

Burnout of Working Students in Latvia: Implications for Sustainability and Inclusivity in Higher Education

Kristīne Užule

<https://orcid.org/0000-0002-2633-6069>
EKA University of Applied Sciences, Riga, Latvia

Jelena Budanceva

<https://orcid.org/0000-0002-5205-476X>
EKA University of Applied Sciences, Riga, Latvia

Abstract

The pursuit of the high quality of higher education, especially within the framework of sustainable development goals of the United Nations, necessitates a nuanced understanding of factors impacting student learning, with burnout emerging as a critical concern that affects concentration, memory, and cognitive functions. This study investigates the level of burnout and the influence of common factors contributing to burnout among Latvian higher education students, with a focus on working students, who constitute over half of the student population in Latvia. Utilizing a quantitative survey of 393 respondents and the Oldenburg Burnout Inventory, the research reveals moderate burnout levels across both work and study domains, with exhaustion identified as a prominent factor. The moderate burnout level underscores the need for sustainable pedagogical practices that align with SDG 4 “Quality Education,” advocating for interventions that promote both academic and emotional well-being. This study emphasizes the necessity of developing tailored, sustainability-focused strategies to enhance the educational experience and support the well-being of working students.

Keywords: Age, gender, higher education, SDG 4, sustainable teaching practices, working student burnout.

Introduction

In today’s rapidly evolving world, integrating sustainability into education has become crucial for equipping students with the skills and knowledge needed to address global challenges. Sustainable development, a key objective of the 21st century aimed at ensuring long-term progress for the planet (Martinez-Bravo et al., 2024; Vargas-Merino

et al., 2024), has given rise to the concept of education for sustainable development (Vargas-Merino et al., 2024). Al-Mamary and Alshammari (2025) define sustainable development as the type of development that ensures the satisfaction of survival needs of the present and future generations. Fostering long-term survival requires complex and diverse actions across various aspects of life on the planet. Hence, sustainability is a diverse (Amin & Greenwood, 2018) and complex concept encompassing social, economic, and environmental components (Tripathi et al., 2026), beneficial to both people and the planet in the long term.

Among the aspects affecting sustainable development is education. Insufficient education hinders sustainability progress (Bueloth et al., 2026), which is why there is a need to decrease unsustainability of education (Salite et al., 2021). Consequently, educational institutions have been implementing sustainability aspects in their academic processes and outcomes, such as courses and teaching methodology (Annelin, 2026), and in their business operations (Abo-Khalil, 2024; Dyer & Dyer, 2017; Jekabsone & Ratniece, 2023) by aligning their goals and activities with Sustainable Development Goals (SDGs), particularly SDG 4 “Quality Education”. Sustainable education not only enhances critical thinking and social responsibility among students but also links socioeconomic progress with environmental awareness, creating a comprehensive educational framework. Therefore, the concept of education for sustainable development encompasses two aspects – knowledge development for implementing sustainable actions and organization of all operations and processes in alignment with sustainability values.

While sustainability education offers significant benefits, it also presents challenges, particularly for students. Academic demands can contribute to student burnout, a phenomenon characterized by emotional exhaustion, cynicism, and diminished academic engagement (Lubbadeh, 2020; Lovern et al., 2024). Burnout negatively affects students’ ability to absorb and critically evaluate information, motivation, academic performance (Xie et al., 2024), and creativity (Li et al., 2021). Burnout, as a mental health issue, can disrupt productive academic relationships between academic staff and students. Yet, maintaining cooperation with students is highly important for teachers, wishing to sustain a constructive educational process (Ciuladiene & Kairiene, 2017). Therefore, it is important for academic staff to consider the burnout of students. By being aware of the signs of burnout, educators can adjust their teaching practices to foster more sustainable knowledge development and ensure a sustainable learning environment. Addressing burnout issues facilitates students’ success and institutional stability, which contributes to the development of sustainability of the education system as such (An & Tao, 2024).

The integration of sustainability into educational practices rests on the ability of educators to deliver content on sustainable development and to adopt teaching practices aligning with the principles of well-being and social responsibility. Sustainable pedagogical practices, as suggested by Holdsworth and Sandri (2021) and Zhao and Cheah (2023), emphasize the development of holistic competences in students – encompassing not only knowledge but also emotional and psychological well-being. This broader vision of the role of education highlights the critical need for academic staff to be attuned to factors such as student burnout, which directly impacts both the learning environment and the effectiveness of sustainability education. Such an approach is aligned with the concept

of education for sustainability by Dzelzkaleja and Kapenieks (sen.) (2018), who claimed that education for sustainability should encourage participatory action. Yet, burnout is among the factors that can reduce such participatory engagement.

There are some associations between student burnout and school environment (Li et al., 2021). Therefore, teachers play a pivotal role in shaping students' experiences, and their awareness of burnout can enhance the sustainability of their own practices. By understanding the stressors that contribute to student burnout, educators can create learning environments that promote resilience and emotional health. This awareness can lead to the adoption of teaching strategies that balance academic rigor with well-being, such as active learning techniques, flexible deadlines, and the inclusion of mental health discussions in the curriculum (Reed et al., 2023). Therefore, teacher practices rooted in sustainability should not only aim to impart knowledge but also foster a supportive atmosphere that mitigates burnout and promotes long-term academic engagement and success.

Higher education is crucial for addressing sustainability challenges (Liu et al., 2025; Tutore et al., 2026) because it helps individuals to develop relevant knowledge and skills for future professions (Tutore et al., 2026). Therefore, it is important to consider various aspects affecting students' knowledge development in higher education. Among those aspects is student well-being that might either facilitate or impede cognitive processing and the emergence of positive attitudes towards the acquired concepts. This study aims to assess the level of burnout, which is an aspect of well-being, among Latvian higher education students, with a particular focus on those who are also working, because long working hours contribute to burnout (Anand et al., 2023). Therefore, combining study and work load translates into long activity hours, which makes working students more vulnerable to burnout. Drawing from previous research on burnout, this study examines the relationship between burnout levels and factors such as work domains, gender, and work experience. The findings are expected to provide valuable insights for decision-makers and implementers within higher education institutions, helping them adjust pedagogical practices to address student burnout.

The value of the research is multifaceted. Consistent with the Critical Theory of Education, the concepts of education and sustainability should shift from rationality to individual experience (Holma et al., 2026). Goralnik et al. (2026) suggest a link between sustainability and student well-being in education. In this light, by addressing an aspect of well-being, which is the burnout of individual students and student groups, the study attempts to provide insights into the aspects that can enhance both sustainability and quality of higher education. Burnout is a significant issue of the 21st century (Garcia et al., 2024), with its widespread prevalence underscoring the need for further study. Despite its importance, research on burnout specifically within higher education has been limited (Asikainen et al., 2022). Moreover, burnout levels can vary among individuals, job types, organizations, and industries. Therefore, assessing burnout levels among stakeholders, particularly working students, is crucial before implementing changes to work-related practices. This is consistent with the approach of inclusivity in higher education, designed to address the needs of diverse student groups. To the authors' knowledge, there are no existing studies in Latvia that explore both work-related and study-related burnout

among working students, highlighting the unique contribution of this research.

Literature Review

Burnout is characterized as a psychological condition stemming from prolonged exposure to workplace stressors (Wang et al., 2024). Job insecurities and burnout contribute to negative work attitudes, higher turnover, and diminished well-being, adversely affecting productivity (Anand et al., 2023). Burnout manifests in reduced engagement, increased absenteeism, and compromised performance, hindering overall operational efficiency and organizational competitiveness. In severe cases, it can trigger suicidal ideation, as observed among anesthesiology trainees in the USA (Bui et al., 2023).

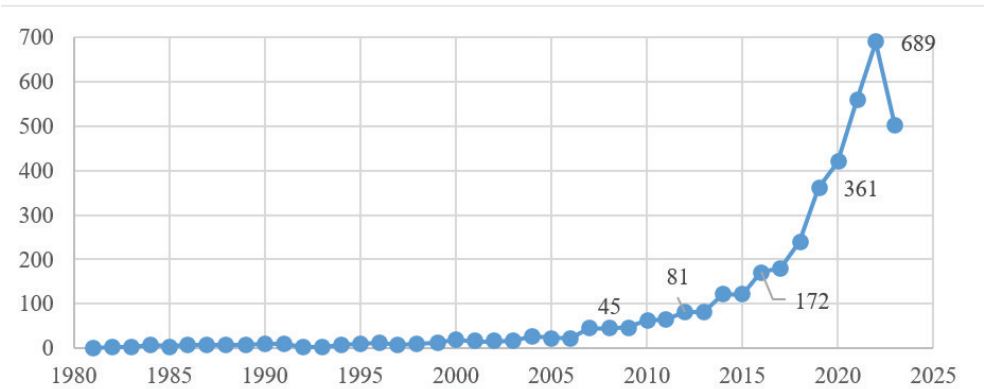
Burnout can arise not only from work conditions but also from study circumstances, resembling the definition of work burnout. It encompasses exhaustion, negative attitudes toward learning, and feelings of inadequacy (Salmela-Aro et al., 2009; Schaufeli et al., 2002). This can lead to reduced job performance, increased absenteeism, and higher turnover rates, incurring significant costs for businesses. Transitioning from secondary to higher education is a common trigger, along with intense academic and social challenges, familial disconnect, and increasing workload (Diehl & Hilger, 2016; Maymon et al., 2019; Pluut et al., 2015). Student burnout is linked to reduced educational aspirations and a significant risk of dropping out (Bask & Salmela-Aro, 2013; Dyrbye et al., 2010; Upadaya & Salmela-Aro, 2017). Approximately one-fourth to one-third of students regularly experience exhaustion, often surpassing non-studying peers (Dyrbye et al., 2008; Frajerman et al., 2019; Olson et al., 2023).

There are some biological gender-related differences in student burnout, specifically, females tend to perform better at school than males, but females also experience higher levels of stress and experience higher levels of school burnout (Pomerantz et al., 2002; Salmela-Aro et al., 2009, 2017). However, researchers from Portugal, Italy, and Germany did not find any significant correlations between biological gender and burnout level (Loscalzo & Giannini, 2019; Olson et al., 2023; Salgado & Au-Yong-Oliveira, 2021). Some authors believe that student burnout is more common among students who study intensively and consequently experience emotional exhaustion, cynicism, and the sense of low academic achievements (Schaufeli et al., 2002).

The first publications on student burnout appeared after 1981, which was 7 years after Herbert J. Freudenberger had introduced the concept of burnout (Maslach & Johnson, 1981). Until 2007, the number of scientific articles on burnout in the Scopus database was low – less than 30 articles/year (see Figure 1). The selection criteria for the Scopus database were “student* and burn*out”; only articles, books, and book chapters written in the English language were considered (n=4046).

Figure 1

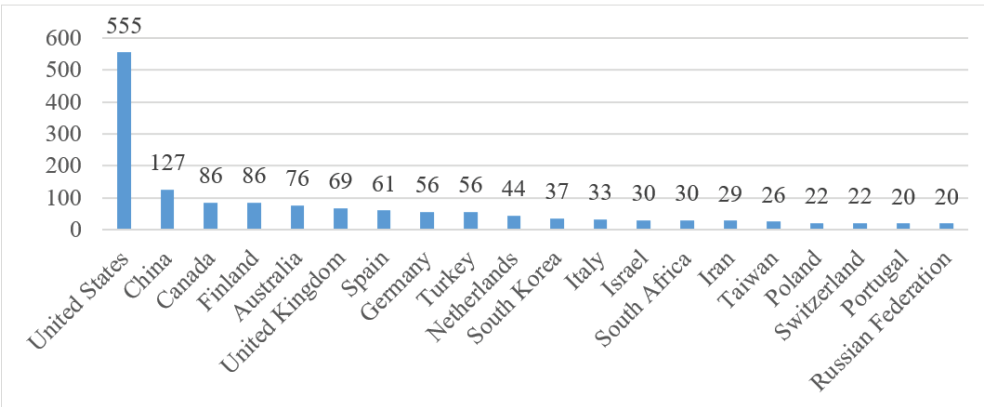
Publications on the Topic “Student Burnout” by Year of Publications (Source: Scopus.com)



However, the number of scientific papers noticeably increased from 45 in 2007 to 689 in 2022 (see Figure 1). In the first half of 2023, the number of articles reached 502. Half of all publications ($n=2404$) were related to medical and healthcare sciences, followed by papers in social sciences ($n=1703$). Within social sciences, a total of 1565 publications were identified (see Figure 2). Most publications originated in the USA (555 publications) and Europe (349 publications).

Figure 2

Publications on the Topic “Student Burnout” by Country of Publication, $n=1565$ (Source: Scopus.com)



In the dynamic landscape of a diverse workforce, working students take a special position because they combine two different activity loads – academic and employment, which makes this group of workforce vulnerable to burnout. Given that working students may exceed a standard 40-hour work week, they are particularly vulnerable to burnout compared to non-working students or non-studying employees. This vulnerability is highlighted by research showing a connection between work exceeding 70 hours per

week and higher burnout risks (De Oliveira Jr et al., 2013).

Burnout among working students is even higher due to the necessity to balance the demands of work and academic life (Dyrbye et al., 2008). Yet, the level of burnout is higher among non-working students than working students (Salgado & Au-Yong-Oliveira, 2021). In the USA and Germany, students with a paid job working less than 10 hours do not seem to be affected by any dimension of burnout, which might be attributed to the distractions caused by job experience, financial stability, gained sense of responsibility, all of which could positively affect the perception of academic strains (Olson et al., 2023; Rao et al., 2020). Thus, negative effects of burnout were more prevalent among students working for 20 or more hours/week (Larcombe et al., 2016).

There is some evidence that higher work engagement has a negative impact on student academic performance and positive correlation with high levels of stress (Galbraith & Merrill, 2012). An examination of students' work-related issues showed a significant decrease in work exhaustion, as well as decline in work efficacy. Moreover, an increase in one aspect of efficacy in working students' responsibilities leads to a decrease in efficacy in other obligations, such as studies (Galbraith & Merrill, 2012). Few studies examining both study and work burnout conclude that study-related burnout is higher than work-related burnout (Draghici & Cazan, 2022).

The insights gained advocate for age-conscious organizational leadership, supporting SDG 8 to create conducive work environments and promote sustainable economic growth. Additionally, according to international organizations, such as the Organisation for Economic Co-operation and Development (OECD, 2015), while modern education quality is often measured by academic achievement and student well-being, international university rankings typically prioritize academic performance over well-being, potentially neglecting students' health (Olson et al., 2023).

Research Methodology

Research Method and Procedure

To identify the level of burnout and the effect of typical factors affecting burnout, the authors used a quantitative research method – a survey. The designed questionnaire was divided into three blocks: (1) Information about participants, including their employment and study status, client-oriented employment, activity loads (10 questions); (2) Oldenburg Burnout Inventory for work (15 questions); (3) Oldenburg Burnout Inventory adopted for the concept of “studies” (15 questions). Oldenburg Burnout Inventory is an open access tool measuring disengagement and exhaustion levels. The data were analyzed using the open-access statistical software *Gretl*.

The questionnaire was distributed online via Google Forms to students from different higher education institutions in Latvia from May to July 2023. Students completed the questionnaire voluntarily.

Regarding ethical considerations of the research, before submitting responses, participants had to confirm their voluntary participation and their consent to using their data anonymously for research purposes only in the online Google Forms questionnaire

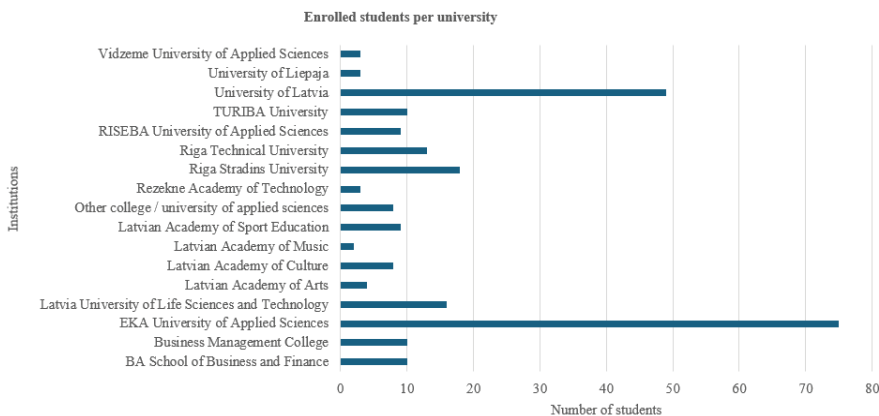
form. If respondents provided negative reply to any of these questions, their survey form was automatically closed. Furthermore, formal institutional requirement from the ethics committee was not needed because the research was based on the open-access research tool examining burnout levels – Oldenburg Burnout Inventory.

Research Participants

In total, 393 respondents completed the online questionnaire; 71 were excluded for neither working nor studying, or for having the combined work and study workload below 20 hours/week, which was below the typical part-time workload in Latvia. Additionally, 72 participants were excluded because their work or study load was below 6 hours/week, which was considered to influence the burnout level insignificantly. Thus, 250 respondents were remained for the analysis.

The profile of these students reflects the general population trends in Latvia. First, according to the National Statistics Portal of Latvia (2023a), 18% of all higher education students in Latvia were enrolled at regional institutions. In this research sample, 10% of the surveyed students pursued their studies outside the capital city of Riga across all four regions of Latvia. Second, more than 50% of university students in Latvia study at state institutions (National Statistics Portal of Latvia, 2023b), and 57% of the study participants were enrolled at state universities. Third, the list of higher education institutions was diverse (25 Latvian colleges and universities) (see Figure 3). The label “Other colleges/universities of applied sciences” incorporated the institutions that were represented only by one participant.

Figure 3
Number of Participants Enrolled at Latvian Universities (Source: Created by the authors)



Fourth, although students from the EKA University of Applied Sciences formed the largest single group of students, comprising 30% of the surveyed participants, they did not constitute the majority. The largest total number of students is registered in three state universities – University of Latvia, Riga Technical University, and Riga Stradins University (Ministry of Education and Science of the Republic of Latvia, 2023), which

corresponds to this study with 32% of participants enrolled at these universities. Fifth, the student sample represents a balanced distribution per type (mode) of studies: on-site during the day (28%), on-site in the evening or on Saturdays (39%), e-learning (24%), and other types of study arrangements (9%). Such distribution of study types (modes) across the student population is justified by the focus of this research on the students combining work and studies. Sixth, the prevalence of working students explains why a majority (72%) were enrolled in part-time studies. This trend corresponds to findings from the Eurostudent VIII Latvian report, which noted that 63% of Latvian students were employed (Ministry of Education and Science of the Republic of Latvia, 2023).

As for the sample size of the surveyed students, it is acceptable. Specifically, according to the National Statistics Portal of Latvia (2023c), in 2023, a total of 70763 students were enrolled in college, undergraduate, and postgraduate studies, implying that 44580 of these students were working. Considering the statistics, the representative sample at 90% confidence level with the error margin of 5.1% is 250 students. Therefore, the analyzed sample size is representative of the working student population in Latvia.

Research Results

Descriptive Results of the Data Set and Data Trimming

The outputs of the analysis of Block 1 questions are available in Table 1.

Table 1

Demographic Information on Respondents (Source: Created by the authors)

Gender	Biological genders	Age	Customer Service/teaching	Work hours/week	Study hours/week	Combining work-study/months
Male	71		67.61%			
Average	-	26	-	38.96	21.42	13.79
Range	-	19–45	-	6–90	6–60	0–25+
Female	179		76.54%			
Average	-	26	-	35.21	20.63	14.17
Range	-	18–60	-	6–70	6–70	0–25+
Both biological genders	250		74%			

See next page for continuation of table

Continuation of Table 1

Gender	Biological genders	Age	Customer Service/teaching	Work hours/week	Study hours/week	Combining work-study/months
Average	-	26	-	36.28	20.86	14.06
Range	2	18–60	-	6–90	6–70	0–25+
Mean	1.71	26.04	1.91	36.27	20.82	3.78
SD	0.45	7.05	0.94	12.24	12.82	1.68
Kurtosis	-1.08	1.15	-0.56	1.53	1.09	-1.28
Skewness	-0.95	1.32	0.69	0.24	1.14	0.06
Shapiro-Wilk W	0.564715	0.71321	0.817847	0.938037	0.886858	0.875366
Shapiro-Wilk p-value	1.42987e-024	1.90099e-020	2.01717e-016	9.07762e-009	1.03563e-012	2.01334e-013

High significance levels of the Shapiro-Wilk test prove the non-normal distribution of all variables, suggesting the data are non-parametric (see Table 1). Most male and female participants reported the connection to customer service or teaching jobs – 76% of females and 68% of males. The average of the combined work and study loads amounted to 58.11 hours/week, showing no discernible differences between males and females. Furthermore, 91% of the respondents combined work and studies for four months and longer.

Work, study, and combined loads were grouped into four categories based on identical conditions, considering a 40-hour work week and equal intervals between all categories of loads: “Low” (≤ 14 hours/week), “Moderate” (≤ 28), “High” ($X \leq 43$), “Super high” (> 43) (see Table 2).

Table 2
Activity Loads per Biological Gender (Source: Created by the authors)

Activity load	Work	Study	Combined		
	Total	Total	Females	Males	Total
Super high	46	16	148	62	210
High	147	55	27	8	35
Moderate	47	82	4	1	5
Low	10	97	0	0	0
Total	250	250	179	71	250

Within the combined load, the super high load formed 84%, high load – 14%, and moderate load – 2%. Hence, 98% of the respondents are susceptible to burnout. Furthermore, 77% of the respondents experienced high and super high workload, while high and super high study load was characteristic of 28% cases.

Work Burnout

There were no missing values in the analyzed data. The results of the descriptive statistics along with the results of Shapiro-Wilk test on data distribution are provided in Table 3.

Table 3

Work Burnout (Source: Created by the authors)

Indicator	Mean	SD	Ex. Kurtosis	Skewness	Shapiro-Wilk W	p-value
Combined work burnout	2.45	0.43216	0.59654	0.17015	0.983853	0.00621231
Disengagement work burnout	2.39	0.47933	0.45332	0.36252	0.982518	0.00363017
Exhaustion work burnout	2.51	0.45929	0.43532	-0.026384	0.984822	0.00923731

High significance levels of the Shapiro-Wilk test prove the non-parametric type of data, which is why the Wilcoxon Sum Rank Test was run to determine if there was a significant difference in distribution of values between *Disengagement work burnout means* and *Exhaustion work burnout means*. The outputs are as follows: $z=(57187-62625)/1615.36=-3.36644$; $P(Z<-3.36644)=0.000380725$; Two-tailed p-value=0.00076145. This test shows a significant difference in distribution of mean values between these two variables.

Considering the means, the level of exhaustion was significantly higher than that of disengagement. This output was further verified by the Kendall's tau test, which is typically deployed to analyse non-parametric data: Kendall's tau=0.50607478; z-score=11.071; with two-tailed p-value 0.0000. The value of the Kendall's tau coefficient indicates the moderate level of significance. Next, the levels of work burnout were calculated (see Table 4).

Table 4

Levels of Work Burnout (Source: Created by the authors)

Level of burnout	Level of burnout based on Delgadillo et al. (2018)	Means	Count of burnout levels	Percentage of burnout levels
High	$X > 2.67$	3.01	56	22.40%
Moderate	$1.63 \leq X \leq 2.67$	2.29	192	76.80%
Low	$X \leq 1.62$	1.35	2	0.80%
Average		2.45	250	100.00%

More than three-quarters of the respondents exhibited a moderate level of burnout, whereas slightly less than one quarter had a high level of burnout. Considering the means total and the level of burnout, the level of burnout can be concluded to be upper moderate.

Next, correlations between work burnout and other variables were examined, using the Kendall's tau test (see Table 5).

Table 5
Levels of Work Burnout by Other Variables (Source: Created by the authors)

Level of work burnout	Kendall's tau	Z-score	Two tailed p-value
Biological gender	0.09229428	1.73977	0.0819
Age	-0.15020677	-2.97214	0.0030
Duration of combining work and studies	-0.10790161	-2.26999	0.0232
Work type	-0.09148471	-1.85246	0.0640

There are significant negative correlations between age and work burnout, suggesting that as the age increases, the level of work burnout decreases, and between the duration of combining work and studies, and work burnout, indicating that the shorter the duration of combining work and studies, the higher the level of burnout.

Overall, the work burnout data are non-parametric. The total means level is 2.45, which is the upper moderate level of burnout. There is a difference between disengagement and exhaustion burnout levels, with exhaustion levels being higher.

Study Burnout

The examination of study burnout mirrored the approach used for assessing work burnout (see Table 6).

Table 6
Study Burnout (Source: Created by the authors)

Indicator	Mean	SD	Ex. Kurtosis	Skewness	Shapiro-Wilk W	p-value
Combined study burnout	2.17	0.22346	0.88862	0.49825	0.973247	0.000119098
Disengagement study burnout	2.13	0.24920	0.64506	0.14589	0.969318	3.25589e-005
Exhaustion study burnout	2.21	0.28925	1.1367	0.79254	0.942295	2.33974e-008

Small p-values prove the non-normal distribution of data, and hence, non-parametric nature of the data. To determine if there is a significant difference in distribution of values between *Disengagement study means* and *Exhaustion study means*, the Wilcoxon

Sum Rank Test was run. The outputs are as follows: $z = (58509-62625)/1615.36 = -2.54805$; $P(Z < -2.54805) = 0.00541642$; Two-tailed p-value = 0.0108328. This test shows a significant difference in distribution of mean values between *Disengagement study means* and *Exhaustion study means*.

The levels of study burnout were subsequently identified (see Table 7), and the conclusion was made that almost all respondents displayed the moderate level of study burnout.

Table 7

Levels of Study Burnout (Source: Created by the authors)

Level of burnout	Level of burnout based on Delgadillo et al. (2018)	Means	Count of burnout levels	Percentage of burnout levels
High	$X > 2.67$	2.79	7	2.70%
Moderate	$1.63 \leq X \leq 2.67$	2.15	244	97.30%
Low	$X \leq 1.62$	0	0	0.00%
Average		2.17	250	100.00%

Next, correlations between study burnout and other variables were examined, using the Kendall's tau test (see Table 8), revealing a moderate level of combined burnout among most respondents.

Table 8

Levels of Study Burnout by Other Variables (Source: Created by the Authors)

Level of study burnout	Kendall's tau	Z-score	Two tailed p-value
Biological gender	0.07218266	1.33649	0.1814
Age	-0.07237956	-1.40746	0.1593
Duration of combining work and studies	0.07770150	1.60463	0.1086
Work type	0.02582345	0.512678	0.6082

There were no any significant correlations obtained. Overall, the study burnout data were non-parametric. The total means level is 2.17, which is the moderate level of burnout. There is a difference between disengagement and exhaustion burnout levels, with exhaustion levels being higher, which is a similar outcome in comparison with work burnout distribution patterns.

Difference Between Work Burnout and Study Burnout

Given differences in total means of work burnout (2.45) and study burnout levels (2.17), the Sign test was run to determine if the differences reached the significance level. The outputs are as follows: Number of cases with work burnout > study burnout: w=184 (77.97%); W follows B(236, 0.5); Prob(W<=184)=1; Prob(W>=184)=8.77931e-019. This output suggests that the level of work burnout means was significantly higher than the level of study burnout means.

Combined Work and Study Burnout

Because the students both worked and studied, the next step in the analysis was to run the analysis of combined work and study burnout (see Table 9).

Table 9

Combined Burnout: Descriptive Statistics (Source: Created by the authors)

Indicator	Mean	SD	Ex. Kurtosis	Skewness
Combined burnout	2.31	0.26571	1.2334	0.18395
C o m b i n e d disengagement burnout	2.26	0.27579	0.56356	0.26373
Combined exhaustion burnout	2.36	0.31569	0.92867	0.20144

Both work and study burnout variables were non-normally distributed, which is why their combined variable could be used to be also non-normally distributed. This was proven by the Shapiro-Wilk test: Shapiro-Wilk W=0.981416, with p-value 0.00234977.

The Sign test was run to determine if there was a significant difference between the means of *Disengagement* and *Exhaustion combined burnout*. The number of observed differences of n = 223 could be explained by the presence of tied values between the two groups. The number of the analysed cases with a significant difference was w = 81 (36.32%). Under the null hypothesis of no difference, W follows B(223,0.5): Prob(W<=81)=2.65834e-005; Prob(W>=81)=0.999985. Hence, there is a significant difference between the means of the two variables. *Exhaustion* means were significantly higher than *Disengagement means*. Furthermore, the Kendall's tau test was run to analyse the correlation between these variables. The outputs are as follows: Kendall's tau = 0.41236507; z-score = 9.12348; with two-tailed p-value 0.0000. This outcome points to a moderate-to-strong positive correlation between the two variables: as *Exhaustion* increased, *Disengagement* also increased.

Then, the levels of combined burnout were examined (see Table 10).

Table 10*Levels of Combined Burnout (Source: Created by the authors)*

Level of burn-out	Level of burnout based on Delgadillo et al. (2018)	Means	Count of burn-out levels	Percentage of burnout levels
High	$X > 2.67$	2.85	20	7.9%
Moderate	$1.63 \leq X \leq 2.67$	2.28	227	90.5%
Low	$X \leq 1.62$	1.55	4	1.6%
Average		2.31	250	100.00%

Next, correlations between combined burnout and other variables were examined, using the Kendall's tau test (see Table 11).

Table 11*Levels of Combined Burnout by Other Variables (Source: Created by the authors)*

Level of study burnout	Kendall's tau	Z-score	Two tailed p-value
Biological gender	0.10121567	1.91644	0.0553
Age	-0.13643391	-2.71156	0.0067
Duration of combining work and studies	-0.06483387	-1.37025	0.1706
Work type	-0.06310419	-1.28365	0.1993

There is a statistically significant negative correlation between the combined burnout level and age – as the age increased, the level of combined burnout decreased.

The review of the hourly work, study, and combined load (see Tables 2 and 4) indicated the necessity to examine possible correlations between activity hours and the level of burnout. The Kendall's test did not reveal any significant correlation: Kendall's tau=0.03248930; z-score=0.73508, with two-tailed p-value 0.4623.

Discussion and Conclusion

The study aimed to explore burnout among working students in Latvia, focusing on comparing burnout levels across study and work domains while investigating associations with factors such as age, biological gender, and work experience. Overall, the results showed that working students experience moderate burnout levels, a finding consistent with Hu et al. (2024), who observed similar levels of burnout among nursing students in Chinese universities. Notably, the study also found a negative correlation between age and burnout, suggesting that older students might develop resilience over time. This aligns with findings on older employees in other sectors, such as Huang et al. (2022), who observed a similar trend in government employees. Older students may develop personality traits or coping mechanisms that mitigate the negative effects of burnout,

although this contrasts with findings by Turhan et al. (2023), who found no significant correlation between age and burnout.

One particularly important result relates to the significant correlation between the exhaustion domain and burnout levels across study and work contexts. This suggests that while working students experience fatigue, they remain engaged in both their academic and employment activities. Such engagement despite exhaustion highlights the need for targeted interventions to alleviate stress while maintaining students' interest and motivation. Interestingly, no significant correlations were found between biological gender, work experience, and total activity load with burnout levels. The absence of a gender effect is consistent with research by Bui et al. (2023), Loscalzo and Giannini (2019), Salgado and Au-Yong-Oliveira (2021), though it contrasts with Turhan et al. (2023), who found gender differences in burnout levels among German university students. The lack of such a correlation in this study may be attributed to equitable access to resources for both male and female students. Similarly, the finding that the total activity load (hours spent on study and work) did not significantly correlate with burnout could be related to the moderate weekly hours reported by participants, which were lower than the thresholds identified in other research, such as De Oliveira Jr et al. (2013).

A further key finding was the absence of significant differences between study-related and work-related burnout, with slightly higher burnout levels observed in the work domain. This could be due to the higher time demands of employment relative to academic tasks, with an average of 16 fewer hours spent on studies. This result contrasts with Draghici and Cazan (2022), who found higher burnout levels associated with academic work, possibly due to differences in respondents' academic commitment.

These findings confirm the importance of well-being. While Ruža et al. (2025) suggested that teachers' well-being affects teaching for sustainability (Ruža et al., 2025), this study revealed the importance of student well-being for sustainability in education. By identifying some mental health challenges in some student groups, this study informs educators about the need to incorporate psychological considerations into teaching practices. Among such practices might be coaching (Dehtjare, 2025). By incorporating flexible deadlines, fostering open communication, and implementing active learning strategies, teachers can create a balanced workload that prevents exhaustion while maintaining student engagement. Teachers' emotional and psychological awareness are key in cultivating these sustainable teaching practices, which in turn contribute to long-term student success and well-being. Building on the Education-as-a-Service (EaaS) model proposed by Misnevs et al. (2021), which emphasizes competence-based, student-centred, and digitally enabled educational mobility, sustainable teacher education should not only adapt curricula to evolving labor-market demands but also integrate mechanisms for assessing and addressing students' psychological states, such as burnout. Furthermore, benevolent leadership styles, focusing on the needs of people, improve engagement and mental health in various contexts (Shen et al., 2023; Wang et al., 2023), which is why they should be included into both organizational and course management practices.

From a broader perspective, integrating sustainability into education requires a holistic approach that encompasses both academic content and student well-being.

Sustainable education is not limited to imparting knowledge about environmental and social issues but also involves creating a learning environment that promotes the holistic development of students. Burnout, as a barrier to both academic and professional productivity, directly undermines the goals of sustainability education, which seeks to equip students with the skills to navigate complex, real-world challenges. Institutions must prioritize student well-being as part of their sustainability agenda, ensuring that their educational practices align with both the UN's Sustainable Development Goals (SDG 4 on Quality Education) and the emotional and mental health needs of their students. Addressing burnout through sustainable educational practices is essential for cultivating a resilient, socially responsible, and innovative workforce.

Author contributions

- The first author: Co-conceptualization of the paper, writing Introduction, Research Methodology, Research Results, Discussion and Conclusion, paper editing, data analysis, co-adapting questionnaire for this research purposes,
- The second author: Co-conceptualization of the paper, writing Literature Review, co-adapting questionnaire for this research purposes, data collection.

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Correspondence concerning this paper should be addressed to Associate Professor and Leading Researcher Kristīne Užule, EKA University of Applied Sciences, Riga, Latvia. Email: kristine.uzule@eka.edu.lv