <https://www.who.int/news/item/28-05-2019-burn-out-an-occupational-phenomenon-international-classification-of-diseases>.
- [44] Yang, X., & Du, J. (2024). The effect of teacher self-efficacy, online pedagogical and content knowledge, and emotion regulation on teacher digital burnout: A mediation model. *BMC Psychology*, 12(1), article number 51. doi: 10.1186/s40359-024-01540-z.

Людмила Романовська

Доктор педагогічних наук, професор
Хмельницький національний університет
29016, вул. Інститутська, 11, м. Хмельницький, Україна
<https://orcid.org/0000-0001-7547-4575>

Оксана Кравчук

Кандидат економічних наук, доцент
Київський національний економічний університет імені Вадима Гетьмана
03057, просп. Берестейський, 54/1, м. Київ, Україна
<https://orcid.org/0000-0002-6337-7759>

Ірина Варіс

Кандидат економічних наук, доцент
Київський національний економічний університет імені Вадима Гетьмана
03057, просп. Берестейський, 54/1, м. Київ, Україна
<https://orcid.org/0000-0002-9502-5045>

Цифрове перевантаження та вигорання у вищій освіті

Анотація. Актуальність дослідження зумовлена тим, що цифрове освітнє середовище у вищій освіті дедалі частіше стає джерелом не лише гнучкості навчання, а й інформаційного перевантаження, постійної доступності, фрагментації комунікації, когнітивного напруження та недостатнього відновлення студентів і викладачів. Метою статті була систематизація проявів цифрового перевантаження та цифрового вигорання у вищій освіті, визначення їхніх стадій, рольових відмінностей між студентами й викладачами та інституційних чинників, що посилюють або послаблюють ризики вигорання. У дослідженні використано наративний огляд літератури, концептуальний і порівняльний аналіз, типологічне узагальнення та моделювання. У результаті обґрунтовано, що цифрове вигорання має мультидименсійну структуру й охоплює емоційні, когнітивні, поведінкові, соціальні та фізіологічні прояви. Визначено континуум його розвитку від епізодичного цифрового стресу до цифрової втоми, цифрового перевантаження та клінічно значущого вигорання. Доведено, що ранні прояви цифрового стресу можуть бути зменшені через технічну підтримку, чіткі інструкції та короткі перерви, тоді як цифрове перевантаження й вигорання потребують перегляду цифрового навантаження, комунікаційних правил, організаційної підтримки та професійної психологічної допомоги. Розроблено авторську типологію рольових проявів цифрового вигорання: у студентів воно проявляється через академічне виснаження, цифрову прокрастинацію, зниження мотивації, послаблення навчальної ідентичності та належності до університетської спільноти; у викладачів – через емоційне виснаження, цифрово-педагогічну невпевненість, деперсоналізацію онлайн-взаємодії, приховану цифрову працю та зниження якості викладання. Запропоновано концептуальну модель цифрового вигорання у вищій освіті за стадіями, рольовими проявами та інституційними наслідками. Практична цінність дослідження полягає в обґрунтуванні диференційованих профілактичних заходів для студентів, викладачів і адміністрацій закладів вищої освіти

Ключові слова: цифрове вигорання; технострес; академічне виснаження; благополуччя викладачів; втома від онлайн-навчання; освіта в умовах війни