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ORIGINAL RESEARCH PROJECTS

ORYGINALNE ARTYKUŁY BADAWCZE

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Organizational Sources of Academic Burnout Among Teaching Students – Towards a Sustainable Fit

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Abstract
The issue of student burnout is gaining prominence in discussions regarding the sustainability of the higher education environment. This quantitative research aimed to delineate burnout profiles among Polish students enrolled in education-related programs based on exhaustion, cynicism, and inefficacy, and examine these profiles concerning their academic fit – spanning workload, autonomy, peer relationships, teaching quality, institutional values, and administra-

tion. Utilizing the Maslach Burnout Inventory – General Scale for Students (MBI-GSS) and the Areas of Academic Life Scale (AALS), we surveyed 1,519 students from educational faculties in Poland to identify prevalent burnout profiles and their correlations with six dimensions of academic life. Our analysis discerned four burnout profiles, from minimal to severe, revealing that a significant portion of students are at least at risk of burnout, with notably, one in ten exhibiting a "High burnout, critical concern" profile. The analysis revealed patterns in how burnout profiles were related to specific dimensions of academic life. Our findings reveal the multifaceted nature of student burnout and point to the crucial role of aligning academic environmental factors. Supporting academic sustainability requires a nuanced understanding of these elements to create a more supportive university environment.

Keywords: academic burnout, higher education, organizational burnout, educational students, sustainable academic environment.

Introduction

Recently, student burnout has garnered considerable attention in higher education as it has become one of the more visible threats to students' academic sustainability. Originally linked to professional domains, burnout, which encompasses symptoms such as exhaustion, cynicism and diminished effectiveness, has been found to have significant implications for students' mental well-being and academic performance. Notably, Maslach and Leiter (2016) have conducted extensive research on burnout in diverse professional settings, shedding light on its multifaceted nature and the crucial role organizational factors play in its emergence. This body of work holds particular relevance in academic settings, where students engage in activities akin to employment, such as task completion, collaboration, and performance assessment, making them vulnerable to burnout (Schaufeli et al., 2002; Salamea-Aro & Read, 2017; Portoghese et al., 2018; Chirkowska-Smolak et al., 2023).

Although earlier studies have mostly explored individual factors contributing to burnout, this research examines the organizational environment as a critical determinant of student burnout. This approach is grounded in the recognition of the academic setting as an organizational entity, where factors such as workload, autonomy, community, teaching quality, alignment with institutional values, and administrative support significantly impact students' experiences and their susceptibility to burnout (Maslach & Leiter, 2016; Helve, 2019).

The necessity to address the issue of student burnout in the educational system of Poland is emphasized by the various obstacles that students face, including the demands of academic performance, the quality of education received, and the administrative and structural aspects of university organization. These factors are likely associated with increased student stress levels and may contribute to burnout.

Academic burnout

Burnout, as defined by Maslach's (1993; 1998) seminal model, is a syndrome comprising emotional exhaustion, depersonalization, and reduced personal accomplishment, primarily in professional settings. Over time, this definition has been expanded to include additional symptoms, such as physical fatigue and cynicism, reflecting a broader scope of burnout symptoms (Maslach & Leiter, 2005). The World Health Organization's ICD-11 aligns with this expanded view, defining burnout as a result of chronic workplace stress, exacerbated by ineffective management strategies. This definition emphasizes exhaustion, increased mental distance from one's job, feelings of negativism or cynicism, and reduced professional efficacy (ICD-11, 2022). In the academic realm, Schaufeli et al. (2002) adapted this model to reflect the student experience, highlighting exhaustion from academic demands, a cynical detachment from studies, and feelings of inadequacy as a student.

Burnout is an individual phenomenon that can affect people in different ways. Most research on burnout has focused on measuring its components and examining correlational or mediating relationships. Recently, person-centered strategies, particularly latent profile analysis (LPA), have gained attention in burnout research, including student burnout. LPA is based on traditional non-hierarchical cluster analysis methods, such as the k-means method, and allows for the identification of subgroups of individuals who experience burnout in a similar manner. This understanding is crucial for comprehending organizational sources of burnout in educational settings, as it permits a nuanced examination of the various aspects of academic life that contribute to or alleviate the risk of burnout among students.

The theoretical framework underpinning research employing LPA is diverse, with some studies, such as those conducted by Maslach and Leiter

(2008), positing burnout as part of an engagement-burnout continuum. On the other hand, other studies, such as those by Schaufeli et al. (2011) and by Salmela-Aro and Read (2017) view engagement and burnout as separate phenomena and decompose burnout on a continuum ranging from no burnout to maximum.

Our approach aligns with the latter perspective, interpreting low burnout scores as indicative not of high engagement but rather of the absence of burnout.

Sources of burnout: Areas of organizational misfit as a threat to individual and organizational stability

Burnout is often the result of a disparity between an individual and their work environment. Leiter and Maslach (1999; 2005) have thoroughly examined this concept. Recognizing burnout as a consequence of organizational dynamics rather than placing sole responsibility on the individual makes it evident that systemic interventions are necessary. Leiter and Maslach (1999) have identified six critical areas in the employee-organization relationship that significantly influence burnout: workload, control, reward, community, fairness, and values. These areas demonstrate the complex nature of organizational influences on burnout and suggest that addressing discrepancies in these areas can alleviate burnout symptoms. Research on the organizational sources of academic burnout is gaining popularity, as scholars increasingly recognize the impact of institutional factors on student well-being and the necessity for comprehensive, system-level interventions (Helve, 2019; Parello et al., 2019; Heather et al., 2020; Lin, Yang, 2021; Salgado & Au-Yong-Oliveira, 2021; Thun-Hohenstein et al., 2021; Chirkowska-Smolak et al., 2022; Liu et al., 2023; Kławsiuć-Zduńczyk, 2023; Chong et al., 2025)

Recent research increasingly substantiates the connection between organizational factors and student burnout. For instance, Helve (2019), in a representative study involving Finnish university students (n = 3,110), identified significant associations between burnout and engagement with social support, institutional guidance, and a sense of belonging to one's study group. Similarly, Thun-Hohenstein et al. (2021) demonstrated that burnout levels among German medical students fluctuated over time and were strongly cor-

related with high workload, lack of autonomy, insufficient compensation, poor community, and unfair treatment, underscoring the necessity for organizational changes in curriculum planning. A large-scale Chinese study (n = 22,983; Liu et al., 2023) confirmed that academic burnout is driven by excessive academic pressure, poor study conditions, and dissatisfaction with university experiences, suggesting a need for systemic redesign and enhanced student support. Meta-analyses by Lin and Yang (2021) and Chong et al. (2025) further emphasized the significance of environmental and interpersonal factors – such as classroom atmosphere, assessment methods, course design, teacher-student relationships, and students' satisfaction with school leadership – in influencing burnout risk. Polish studies corroborate these findings, indicating similar academic stressors. Chirkowska-Smolak et al. (2022) and Kławsiuć-Zduńczyk (2023) highlighted the impact of workload, lack of autonomy, poor institutional support, and misalignment with academic values on student burnout in the local context.

Utilizing the existing framework (Maslach & Leiter, 2016; Chirkowska-Smolak et al., 2023) we propose specific areas of academic life that could contribute to burnout among Polish students:

1. Workload encompasses not only the quantitative aspects of academic responsibilities but also their qualitative dimensions, including the organization of the curriculum and the balance between study and other life domains;
2. Autonomy, reflecting control in Maslach and Leiter's model, refers to student's freedom in shaping their educational journey and the degree of self-directed learning the institution encourages;
3. Community emphasizes the relationships among students, highlighting the importance of supportive, collaborative environments for mitigating burnout;
4. Quality of teaching links to the appreciation and fairness in educational processes, emphasizing the impact of teaching quality, assessment practices, and the value placed on student efforts;
5. Values examine the alignment between students' expectations and educational realities, including academic integrity and the relevance of the curriculum to labor market needs (value of education);

6. Administration addresses the role of university management in organizing the study process, underscoring the importance of efficient administrative support and clear communication.

These areas, adapted from Maslach and Leiter's original concept, offer a framework for examining the organizational sources of burnout in academic settings.

Materials and methods

The primary objective of our study was to explore the phenomenon of academic burnout among Polish university students, with a particular emphasis on the relationship between various organizational factors and different dimensions of burnout, as well as how these factors differ among students with distinct burnout profiles.

Research questions

The following research questions were devised to provide direction for this investigation:

RQ1 (Exploratory): What distinct burnout profiles can be discerned among Polish university students based on the three dimensions of burnout: exhaustion, cynicism, and inefficacy? RQ2: How do the identified burnout profiles vary in their perceived alignment with various aspects of academic life, including workload, control (autonomy), community (relationships with other students), teaching quality, values, and administration? What patterns can be observed in the relationship between burnout profiles and six areas of academic life?

Hypothesis

Based on the research questions, the following hypothesis has been proposed:

H1 (Related to RQ2): Unique relationship patterns between the identified burnout profiles and the six areas of academic life, as measured by the Areas of Academic Life Scale (AALS), will be observed. Specifically, lower burnout symptoms are hypothesized to be associated with more positive perceptions of workload, autonomy, community, teaching quality, values, and administration, suggesting that a better fit within these organizational factors is related to reduced burnout experiences.

This hypothesis aims to explore how variations in burnout profiles relate to students' experiences within their academic environments and to uncover the intricate interplay between individual burnout levels and the organizational dimensions of academic life.

Participants

This study was conducted with 1519 participants who completed questionnaires incorporating metric questions. The participants were drawn from four major public universities across Poland, including Adam Mickiewicz University in Poznan, representing 52.5% of the sample; Nicolaus Copernicus University in Toruń, accounting for 16.35%; Cardinal Stefan Wyszyński University in Warsaw and Wrocław University, comprising 12.91%; with an additional 2.38% from various other universities. The sample predominantly consisted of students from education-related fields and social sciences, such as pedagogy, special education, preschool and early childhood education, and psychology, reflecting a significant feminization typical of these majors – 93.55% of our respondents were women.

The study encompassed both full-time students, who formed two-thirds of the respondents (71.57% of the total sample), and part-time students enrolled in weekend classes.

The demographic breakdown revealed that 38.54% were first-year students, and 36.32% were completing their studies in the surveyed degree program at the time of the study. Notably, over 40% of the respondents were engaged in professional employment alongside their studies, suggesting an additional layer of complexity and a potential risk factor for academic burnout due to compounded stress and reduced leisure time.

Ethical approval for the research was secured from the local ethics committee at Adam Mickiewicz University (Mai 5, 2021).

Measure

In our study, we utilized two principal instruments to assess the complex dynamics of academic burnout and its organizational determinants:

1. Maslach Burnout Inventory – General Scale for Students (MBI-GSS), adapted to Polish by Chirkowska-Smolak et al. (2023) from Schaufeli et al. (2002), comprises 15 items across three subscales: Exhaustion, Cynicism, and Professional/Academic efficacy. It is important to note that the Efficacy subscale items were positively worded to capture feelings of competence and effectiveness as a student. However, in alignment with our study's focus on identifying burnout profiles, we recoded the Efficacy subscale scores to reflect Inefficacy. This allows us to present the scores in a manner that directly corresponds with the other burnout dimensions, facilitating a more intuitive interpretation of higher scores indicating greater levels of burnout. The scale's reliability in this study was confirmed with Cronbach's alpha coefficients of 0.84 (Exhaustion), 0.90 (Cynicism), and 0.81 (Efficacy).
2. The Areas of Academic Life Scale (AALS) by Chirkowska-Smolak et al. (2023) evaluates six core academic areas: Administration, Community, Control, Teaching Quality, Values, and Workload. The AALS demonstrated internal consistency with Cronbach's alpha ranging from 0.64 to 0.82 across the subscales.

Data from this study are archived for public access in the Open Science Framework (OSF) repository at https://osf.io/zx8hb/.

Results

Descriptive statistics of used data

Table 1 provides descriptive statistics, including mean, standard deviation, missing values, and Shapiro-Wilk p-values. Mean scores range from

2.76 (control) to 3.71 (community), indicating differences in central tendency. Standard deviations (SD) range from 0.59 (quality of teaching, lowest variability) to 0.88 (administration, highest variability), indicating different dispersions of responses. The p-values of the Shapiro-Wilk normality test are well below 0.05, rejecting normality for all variables. However, Figure 1 shows that all variables are unimodal, suggesting deviations from normality are unlikely to affect the results significantly.

The burnout dimensions – Exhaustion (Mean = 3.63, SD = 1.16), Cynicism (M = 3.24, SD = 1.28), and Inefficacy (M = 3.15, SD = 0.95) – exhibited moderate mean scores, with Exhaustion showing the highest average and Cynicism the greatest variability. Shapiro-Wilk tests indicated significant deviations from normality for all three dimensions ($p < 0.001$), consistent with the organizational variables. However, their unimodal distributions suggest that these deviations are unlikely to impact subsequent analyses substantially.

Table 1. Descriptive statistics of data

Variable	Mean	SD	Missing Values (NAs)	Normality (p-value)
Administration	2.91	0.88	5	$p < 0.001$
Community	3.71	0.76	5	$p < 0.001$
Control	2.76	0.69	4	$p < 0.001$
Teaching quality	3.49	0.59	4	$p < 0.001$
Values	2.99	0.78	7	$p < 0.001$
Workload	3.26	0.77	3	$p < 0.001$
Exhaustion	3.63	1.16	0	$p < 0.001$
Cynicism	3.24	1.28	0	$p < 0.001$
Inefficacy	3.15	0.95	0	$p < 0.001$

Sources: Own study.

Confirmatory Factor Analysis (CFA)

Factor analysis confirmed the consolidation of variables into three dimensions of job burnout: Exhaustion, Cynicism and Academic Inefficacy. Confirmatory Factor Analysis (CFA) showed a strong fit of the model, with a Comparative Fit Index (CFI) and Tucker-Lewis index (TLI) of 0.99, confirming internal consistency. The Root Mean Square Error of Approximation (RMSEA) was 0.033, indicating excellent fit, and the Standardized Root Mean Square Residual (SRMR) was 0.028, well below the cut-off value of 0.08. Factors were allowed to correlate, while error terms were uncorrelated, supporting the factor structure for further analysis.

Latent profile analysis (LPA)

Latent Profile Analysis (LPA) was employed to identify subgroups of students with similar response patterns across the scales of exhaustion, cynicism, and inefficacy, providing insight into the diversity of burnout experiences within this population, even without significant interactions between dimensions. The conclusive LPA model determines a structure consisting of four distinct classes. The mean values for each class are presented in Figure 1. The labels for the four profiles were assigned by the trends depicted in graphical representation as follows:

The final version with the four participant profiles of the subscales of the Maslach Burnout Inventory (MBI) includes:

- Profile 1 (N=268) reported the lowest levels of Exhaustion, Cynicism, and Inefficacy, suggesting a low prevalence of burnout symptoms.
- Profile 2 (N=338) reported low to moderate levels of Exhaustion, Cynicism, and Inefficacy, indicating a moderate presence of burnout symptoms.
- Profile 3 (N=741), the largest group, reported moderate-to-high levels of all three subscales, indicating a moderate-to-high risk of burnout.
- Profile 4 (N=172) had the smallest number of participants and reported the highest levels of all three burnout components, indicating a very high risk or presence of burnout.

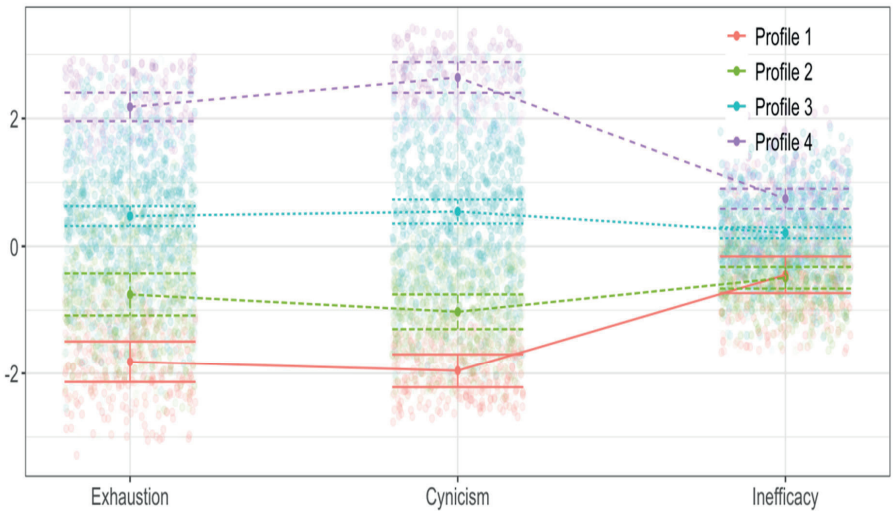

Figure 1. Plot of Means for the 4-class model

Source: Own study.

The mean scores for Exhaustion, Cynicism, and Inefficacy were 3.63, 3.24, and 3.15, respectively, across all participants (N=1519), with corresponding standard deviations (SD) of 1.16, 1.28, and 0.95 (table 2). These results indicate that the sample, on average, experienced a moderate level of burnout symptoms, with the highest average score in Exhaustion. Furthermore, the standard deviations suggest a reasonable degree of variability in the responses, particularly for Cynicism, which exhibited the highest level of variability. This implies that some individuals may not experience these aspects of burnout, while others may experience them intensely.

Table 2. Descriptive Statistics MBI Scale by Profile

Profile	N	Exhaustion	Cynicism	Inefficacy
1	268	2.14	1.62	2.58
2	338	3.03	2.37	2.42
3	741	4.03	3.71	3.45

Tabela 1. (continued)

Profile	N	Exhaustion	Cynicism	Inefficacy
4	172	5.42	5.43	4.14
Overall	1519	3.63	3.24	3.15
SD		1.16	1.28	0.95

Source: Own study.

Correlation Analysis

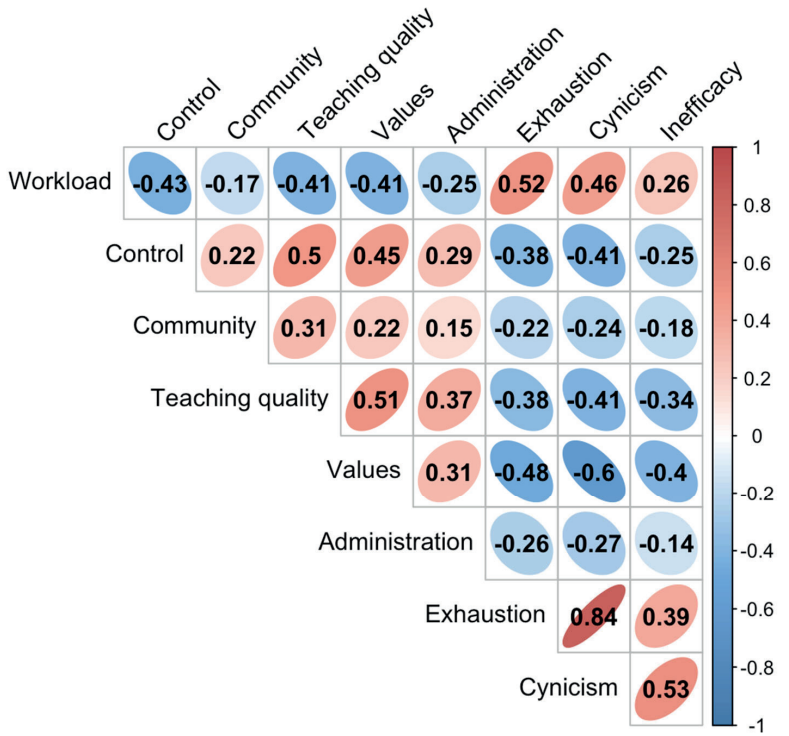

Figure 2. Correlation analysis

Source: Own study.

All the correlations were significant at the α=5% level.

Relationship of profiles to organizational constructs

We conducted six independent one-way analyses of variance (ANOVAs) to examine differences between burnout profiles across the six organizational constructs: administration, community, control, teaching quality, values, and workload. Results are presented in Table 3, including F-statistics, degrees of freedom (df), and p-values. Partial eta squared () measures the effect size of the different variables in the ANOVA models. tells us how large an effect the fixed variable(s) has on the random variable. It indicates the proportion of variance in each organizational construct explained by membership in a specific burnout profile, analyzed independently. The value ranges from 0 to 1, where values closer to 1 indicate a higher proportion of variance a given variable can explain in the model after accounting for the variance explained by other variables.

Table 3. ANOVA results

Variable	F-statistic	df	p-value	η_p^2
Administration	33.72	1, 1512	$p < 0.001$	0.02
Community	30.81	1, 1512	$p < 0.001$	0.02
Control	89.56	1, 1513	$p < 0.001$	0.06
Teaching quality	66.67	1, 1513	$p < 0.001$	0.04
Values	156.65	1, 1510	$p < 0.001$	0.09
Workload	109.76	1, 1514	$p < 0.001$	0.07

Sources: Own study.

All the variables listed were significantly associated with the random variable, with Values having the most substantial effect, followed by Workload, Control, Teaching Quality, Administration, and Community. Post-hoc Tukey HSD tests indicated that all profile means differed for all variables. The relationships between the four profiles and the constructs are shown in Figure 3.

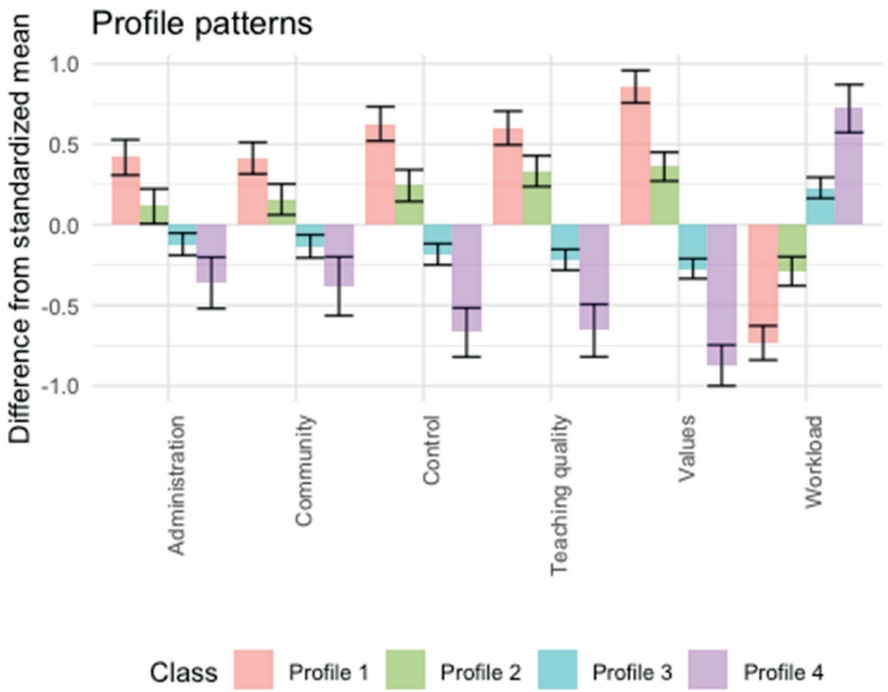

Figure 3. Contrasts and 95% CIs among profiles on organizational constructs

Sources: Own study.

Discussion

Our findings revealed that we could classify distinct burnout profiles among students based on the three dimensions of burnout: exhaustion, cynicism, and inefficacy. Profile 1: "Low Burnout, Moderate Inefficacy" characterized by low scores in exhaustion and cynicism but moderate in inefficacy, indicates students who are not significantly burned out but experience challenges in feeling effective. Profile 2: "Mild Burnout, Below Average" encompassed students experiencing mild symptoms across all dimensions, without severe manifestations. Profile 3: "Moderate Burnout, Above Average" included students with moderate and above-average scores for all burnout dimensions, suggesting a notable risk that warrants attention. Profile 4: "High Burnout,

Critical Concern" featured students with significantly elevated levels of exhaustion and cynicism, alongside moderately high inefficacy, highlighting a critical need for immediate intervention.

In contrast to previous research utilizing Latent Profile Analysis (Salmela-Aro & Read, 2017; Portoghese et al., 2018), our findings did not identify intermediate profiles characterized by elevated scores in a single dimension. Rather, our analysis demonstrated that burnout symptoms frequently co-occur among Polish students. This indicates that burnout within the Polish academic context may manifest more uniformly across dimensions, rather than through isolated symptoms. It is important to note that LPA identifies subgroups based on similar response patterns, rather than explicitly modelling interactions between burnout dimensions. Future research employing correlational analyses or structural equation modelling may explore these potential interactions more effectively.

Our study highlighted a substantial proportion of students at significant risk of severe burnout, emphasizing the urgent need for targeted organizational and psychosocial interventions. Potential strategies include workload management, enhanced academic counselling services, peer support networks, and interventions to improve institutional support and student autonomy.

The dimension of inefficacy consistently emerged at moderate levels across all identified profiles. This indicates a common experience of reduced academic efficacy among students, independent of their overall burnout severity. Given our cross-sectional study design, we caution against inferring causal or progressive relationships from inefficacy to severe burnout states.

Relationship of burnout profiles to organizational constructs

Our findings elucidate distinct correlations between identified burnout profiles and organizational constructs within the academic setting, thereby corroborating our hypothesis that students' perceptions of their academic experiences vary according to their respective burnout profiles.

Students categorized under the "High Burnout, Critical Concern" profile exhibited the most substantial correlations between severe burnout symptoms and negative perceptions of organizational factors, particularly con-

cerning workload, autonomy, and alignment with institutional values. High workload was identified as the most significant issue, emphasizing the link between intense academic demands and heightened burnout (Schaufeli et al., 2002). Furthermore, students in this category reported markedly diminished autonomy, consistent with previous findings that suggest reduced autonomy heightens burnout risks (Ryan & Deci, 2000; Niemiec & Ryan, 2009). This group also encountered inadequate community support, lower teaching quality, and challenging administrative procedures, underscoring the significance of these dimensions in shaping students' academic experiences and their overall well-being (Maslach & Leiter, 2008; Lin & Huang, 2014).

Students identified as experiencing "Moderate Burnout, Above Average" exhibit significant, albeit less severe, symptoms across all dimensions of burnout. This group represents a considerable segment of the student population, and their moderate level of burnout suggests a potential risk of escalating severity if not addressed. Individuals within this category frequently encounter challenges in balancing academic obligations with personal life, which may result in initial signs of academic disengagement and mental health issues. The transition from moderate to severe burnout profiles may be associated with prolonged exposure to unresolved stressors and limited coping resources. Early intervention strategies, such as academic counseling, stress management workshops, and peer support programs, could mitigate these risks.

Our findings align with international research concerning academic burnout. Studies conducted in Austria (Thun-Hohenstein et al., 2021), Portugal (Salgado & Au-Yong-Oliveira, 2021), and China (Liu et al., 2023) similarly emphasize the influence of organizational factors, including workload, autonomy, teaching quality, and administrative efficiency, on student burnout. These studies underscore the global nature of burnout challenges and the imperative for culturally sensitive, systemic interventions within educational institutions.

To effectively address academic burnout, it is essential to implement comprehensive strategies that focus on organizational factors. These include managing workloads, enhancing autonomy, fostering community, improving teaching quality, aligning institutional values with student expectations, and streamlining administrative processes. Such targeted interventions can

cultivate more sustainable academic environments that support student well-being and success.

Finally, our findings offer an interesting perspective on the theoretical relationship between burnout and engagement. The patterns of organizational factors identified across burnout profiles contribute indirectly to the ongoing debate regarding whether burnout and engagement are distinct constructs or opposite ends of the same continuum. Specifically, students with minimal or mild burnout (who could potentially be considered 'engaged') reported lower job demands (e.g., workload) and higher resources (e.g., autonomy, community, teaching quality). Conversely, students experiencing severe burnout reported high demands combined with limited resources. This clear differentiation in organizational correlates may suggest that engagement and burnout represent opposite poles on shared underlying dimensions, such as job demands and resources. However, because our study assessed only burnout directly-and not engagement explicitly-further research employing separate measures of both burnout and engagement is necessary to address this theoretical ambiguity conclusively.

Limitations and future research directions

Our research has several limitations. For instance, the cross-sectional design restricts our ability to draw causal inferences between burnout profiles and academic factors. To fully understand the relationship between burnout and academic performance, longitudinal studies are necessary to track the progression of burnout in a university setting over time.

Additionally, the concentration on a particular cultural group, mainly students from the educational and social sciences, may limit the generalizability of our findings to other student populations and academic disciplines. Consequently, future research should strive to examine these relationships in diverse cultural and academic contexts. Also, utilizing self-report measures in research carries potential bias, specifically social desirability.

Furthermore, the gender distribution in our sample, which predominantly consisted of women, may have impacted the study's findings. This necessitates a thorough examination of gender-related differences in experiencing and reporting burnout.

Conclusion

Our study revealed substantial levels of academic burnout among university students in Poland, emphasizing the urgent need for targeted organizational interventions. Over 11% of students were classified in the "High Burnout, Critical Concern" category, highlighting the necessity for immediate measures to address critical organizational factors, including workload, autonomy, teaching quality, community support, alignment with institutional values, and administrative efficiency.

Our findings provide a novel perspective on the theoretical relationship between burnout and engagement. The distinct organizational patterns observed across burnout profiles suggest that engagement and burnout may represent opposite ends of the same underlying dimensions, such as job demands and resources. Specifically, profiles characterized by lower burnout were associated with reduced demands and increased resources, whereas severe burnout profiles were linked to heightened demands and limited resources. However, as our study directly measured only burnout – and not engagement explicitly – future research incorporating distinct measures of both constructs is essential to elucidate their theoretical relationship and develop comprehensive interventions to promote student well-being.

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