

Student Burnout and Mental Health in Higher Education During COVID-19: Online Learning Fatigue, Institutional Support, and the Role of Artificial Intelligence

Promethi Das Deep¹ & Yixin Chen²

¹Department of Educational Leadership, College of Education, Sam Houston State University, Huntsville, Texas 77341-2119, USA

²Department of Communication Studies, Sam Houston State University, Huntsville, Texas 77341-2299, USA

Correspondence: Promethi Das Deep, Department of Educational Leadership, College of Education, Sam Houston State University, Huntsville, TX 77341-2119, USA. E-mail: pxd033@shsu.edu

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Abstract

The COVID-19 pandemic significantly disrupted higher education. The sudden and profound transformations it necessitated had a direct and negative impact on higher education students, as evidenced by the widely reported instances of academic disengagement, decreased motivation, and lower performance. This was often due to student burnout caused by financial instability, mental health struggles, social isolation, and online learning fatigue. This qualitative narrative review, which analysed 38 peer-reviewed articles and adheres to SANRA, explores this burnout phenomenon, delving into learners' challenges during the pandemic, how their educational success was affected, and the universities' strategies to mitigate the negative consequences. Understanding the link between burnout and academic success is crucial, as it will help inform future policies aimed at enhancing student resilience and learning outcomes. This review found that flexible academic policies, hybrid learning models, and mental health support services helped alleviate some of the challenges faced during the pandemic. In addition, AI-based tools such as chatbots and academic aids provided scalable emotional and academic support, particularly in online environments where traditional structures were limited. However, the long-term academic implications remain uncertain, despite the use of these learner management strategies to mitigate stress. Findings underscore the importance of continued research on sustainable digital and institutional support systems, including the integration of AI, in post-pandemic higher education.

Keywords: COVID-19, student burnout, academic performance, higher education, mental health, online learning fatigue, socioeconomic factors, AI in education, AI in student burnout

1. Introduction

The COVID-19 pandemic, alongside the rapid adoption of artificial intelligence technologies, has significantly reshaped the higher education landscape (Abdelouahed et al., 2025). As Abdelouahed et al. (2025) observe, "The transition from in-person to online learning highlighted the strengths and weaknesses of available educational technology," ultimately requiring institutions to rethink their instructional models and digital capacity (p. 2). These dual forces have altered not only how instruction is delivered but also how institutions address rising academic stress, student burnout, and the need for innovative support systems (Fulmer et al., 2023). This disruption extended beyond logistics and technology, contributing to increased emotional fatigue, academic disengagement, and a surge in burnout among university students (Chong et al., 2025). Burnout manifests as emotional exhaustion, reduced motivation, and disengagement from studies (Aguayo-Estremera et al., 2023). It is directly associated with reduced academic and personal accomplishment and was prevalent due to the rapid transition to online learning (Abraham et al., 2024). Students found it was harder to stay engaged during these sudden changes in their routines (Gómez-García et al., 2022). Recent studies also show that students experienced heightened stress during online exams and received decreased personal support from faculty (Deep et al., 2025b). Due to uncertain academic assessments and prospects, many learners felt anxious and stressed (Gómez-García et al., 2022). Many struggled with motivation, anxiety, and uncertainty, all of which negatively impacted their academic skills (Aguayo-Estremera et al., 2023). Other factors during the pandemic, such as social isolation,

financial hardships, and heavy online workloads, also contributed to student burnout (Acheampong, 2023). Other problems also came to the forefront, including technical issues such as poor internet connections, digital fatigue, and limited student-faculty interactions (Al-Kumaim et al., 2021; Deep et al., 2025b). All these factors significantly influenced learners' performance and student well-being. These burdens were particularly severe for socioeconomically disadvantaged students, who struggled with limited digital access, unstable home environments, and reduced parental support during remote learning transitions (Deep et al., 2025d).

Online education during the pandemic presented unique challenges, particularly for students from low-income backgrounds, who faced greater difficulties adapting to online classes (Acheampong, 2023). Educational inequality has become more prevalent due to unequal access to digital resources (Al-Kumaim et al., 2021). Some students also lacked quiet environments for learning, which was detrimental to concentration and engagement (Acheampong, 2023). When considering the abrupt nature of the shift to remote learning, which left students with insufficient time to adjust to the new environment, many students were less motivated in their online classes during the pandemic (Fridkin et al., 2023; Gómez-García et al., 2022). During COVID-19, higher education students faced significant mental health issues (Fridkin et al., 2023; Gómez-García et al., 2022; Sun et al., 2020). Higher levels of anxiety and depression were widespread as students suffered prolonged isolation and uncertainty about the future (Gómez-García et al., 2022; Sun et al., 2020). The fear of contracting COVID-19 added another layer of stress (Aguayo-Estremera et al., 2023). This additional burden made it even more challenging for learners to reconcile their life responsibilities with academic expectations (Aguayo-Estremera et al., 2023). Another problem was that online learning reduced peer interaction (Plakhotnik et al., 2021). In-person discussions were absent from online classes, resulting in less interactive learning and exacerbating feelings of isolation and detachment (Gómez-García et al., 2022). This is supported by recent studies that have found learners with limited communication with their instructors exhibit lower motivation and engagement (Deep et al., 2025b).

Higher education institutions have taken steps to remedy the situation, including providing mental health resources for students, offering hybrid learning options, and implementing flexible learning policies (Acheampong, 2023). While these measures helped many students, the effectiveness varied depending on the type of institutional support provided and how students adapted to these policies (Abraham et al., 2024). Another measure adopted by some universities was a pass/fail grading system; however, educators argued that this system could negatively impact students' future academic and career opportunities, as transcripts might not accurately reflect their actual academic performance (Al-Sayyed et al., 2023). Artificial intelligence (AI) technologies also served as auxiliary supports during the pandemic. Research indicates that AI analytics successfully pinpointed student distress associated with academic ambiguity and institutional responses (Rezapour & Elmshaeuser, 2022) and that AI chatbots provided scalable mental health support and emotional acknowledgment during quarantine (Fulmer et al., 2023). This has led several researchers to propose that AI can make higher education more resilient in the event of the next crisis (Abdelouahed et al., 2025).

The long-term consequences of burnout cannot be overstated; it has a direct impact on academic confidence and career prospects (Abraham et al., 2024). Students who experienced burnout during the pandemic, particularly those with a strong preference for remote learning, were more likely to struggle with burnout after returning to in-person classes (Jackson & Konczosné Szombathelyi, 2022). This suggests that universities should adopt a holistic approach to address burnout, encompassing institutional support, effective engagement strategies, and targeted mental health interventions (Gómez-García et al., 2022). One of the primary lessons of the pandemic is that it has exposed the weaknesses of traditional learning models, underscoring the need for more flexible learning approaches and student-centered education (Fridkin et al., 2023). Moving forward, universities must prioritize mental health resources for learners who feel burned out (Abraham et al., 2024). Educators should consider redesigning the curriculum to promote students' well-being and prevent future burnout in higher education settings (Acheampong, 2023). Higher education institutions must prioritize sustainable development, striking a balance between academic rigor and student well-being (Al-Kumaim et al., 2021). Implementing teaching models and hybrid classes can enhance teacher-student communication and potentially reduce levels of burnout (Gómez-García et al., 2022). Universities should prioritize students' mental health and engagement to foster a more supportive academic environment (Wang et al., 2023).

The present research explores the following topics: (1) the prevalence and severity of burnout among university students during the COVID-19 pandemic, (2) the key stressors contributing to academic burnout in higher education, (3) the relationship between online learning fatigue and student performance, (4) the role of mental health support and institutional policies in mitigating burnout, (5) the impact of flexible learning models on student well-being and engagement, (6) the effectiveness of faculty and peer support networks in addressing

student burnout, and (7) The role of artificial intelligence in reducing academic stress and emotional burnout among higher education students during the COVID-19 pandemic.

2. Methodology

This study employs a narrative review to explore the impact of COVID-19 on university student burnout and academic success. It synthesizes findings from a total of 38 peer-reviewed articles published between 2020 and 2025 on burnout, online learning, and mental health.

2.1 Search Strategy

A systematic search was conducted in ERIC, EBSCOhost, and JSTOR, utilizing Boolean operators to refine the search results. Table 1 below outlines the key search terms, Boolean operators, and their respective purposes.

Table 1. Key search terms, Boolean operators, and their respective purposes

Keywords	Boolean Operators	Rationale
COVID-19, student burnout	"COVID-19" AND "student burnout"	Ensures that only studies discussing the relationship between COVID-19 and student burnout are retrieved, with a focus on emotional and academic exhaustion during the pandemic.
Online learning, challenges	"online learning" AND "challenges"	Captures literature on difficulties in adapting to online learning—technological barriers, engagement loss, and screen fatigue—that contributed to burnout.
Academic performance, stress	"academic performance" AND "stress"	Target research linking psychological stress to student outcomes, such as GPA, motivation, and learning performance, as key indicators of burnout.
Mental health, higher education	"mental health" AND "higher education"	Includes studies on emotional struggles (anxiety, depression, coping) among university students—core dimensions of burnout.
University support, student well-being	"university support" OR "student well-being"	Broadens the scope to institutional responses and wellness strategies that addressed student burnout during the pandemic.
Digital fatigue, screen fatigue, and students	"digital fatigue" OR "screen fatigue" AND "students"	Focuses on cognitive exhaustion due to prolonged screen exposure—a key driver of remote learning burnout.
Hybrid learning, academic engagement	"hybrid learning" AND "academic engagement"	Investigate whether flexible hybrid models increased motivation and reduced academic fatigue among students.
AI tools, academic stress, and student burnout	"AI tools" AND "academic stress" OR "student burnout"	Target literature evaluating the use of artificial intelligence (e.g., chatbots, predictive analytics) to support mental health and academic engagement during COVID-19.

2.2 Inclusion and Exclusion Criteria

Table 2 outlines the inclusion and exclusion criteria used to select relevant and high-quality studies on COVID-19, student burnout, and academic success.

Table 2. The inclusion and exclusion criteria

Criterion	Inclusion Criteria	Exclusion Criteria	Rationale
Publication Date	Articles published from 2020 to 2025	Articles published before 2020	COVID-19 emerged in 2020; only studies within this range capture the pandemic's direct impact on academic burnout and related factors.
Study Population	Studies focusing on university or higher education students affected by the pandemic	Studies focusing on K–12, non-academic populations, or faculty only	The review targets higher education; other populations experience different forms of burnout that do not apply to college-level contexts.
Geographic Scope	Studies conducted in any country, including multi-country or global reviews	None are explicitly excluded by geography if other inclusion criteria are met	Facilitates a cross-cultural understanding of academic burnout and institutional responses across diverse educational systems.
Focus Area	Research explicitly addressing burnout, mental health, online learning, academic stress, engagement, or university support during COVID-19.	Studies that do not address these themes or have a general mental health focus only.	Ensures alignment with the review's objectives and avoids including tangential or irrelevant research.
Study Design	Empirical studies (quantitative, qualitative, mixed-methods), systematic/narrative reviews	Theoretical papers, opinion pieces, and anecdotal commentaries	Empirical evidence provides methodological rigor and enables data triangulation across multiple sources.
Language	Studies written in English	Non-English studies	English-language limitation ensures accuracy in interpretation and consistency in review standards.
Article Type	Peer-reviewed journal articles	Non-peer-reviewed works, grey literature, conference	Peer-reviewed sources ensure academic quality, validated methods, and

			proceedings, blogs, or editorials	minimize publication bias.
Relevance to Research Objectives	Studies with a clear exploration of the COVID-19 impact on burnout and academic performance	Studies lacking direct linkage to burnout or academic metrics		Maintains coherence in the narrative synthesis and keeps the focus on studies that answer the specific research questions.
Methodological Quality	Studies with clear design, valid data, and adequate sample size	Studies with poor design, missing data, or unclear methodology		Avoids incorporating unreliable data that could skew findings or weaken the study's credibility.
Technology Focus	Studies incorporating artificial intelligence (AI) tools in academic or mental health contexts	Studies that do not discuss technology or use AI in unrelated domains		Recognizes the emerging role of AI in supporting student well-being and academic performance, especially during and after the COVID-19 pandemic.

After implementing the selection criteria and discarding redundant studies, 38 articles were chosen for evaluation. The review followed the SANRA (Scale for the Assessment of Narrative Review Articles) framework to uphold methodological quality and reliability (Baethge et al., 2019). SANRA is a six-item tool developed to assess the quality of narrative reviews. It includes criteria such as justification of the article's importance, transparency of the literature search, appropriate referencing, scientific reasoning, and balanced presentation of relevant evidence (Baethge et al., 2019). Each item is scored from 0 (low quality) to 2 (high quality), allowing for a structured and reproducible appraisal of narrative literature (Baethge et al., 2019).

To ensure transparency in the reporting process, the review also applied the PRISMA-ScR (Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews) framework (Tricco et al., 2018). PRISMA-ScR consists of a 22-item checklist, developed specifically for scoping reviews, to enhance the completeness, transparency, and methodological rigor of reporting (Tricco et al., 2018). It facilitates mapping of key concepts, summarizing diverse sources of evidence, and identifying knowledge gaps through a systematic and documented selection process, including the use of a flow diagram (Tricco et al., 2018).

3. Results

3.1 Screening Outcomes

A total of 250 records were initially identified, comprising 200 articles obtained through electronic database searches and 50 additional records identified through grey literature and reference list screening. After removing 100 duplicates, 150 unique records remained. These were screened based on titles and abstracts, resulting in the exclusion of 50 records that did not meet the inclusion criteria. The remaining 100 records were subjected to further screening, from which 30 were excluded. A total of 70 full-text articles were then assessed for eligibility. Of these, 32 were excluded due to reasons such as insufficient methodological rigor, lack of relevance to the research objectives, or incomplete data. Ultimately, 38 studies met all inclusion criteria and were included in the final synthesis.

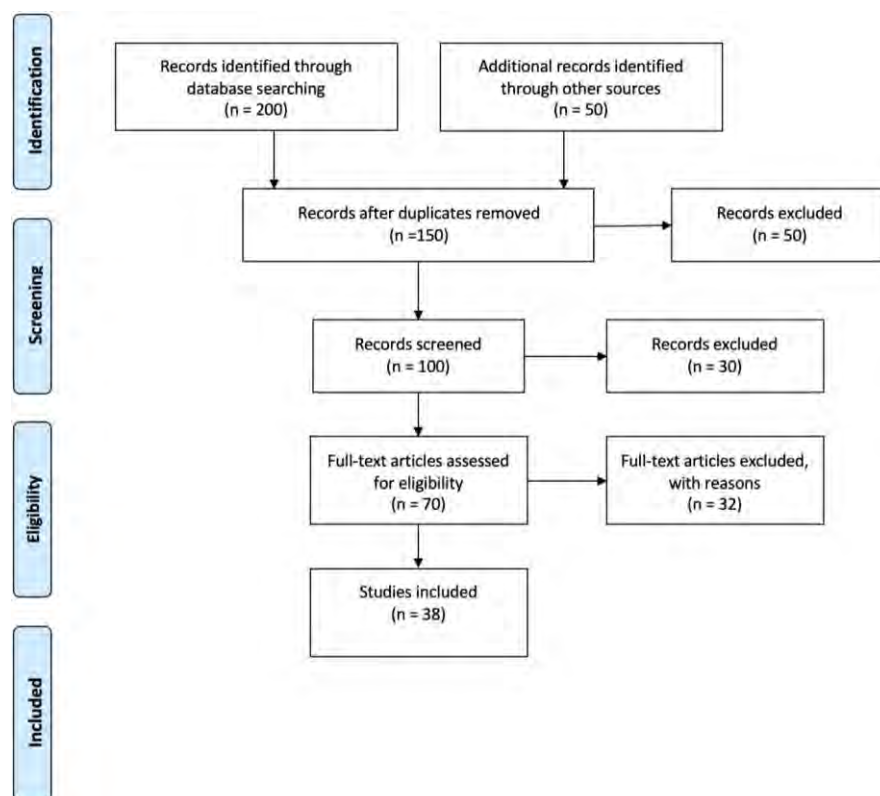


Figure 1. PRISMA-ScR Flowchart Illustrating the Identification, Screening, and Inclusion of Studies

Table 3 below presents an overview of the 38 selected studies, including study number, citation, study location, target population, research objectives, study design, and key findings.

Table 3. Summary of Selected Studies

Study No.	Citation (In-Text)	Study Location	Target Population	Research Objective	Study Design	Key Findings
1	Abdelouahed et al. (2025)	Global	Higher education institutions, students, and public health educators	To explore the integration of AI in public health education and healthcare using lessons from the COVID-19 and Mpox pandemics.	Review Paper	AI can support personalized learning, predict outbreaks, enhance pandemic preparedness, and improve public health training. Blended and hybrid models are crucial for resilience. Emphasis on interdisciplinary curriculum and ethical use of AI in education.
2	(Abraham et al., 2024)	Global	University students	Assess burnout prevalence during COVID-19	Systematic Review & Meta-Analysis	Burnout was prevalent across regions, with exceptionally high levels of emotional exhaustion and depersonalization. Prevalence varied by field of study, region, and teaching mode. Hybrid learning was associated with a lower risk of burnout. Institutional support, flexible curriculum, and localized interventions were recommended to reduce burnout
3	(Acheampong, 2023)	Ghana	University Students	To examine the impact of COVID-19 on	Qualitative	Students faced multiple challenges during online learning, including poor

				students' academic performance and learning experiences		internet connectivity, digital inexperience, limited support, and financial constraints. Socioeconomic status and demographics, including age, gender, and household responsibilities, have a significant influence on academic performance. Many students perceived face-to-face learning as more effective and interactive than online formats during the pandemic.
4	(Aghaei et al., 2022)	Iran	Psychiatry residents	To assess the impact of a social network intervention on connectivity, burnout, and perception of the educational environment among psychiatry residents	Quasi-experimental study	The social network intervention improved faculty-resident relationships, increased perceived personal accomplishment, and enhanced the educational environment for active participants. However, non-active residents experienced higher emotional exhaustion, highlighting the need for broader engagement
5	(Aguayo-Estremera et al., 2023)	Spain	University Students	To estimate the prevalence of burnout syndrome and its relationship with personality traits and fear of COVID-19.	Cross-sectional predictive study	The intervention improved residents' sense of personal accomplishment and their perception of the educational environment. Active participation in structured extracurricular interest groups increased resident-faculty connectivity. Residents who did not participate actively exhibited increased emotional exhaustion, suggesting a disparity in the intervention's effects.
6	(Al-Kumaim et al., 2021)	Malaysia	University Students	Examine the challenges faced by university students during the COVID-19 pandemic and propose a motivational model for sustainable online learning.	Mixed methods	Students reported significant stress due to online overload, technical difficulties, and poor learning environments at home. Workload pressure, lack of digital literacy, family disruptions, and insufficient university support affected student wellbeing. A conceptual motivational model was proposed, integrating personal, technical, and socio-environmental factors to support sustainable online learning.
7	(Al-Sayyed et al., 2023)	Jordan	University Students	To examine students' perspectives on the pass/fail grading system (PFGS) implemented during the COVID-19 pandemic	Quantitative	Most students, especially freshmen, supported PFGS for all courses. It was seen as the best option for online learning, but opinions varied by gender, school type, and academic level. GPA showed a weak but significant correlation with PFGS perspectives

8	(Campillo et al., 2024)	Puerto Rico	Medical students	To assess the effectiveness of Informal Peer-Assisted Learning (IPAL) in reducing academic burnout	Quantitative	IPAL reduced burnout, especially cynicism and inadequacy, but exhaustion remained high. It is a promising strategy for mitigating burnout in medical students
9	(Chong et al., 2025)	Global	University, adolescent, and medical students	To review factors contributing to student burnout and propose strategies to mitigate it	Systematic review	Burnout is driven by various factors, including the school environment, internet use, social support, coping mechanisms, and academic performance. Social support helps; poor school attachment worsens it
10	(Coyne & Woodruff, 2023)	Canada	University Students	To examine the effects of a two-week social media digital detox on smartphone and social media addiction, as well as health-related outcomes	Mixed methods	A two-week social media detox reduced smartphone addiction, improved sleep, life satisfaction, stress, wellness, and relationships. Some participants struggled initially but later adjusted, with a few experiencing post-detox bingeing
11	(de la Fuente et al., 2021)	Spain, Argentina, Mexico	University Students	To analyze how COVID-19 impacted academic stress and burnout, considering gender differences	Quantitative	Women reported higher academic stress, anxiety, and engagement, while men showed more cynicism and burnout. Teaching stress predicted negative emotions and burnout, but the COVID-19 year had no significant effect on overall stress levels
12	(Deep et al., 2025b)	Global	University Students	To analyze how different student-instructor communication methods impact student engagement and motivation in online learning	Qualitative narrative review	Live video sessions boosted engagement and motivation more than pre-recorded videos, voice-only sessions, or texts/emails. Real-time communication and interactive learning were key to effective online education
13	(Deep et al., 2024)	Global	Students in various educational settings	To examine the impact of gamification on motivation, engagement, and learning outcomes in ESL students	Qualitative narrative review	Gamification boosts ESL student motivation, engagement, and learning outcomes. It is most effective when materials are culturally sensitive, include collaborative and individual tasks, and teachers receive proper training
14	(Deep et al. 2025a)	Global	University Students	To evaluate the impact of mindfulness interventions on student well-being and academic performance during and after the COVID-19 pandemic	Review Paper	Mindfulness interventions have been shown to reduce anxiety, improve emotional regulation, and enhance engagement and academic focus.
15	(Deep et al. 2025c)	Global	University Students	To explore the impact of ChatGPT on ESL writing proficiency, student engagement, academic	Review Paper	ChatGPT enhanced the writing accuracy, coherence, and sentence structure of English as a Second Language (ESL) learners. It improved motivation and

				motivation, and instructor-student perceptions in higher education contexts.		self-directed learning, especially in hybrid environments. Educators valued ChatGPT for instructional design but raised concerns about student over-reliance and academic integrity. Successful use depended on both AI literacy and adherence to ethical guidelines.
16	(Di Pietro, 2023)	Global	Primary, secondary, and tertiary students	To analyze the impact of COVID-19 school closures on student achievement	Quantitative	COVID-19 resulted in a significant learning deficit (0.19 SD), comparable to the losses experienced following major disasters. The impact was greater in math and science than in other subjects. Students failed to recover lost learning one year post-pandemic, highlighting the need for interventions.
17	(El Morr et al., 2024)	Lebanon	University Students	To develop ML models to predict depression, anxiety, and stress using demographic and lifestyle data among university students during COVID-19.	Cross-sectional survey with ML modeling	The study found that students' self-rated health and age were the most critical factors in predicting mental health issues. Different machine learning models were effective at identifying students at risk, supporting early intervention, and providing more personalized support in university settings.
18	(Estrada Guillén et al., 2022)	Spain	University Students	To examine the relationship between emotional intelligence, resilience, engagement, and academic performance during COVID-19	Quantitative	Emotional intelligence enhances resilience, leading to increased engagement and improved academic performance. Developing emotional intelligence in education enhances students' adaptability and success in challenging situations
19	(Fridkin et al., 2023)	United Kingdom	University Students	To analyze the impact of COVID-19 on academic stress, motivation, learning strategies, and coping over time	Quantitative	Academic stress peaked mid-year and then declined, while intrinsic motivation dropped but later recovered. Maladaptive coping was common, especially among first-in-family students, who also had lower motivation levels
20	(Fulmer et al., 2023)	United States	University Students	To explore the experiences and perceptions of graduate students using an AI chatbot for mental health support during the COVID-19 quarantine.	Qualitative study using inductive content analysis	Most participants reported anxiety, depression, and isolation during the pandemic. Tess, an AI chatbot, was perceived as helpful for coping through availability, emotional expression, and psychoeducation. Limitations included a lack of emotional depth, scripted responses, and an inability to adapt to complex user needs. Participants saw potential for AI in supporting specific populations but expressed

21	(Gómez-García et al., 2022)	Spain	University Students	To analyze the impact of COVID-19 on university students' psychological and academic factors	Quantitative	caution for replacing human therapists. COVID-19 negatively impacted life satisfaction, increasing depression, anxiety, and stress. University adaptability played a key role in student motivation and learning strategies, highlighting the need for better institutional support
22	(Hsu & Goldsmith, 2021)	United States	University Students	To review evidence-based strategies that instructors can use to reduce student stress and anxiety in STEM courses.	Qualitative narrative review	Instructor strategies, such as active learning, inclusive classrooms, reducing test anxiety, and promoting effective time management, can help lower student stress and anxiety. These methods enhance student engagement and academic performance
23	(Jackson & Konczosné Szombathelyi, 2022)	Hungary	Sample (e.g., University Students)	To analyze changes in student burnout from online learning during COVID-19 to returning to in-person classes	Quantitative	Burnout shifted from struggles with remote learning to classroom challenges. Students who disliked online learning saw reduced burnout upon returning to class, while those who preferred remote learning experienced increased burnout
24	(Jojoa et al., 2021)	Spain, Colombia, Chile, Nicaragua	University Students and staff	To analyze the impact of COVID-19 on the mental health, stress, and online learning experiences of university students and staff	Quantitative	Stress, anxiety, and depression increased or remained high during lockdown. A better online learning experience was associated with age, university support, and perceptions of benefits. Staff with positive experiences maintained a higher quality of life
25	(Martin et al., 2023)	United States	Registered nurses	To examine the impact of COVID-19 on burnout and stress among U.S. nurses and its effect on workforce retention.	Quantitative	Burnout and stress were prevalent among nurses, particularly those new to the profession. Increased workloads and reduced support staff were significant contributing factors. Nurses frequently expressed feelings of emotional exhaustion, a lack of recognition, and a desire to leave or retire from the workforce. Disruptions in training and increased pressure compromised morale and retention.
26	Madububambachu et al., 2024	United States	Higher education students	To investigate the potential of machine learning techniques in predicting mental health diagnoses in higher education students.	Systematic Literature Review	Convolutional Neural Networks (CNNs) outperformed other models in diagnosing bipolar disorder. Smartphone applications for real-time mood tracking also demonstrated effectiveness.
27	(Plakhotnik et al., 2021)	France, Germany, Russia, UK	University Students	To examine how COVID-19 impacted student well-being	Quantitative	Concerns about degree completion reduced student well-being, but concerns

				and the mediating role of university support		about future job prospects had no direct impact on student well-being. University support played a mediating role, improving well-being and reducing negative emotions
28	(Rezapour & Elmshaeuser, 2022)	United States	University students	To examine the emotional well-being of university students during COVID-19 by applying machine learning techniques to identify top predictors of frustration and mental health decline	Quantitative study	Academic dissatisfaction, poor online learning experiences, lack of faculty feedback, financial stress, and negative perceptions of governmental response were key factors associated with increased student frustration. Emotional well-being was closely linked to students' satisfaction with academic performance and institutional support.
29	(Russell et al., 2024)	United States	University Students	To analyze the impact of COVID-19 on students' psychological distress, well-being, and mental health service utilization	Quantitative	Psychological distress increased during COVID-19, while well-being declined. Mental health service utilization slightly decreased, with students of color, especially females, less likely to receive services despite high distress levels
30	(Saha et al., 2023)	Bangladesh	University Students	To explore how the COVID-19 pandemic influenced students' academic activities in a public university	Qualitative	COVID-19 disrupted learning, social interaction, and mental health, resulting in reduced study hours and financial challenges. Online education was limited, especially for practical and lab-based learning, highlighting the need for a hybrid academic approach
31	(Salgado & Au-Yong-Oliveira, 2021)	Portugal	University Students	To analyze academic burnout and its link to medication use among university students	Quantitative	Many students reported experiencing burnout, which was primarily influenced by academic pressure, a lack of motivation, and uncertainty about their future. Those using antidepressants, anxiolytics, and sleep aids were more likely to report emotional exhaustion and difficulty coping with academic life, highlighting a need for greater institutional support and mental health services.
32	(Sauer et al., 2022)	Poland	University Students	To examine the impact of COVID-19 on students' mental well-being, financial concerns, and trust in medical authorities	Quantitative	Students experienced reduced motivation, increased feelings of loneliness, and emotional exhaustion as a result of the lockdown and digital learning. Concerns about financial stability and future careers negatively affected mental health. Social media use correlated with fear of missing out and emotional distress. Students with medical knowledge had

33	(Shostak et al., 2021)	Canada	University Students	To examine how COVID-19 psychological distress impacted students' academic challenges and GPA.	Quantitative	more trust in health authorities and positive attitudes toward vaccination. COVID-19 distress exacerbated academic challenges (motivational, metacognitive, and socio-emotional), negatively affecting GPA. However, higher social-emotional challenges were unexpectedly linked to higher GPA, suggesting students prioritized academics over mental health.
34	(Song et al., 2022)	China	University Students	To examine the relationship between classroom digital teaching and academic burnout in university students in the post-COVID-19 era.	Quantitative	Excessive and unintegrated digital teaching correlated with higher academic burnout. Burnout was not linked to gender, grade, or other significant factors, but was more influenced by personal factors than external factors, such as teachers or institutions.
35	(Sun et al., 2020)	Hong Kong, China	University Students	To examine the relationship between peer support, emotional well-being, and depressive symptoms during COVID-19	Quantitative	Higher peer support reduced depressive symptoms, with emotional well-being acting as a mediator. Loneliness and negative emotions increased depression, while hope and positive emotions reduced it.
36	(Suresh et al., 2021)	Global	Students and healthcare workers	To examine the impact of the COVID-19 pandemic on mental health and evaluate the effectiveness of peer support as an intervention	Qualitative narrative review	Peer support improved mental health by reducing anxiety, depression, and isolation during COVID-19. It provided accessible and practical emotional support, but some studies reported inconsistent benefits, indicating a need for further research
37	(Wang et al., 2023)	China	High school and higher education students	To examine the impact of online learning readiness and emotional competence on academic performance during COVID-19	Quantitative	Online learning readiness improved academic performance for both high school and higher education students, but emotional competence only benefited high school students. Higher education students' academic performance was not influenced by emotional competence
38	(Wu et al., 2023)	Global	University students	To examine the impact of COVID-19 on student anxiety and evaluate effective interventions	Systematic review	Physical activity, online mindfulness programs, and raising awareness about COVID-19 were the most effective interventions for reducing stress and anxiety. Sleep quality and psychological counseling also played a role, while medication use was rare.

Table 4: Key Themes from the Discussion

Table 4 below outlines key themes from the discussion, focusing on student burnout, institutional responses, and long-term implications.

Table 4. Key Themes

Core-Thematic Area	Related Concepts or Classifications	Key Insights and Structural Implications
Student Burnout and Academic Stress	Digital fatigue, workload pressure, social isolation, and emotional exhaustion	Burnout increased due to prolonged screen time, academic overload, and reduced peer interactions. The overwhelming nature of online coursework, limited breaks, and increased screen dependency led to cognitive fatigue, affecting students' ability to concentrate and retain information.
Impact on Academic Performance	Decline in focus, motivation, and productivity, higher dropout rates	Students struggled with engagement due to exhaustion, lack of peer interaction, and a diminished sense of academic purpose. Decreased motivation led to lower performance, missed deadlines, and in some cases, increased withdrawal from courses or institutions. The inability to maintain a structured learning environment further contributed to the decline in performance.
Institutional Policies and Support	Flexible learning models, grading policies, faculty engagement, and access to academic resources	Universities implementing adaptive policies, such as extended deadlines, hybrid classes, and more inclusive grading criteria, reported lower burnout levels. However, limited institutional guidance and inconsistent policy enforcement exacerbated stress and uncertainty among students, particularly those who relied on structured support systems.
Mental Health and Well-Being	Access to counseling, peer support networks, faculty responsiveness, and self-care initiatives	Institutions that integrated mental health resources had better student retention and well-being outcomes. Universities that offered virtual counseling, mental health workshops, and peer-led support groups experienced improvements in students' coping mechanisms. However, gaps in accessibility, long wait times, and stigma surrounding help-seeking limited the effectiveness of these interventions.
Hybrid Learning Effectiveness	Engagement levels, self-regulated learning, academic outcomes, and technology-related barriers	Hybrid models provided flexibility, allowing students to manage workloads at their own pace, but required structured guidance for effectiveness. Engagement increased when interactive elements such as discussion forums, group collaborations, and real-time faculty interaction were incorporated. However, technological challenges, disparities in digital literacy, and limited access to reliable internet and devices created barriers to success.
Long-Term Impacts	Post-pandemic student resilience, institutional preparedness, and evolving	Future research should evaluate the sustainability of interventions designed to

	educational frameworks	prevent burnout beyond the COVID-19 pandemic. Long-term mental health strategies, resilience training, and institutional preparedness for future disruptions remain crucial. The pandemic has reshaped how universities approach learning flexibility, but questions remain regarding the lasting effectiveness of these models in maintaining student well-being and engagement.
Role of AI in Student Support	AI chatbots, predictive analytics, personalized academic tools, and real-time emotional support	AI tools, such as chatbots and predictive systems, offered scalable support during the pandemic, helping to reduce academic stress and emotional burnout. These technologies provided personalized academic feedback, early detection of distress, and self-directed learning support, indicating their potential in future crisis-ready education systems.

4. Discussion

This study contributes to the existing literature by categorizing key factors that contribute to student burnout during the COVID-19 pandemic, with a focus on the intersection of academic stress, institutional policies, and mental health support. Unlike prior research, this analysis uniquely integrates findings across multiple domains to highlight overlooked areas, such as the long-term effects of hybrid learning models and the role of personalized student support systems. Additionally, it presents a refined framework for addressing burnout by incorporating both institutional and student-led interventions, providing a broader perspective on mitigating academic fatigue. This review also expands on the emerging use of artificial intelligence tools, particularly chatbots and adaptive learning platforms, as supplementary strategies to support emotional well-being, self-directed learning, and academic engagement in post-pandemic education.

4.1 The Prevalence and Severity of Burnout among Higher Education Students during the COVID-19 Pandemic

The severity of burnout among university students during the pandemic illustrates the pandemic's impact on student well-being and academic success (Russell et al., 2024). Student burnout symptoms were prominent during this period. The abrupt transition to online learning rapidly transformed the educational model, compelling students to adapt their learning and knowledge absorption methods. This change increased academic demands, as education was coupled with a new form of learning. It led to high levels of stress and often resulted in burnout (Jackson & Konczosné Szombathelyi, 2022). Studies indicate that emotional well-being was negatively affected in students suffering from prolonged exposure to pandemic-related distress, which often led to a feeling of depersonalization. These elements align with the classic definition of burnout (Jackson & Konczosné Szombathelyi, 2022; Jojoa et al., 2021). During the pandemic, Jojoa et al. (2021) reported that 66% of students across four countries perceived their educational experience as negatively affected, while 55% indicated a clear preference for in-person learning over online formats. More updated meta-analytic evidence also corroborates the global prevalence of student burnout in the pandemic. Based on a meta-analysis of 26,500 students in 44 studies, 56.3% exhibited high emotional exhaustion, 55.3% high depersonalization or cynicism, and 41.8% low personal accomplishment scores, collectively accounting for high psychological strain (Abraham et al., 2024). The prevalence of burnout was particularly high among students in fully virtual environments, with the highest rates observed among medical students (Abraham et al., 2024).

The level of burnout varied based on different elements, such as individual or institutional factors, mental health resources, and institutional support (Plakhotnik et al., 2021). Students with higher adaptability and resilience showed better coping strategies, which helped mitigate the negative consequences of burnout on their academic engagement and success (Estrada Guillén et al., 2022). However, even among these students, a significant number faced persistent psychological issues such as stress, distress, and chronic depression, indicating that all students were vulnerable to pandemic disruptions, including social isolation, fatigue with academic workload, and uncertainty about the future (Di Pietro, 2023; Fridkin et al., 2023). Given the long-term implications of

burnout, universities must develop policies that protect students' academic well-being during and beyond a crisis (Abraham et al., 2024).

4.2 The Key Stressors Contributing to Academic Burnout in Higher Education

Although the workload and digital issues during the pandemic were major causes of student burnout, they were not the only ones. Students were also highly stressed about their academic futures and careers (Jackson & Konczosné Szombathelyi, 2022). External factors, such as social and family support, also played a vital role in student burnout (Chong et al., 2025). The absence of strong social networks was associated with increased emotional exhaustion. Furthermore, despite the flexibility of digital learning, it was also associated with increased feelings of isolation and detachment, which contributed to burnout (Chong et al., 2025). Moreover, de la Fuente et al. (2021) identified the teaching approach as a source of stress. A lack of effective instructional methodologies, poor engagement, and abrupt shifts to online learning are primary examples. In online settings, the assessment of coursework and grading policies also changed, creating an unfamiliar evaluation method that overwhelmed and disengaged students (de la Fuente et al., 2021). All these factors negatively influenced students' emotional well-being, leading to increased burnout and reduced motivation.

Research also found that there were gender differences in academic stress; women reported significantly higher stress levels compared to their male counterparts (de la Fuente et al., 2021). Females tended to experience higher academic stress due to an increased workload, anxiety, and greater engagement in their studies. In contrast, males were more likely to exhibit burnout and cynicism, displaying higher levels of boredom, emotional disengagement, and reduced motivation toward academic tasks (de la Fuente et al., 2021). These gender disparities highlight the need for higher education institutions to develop interventions that provide educational and psychological support for students, particularly for female learners who experienced disproportionate stress during the pandemic (de la Fuente et al., 2021).

Inconsistent communication between faculty and students in higher education institutions created enormous stress, as many students struggled to keep up with the rapid changes in course requirements, grading policies, and academic expectations (Gómez-García et al., 2022). Many individuals had limited access to educational support programs, such as contact with a tutor or counselor for mental health issues (Song et al., 2022). Maintaining personal and academic boundaries was also challenging for students, as most stayed home during the pandemic (Shostak et al., 2021). A lack of a structured course curriculum exacerbated these challenges, especially for students with household duties or part-time jobs. These extra pressures negatively affected student well-being, leading to burnout (Shostak et al., 2021). This suggests that higher education institutions should revise their policies to enhance students' well-being.

4.3 The Relationship between Online Learning Fatigue and Student Performance

One widely studied topic is the relationship between online learning fatigue and academic performance during the pandemic (Saha et al., 2023; Shostak et al., 2021). Online learning fatigue, resulting from prolonged screen exposure, cognitive overload, and a lack of in-person interactive engagement, was associated with poor concentration and a decline in overall academic success (Saha et al., 2023; Song et al., 2022). In online classes, students reported high levels of mental exhaustion and difficulty in retaining study materials and completing assignments on time (Salgado & Au-Yong-oliveira, 2021). Digital burnout is also related to a decline in self-regulated learning strategies. Managing time effectively and adhering to academic standards became increasingly challenging for students online (Wang et al., 2023). A feeling of isolation, exacerbated by a lack of personal meetings and structured learning schedules, negatively affected students' engagement and academic performance (Shostak et al., 2021; Wu et al., 2023). A study by Sauer et al. (2022) on 613 Polish university students revealed that 78.1% experienced a sharp decline in motivation to study, 81.1% had no contact with peers, and 73.4% were frustrated due to excessive computer use. Those symptoms represent signs of fatigue due to online learning and academic disconnection (Sauer et al., 2022). The research indicates that prolonged reduced peer interaction and exposure to digital media hindered students' ability to focus and resulted in emotional burnout. Consequently, students struggling with studying were more susceptible to the vicious cycles of digital fatigue (Sauer et al., 2022). This highlights the need to develop targeted interventions to address the psychological and cognitive burdens associated with long-term online studying (Sauer et al., 2022).

To support students, institutions have implemented various digital strategies to alleviate online learning fatigue (Saha et al., 2023). Virtual reality mindfulness programs helped engage students by reducing stress and anxiety. These initiatives provided an accessible alternative to therapy, enhancing emotional regulation and improving engagement through the use of structured coping strategies (Deep et al., 2025a). They also provided a scalable and effective method to support student mental health during the pandemic (Wu et al., 2023). Another strategy

was the use of gamification features in the classroom, which helped make learning more engaging and motivated students to learn (Deep et al., 2024). Institutions also encouraged digital detox programs and scheduled breaks to improve focus and prevent burnout (Coyne & Woodruff, 2023; Song et al., 2022). Additionally, AI-powered learning platforms gained popularity since they offered tools for reducing cognitive loads and improving focus, and continue to be widely used for personalized learning in the post-pandemic era (Song et al., 2022). To ensure academic success and students' well-being, educational institutions should continue to implement long-term mentoring strategies that improve students' well-being and academic outcomes (Shostak et al., 2021).

4.4 The Role of Mental Health Support and Institutional Policies in Mitigating Burnout

Mental health support played a crucial role in reducing student burnout during the pandemic (Wu et al., 2023). Students also benefited from institutional policies designed to support their well-being and academic progress. Many universities continue to offer mental health services, mindfulness workshops, and peer support programs, which have been shown to be effective in helping learners reduce stress and improve academic engagement (Sun et al., 2020; Suresh et al., 2021; Wu et al., 2023). However, a significant number of higher education institutions still lack sufficient access to mental health counsellors, resulting in prolonged waiting periods and inadequate emotional support (Suresh et al., 2021). Other institutional policies that played a vital role included the promotion of academic flexibility, as it significantly reduces burnout (Abraham et al., 2024). During the pandemic, many institutions adjusted their grading policies, extended assignment deadlines, and reduced course workloads, which was crucial in managing stress while maintaining academic rigor (Salgado & Au-Yong-Oliveira, 2021). Many universities have also attempted to support students by implementing emergency financial aid programs and housing assistance, which have helped alleviate economic stress and positively impact students' emotional well-being, ultimately reducing burnout (Al-Sayyed et al., 2023). Research also emphasizes the importance of faculty training in better supporting students who are dealing with burnout (Hsu & Goldsmith, 2021). These findings suggest that universities should develop long-term incentives to enhance their mental health infrastructure and policies that support students' overall well-being and academic performance (Plakhotnik et al., 2021).

Furthermore, new research suggests that AI-based tools, specifically psychological chatbots, could serve as useful complements to institutional mental health services during public health crises (Fulmer et al., 2023). Tess, a text-based, on-demand AI chatbot designed to provide emotional support, was utilized by students as a means of helping them overcome stress, anxiety, and social isolation when traditional guidance was not readily available (Fulmer et al., 2023). Students consistently described Tess as a calming presence, and “nearly all participants” found it to be helpful as a general tool or in specific populations, such as therapy clients or students without regular access to care (Fulmer et al., 2023, p. 19). Specifically, 95% of students indicated that Tess, the AI chatbot, helped alleviate negative mental health experiences, highlighting the potential of AI to scale emotional support during crises (Fulmer et al., 2023). The chatbot provided emotional validation, informational guidance, and 24/7 accessibility, all of which students considered essential during the quarantine period (Fulmer et al., 2023). More significantly, the authors note that AI chatbots show promise as a valuable tool for augmenting mental health support, optimally in collaboration with human professionals (Fulmer et al., 2023). Such research suggests that integrating AI-based tools into institutional systems can optimize students' overall well-being, particularly when in-person services become overwhelmed or disrupted. Given the clear benefits of mental health support, universities must prioritize these initiatives to improve students' emotional well-being and academic success (Aghaei et al., 2022; Campillo et al., 2024).

4.5 The Impact of Flexible Learning Models on Student Well-being and Engagement

Flexible learning models had a significant impact on learner well-being and engagement during the pandemic (Al-Kumaim et al., 2021). Flexible learning takes various forms, including hybrid, self-paced, and asynchronous instruction. These models helped learners manage their time more efficiently, which, in turn, reduced stress and burnout (Al-Kumaim et al., 2021; de la Fuente et al., 2021). Recent studies have found that students enrolled in customized learning models exhibit greater engagement and motivation than those in rigid online courses (Al-Kumaim et al., 2021). Flexible learning is particularly valuable because it accommodates diverse learning needs while also fostering time management skills. These skills were essential for students striving to balance their academic and personal lives (Al-Kumaim et al., 2021; de la Fuente et al., 2021). Adaptive assessments and interactive learning also played a key role in increasing student participation (Deep et al., 2025b; Hsu & Goldsmith, 2021). However, despite these benefits, the lack of structural learning methods and digital fatigue led to declines in motivation and engagement. These findings highlight the importance of a well-designed curriculum that prioritizes student engagement and minimizes burnout (Al-Kumaim et al., 2021; Deep et al., 2025b).

Most importantly, the effectiveness of flexible learning models depends on how well higher education institutions support students in online settings (Deep et al., 2025b; Di Pietro, 2023). Universities that offered mental health services and enhanced faculty training saw higher levels of student engagement and reduced dropout rates a prevalent issue during the pandemic (Russell et al., 2024; Wang et al., 2023). For flexible learning to succeed, institutions must prioritize clear communication, academic flexibility, and emotional support to help students manage stress and remain productive (Al-Kumaim et al., 2021; Deep et al., 2025b). A flexible learning model can effectively reduce stress and burnout, but for long-term success, institutions must invest in digital resources, student support programs, and ongoing faculty training (Chong et al., 2025; de la Fuente et al., 2021). Consistent faculty support plays a crucial role in helping students navigate academic challenges more effectively (Al-Kumaim et al., 2021; Deep et al., 2025b).

4.6 The Effectiveness of Peer Support Networks in Addressing Student Burnout

The effectiveness of peer support networks in reducing student burnout has emerged as a critical factor in students' overall well-being and academic success (Campillo et al., 2024; Sun et al., 2020). In a study of 151 medical students, Campillo et al. (2024) found that those who engaged in informal peer-assisted learning (IPAL) reported significantly lower academic burnout scores, an average of 44.75%, compared to 54.89% among those who did not participate. Peer support networks offer a unique advantage in working with students experiencing burnout by providing emotional reassurance, social connectedness, and shared academic strategies (Chong et al., 2025; Sun et al., 2020). Recent studies have found that peer mentoring and collaborative study groups help students remain motivated and alleviate workload pressures (Campillo et al., 2024; Deep et al., 2024). These findings align with the experiences of higher education institutions that have implemented peer-led support initiatives, such as student wellness programs and virtual discussion groups, which have successfully reduced burnout-related withdrawal rates (Campillo et al., 2024; Suresh et al., 2021). Recent studies also reveal that peer support has a tangible impact on students' mental health, particularly during crises (Campillo et al., 2024). Sun et al. (2020) found that during the pandemic, peer support played a crucial role in reducing depressive symptoms and emotional distress. Similarly, Suresh et al. (2021) found that when professional mental health support was unavailable, peer support programs served as an effective coping mechanism. Due to their accessibility and informal nature, peer-led interventions provide a practical approach to enhancing student resilience (Suresh et al., 2021).

During the pandemic, digital peer support initiatives gained popularity in virtual learning, helping to mitigate social isolation (Aghaei et al., 2022; Campillo et al., 2024). Sun et al. (2020) found that online peer groups significantly reduced anxiety and distress. By fostering peer-to-peer interactions, these platforms helped students feel more connected, reducing feelings of isolation. This finding supports the notion that organized peer support is a crucial tool in preventing burnout and fostering student resilience (Campillo et al., 2024). However, the effectiveness of peer support networks varies depending on the level of institutional engagement. Uneven faculty engagement and inconsistent policies can weaken these peer support systems (Martin et al., 2023). While some universities actively promote student-faculty engagement, others lack structured strategies and adequate resources to address mental health challenges, leading to feelings of social isolation and a decline in academic performance (Deep et al., 2025b; Plakhotnik et al., 2021).

4.7 The Role of Artificial Intelligence in Reducing Academic Stress and Emotional Burnout among Higher Education Students During the COVID-19 Pandemic

Artificial intelligence (AI) played a significant role in higher education throughout the COVID-19 pandemic, aiding students who struggled with academic pressures and emotional exhaustion. Institutions were grappling with the growing need for mental health support. Fulmer et al. (2023) found that 68% of participants reported anxiety, 41% reported depression, and 18% reported feelings of isolation during the pandemic. At the same time, AI technologies offered adaptive and scalable support systems, especially in digital-mediated learning environments (Rezapour & Elmshaeuser, 2022). A significant application of AI was in the early identification of psychological distress in students. Artificial intelligence models were employed to examine responses indicating academic discontent, disengagement, and emotional health problems and pinpoint at-risk students before the manifestation of burnout symptoms (Rezapour & Elmshaeuser, 2022). Such a prediction enabled timely action when conventional support services were burdened.

Apart from identifying mental health threats, AI programs also assist students with their academic tasks. AI language platforms, such as ChatGPT, were utilized to generate ideas, provide guidance on writing, and offer grammatical and structural feedback, particularly in instances where faculty access was limited (Deep et al., 2025c). This was particularly helpful for students learning in a second language, who utilized AI tools to

minimize apprehension over assignments and enhance their communication proficiency (Deep et al., 2025c). Other research confirms that educational applications of AI are prevalent in diverse cultural and institutional environments. For example, El Morr et al. (2024) studied university students at the American University of Beirut and Lebanese University. They found that a Random Forest model achieved an AUC of 78.27% for depression prediction, Naïve Bayes achieved 76.37%, and AdaBoost achieved 72.96% for stress prediction. Similarly, Madububambachu et al. (2024) reported that Convolutional Neural Networks (CNNs) attained an accuracy of 99.75% in diagnosing bipolar disorder, with other models like Support Vector Machines (SVM) and Random Forest (RF) also achieving predictive accuracies above 90% across various mental health conditions, including PTSD and schizophrenia. These findings demonstrate that AI programs are capable of adapting to provide emotional and cognitive support across various learning environments, making them valuable tools for supporting student mental health in diverse global contexts.

Overall, AI technologies have helped enhance the resilience of higher education students amid the crisis by providing proactive, responsive, and personalized forms of support. The integration of technologies into students' support systems indicates a significant transformation towards more adaptive and technology-enabled education systems, capable of meeting both academic and emotional needs in times of uncertainty (Rezapour & Elmshaeuser, 2022; Deep et al., 2025c).

5. Limitations of the Current Research

The study is based on secondary data, which may lack in-depth analysis, as findings depend on existing research methodologies. Generalizability is also affected by variations in study populations across regions and institutions. Likewise, this review was unable to examine the long-term effects of burnout. Another limitation is institutional differences, which can create inconsistencies in findings, whereas self-reported data may be subject to recall bias. Furthermore, this paper only concentrates on higher education and excludes K-12 students. It also lacks a deeper exploration of other factors, such as cross-cultural perspectives, socioeconomic inequalities, and the influence of institutional policies on student burnout. Additionally, this review does not conduct an empirical evaluation of their effectiveness, although it examines the new applications of artificial intelligence in academic and emotional support. AI is under-researched and requires targeted primary research to measure its long-term impact in minimizing student burnout.

6. Suggestions for Future Research

Conducting burnout studies across different student groups, with an in-depth analysis of cultural, socioeconomic, and institutional factors, would be beneficial. Cross-cultural research is essential, particularly across different educational styles. Hybrid learning has shown promise in reducing burnout; however, further research is necessary to assess its long-term impact fully. The relationship between mental health support and academic success could be examined using a mixed-methods approach. Exploring personalized support strategies, such as adaptive learning and individualized mental health interventions, will enhance the resilience of students in higher education institutions. Future research should also focus on the long-term consequences of burnout on student well-being and academic performance. Additional research should also explore the application of artificial intelligence to help student mental health and academic performance. Evaluating the long-term effectiveness, accessibility, and ethics of AI-based technologies, such as chatbots and adaptive learning software, will be essential in determining their value in preventing burnout.

7. Conclusion

This study examines the pandemic's substantial impact on the burnout and academic performance of higher education students in higher education. Findings indicate that social isolation, digital fatigue, and academic stress strongly correlate with increased burnout among higher education students. Institutional responses, such as sufficient mental health resources and flexible learning opportunities, have been beneficial in mitigating these challenges, although their effectiveness varies across institutions. Faculty and peer support networks played a crucial role in reducing student stress and fostering student engagement and motivation. However, some students faced barriers in accessing mental health resources due to inconsistent institutional policies. Hybrid learning was beneficial for some students; however, concerns persist about its long-term effectiveness. Growing evidence also highlights the promise of artificial intelligence (AI) technologies, such as chatbots and predictive analytics, in enhancing emotional well-being, alleviating academic pressure, and supplementing standard institutional support systems. Such technologies have the potential to provide scalable solutions to mental health issues, more so in remote and hybrid learning scenarios. Despite providing valuable insights, the review has certain limitations, including its reliance on secondary sources and the absence of longitudinal research. Future research should investigate the long-term impact of academic burnout, incorporate a cross-cultural perspective, and explore

personalized curriculum design to enhance student resilience and academic performance. Higher education institutions will significantly benefit from more effective strategies that support students' emotional well-being and academic success in the post-pandemic era.

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No additional data are available.

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