B R A I N

Broad Research in Artificial Intelligence and Neuroscience

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About the Journal

BRAIN-Broad Research in Artificial Intelligence and Neuroscience aims to create links between researchers from apparently different scientific fields, such as Computer Science and Neurology. In fact, many topics, such as Artificial Intelligence, Cognitive Sciences, and Neurosciences, can intersect in the study of the brain and its intelligence functions.

Our journal contains peer-reviewed articles. These should be original and unpublished works by the authors. The peer review process is conducted anonymously, with reviewers being well-recognised scientists from our scientific board, as well as independent experts.

Some innovative young researchers from around the world had the idea to edit and publish in the BRAIN journal in order to make an agora of an interdisciplinary study of the brain. Young scientists and seniors in artificial intelligence, cognitive sciences, and neurology fields are expected to publish their original works in our journal.

BRAIN Journal is an open-source journal, dedicated to promoting the latest scientific news in the field of multidisciplinary studies of the brain, consciousness, and their connection with artificial intelligence.

BRAIN Journal supports research and novelty in health, medicine, and the life sciences.

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The journal's main topics of interest are related to:

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- Varia: Philosophy of mind and related, Neuroethics, Philosophy of Artificial Intelligence, Ethics of artificial intelligence technologies, Game theory, Decision theory, Transhumanism, Philosophy of language.

Journal History and website content

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The content of the journal until August 2024 is available in mirroring, both on https://lumenpublishing.com/journals/index.php/brain/ (Lumen Publishing)
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We seek papers for our next issues of the BRAIN journal, from academicians, professors, researchers, doctors and clinicians, linguists, psychotherapists, PhD students, and anyone connected to the journal's topics.

We welcome contributions from all over the world. We plan to put out the next issue of the BRAIN in September 2025. You are invited to submit an article on any topic relevant to our journal. The deadline for sending articles is the 15th of July, 2025. Send your articles to brain@edusoft.ro or sign in to use the online system for submitting papers: https://brain.edusoft.ro/

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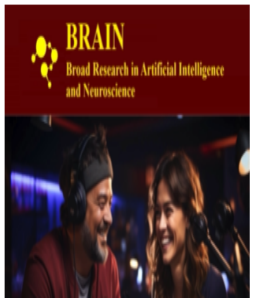

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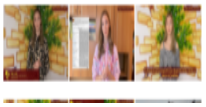

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Neuropsychological Tools and Diagnostic Methods for Preventing Professional Burnout in University Teachers

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Abstract: *The article analyses the key issues surrounding emotional burnout syndrome in the teaching profession at higher education institutions. It highlights that burnout is driven by the specific demands of the teaching profession and one's typological characteristics. Depending on the burnout stage, recovery can be achieved through personal resources or with the help of specialists. Traditionally, emotional health issues among university teachers have been examined through burnout indicators correlated with personality traits or stress-related occupational factors, which are now recognised as affecting university teachers. Recent research has shifted focus away from studying burnout concerning psychophysiological characteristics, temperament, and character, instead emphasising moral disruptions as a contributing factor to emotional burnout. This article aligns with recent studies conceptualising emotional burnout as a complex, dynamic phenomenon rooted in axiological and moral determinants. The primary emphasis is on neuropsychological tools and diagnostic methods for preventing professional burnout. The article defines emotional and professional burnout among university teachers and presents diagnostic findings on burnout syndrome in this group. Furthermore, it identifies neuropsychological tools to prevent it. The article also proves that incorporating neuropsychological tools into teaching and assessment can greatly improve the effectiveness of adaptive learning platforms and cognitive evaluations. Finally, it examines AI-driven mental health monitoring tools for tracking stress levels in teachers.*

Keywords: *the teaching profession; professional burnout; resources; stress; an individual; emotional burnout.*

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1. Introduction

Teaching at the university level stands out as particularly complex and multifunctional among all career fields. This field imposes increasing demands on teachers, both as individuals and as professionals engaged in communication and knowledge transfer. These growing expectations inevitably impact the psycho-emotional well-being of individuals responsible for meeting the standards set by their profession, society, and peers within the professional community.

This challenge has become especially pronounced with the widespread implementation of the competency-based approach across various professional fields. Practical experience indicates that university teachers must demonstrate a high level of professional competence to apply the principles of this approach in higher education successfully.

This requirement stems from the nature of teaching, which involves addressing numerous challenges, performing various complex tasks, and resolving situations that arise within the educational process. Teaching is an intricate and highly responsible activity, and, as Confucius (1997) once remarked, the teacher's role is to impart new knowledge to their students.

The article's international relevance lies in its focus on the critical problem of professional burnout among university teachers, a global challenge driven by the ever-increasing requirements for the educational process. Research consistently shows that professional burnout affects multiple aspects, including the quality of teaching, teachers' psychological well-being, and students' learning outcomes. The authors make a valuable contribution by adopting a comprehensive approach to diagnosing burnout. They incorporate the latest neuropsychological tools and propose effective prevention strategies, offering practical solutions to mitigate this issue.

As noted by Mishchenko (2015), the expectations placed on university educators have not only persisted but have also significantly intensified. Beyond demonstrating academic expertise, they are now required to possess a strong grasp of pedagogy, developmental and educational psychology, as well as the regulatory frameworks governing their institutions. Similarly, Nerubasska, Palshkov, and Maksymchuk (2020) emphasise that the roles of teachers have expanded considerably. In addition to their teaching duties, they engage in research, develop and prepare lectures, and organise practical sessions and seminars. Furthermore, they create new programs that adhere to educational standards, mentor students, and participate in departmental methodological initiatives to enhance their professional development.

These responsibilities demonstrate that teaching is not solely an intellectually demanding profession. It also involves significant emotional, moral, and physical strain. This combination of challenges introduces risk factors that impact teachers' psycho-emotional health.

Beauchamp (2008) notes that the constant pressure to meet expectations, coupled with the need for extensive knowledge and a high level of expertise, leads to emotional tension and a depletion of psycho-emotional resources, ultimately resulting in professional burnout. According to Lefterov et al. (2020), teachers represent 30% of those suffering from burnout, making them the profession most affected by this issue. This is understandable, given the considerable energy teachers invest in their work, often preventing them from fully recovering their resources.

The authors provide a critical analysis of contemporary scientific methods for studying professional burnout, referencing foundational contributions from esteemed scholars like Freudenberger (1974) and Maslach & Leiter (2008), among others. They argue that traditional diagnostic approaches, which focus solely on psychological or social factors, fall short of capturing the complexity of burnout. This article emphasises the necessity of integrating neuropsychological tools to better understand the neurobiological mechanisms that underlie stress and emotional exhaustion.

The article's originality lies in its proposed approach to preventing and mitigating burnout through intervention programmes. These programmes are designed to facilitate neuropsychological adjustments and foster resilience among teachers. Additionally, the authors emphasise the necessity of cultivating a supportive environment within higher education institutions. This environment

should balance individual needs with organisational considerations to effectively minimise burnout risks.

Furthermore, the article represents a valuable contribution to refining scientific approaches to professional burnout. The authors' findings highlight the need for continued research, especially in an international context, and advocate for the practical implementation of their proposed tools and strategies in higher education settings.

Accordingly, this article aims to explore the concepts of emotional and professional burnout among university teachers. It also seeks to assess the prevalence of burnout syndrome within this group and identify neuropsychological tools that can help prevent it.

The article employs an interdisciplinary methodology that integrates theoretical analysis, empirical research, and neuropsychological methods. This approach provides a holistic understanding of professional burnout among university teachers and supports the development of effective strategies for diagnosing and preventing it. Also, it allows using AI-driven tools for mental health monitoring to measure stress levels among teachers.

2. Emotional and Professional Burnout among University Teachers

Maslach and Leiter (2008) note that the concept of "emotional burnout" was first introduced into psychology by American psychiatrist Herbert Freudenberger in 1974. He conducted his initial research with a group of professionals employed in psychological clinics and crisis centres. Through his direct involvement in this line of work, Freudenberger observed not only the behaviours of his colleagues but also his own experiences, identifying signs of emotional burnout in both. He theorised that these symptoms emerged from prolonged emotional strain.

Another researcher, Myronchuk (2016), who followed Freudenberger's ideas (1974), also conducted diagnostics on emotional burnout and identified several stages:

- The stage of satisfaction with oneself, the work process, its results, and self-realisation. However, emerging risks, problems, contradictions, stress, anxiety, and emotional experiences gradually erode a sense of well-being, satisfaction, and confidence.
- The stage where the first signs of emotional exhaustion appear, often manifesting as psychosomatic issues such as frequent headaches, insomnia, anxiety, and other negative states.
- The stage of reduced attention to tasks, slow reactions, distractibility, and decreased productivity. To maintain previous performance levels, the individual begins working overtime or on weekends, which further depletes their energy.
- The stage of chronic fatigue, marked by a constant feeling of time pressure, which negatively affects health and leads to irritability, aggression, sleep disturbances, headaches, and other symptoms.
- The stage where chronic illnesses emerge, often followed by mood swings.

In this context, Lunov and Subbota (2022) identify risk factors that contribute to the emergence of emotional burnout. These factors can be broadly categorised into two groups: objectively and subjectively determined.

Objective risk factors encompass various socioeconomic conditions, as well as excessively high expectations from both society and the professional community. These factors include a significant sense of responsibility, overwhelming workloads, and a lack of social support from colleagues and management. Additional elements contributing to burnout risk are inadequate compensation, uncertainty regarding performance evaluations, and limited influence over decision-making processes. Furthermore, conflicting job demands, the ongoing threat of penalties, and the pressure to conceal true emotions increase this risk. Lastly, work overload, exacerbated by a lack of time off, vacations, or personal interests, further intensifies the likelihood of burnout.

Subjective risk factors for emotional burnout encompass various typological traits, including high emotional instability and low levels of professional or social-psychological competence.

Another critical factor is excessive self-control, particularly when individuals suppress negative emotions. Insufficient self-regulation, in conjunction with heightened anxiety and depressive reactions, further contributes to this risk, often associated with internalised negative emotions. Additionally, rigid personality structures and poor overall health exacerbate the likelihood of experiencing burnout.

When multiple such manifestations and conditions are present, professional maladaptation occurs, leading to reduced work efficiency and a decline in the overall quality of professional life. If emotional burnout affects a member of the professional community, it negatively impacts not only their psychophysical well-being but also the emotional health of the entire organisation (Maslach, 1993).

Research and practical experience show that if an individual (or a group) cannot overcome this negative emotional state, independently or with external support, the condition will worsen, potentially leading to profound changes in their overall personality. This, in turn, will affect the entire team.

The stages and both objective and subjective risk factors contributing to emotional burnout help to conceptualise the syndrome as a mechanism developed by the individual. This mechanism acts as a psychological defence, involving the complete or partial suppression of emotions in response to psychological stressors. Such emotional behaviour patterns are most often observed in professional settings. This is why the term "professional burnout" was introduced and extensively analysed by Marushchenko (2022), among others.

Marushchenko (2022) describes burnout in university teachers as "a syndrome of physical and emotional exhaustion." Key signs of burnout include low self-esteem, a negative attitude toward work, and a loss of empathy for students, among other factors.

Maslach & Leiter (2008) defined professional burnout among university teachers as a syndrome of physical and emotional exhaustion. The main indicators of professional burnout include negative self-assessment, negativism toward work, and a loss of compassion for students (clients).

From a psychological perspective, "professional burnout" or "emotional burnout in the profession" is most commonly observed in individuals working in social or communicative fields. This includes professions within the "human-to-human" system, such as doctors, caregivers, teachers, psychologists, social workers, emergency responders, and others.

An equally important aspect of addressing emotional and professional burnout is identifying effective strategies for prevention and recovery. Tijdink, Vergouwen, and Smulders (2014) emphasised the importance of recognising the signs or symptoms of burnout, as this knowledge helps to clearly define the approaches, methods, and interventions required.

3. Empirical Research on Professional Burnout Syndrome in University Teachers

Effective diagnostics should initiate the investigation of crucial factors associated with recognising and diagnosing the signs or symptoms of burnout syndrome. In September 2024, the authors of this article conducted a diagnostic assessment involving 136 university instructors at Taras Shevchenko National University of Kyiv to evaluate their levels of professional burnout.

The study aims to assess the extent of professional burnout among university teachers and identify the key factors that contribute to its development.

Study sample. The study was conducted in September 2024 with 136 teachers from Taras Shevchenko National University of Kyiv.

Methods for diagnosing professional burnout. The standardised psychodiagnostic tool used to assess burnout levels was the Maslach Burnout Inventory (2025). This tool measures three key components of burnout: 1) emotional exhaustion (feeling drained, overwhelmed, and exhausted); 2) depersonalisation (negative attitudes toward students, emotional detachment); and 3) reduced professional efficacy (feeling ineffective and dissatisfied).

Expected outcomes are as follows: a) determining the percentage of university teachers experiencing high levels of burnout; b) identifying the main factors contributing to the development of burnout syndrome; and c) formulating recommendations for reducing stress and improving university teachers' emotional well-being.

The results of the study are summarised in Figure 1.

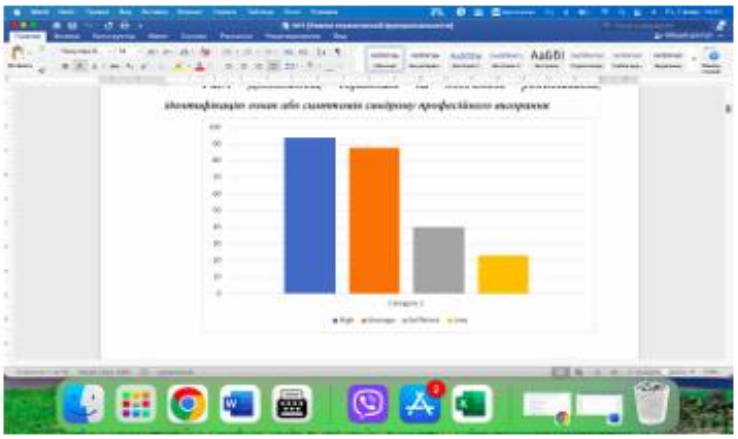

Figure 1. Studies aimed at the mandatory recognition and identification of the signs or symptoms of professional burnout syndrome.
Source: the authors' own conception

The obtained results reveal the following: 94% (a high level) indicated that burnout affected their ability to teach; 88% (a sufficient level) noted that their work negatively impacted their emotional well-being, leading to feelings of burnout and anxiety; 40% (an average level) reported experiencing stress and dissatisfaction with their professional performance; and 23% (a low level) mentioned frequent mood instability and observed psycho-emotional exhaustion.

University teachers with a high level of emotional burnout tend to distance themselves from their profession and from seeing themselves as effective workers. This is reflected in statements such as, *"Being a teacher these days is difficult, and few people want to dedicate themselves to this work"* and *"Recently, I don't feel like I'm needed here. I don't know what I need to do to be recognised for the good I do!"*.

These remarks also contain a social norm element, such as *"I want to believe that my work is still needed and valuable"*.

The ability to collaborate with colleagues in professional relationships also seems fragile, as expressed in *"A lot of my work depends on collaborating with other teachers, and when they are passive toward my ideas, it makes me feel apathetic about my work"*.

It seems likely that this intellectual rationalisation, considering the surrounding status and roles, serves as a temporary psychological defence against burnout.

Reflective judgements of a communicative nature add to the overall picture, with complaints about the loss of respect for the teacher's status *("Teachers have no authority with parents"*) and the difficulty of handling confrontational relationships (*"Conflict situations knock me off balance, and sometimes I just want to quit"*).

Personal reflections focus on the gap between the demands placed on teachers and the rewards for their work, whether moral or material: *"My job is just a job, a way to make money. I'm just waiting for retirement"*, *"My work requires dedication, creativity, and passion, but when I face student indifference, a lack of willingness to learn, and a focus only on grades rather than knowledge, all my enthusiasm disappears"*.

There is no sense of personal fulfillment in the work, and doubts about the effectiveness of teaching are emphasised: *"Why do anything if no one cares?"*; *"It feels like the government doesn't want educated, skilled people because there's NEVER time to work with students!"*.

University teachers with an average level of emotional burnout tend to have a more realistic view of their professional opportunities. They find positive aspects of their work and reflect on themselves as professionals: *"I particularly enjoy the project and research work and the results we achieve with students in the classroom"*, *"Overall, I like my profession, but often I feel like I'm not doing enough professionally. I try to avoid problems and shy away from responsibility"*, *"My job provides for me, and that's important too"*.

When comparing the advantages and disadvantages of the teaching profession, university teachers emphasise its collaborative nature and the opportunity to interact with various people: *"The most rewarding aspect of being a university teacher is the satisfaction that comes from engaging with students and colleagues. Both groups include many interesting, dynamic individuals"*.

Teachers in this diagnostic group assess their advantages critically but without dramatisation: *"If I reflect on my career, it seems that I haven't achieved much in terms of personal growth"*. The personal type of reflection is evident in their thoughts about future self-determination within the profession and the phenomenology of observed phenomena.

Among university teachers with an intermediate level of emotional burnout (between high and low), there is a search for supportive direction or a shift in professional focus, which requires significant effort both professionally and personally: *"When I chose this profession, I had a different vision. But over time, as I became immersed in this world, I realised how mistaken I was: I wasn't mentally or physically prepared for such demanding work. I had to develop many things within myself, restructure and change my stereotypes"*, *"I'm sure that if your personal life is poor, any job will soon lose its appeal. When you're needed by others and everything is going well, it gives you confidence in your professional choice*".

In everyday experiences, university teachers see destructive professional phenomenological traits in today's education: *"What frustrates me at work is that students come to university not to study but to 'hang out'. And their ambitions are huge"*; *"What poisons my work is having to fill out a huge number of reports that no one (!) cares about, as well as dealing with an overwhelming number of 'supervisors' (big, medium, small, and very small!) who oversee university teachers and think they have the right to issue all sorts of orders"*.

University teachers often highlight financial challenges as significant concerns, framing them as issues of human rights and social dignity: *"I am deeply worried about financial stability. It's impossible to maintain an adequate standard of living on a single monthly salary. That's why I take on a second shift and tutor every day. This leads to exhaustion, deteriorating health, and emotional numbness"*, *"Another reason for staying in the profession longer is the low pension. It's only enough to survive on; you can't live with dignity on it"*.

Despite these personal struggles, they remain mindful of broader national issues in education: *"What concerns me is that soon, many of my colleagues and I will retire, and there's no one to take our place"*.

University instructors experiencing average levels of emotional burnout exhibit a balanced approach to professional pressures, workplace crises, and the demands, both material and emotional, associated with teaching. Their preparedness to confront challenges is reflected in their selflessness, logical assessments, and willingness to pursue personal growth and professional development.

In contrast, university teachers with low emotional burnout and high psychological well-being express optimism about their professional roles: *"When my work is acknowledged, it inspires me to achieve more and come up with new ideas"*. They *"welcome educational innovations, adopt new trends, and bring fresh ideas to life"*. For them, *"work is a source of fulfillment and renewal"*.

At the same time, collaboration with colleagues and administrators is described as a norm: *"Despite occasional fears and concerns, I'm very satisfied with my job. Things aren't as bad as they might seem: I have a wonderful leader who is always supportive and a great team"*.

Workplace communication among teachers is built on mutual respect: *"I take great pleasure in maintaining good relationships with students, their parents, and colleagues outside of school. Words of support and gratitude from my students, colleagues, and the administration mean the world to me"*.

Moreover, challenges in interaction become opportunities to develop self-regulation skills: *"Working with people has taught me patience and self-restraint. Yet, even after all these years, I still struggle to ignore the disruptive behaviour of certain students"*.

A personal approach to reflection reveals one's sense of purpose in their profession: *"I believe everyone is born for a reason. I was born to guide students in their growth and to inspire in them the same passion for my subject that my university teachers once instilled in me"*.

Work is seen as a source of resilience and empowerment: *"My work is what keeps me grounded, restores my confidence, and reaffirms my value as a person. During the toughest moments in my life, my work has helped me refocus, stay productive, and preserve my sense of self"*.

Despite fostering positive relationships with students, the social standing of university teachers is undermined by a perception of them as passive executors: *"What's happening now? Society has diminished the status of teachers and university teachers to an unacceptable level. Endless demands, excessive paperwork, and a lack of regard for educators' input have turned the joy of teaching into a burden. We're left to tolerate this, but it leads to emotional exhaustion"*.

Even though university teachers often acknowledge the disrespect they encounter, their core mission remains unchanged: *"The key is understanding one's inner world and fostering moral values. Language knowledge forms the basis of citizenship. Therefore, the primary goal is to cultivate citizens of Ukraine*."

Educators who maintain stable emotional health tend to experience fewer doubts regarding their professional competencies and are less inclined to question their roles in workplace relationships. This diminished focus on self enables them to prioritise the assessment of their developmental resources and extend support to others, including younger colleagues, students, and peers who are receptive to collaboration.

Gavelin et al. (2022) identify several factors that contribute to burnout:

a) high emotional stress resulting from heavy workloads both in and outside the classroom;

b) insufficient resources to carry out job responsibilities effectively;

c) lack of proper psychological support in the workplace; and

d) influence of external factors (economic instability, socio-political conditions).

The results emphasise the need for a systematic approach to addressing professional burnout syndrome among university teachers and developing strategies to support their psycho-emotional well-being.

Emotional support groups in higher education institutions can take various forms and should be recognised as a type of pedagogical mentorship. Emotionally resilient teachers should be actively engaged in mentoring and supporting the professional growth of colleagues who face difficulties in their teaching roles but retain a positive outlook on their profession.

This work integrates insights from psychology, neuropsychology, and pedagogy, providing a comprehensive approach to the problem in question. It enhances the versatility of the methodology, making it adaptable to educational systems across different countries.

The proposed tools mitigate the risk of burnout, boost teacher productivity, improve teaching quality, and increase job satisfaction. These benefits have a positive impact on students and the overall effectiveness of the educational process.

The authors of this article highlight the potential of the developed methods to standardise approaches to diagnosing and preventing burnout on an international scale. Additionally, they

emphasise the role these methods can play in promoting global knowledge exchange and enhancing educational systems.

This article's international value lies in innovative tools and methodologies. These approaches provide a deeper understanding of teacher burnout and offer practical solutions to enhance the effectiveness of educational systems.

4. Neuropsychological Tools for Preventing Professional Burnout in University Teachers

Recent findings emphasise the importance of supporting teachers in managing professional and emotional burnout by creating conditions that reduce emotional strain and restore depleted resources. While practical psychology has achieved significant success in this area, it remains essential to tailor interventions to the specific nature of the client's work. Several effective strategies are available for university teachers to reduce risk factors and prevent emotional burnout in the teaching profession:

- Promoting a positive work environment by establishing relaxation spaces, psychological support areas, and wellness groups for faculty.
- Strengthening stress management skills by providing training in autogenic techniques, meditation, relaxation, self-regulation, and self-control.
- Creating a psychologically safe and comfortable environment for all actors in the educational process.
- Fostering respectful and trusting interpersonal relationships based on principles of partnership and constructive feedback.
- Equipping university teachers with conflict resolution skills and implementing conflict prevention strategies in the workplace.
- Conducting debriefings after critical incidents to provide emotional support.
- Introducing situational relief measures tailored to the specific needs of individual institutions.
- Establishing mentorship programmes to guide and support colleagues facing challenges in their teaching roles.
- Offering psychological counselling to address professional and personal concerns.
- Implementing group-based interventions, including stress management workshops, anti-stress programmes, and training sessions (Schaufeli, Maslach, & Marek, 1993).

These measures aim to cultivate a supportive and resilient professional environment, helping university teachers thrive while meeting the unique challenges of their roles.

The theoretical analysis, combined with the results of testing university teachers, concludes that the issue of emotional burnout among these specialists warrants further investigation. It is essential to create conditions and employ various methods and strategies that help minimise risk factors in the teaching profession. At the same time, it is important to recognise that a person, as a "self-regulating system", can tap into their full potential to prevent and overcome the symptoms of burnout. With professional support, these risk factors will pose minimal threats to the psycho-emotional well-being of those within the educational environment.

To effectively tackle burnout, it is essential to comprehend its neuropsychological foundations. Burnout among university educators is linked to several contributing factors. Chronic stress, stemming from prolonged strain, depletes cognitive resources. This leads to emotional exhaustion, characterised by feelings of emptiness and a diminished interest in work. Consequently, depersonalisation occurs, resulting in a detachment from students, colleagues, and the profession itself. Additionally, there is often a decline in professional accomplishments, a decrease in work quality, and challenges with concentration.

Neuropsychological tools for preventing burnout include several strategies. Meditation, for instance, enhances attention, reduces stress, and improves emotional regulation through mindfulness practice. Cognitive-behavioural therapy helps change negative thoughts and behaviour patterns that contribute to burnout. Regular physical activity boosts endorphin production, which reduces stress levels, while healthy sleep is essential, as inadequate rest negatively impacts cognitive functions and emotional well-being. Proper nutrition also plays a role, as a balanced diet provides essential nutrients for optimal brain health. In addition, support from colleagues, friends, and family can help alleviate feelings of loneliness and isolation. Effective time management is another key factor in preventing overload and burnout.

Higher education administration plays a vital role in mitigating faculty burnout. To achieve this, it is essential to cultivate a supportive psychological climate. This involves building trust between administration and faculty, providing recognition and emotional support, as well as offering training in stress management and emotional intelligence. Additionally, it is important to ensure a balanced workload and to create opportunities for rest and recovery. Encouraging faculty development through continued education, participation in conferences, and engagement in professional activities is also crucial for promoting well-being and reducing burnout.

Thus, burnout syndrome is a multifaceted issue that requires a holistic approach. Combining neuropsychological tools with organisational strategies can effectively prevent teacher burnout and contribute to creating a positive educational environment.

Professional burnout is a major issue among university teachers. Various psychotherapeutic approaches, including cognitive-behavioural therapy (CBT), meditation, mindfulness, and physical activity, can be effective in preventing and addressing it.

Cognitive Behavioural Therapy focuses on modifying negative beliefs and improving emotional regulation. It helps educators identify and transform destructive thoughts that can contribute to stress and burnout. Research shows that CBT techniques are effective in preventing burnout among teachers. Specifically, creating a targeted set of CBT strategies for burnout prevention presents a promising approach to supporting educators.

Mindfulness practices, particularly meditation, help alleviate stress, anxiety, and mental tension. These practices have a positive impact on emotional expression and cognitive abilities, while also boosting mental and physical resilience. Doulougeri et al. (2016) suggest that regular mindfulness practice can help prevent depression and improve overall health among teachers.

Regular physical activity and a healthy lifestyle are crucial for preventing burnout. Programmes designed to increase physical activity can reduce stress and enhance emotional well-being among teachers. In particular, incorporating physical activity into teachers' daily routines can help mitigate the risk of burnout.

The combined use of these methods can significantly enhance teachers' resilience to stress and reduce the likelihood of professional burnout. Considering the high rates of burnout among educators, university administrations should implement structured strategies to address this issue.

Zapata-Garibay et al. (2021) identify key institutional support mechanisms that can improve teachers' well-being and productivity. They include the following:

- Wellness programmes for teachers, such as offering free or subsidized yoga, fitness, and meditation classes at the university, organising sports events, marathons, and corporate training, providing access to sports facilities, forming partnerships with fitness centres, establishing psychological support centres for teachers, and offering regular CBT sessions for staff.
- Flexible working conditions, including reducing bureaucratic and administrative burdens, implementing flexible working hours, offering remote work options, and optimising class schedules to prevent teacher overload.
- Institutional support and the promotion of a culture of well-being by organising training programmes focused on stress and burnout prevention, time management, stress management techniques, and mindfulness, as well as recognising teachers' contributions through awards, incentives, and professional development opportunities.

- Monitoring and assessing burnout levels through regular anonymous surveys to evaluate teachers' stress levels, using mobile applications to track the emotional state of staff (e.g., mood trackers), and regularly reviewing burnout prevention policies based on the collected data.

Implementing such programmes can substantially reduce professional burnout among university teachers and foster a healthier work environment that enhances the educational process.

5. AI-Based Mental Health Monitoring Tools for Stress Level Tracking in University Teachers

AI-driven mental health monitoring tools represent a promising approach to assessing stress levels among teachers. These technologies allow for the analysis of emotional states by using biometric data, speech patterns, and behavioural indicators.

A key method involves mobile applications that collect data on stress levels by analysing voice, facial expressions, or changes in behaviour. Applications such as Mood Tracker, Woebot, Wysa, and other AI-powered assistants can help university teachers detect early signs of burnout and offer personalised prevention strategies.

AI algorithms can also assess teachers' workloads, the number of classes taught, student interactions, and the frequency of use of online learning platforms. This enables university administrations to implement timely measures to reduce stress, such as optimising class schedules or introducing recovery programmes (Doulougeri et al., 2016).

Additionally, AI-based systems can analyse data from daily surveys or social media interactions to monitor teachers' psychological states. For instance, if the system detects a rise in negative emotions in emails or messages, it may signal the need for professional support.

However, when implementing these tools, it is important to address ethical considerations and data privacy concerns, and obtain teachers' consent. These technologies should be used to support mental well-being, offering personalised resources and advice, rather than for surveillance.

Therefore, AI-based mental health monitoring for university teachers can be an effective tool in preventing professional burnout when used ethically and integrated into a broader system of support within higher education institutions.

6. Conclusion

The significance of this article lies in examining the concept of emotional and professional burnout among university faculty. Burnout is a process initiated by chronic workplace stress, resulting in the depletion of emotional, physical, and cognitive resources. In the realm of higher education, faculty burnout can adversely affect the quality of education, faculty well-being, and the overall atmosphere within the institution. Emotional burnout is marked by persistent fatigue, exhaustion, a loss of energy, depersonalisation, diminished personal achievements, lowered self-esteem, inefficacy, and a reduced interest in work. Professional burnout is a more comprehensive term that includes emotional burnout as well as additional manifestations, such as physical symptoms, psychological indicators of anxiety and depression, feelings of helplessness, and changes in behaviour.

The article also presents a diagnostic study on professional burnout among university teachers. The findings suggest that as emotional burnout decreases, these specialists are less likely to evaluate themselves professionally or compare themselves to others using reflective intellectual judgements. Instead, a shift occurs toward self-reflection, emphasising collaboration with others and the willingness to contribute professional and personal resources for effective teamwork with colleagues, students, and their families.

Furthermore, the article identifies neuropsychological tools to prevent professional burnout among university teachers. These include meditation, cognitive-behavioural therapy, physical activity, proper nutrition, support from colleagues, friends, and family, and effective time management to prevent overload and burnout.

References

Beauchamp, M. R. (2008). *Group dynamics in exercise and sport psychology: Contemporary themes*. Routledge. https://www.amazon.com/Group-Dynamics-Exercise-Sport-Psychology/dp/0415426650

Confucius. (1997). *The Analects of Confucius*. Oxford University Press. https://www.google.com.ua/books/edition/The_Analects_of_Confucius/wqym0cOd33MC?hl=en&gbpv=0

Doulougeri, K., Georganta, K., & Montgomery, A. (2016). "Diagnosing" burnout among healthcare professionals: Can we find consensus? *Cogent Medicine, 3*(1), Article 1237605. https://doi.org/10.1080/2331205X.2016.1237605

Freudenberger, H. J. (1974). Staff burn-out. *Journal of Social Issues, 30*(1), 159–165. https://doi.org/10.1111/j.1540-4560.1974.tb00706.x

Gavelin, H. M., Domellöf, M. E., Åström, E., Nelson, A., Launder, N. H., Neely, A. S., & Lampit, A. (2022). Cognitive function in clinical burnout: A systematic review and meta-analysis. *Work & Stress, 36*(1), 86–104. https://doi.org/10.1080/02678373.2021.2002972

Lefterov, V. O., Timchenko, O. V., Tsilmak, O. M., & Ignatieva, I. I. (2020). Simulation and psychological trainings as methods of preventing emotional burnout in doctors. *Svit medytsyny ta biolohii [World of Medicine and Biology]*, *2*(72), 85–89. https://dspace.onua.edu.ua/items/3a8cb43f-9118-4eef-b19c-f6db4a39ac2a

Lunov, V. Ye., & Subbota, S. O. (2022). *Kliniko- ta neiropsykholohichna determinatsiia reabilitatsiinoho potentsialu osobystosti v konteksti yii subiektnoi vitalnosti* [Clinical and neuropsychological determination of the rehabilitation potential of the personality in the context of his/her subjective vitality]. In *Materialy V Mizhnarodnoi naukovo-praktychnoi konferentsii "Psykholohichni vymiry osobystisnoi vzaiemodii subiektiv osvitnoho prostoru v konteksti humanistychnoi paradyhmy"* [*Proceedings of the 5th International Scientific and Practical Conference on Psychological Aspects of Interpersonal Interaction in Academic Settings Rooted in the Humanistic Paradigm*] (pp. 92–96). H. S. Kostiuk Institute of Psychology of the NAPS of Ukraine. https://fdotadotr.wordpress.com/wp-content/uploads/2022/10/02022_1_d09cd0b0d182d0b5d180d196d0b0d0bbd0b8_d09fd181d0b8d185d0bed0bbd0bed0b3d196d187d0bdd196-d0b2d0b8d0bcd196d180d0b8-d0bed181d0bed0b1d0b8d181d182d196d181d0bdd0bed197-d0b2d0b7d0b0d194d0.pdf

Marushchenko, O. A. (2022). *Spivperezhyvannia do sebe yak praktyka podolannia syndromu profesiinoho vyhorannia osvitian* [Self-compassion as a practice for overcoming teacher burnout syndrome]. In *Materialy V Mizhnarodnoi naukovo-praktychnoi konferentsii "Sotsialno-etychni ta deontolohichni problemy suchasnoi medytsyny (nemedychni problemy v medytsyni)"* [*Proceedings of the 5th International Scientific and Practical Conference on Social, Ethical, and Deontological Challenges in Today's Medicine (Non-Medical Issues in Healthcare)*] (pp. 160–161). Zaporizhzhia State Medical and Pharmaceutical University.

Maslach Burnout Inventory. (2025). *Wikipedia*. Retrieved January 18, 2025, from https://en.wikipedia.org/wiki/Maslach_Burnout_Inventory

Maslach, C. (1993). Burnout: A multidimensional perspective. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 19–32). Routledge. https://www.taylorfrancis.com/chapters/edit/10.4324/9781315227979-3/burnout-multidimensional-perspective-christina-maslach

Maslach, C., & Leiter, M. P. (2008). *The truth about burnout: How organizations cause personal stress and what to do about it*. Wiley. https://www.google.com.ua/books/edition/The_Truth_About_Burnout/uzomWhbqcCAC?hl=en&gbpv=0

Mishchenko, M. S. (2015). Profilaktyka ta korektsiia emotsiinoho vyhorannia u praktychnykh psykholohiv [Preventing and addressing emotional burnout in practicing psychologists]. *Visnyk Kharkivskoho natsionalnoho universytetu imeni V. N. Karazina. Seriia: Psykholohiia* [Journal of V. N. Karazin Kharkiv National University. Series: Psychology], *1150*(57), 30–33. http://nbuv.gov.ua/UJRN/VKhIPC_2015_1150_57_8

Myronchuk, N. M. (2016). *Pedahohichni ta psykholohichni chynnyky profesiinoho zdorovia vykladacha vyshchoi shkoly* [Pedagogical and psychological factors of professional health in university teachers]. *Problemy osvity [Education Issues]*, 86, 386–393.

Nerubasska, A., Palshkov, K., & Maksymchuk, B. (2020). A systemic philosophical analysis of the contemporary society and the human: New potential. *Postmodern Openings, 11*(4), 275–292. https://doi.org/10.18662/po/11.4/235

Schaufeli, W. B., Maslach, C., & Marek, T. (Eds.). (1993). *Professional burnout: Recent developments in theory and research*. Routledge. https://www.routledge.com/Professional-Burnout-Recent-Developments-in-Theory-and-Research/Schaufeli-Maslach-Marek/p/book/9780415786157?srsltid=AfmBOooZVIDWfiGmPRbUlnNl96vEKt2oszdic64gpiIILdJOmyD2a7Qp

Tijdink, J. K., Vergouwen, A. C., & Smulders, Y. M. (2014). Emotional exhaustion and burnout among medical professors: A nationwide survey. *BMC Medical Education, 14*, Article 183. https://doi.org/10.1186/1472-6920-14-183

Zapata-Garibay, R., González-Fagoaga, J. E., Asadi-González, A. A., Martínez-Alvarado, J. R., Chavez-Baray, S. M., Plascencia-López, I., & González-Fagoaga, C. J. (2021). Mental health stressors in higher education instructors and students in Mexico during the emergency remote teaching implementation due to COVID-19. *Frontiers in Education, 6*, Article 670400. https://doi.org/10.3389/feduc.2021.670400