



Well-being of academics in the changing higher education systems of central and eastern Europe

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ABSTRACT

While the impact of job demands and resources on employee well-being has been well established in occupational psychology, empirical studies of this impact among academic staff in post-socialist Central and Eastern Europe remain scarce. This study examines the emotional well-being of academic staff in five Central and Eastern European (CEE) countries –Hungary, Slovakia, Romania, Serbia and Ukraine –within the context of rapidly evolving higher education systems. Drawing on the Job Demands–Resources (JD–R) framework and data from a cross-national survey, the manner in which job demands (e.g. workload, emotional exhaustion, work-life conflict) and job resources (e.g. managerial support, peer collaboration, development opportunities) shape well-being outcomes was analysed. Regression results identify emotional exhaustion, workplace bullying, work-life conflict and workload as strong negative predictors of well-being. Contrary to standard JD–R assumptions, job resources did not exert a direct protective effect under conditions of elevated cumulative demands, suggesting a demand-dominated regime specific to the CEE institutional context. Significant disparities in well-being were observed by age, academic rank and national context. By applying the JD–R model to a geopolitically distinct and institutionally fluid region, this study contributes new insight into how structural and cultural factors mediate academic experiences that offer actionable directions for higher education institutions seeking to promote sustainable academic careers in post-socialist systems.

1. Introduction

A rich tradition of international scholarship has examined the academic profession in higher education, highlighting its evolving character across time and space (Altbach, 2005; Teichler & Höhle, 2013). Seminal studies like ‘The Changing Academic Profession’ (CAP) and its follow-up, EUROAC, have explored academic career structures, job satisfaction, working conditions and the effects of internationalisation and competition (Teichler, Arimoto, and Cummings, 2013; Kehm and Teichler, 2013; Fumasoli, Goastellec, and Kehm, 2015; Kwiek, 2022). While offering valuable insight into global structural changes, these works often overlook or homogenise the specific dynamics of Central and Eastern Europe (CEE).

Accordingly, this study scrutinises the emotional well-being of academic staff in five CEE countries: Hungary, Slovakia, Romania, Serbia and Ukraine. Though structural transformations in the region have been well documented (Altbach, 2005; Goncharuk and Cirella, 2022), the subjective experiences of academics, especially regarding well-being, remain underexplored. Our central

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research question is: *What professional challenges do CEE academics face, and what institutional and individual resources contribute to their emotional well-being?*

We examined this question through the lens of the JD–R model (Bakker and Demerouti, 2014), a framework widely employed to understand how workplace characteristics affect employee motivation, stress and mental health. The model distinguishes job demands, such as workload, performance pressures and emotional strain from job resources, including autonomy, support and peer collaboration (Mudrak et al., 2018; Naidoo-Chetty and du Plessis, 2021). When job demands are high and resources are insufficient, burnout and disengagement typically follow, but abundant resources can buffer stress and foster engagement.

In this study, *job demands* is defined as workload, diversity of teacher roles, performance evaluation pressure, and work-life conflict, while *job resources* include managerial and peer support, development opportunities and institutional support structures. Although previous studies applying the JD–R model have investigated the associations between these factors and outcomes such as general health, psychological distress, and job satisfaction (Alqarni, 2021; Bell, Rajendran, and Theiler, 2012; Kinman, Jones, and Kinman, 2006), relatively few have examined emotional well-being, a distinct construct characterized by emotional exhaustion, anxiety, and affective disengagement. The examination of academics' well-being is also important from the perspective of students' well-being, as teachers' enthusiasm, individual characteristics such as self-efficacy, motivation, and professional identity, and their capacity to provide affective scaffolding may influence students' psychological well-being (Huang et al., 2024; Pan, Wang, and Derakhshan, 2023).

Our paper also builds on critiques that the JD–R model is oversimplified. Recently, scholars have highlighted that while the model accounts for individual-level processes, it may downplay structural, geopolitical and cultural pressures (Schaufeli and Taris, 2014). These factors are especially salient in CEE, where chronic underfunding, institutional fragmentation, and political interference intersect with global trends like internationalisation, performance-based funding and managerialism (Kwiek, 2022; Clarke, Hyde, and Drennan, 2013; Hyde, Clarke and Drennan, 2013).

Despite increasing scholarly interest in academic well-being, three key gaps remain. First, empirical applications of the JD–R model in post-socialist higher education systems are scarce, limiting its theoretical generalisability. Second, most cross-national studies exclude CEE altogether or treat the region as analytically uniform (Teichler et al., 2013). Third, micro-level experiences of early-career and mid-career academics in CEE, particularly in relation to institutional support, job security and emotional strain are rarely examined.

To address these gaps, the JD–R model was applied to a novel cross-national dataset of 821 academics across five CEE countries. Our approach complements earlier research by investigating how demographic, occupational and institutional variables, including academic rank, workload, performance appraisal mechanisms and institutional governance features interact with job demands and resources to shape emotional well-being outcomes.

Our study also contributes to regional higher education scholarship by foregrounding contextual and historical specificities. CEE universities were radically reshaped by the collapse of state-socialist regimes, followed by rapid massification and marketisation. This transition was compressed into a shorter timespan than in Western Europe, often without the buffering benefits of long-term investment or established support infrastructure (Pusztai & Kovács, 2026; Höhle & Teichler, 2013; Mudrak et al., 2018).

Furthermore, as many CEE institutions serve minority ethnic or linguistic populations, such as Hungarian-language institutions outside Hungary, this introduces additional layers of complexity to academic identity, institutional expectations and social capital that are often neglected in Western-centric or quantitatively homogenised comparative studies.

2. Theoretical background

2.1. Working conditions of academics in CEE higher education

The transformation of higher education in CEE since the collapse of state socialism has entailed rapid expansion, structural reorganisation and escalating demands on academic staff. These overlapping shifts post-socialist transition, marketisation and internationalisation have redefined the academic profession, often without the provision of sufficient institutional or material support to sustain well-being (Pusztai & Kovács, 2026).

The transition from ideologically controlled higher education to autonomous and performance-driven institutions occurred unevenly, shaped by national contexts and global expectations. Earlier hopes that CEE academics would attain the professional status of their Western counterparts were soon replaced by a new reality: limited resources, escalating workloads and intensified bureaucratic pressures (Teichler, Arimoto, and Cummings, 2013; Kwiek, 2012). While the expansion of access to higher education broadened participation, it also fragmented institutional missions. Teaching-focused institutions with minimal research capacity emerged alongside elite universities, creating stark inequalities within academic career paths (Teichler & Höhle, 2013; Kwiek, 2016).

Traditional academic norms autonomy, collegiality and research-led teaching have deteriorated, replaced by entrepreneurial and managerial logics that demand quantifiable outputs (Hyde, Clarke, and Drennan, 2013). Managerialism has spurred a growing gulf between academics and institutional governance as administrative staff have gained disproportionate influence (Clarke, Hyde, and Drennan, 2013). Academics now navigate institutional performance metrics with limited time and control, undermining their sense of agency and contributing to growing dissatisfaction (Enders, 2004; Musselin, 2007).

Importantly, stratification has deepened. Research productivity, international engagement and grant-winning capacity are increasingly concentrated among a small academic elite, while most academics face precarious contracts, unclear promotion systems and limited mobility (Kwiek and Antonowicz, 2015; Goastellec et al., 2013). Gender and generational inequalities persist: women and younger academics remain overrepresented in vulnerable positions and perform substantial invisible labour (Kwiek and Roszka, 2022;

Enders and Teichler, 1997).

Internationalisation introduced further complexity. While mobility and global publishing have become core expectations, structural constraints in CEE institutions underfunding, poor infrastructure and linguistic barriers limit full participation (Probst and Goastellec, 2013; Dabney-Fekete, 2020). Consequently, many scholars experience a form of 'internationalisation dropout', with brain drain exacerbating institutional disparities (Kwiek, 2022; Kozma, 2008).

One of the most visible effects of these cumulative pressures is the erosion of academic well-being. The acceleration of academic time, rising job insecurity and blurred work-life boundaries have led to rising burnout and mental strain (Vostal, 2015; Buda and Kovács, 2024). Although the concept of well-being has entered policy discourse, institutional support mechanisms remain weak and unevenly distributed. Performance-based evaluations, while incentivising productivity, often ignore the affective and cognitive labour involved in teaching, mentoring and administration (Hyde, Clarke, and Drennan, 2013; Jayman, Glazzard, and Rose, 2022).

In summary, the working conditions of academics in CEE represent a complex interplay between legacy constraints and contemporary global trends. Understanding this terrain requires a nuanced view that goes beyond individual resilience to examine how institutional cultures, governance models and policy decisions shape the academic experience. As Pusztai & Kovács (2026) argue, professional well-being in this region cannot be divorced from the wider institutional and geopolitical frameworks within which academic life unfolds.

2.2. Effects of job demands and resources upon academic well-being

In the academic profession, a complex interplay of job demands and resources directly affects faculty performance, satisfaction and well-being. These factors may act as stressors or as protective mechanisms, depending on institutional context and individual positioning. In particular, career development opportunities, work expectations and support structures vary by academic generation. For instance, early-career scholars often seek support with publishing and pedagogy, while senior staff may require assistance with administration or digital competencies. This reflects broader pressures to balance teaching, research and service responsibilities within resource-constrained or differently resourced institutions (Goncharuk and Cirella, 2022).

In resource-deficient contexts like the University of Banja Luka in Bosnia, financial instability leads to heavier teaching loads, more administrative tasks, and diminished teaching effectiveness. In contrast, institutions with robust funding, such as Descartes University in Paris can buffer these demands through investment in research, mobility and professional development (Goncharuk and Cirella, 2022).

Numerous studies have identified key job demands that negatively affect academic well-being: excessive workloads, ambiguous roles, insufficient managerial support and persistent work-life conflict (Bell, Rajendran, and Theiler, 2012; Kinman, Jones, and Kinman, 2006; Fetherston et al., 2021; Iyaji, Eyam, and Agashi, 2020). Similar findings emerged from our qualitative research with CEE academics, where unclear role boundaries, a lack of institutional support and infrastructural deficits were among the most frequently cited challenges (Pusztai et al., 2026).

Central to this landscape of stressors is the issue of role conflict and ambiguity, which has been shown to erode organisational commitment and psychological well-being (Iyaji, Eyam, and Agashi, 2020; Conley and Woosley, 2000). When individual academic responsibilities are poorly aligned with departmental or institutional expectations, confusion and distress can follow, especially in under-resourced settings.

Performance evaluation mechanisms also impose salient job demands in CEE contexts. Pressures to publish in international journals, secure grants and meet narrow performance indicators have intensified, even where institutional support remains insufficient. As highlighted by Mudrak et al., 2018, these demands place staff in a precarious balancing act between autonomy and accountability often without clear infrastructure to support success.

Work-life balance is another core factor in studies of academic well-being that is associated with increased job satisfaction, improved performance and better family life integration (Guest, 2002; Saeed and Farooqi, 2014; Sirgy and Lee, 2018). Conversely, persistent work-life conflict can undermine mental health, particularly in women academics juggling caregiving roles and professional expectations (Bell, Rajendran, and Theiler, 2012; Kinman, 2014; Malik, Björkqvist, and Österman, 2017).

Amid these demands, job resources play a vital counterbalancing role. Peer support and collegiality have been shown to alleviate occupational stress and foster resilience through shared problem-solving and mentorship (Li, 2018; Mathey, Lysova, and Khapova, 2024). It also contributes to teachers' psychological well-being (Huang et al., 2024). In both our research and previous studies, supportive academic communities were linked to higher engagement, greater satisfaction and even better student outcomes (Pusztai, 2015; Vigoda-Gadot and Talmud, 2010).

Institutional recognition and professional development opportunities also function as key resources. Supportive leadership, transparent promotion pathways and ongoing training contribute to the renewal of teaching practices and integration into academic networks (Castañeda, 2014; Warnes, 2020). High-quality training whether in pedagogy, digital tools, or research collaboration promotes career advancement while fostering institutional identity (Chakraborty and Biswas, 2019; Camblin Jr. & Steger, 2000).

While often overlooked, workplace conditions, including access to facilities, administrative assistance and adequate infrastructure, are profoundly important. Poor physical environments can aggravate mental strain, while supportive settings contribute to productivity and satisfaction (Malik, Björkqvist, and Österman, 2017; Warr, 1990; Dewi, Rodli, and Nurhidayati, 2021).

From a psychological standpoint, work engagement and emotional exhaustion are key constructs within the JD-R framework, which has gained increasing attention among academics in higher education. Studies of Czech academics show that engagement is positively coupled to autonomy and supervisor support, while emotional exhaustion is correlated with workload, insecurity and work-life imbalance (Mudrak et al., 2018). Left unaddressed, emotional exhaustion can lead to anxiety, fatigue and diminished motivation

over time (Bakker and Demerouti, 2014; Han et al., 2020).

It should also be acknowledged that several psychological factors, including self-efficacy, teaching satisfaction, and resilience, may function as important resources that contribute to teachers' well-being (Wang et al., 2024). However, an examination of these factors is beyond the scope of the present study.

The literature on job demands and resources in higher education remains predominantly descriptive, lacking an integrated analytical framework that simultaneously tests the dual pathways of the JD-R model health impairment (emotional exhaustion) and motivation (work engagement). The moderating effects of regional contexts, particularly in comparison between CEE versus Western institutions, have largely gone unexplored. Moreover, researchers have often treated academic staff as a homogeneous group, neglecting critical variations across rank, career stage, gender and discipline. Addressing these gaps, this study simultaneously examines both JD-R pathways, conceptualises emotional well-being as an outcome distinct from engagement or job satisfaction, and investigates the influence of institutional peripheral contexts on demand–resource dynamics. This approach advances the JD-R literature by integrating contextual and methodological rigour suited for the complex realities of academic work.

2.3. Hypotheses and conceptual framework

Building on the theoretical foundations outlined above, this study investigates how job demands and job resources influence the emotional well-being of academic staff in five CEE countries. Drawing on newly collected survey data, our research examines how predictors such as workload, emotional exhaustion, managerial support, and peer collaboration interact with demographic and institutional characteristics.

Our hypotheses are as follows: (1) Emotional well-being varies significantly across demographic and institutional categories, including academic rank, age, gender, discipline and national context (Bell, Rajendran, and Theiler, 2012; Faisal, Noor, and Khair, 2019; Kinman, 2014; Kwiek and Antonowicz, 2015; Malik, Björkqvist, and Österman, 2017; Mudrak et al., 2018). (2) Consistent with the JD–R model (Bakker and Demerouti, 2014), job demands (e.g. workload, role conflict, emotional strain) are negatively associated with well-being, while job resources (e.g. autonomy, managerial support, collegial networks) have a positive effect.

Our variables are classified into demands and resources in accordance with the JD–R model (see Table 1 in the Methods section). While this framework offers a flexible, empirically supported approach to assessing workplace well-being, our paper acknowledges its limitations. Scholars have noted that its binary categorisation may oversimplify the nuanced interplay of organisational and personal factors (Schaufeli and Taris, 2014). Moreover, its emphasis on individual-level variables may understate the importance of structural and systemic influences. In CEE higher education, often characterised by institutional precarity, political interference and resource asymmetries, such contextual pressures must be considered crucial to understanding academic well-being.

3. Methods

3.1. Research design and sampling

Grounded in the JD–R theoretical framework, our detailed questionnaire survey examined the factors that characterise academics' teaching and research work, working conditions, workplace outcomes, health, lifestyle, institutional, family and social backgrounds (over 300 items). To ensure conceptual equivalence across linguistic versions, a back-translation procedure was applied: each national-language version was independently translated into English by a bilingual researcher and compared against the original instrument.

Table 1
Operationalisation of key variables according to the JD–R framework.

Variable	JD–R Role	Operationalisation	Source/Instrument
Emotional well-being	Dependent variable	12-item Affective Well-being Scale ($\alpha = 0.879$)	Warr (1990)
Workload	Job demand	Weekly working hours; perceived overload	Kinman et al., 2006
Diversity in teacher roles	Job demand	Tension between teaching, research and administrative tasks	Kinman et al., 2006
Performance evaluation	Job demand	Perceived frequency and intensity of evaluations	Kinman et al., 2006
Work-life conflict	Job demand	6-item Work-Life Balance Scale ($\alpha = 0.948$)	Hayman (2005)
Job insecurity	Job demand	Perceived threat to contract continuity	Study-specific items
Workplace bullying ¹	Negative social demand	Exposure to negative interpersonal interactions (7 items, $\alpha = 0.873$)	Malik et al., 2017
Managerial support	Job resource	Perceived access to supervisor support	Kinman et al., 2006
Peer support	Job resource	Collegial collaboration; shared teaching/research practices ($\alpha = 0.867$)	Malik et al., 2017
Development opportunities	Job resource	Access to mentoring, training and career advancement ($\alpha = 0.832$)	Malik et al., 2017
Working conditions	Job resource	Infrastructure, autonomy and procedural clarity ($\alpha = 0.739$)	Malik et al., 2017
Emotional exhaustion	Mediator	5-item Maslach Burnout Inventory GS subscale ($\alpha = 0.911$)	Leiter and Maslach (2017); Han et al., 2020
Work engagement	Mediator	9-item Utrecht Work Engagement Scale UWES-9 ($\alpha = 0.931$)	(Schaufeli, Bakker, and Salanova, 2006)

Note: ¹Although not part of the original JD–R model, workplace bullying was included as a socially mediated job demand due to its empirically established association with reduced well-being.

Discrepancies were resolved through discussion by the research team and, where necessary, through consultation with native-speaking colleagues familiar with the academic context of the respective country.

As the study relies on a cross-sectional, single-source self-report design, the potential for common method bias should be acknowledged (Podsakoff et al., 2003). To assess this risk, Harman's single-factor test was conducted: the unrotated factor solution did not yield a single dominant factor accounting for the majority of variance, suggesting that common method variance is unlikely to pose a serious threat to the validity of the findings. Nonetheless, the results should be interpreted with appropriate caution and future longitudinal or multi-source designs are encouraged to replicate and extend these findings. The research questionnaire was distributed 2–3 times online with institutional permission to all academics in the surveyed institutions in the spring of 2023. Initially, the questionnaire was sent to all academic staff via the university's online system. In Hungary, the focus was on higher education institutions in the disadvantaged regions of the North Great Plain and Southern Transdanubia. For cross-border institutions, the primary target was minority Hungarian institutions; however, the questionnaire was also sent to all academics in the majority populace language.

Invitations were distributed electronically through university mailing systems, with two to three reminders sent based on institutional permissions. To reach representativity, for a 10% sample from each institution was striven devoid of faculties, and from each faculty in larger universities. Consequently, a larger sample was obtained from many small institutions, such as churches and minority Hungarian universities or colleges with fewer than 100 teachers. In the interest of reaching probability sample, where the opportunity and the permission were, the survey was sent on two or three occasions through the given institutions' register or correspondence offices. From there, where the number of academics per department and the total academic staff number on campus were known, the data were compared with the ratio of respondents from the given institutions and faculties. Following this, the letter of request was sent only to the places where the level of academics was <10%.

Comparing the number of institution or faculty elements with the total number of teachers, the Hungarian subsample, excluding three faculties, is representative of faculties. For most higher education institutions outside Hungary, the sample represents Hungarian minority academics while including responses from their majority colleagues, allowing us to better understand the situation of academic staff in CEE countries. Consequently, the Hungarian subsample is much larger than that of other countries, particularly in Serbia and Slovakia, where the response rate from academic staff in majority institutions (University of Novi Sad in Serbia, University of Trnava and University of Presov in Slovakia) was low (40 respondents in Serbia and 36 in Slovakia).

As non-Transcarpathian Ukrainian institutions faced challenges due to war, with many Ukrainian institutions operating under uncertain conditions in which faculty numbers and work arrangements are affected by displacement, access to their faculty was difficult.

Despite sampling difficulties, responses from Slovak, Serbian and Ukrainian academics provided valuable insights into their respective higher education systems and working environments. A total of 853 teachers completed the questionnaires. After data cleaning, the final sample comprised 821 respondents. The sample encompasses research-oriented universities, teaching-focused universities of applied sciences, and minority-serving institutions, reflecting the structural diversity of higher education in the CEE region. The database was named Central and Eastern European Teachers in Higher Education (CEETHE, 2023).

3.2. Participants

Among the respondents, 514 were from Hungary (61.8%), 115 from Ukraine (14.1%), 113 from Romania (13.8%), 40 from Serbia (4.9%) and 36 from Slovakia (4.4%). Further, 43.7% were male, 56.3% female and they had an average age of 46 years ($SD = 10.71$) and a higher education employment average of 17 years ($SD = 11$ years). The age distribution was as follows: under 30 years old, 5.4%; 30–39 years, 24.2%; 40–49 years, 35.2%; 50–59 years, 23.2%; 60–69 years, 10.3%; and over 70 –1.6%. Finally, 21.1% of respondents did not have a doctoral degree.

Regarding academic position, 29.6% were assistant professors, 26.8% associate professors, 11.3% college or university professors and 11.2% assistant lecturers; 69.3% of the respondents did not hold a leadership position, while the others held positions at the institutional, faculty, central, institute, or departmental level.

Academics were grouped into four categories by academic discipline: humanities and arts (32.4%), STEM and agricultural sciences (23.1%), medical, health and sport sciences (27.9%) and social and economic sciences (16.7%). The dataset reflected broad variations in academic fields, qualifications and employment roles.

3.3. Measures

The questionnaire included over 300 items and employed validated, pilot-tested scales across all local languages.

- **Dependent variable** Emotional well-being was assessed using [Warr's \(1990\) Affective Well-being Scale](#) (12 items; Cronbach's $\alpha = 0.879$; KMO = 0.908). Higher scores indicate greater emotional well-being.
- **Job demands and resources** Constructs related to job demands and resources were measured using previously validated instruments. All scale scores were standardised to a 0–100 scale to facilitate comparability across constructs.

3.4. Data analysis

Descriptive statistics were calculated to characterise the sample and distribution of variables. Normality of data was assessed using

the Kolmogorov–Smirnov test. Since some variables did not meet the assumptions of normality, non-parametric tests like the Kruskal–Wallis test and the Mann–Whitney U test were applied to examine group differences. Multiple linear regression models were used to examine the effects of job demands and resources on emotional well-being. Multicollinearity was assessed using variance inflation factors (Tolerance and VIFs). All statistical analyses were conducted using SPSS version 30, with significance set at $p < 0.05$.

4. Results

4.1. Descriptive statistics

Table 2 presents the means and standard deviations for all key study variables, including job demands, job resources and emotional well-being.

The mean score for emotional well-being among academic staff was 59.75 ($SD = 18.89$), based on the 12-item Affective Well-being Scale. Item-level responses revealed that more than half of the respondents reported feeling happy and enthusiastic in the past weeks, while 47.2% felt optimistic. A total of 48.9% stated that they had never felt unhappy, and 58.9% that they had never felt depressed. In contrast, only 12.5% reported feeling relaxed, and approximately one-third indicated that they rarely felt satisfied or calm. Around 40% of respondents reported rarely feeling relaxed, and nearly one-quarter reported having experienced sadness. Feelings of worry, tension, restlessness, or unhappiness were also reported by approximately one in four respondents.

Mean values for job-related stressors and resources varied across dimensions. Among the job demands, workload had the highest average score ($M = 64.88$, $SD = 19.21$), followed by role diversity ($M = 58.65$, $SD = 18.02$) and performance pressure ($M = 58.53$, $SD = 17.41$). Among the resource variables, work engagement showed the highest average score ($M = 70.49$, $SD = 19.76$), followed by peer support ($M = 60.46$, $SD = 24.29$) and management support ($M = 58.25$, $SD = 18.69$). Workplace bullying scored the lowest ($M = 11.74$, $SD = 14.63$), while emotional exhaustion at work was moderately high ($M = 45.76$, $SD = 25.38$).

4.2. Correlation analysis

Pearson correlations revealed strong negative associations between emotional well-being and emotional exhaustion ($r = -.656$, $p < 0.001$), as well as work-life conflict ($r = -.538$, $p < 0.001$). In contrast, positive correlations were found between well-being on the one hand and work engagement ($r = 0.560$, $p < 0.001$) and management support ($r = 0.538$, $p < 0.001$) on the other. Weaker but statistically significant relationships were also found with workload ($r = -.103$, $p < 0.001$), diversity of teacher roles ($r = -.385$, $p < 0.001$), performance evaluation ($r = -.147$, $p < 0.001$), good working conditions ($r = 0.242$, $p < 0.001$), peer support ($r = 0.241$, $p < 0.001$), and development opportunities ($r = 0.261$, $p < 0.001$). Workplace bullying showed the weakest negative correlation with well-being ($r = -.186$, $p < 0.001$).

4.3. Group differences

To address the first hypothesis, the differences in well-being were tested first across demographic and professional categories. The main results are summarised in Table 3.

Table 2

Means and standard deviations of key job demands, job resources and well-being variables ($N = 821$).

The work factors of academics	Mean	SD	N
Management support (resource)	58.25	18.69	778
Workload	64.88	19.21	
Diversity of teacher roles	58.65	18.02	
Performance evaluation	58.53	17.41	
Workplace bullying	11.74	14.63	
Work-private life conflicts	46.76	27.87	806
Good working conditions (resource)	57.47	21.65	811
Peer support (resource)	60.46	24.29	807
Development opportunities (resource)	55.61	22.31	796
Emotional exhaustion at work	45.76	25.38	798
Work engagement	70.49	19.76	788
Well-being	59.75	18.89	797
Working hours per week	36–40	25.7%	814
	41–45	24.7%	
	46–50	21.4%	
	51–55	13.1%	
	56–60	9.2%	
	>60	5.9%	
Job insecurity	No chance at all	30.7%	685
	Not really a chance	55.2%	
	There is a chance	11.5%	
	There is a very good chance	2.6%	

Significant differences in well-being were observed across several demographic and occupational categories. There was a linear increase in well-being with age ($H = 23.857, p < 0.001$), with the youngest cohort (< 29) reporting the lowest well-being and the oldest group (> 70) the highest ($M = 72.03, SD = 14.28$). National differences were also significant ($H = 10.248, p = 0.036$), with Romanian and Serbian academics reporting higher well-being ($M = 64.55$ and 60.31 , respectively), while Slovakian academics had the lowest scores ($M = 56.96$).

Higher academic qualifications were associated with greater well-being ($H = 12.492, p = 0.014$), particularly among those holding PhD, habilitated, or DSc degrees. Academic position also mattered: associate professors and those in senior ranks reported higher well-being than did lecturers or lower ($H = 6.060, p = 0.014$). Well-being declined as weekly working hours increased ($H = 16.906, p = 0.005$), with those working 36–40 hours reporting the highest well-being ($M = 62.43$) and those working 56–60 hours the lowest ($M = 51.53$). Job insecurity had a significant negative correlation with well-being ($H = 45.596, p < 0.001$): respondents perceiving a high likelihood of job loss reported substantially lower well-being ($M = 35.98$) than those who felt secure ($M = 65.44$).

4.4. Regression analysis

To test the second hypothesis, a linear regression model with job demands and resources as predictors of emotional well-being was employed. The key findings are summarised in Table 4.

Linear regression analysis identified key predictors of emotional well-being. Multicollinearity was checked, and the values of VIF and tolerance showed in all cases that there was no multicollinearity between the explanatory variables. Homoskedasticity was also not compromised. The model explained 61.4% of the variance in well-being scores ($F(35, 520) = 26.195, p < 0.001$). Among job demands, emotional exhaustion ($\beta = -0.346, p < 0.001$), work-life conflict ($\beta = -0.104, p = 0.013$), workplace bullying ($\beta = -0.123, p < 0.001$), and workload ($\beta = -0.062, p = 0.029$) were significant negative predictors. Working 51–60 hours per week ($\beta = -0.071, p = 0.033$) and holding a leadership position ($\beta = -0.072, p = 0.024$) also negatively impacted well-being.

Conversely, positive predictors included being employed in Romania ($\beta = 0.133, p = 0.001$), reflecting the highest national well-being average in the sample. Although the work engagement and management support variables were not significantly associated with well-being directly, they also showed meaningful positive associations with well-being in earlier models (Kovács et al., 2025b). According to our previous results on the influencing factors of emotional exhaustion as a moderating factor of workload, the diversity of academic roles, work-life conflict, and workplace bullying significantly increased emotional exhaustion, whereas work engagement decreased it (Kovács & Hideg-Fehér, 2025c). Regarding the moderating effects on work engagement, age, institutional management support, and peer support increased work engagement, while performance appraisal, as a source of stress, decreased it (Kovács et al., 2025a).

Together, these findings partly support the hypothesis that job demands decrease emotional well-being, while job resources have no direct connection, with demographic and occupational characteristics also playing an important role.

5. Discussion

This study examined how institutional, occupational and demographic factors in conjunction with job demands and resources predicted the emotional well-being of academics across five CEE countries. Guided by the JD–R model framework, two core questions were addressed: (1) whether emotional well-being varies significantly across sociodemographic and institutional subgroups, and (2) whether job demands negatively and job resources positively predict emotional well-being. The first hypothesis was supported, the second partly confirmed. Emotional exhaustion, work-life conflict, workload, large numbers of work hours and workplace bullying emerged as significant threats to well-being, while neither work engagement nor job resources play a direct role in well-being. Contrary to the assumptions of JD–R, our extended model did not find a direct effect of job resources on well-being. This divergence from our and other earlier findings of tests of the JD–R model (Author et al., 2025) appears to result from model specification. In earlier studies, job demands and resources were linked to well-being indirectly via emotional exhaustion and work engagement. In the present analysis, however, the inclusion of additional high-intensity demands (particularly workplace bullying, work-life conflict and job insecurity) substantially reshaped the structural relations. These demands, together with emotional exhaustion, emerged as strong negative predictors and rendered work engagement non-significant. This suggests a suppression effect: under the severe and cumulative stress conditions characteristic of the CEE academic context, detrimental demands dominate well-being outcomes, limiting the protective role of engagement and managerial support. This pattern contrasts with findings from Czech academia (Mudrak et al., 2018), where lower-stress levels allowed engagement and supervisor support to function as significant positive predictors of job

Table 3
Group differences in emotional well-being by background variables.

Variable	Test statistic	p-value	Direction of difference
Age group ($< 29 \rightarrow > 70$)	$H = 23.857$	< 0.001	Older respondents report higher well-being
Country	$H = 10.248$	$= 0.036$	Romanian $>$ Serbian $>$ Slovakian
Academic qualification	$H = 12.492$	$= 0.014$	Higher degree holders report higher well-being
Academic position	$H = 6.060$	$= 0.014$	Associate professors $>$ lecturers
Weekly working hours	$H = 16.906$	$= 0.005$	More hours $\rightarrow$ lower well-being
Job insecurity	$H = 45.596$	< 0.001	Insecure staff report much lower well-being

Table 4

Linear regression model predicting academics' emotional well-being.

Predictor	β	SE	<i>t</i>	<i>p</i> -value	95% CI for β
Emotional exhaustion	-0.346	0.042	-8.24	<0.001	[-0.428, -0.264]
Work-life conflict	-0.104	0.043	-2.41	=0.016	[-0.189, -0.019]
Workplace bullying	-0.123	0.034	-3.62	<0.001	[-0.189, -0.057]
Workload	-0.062	0.027	-2.30	=0.022	[-0.115, -0.009]
Working 51–60 hrs/week	-0.071	0.030	-2.37	=0.018	[-0.130, -0.012]
Leadership position (dummy)	-0.072	0.031	-2.32	=0.021	[-0.133, -0.011]
Employed in Romania (dummy)	+0.133	0.040	+3.33	=0.001	[+0.055, +0.211]

Note. $F(35, 520) = 26.20$, $p < 0.001$, $R^2 = 0.614$.

satisfaction.

Over the past two decades, global trends like massification, internationalisation and intensified institutional competition have dramatically reshaped academic careers. What was once perceived as a stable, linear professional path has become increasingly fragmented and uncertain. These transformations have contributed to diversification and stratification across academic roles, even within countries where formal career ladders remain nominally uniform (Kwiek and Antonowicz, 2015). This shifting landscape heightens the importance of examining well-being as not merely an individual attribute but as an indicator of systemic stress. Our results highlight that these structural changes represent a more serious challenge and a stronger source of negative stress for academics in the CEE countries we studied than for their Czech colleagues.

Work-life conflict emerged as one of the strongest predictors of diminished well-being, with particularly acute effects among younger academics and women groups for whom professional obligations often collide with caregiving or domestic roles. When boundaries between work and private life become blurred or effaced, chronic stress is the likely result (Fetherston et al., 2021; Kinman, 2014). Excessive working hours (often exceeding 50–60 hours per week) and a lack of institutional flexibility contribute to this tension, and work-life conflict has been shown to erode job satisfaction, motivation and performance. These pressures related to psychological stability potentially result in emotional crises and long-term disengagement (Akram, 2019; Bell, Rajendran, and Theiler, 2012).

Beyond these headline results, the study revealed deeper structural and cultural patterns, including a 'seniority paradox', the emotional toll of leadership, and national disparities, offering new perspectives on academic well-being in a geopolitically and institutionally distinct region.

5.1. Seniority paradox: early-career academics under strain

One of the most striking findings of our study is the consistent disparity in well-being between early-career and senior academics. Individuals without doctoral degrees and those occupying lower-ranked positions (e.g. assistant lecturers) reported lower well-being and higher emotional exhaustion than their more senior peers. Early-career academics often shoulder the dual burden of delivering high-quality teaching and administrative services while simultaneously pursuing doctoral studies and research output. These overlapping responsibilities teacher, researcher and PhD candidate demand constant role-switching and time management, often in contexts lacking clear mentoring or institutional support. These challenges echo prior findings from the Czech Republic, France, and Hungary (Goncharuk and Cirella, 2022; Mudrak et al., 2018; Hrabčecy & Kocsis, 2026), and were corroborated by our own interview-based research (Kovács et al., 2024).

Interestingly, stress levels tended to decline with age, suggesting that career progression and increased role clarity may reduce perceived strain over time (Kovács et al., 2026). Nevertheless, institutional type, organisational expectations and research productivity introduce variation even among academics at similar formal ranks (Kwiek and Antonowicz, 2015).

5.2. The emotional burden of academic leadership

Contrary to assumptions that leadership roles confer greater professional security and satisfaction, our data reveal that academic leaders may be at heightened emotional risk. Senior positions entail high expectations, extended hours and difficult decision-making responsibilities, all of which contribute to stress, anxiety and emotional fatigue (Faisal, Noor and Khair, 2019; Usoro and Etuk, 2016). The protective role of seniority, then, may be eroded at the uppermost levels if adequate institutional support is lacking. Without coaching, workload redistribution, or peer support, leadership may devolve into a source of chronic strain.

5.3. National context intertwined with institutional culture

Although most of the variance was explained by institutional and demographic variables, national context retained significant explanatory power. Romanian academics reported the highest well-being scores, a pattern that may align with national trends in subjective well-being (Helliwell et al., 2023) but also reflects deeper institutional and cultural dynamics.

Importantly, the Romanian sample, like the other non-Hungarian subsamples, mostly included institutions where the language of instruction is a minority language. Over the past three decades, these minority-serving institutions in Romania have cultivated a distinctive institutional culture rooted in communal responsibility, social embeddedness and cultural mission. They typically foster supportive environments characterised by unity, cohesion and a shared educational ethos that extends beyond the traditional

academic role. Functioning as both universities and cultural hubs for ethnic minority communities in peripheral regions, these institutions see their mission as entwined with regional development and minority identity. Staff engagement is often encouraged through a culture of appreciation, recognition and solidarity. This broadened institutional role and the deep sense of purpose it cultivates may help explain the elevated levels of well-being reported among academics working in these settings (Pusztaí et al., 2026).

Although a similarly supportive institutional ethos has developed within Ukrainian Hungarian minority-serving institutions, this is not clearly reflected in the Ukrainian data. The Ukrainian subsample also includes internally displaced academics from central Ukraine who had fled to safer regions due to the war, introducing heterogeneity that likely obscured institutional patterns.

Among institutional-level variables, the present analysis focused primarily on institutional type, rather than institutional culture as subjectively experienced by academics, which was not directly measured in this study. This analytic decision represents a meaningful limitation, as organisational climate and shared norms can critically shape well-being, especially in minority-serving or peripheral institutions. Furthermore, the relatively modest effect of peer support in our statistical models may reflect an underdeveloped collegial culture across many CEE contexts, where structural precarity often overshadows community-building. Our examination of the connections between institutional culture and academic well-being points to further avenues of research.

Following the political transition, higher education systems in the region have continued to grapple with post-Soviet legacies, while gradually integrating global trends such as expansion and internationalisation. After a period of rapid growth, student numbers have stagnated, prompting cost-containment policies, including the expansion of private institutions, reductions in state-funded places and restrictive recruitment strategies. As a result, the region now has some of the lowest proportions of young graduates in the EU.

Academia is further characterised by low salaries, precarious career paths, hierarchical governance, limited transparency in grant allocation, constrained international mobility, and persistent gender inequalities, all of which discourage talented young scholars from pursuing academic careers (Drennan et al., 2020; Gould, 2006; Kwiek & Antonowicz, 2015).

Demographic decline, emigration, the Bologna-driven internationalisation process, stricter qualification requirements and performance pressures have further reshaped the academic landscape, reinforcing structural strain across the sector (Hanesová et al., 2026; Kovács & Papp, 2026; Polónyi, 2026; Pallay, 2026; Tódor, 2026).

5.4. Theoretical implications and broader contributions

This study underscores the utility of the JD–R model for analysing well-being in higher education while simultaneously revealing important boundary conditions that qualify its applicability across institutional contexts. Our central theoretical finding that job resources did not exert a direct effect on emotional well-being under conditions of elevated and cumulative job demands challenges the assumption that demand and resource processes operate symmetrically regardless of context. This pattern is consistent with the boundary conditions identified by Schaufeli and Taris (2014), who caution that the model's dual-process logic may break down when demands reach a chronic or high-intensity threshold. Under such conditions, the cognitive and emotional capacity required to activate available resources becomes progressively depleted (Hobfoll, 1989), shifting the system from a resource-buffered to a demand-dominated regime.

Crucially, this reflects a substantively different institutional reality. The CEE academic context, characterised by chronic underfunding and inadequate administrative support and research infrastructure, imposes numerous high-intensity demands that exceed the buffering capacity of available resources. In lower-stress contexts, such as Czech academia as studied by Mudrak et al., 2018, resources including supervisor support and engagement retain their protective function. In our sample, however, the sheer intensity and co-occurrence of demand rendered these resources structurally inaccessible rather than absent.

This finding holds an important implication for the JD–R model itself: its applicability is context-dependent, and its standard parameterisation, developed and validated predominantly in Western European and North American organisational settings, may systematically underestimate the demand burden in post-socialist peripheral systems. Future research should set aside the assumption of universal process symmetry and explicitly test the moderating role of institutional context on the demand–resource balance. Our results suggest that the model requires contextual calibration before it can be applied to higher education systems characterised by structural precarity.

What makes this study novel is its deep engagement with the CEE context, an area largely underrepresented in major international studies of academic labour (CAP, EUROAC, APICS). By mapping approximately 25 variables across individual, institutional and national levels, a uniquely comprehensive and contextualised account of academic well-being was offered in a post-socialist setting. The insights gained here help bridge the gap between universal occupational theories and the lived realities of academic work in an evolving European periphery.

5.5. Study limitations

Of course, these findings have several limitations that should be borne in mind. Despite our efforts to ensure institutional and geographic representativeness, the process of data collection across multiple countries introduced challenges that may affect generalisability. Selection bias is possible, as areas where the sample size was smaller and more satisfied individuals might have been likelier to participate. The complexity of the analytical model, encompassing over two dozen variables, allowed for nuance but limited parsimony. In addition, certain relevant constructs, such as job satisfaction, identity alignment, or perceived institutional justice were not directly measured but warrant closer examination in future studies.

Looking ahead, longitudinal and mixed-method designs will be essential to map how academic well-being evolves over time and is shaped by institutional cultures, career stage and national policy frameworks. Comparative research between CEE and other European

or global regions could help determine which stressors and supports are culturally specific and which are system-wide. As higher education systems continue to globalise while facing internal pressures, understanding and protecting the emotional well-being of academic staff should remain a key priority.

Furthermore, the cross-sectional design precludes causal inference. While the regression models identified significant predictors of emotional well-being, the directionality of the relationship between emotional exhaustion and well-being cannot be established with certainty. The self-reported nature of all measures leaves open the possibility of response bias, including social desirability effects, which might have led to underreporting of workplace bullying or overreporting of institutional support. Finally, the exclusion of qualitative data from the present analysis means that the subjective meaning that academics attach to demands and resources was not fully captured. Mixed-method approaches in future research would help illuminate these experiential dimensions.

6. Conclusion

This study offers one of the most comprehensive empirical investigations to date of academic staff well-being in the under-researched CEE region. By mobilising the JD–R framework within a large cross-national dataset spanning Hungary, Slovakia, Serbia, Ukraine and Romania, the geographical and theoretical reach of a model that has been predominantly tested in Western and Asian higher education systems was extended.

As a theoretical contribution, our findings reaffirm core propositions of the JD–R model, particularly the centrality of workload, emotional exhaustion and resource availability to well-being, while also demonstrating the necessity of contextualising these dynamics within post-socialist higher education systems. By integrating micro-level (e.g. emotional exhaustion, engagement), meso-level (e.g. managerial support) and structural variables (e.g. job insecurity, career stage), the study moves beyond narrowly defined stress models (e.g. Akram, 2019; Bakker and Demerouti, 2014; Han et al., 2020) to offer a more layered account of how institutional legacies, reform asymmetries and cultural expectations intersect with everyday academic work. In this sense, the paper contributes not only regionally specific evidence but also a contextual refinement of the JD–R framework itself.

Substantively, the identification of a ‘seniority paradox’ constitutes a novel empirical contribution. While higher-ranking academics report comparatively greater well-being, early-career scholars experience a convergence of teaching, research, administrative burdens and career precarity, often while still completing their doctoral training (Goncharuk and Cirella, 2022; Mudrak et al., 2018; Hraběczy & Kocsis, 2026; Kovács et al., 2024). This finding adds nuance to the dominant narratives that associate senior roles primarily with overload, revealing a stratified distribution of emotional strain within academic hierarchies. Similarly, the observation that leadership positions may erode well-being without adequate institutional support complicates assumptions that prestige and autonomy necessarily function as protective resources.

From a policy perspective, the findings call for urgent institutional interventions targeting both the reduction of demands and the strengthening of resources. On the demand side, workload regulation, working hour limits and transparent anti-bullying policies are immediate priorities, given their direct contribution to emotional exhaustion and diminished well-being. On the resource side, institutions should invest in building genuine collegial communities not through large-scale institutional events, but through department-level informal gatherings, shared research or mentoring activities, and sport or recreational programmes, all of which have been shown to strengthen peer support and management support perceptions, and to indirectly protect against emotional exhaustion (Kovács et al., 2024, 2026).

Performance evaluation systems should be redesigned to recognise a broader range of academic contributions beyond research output, including teaching innovation, mentoring and community engagement and implement respective policies transparently and equitably. These institutional measures cannot be effective without supportive macro-level policy: restoring academic autonomy and ensuring contract security are preconditions for any sustainable improvement in well-being across the CEE region.

Data availability statement

The data that support the findings of this study are available from the corresponding author, but restrictions apply to their availability. These were used under license for the current study, and, so, are not accessible by the public. Data are however available from the corresponding author upon reasonable request and with permission of the School Ethics Committee of Doctoral Program on Educational Sciences at the University of Debrecen.

Ethics approval and consent to participate

The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board (or Ethics Committee) of the School Ethics Committee of Doctoral Program on Educational Sciences at the University of Debrecen (protocol code 4/2022 and date of approval: 11 December 2022). The research was conducted ethically, the results are reported honestly, the submitted work is original and not (self-)plagiarized, and authorship reflects the individuals’ contributions.

Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work the author used ChatGPT in order to improve the readability and language of the manuscript. After using this tool, the author reviewed and edited the content as needed and takes full responsibility for the content of the published article.

CRediT authorship contribution statement

Gabriella Pusztai: Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Klára Kovács:** Writing – review & editing, Writing – original draft, Methodology, Funding acquisition, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

The author reports there are no competing interests to declare.

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