Mapping Mental Health Research in Higher Education: An Interdisciplinary Perspective

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Abstract
This paper conducts a comprehensive bibliometric analysis to delve into the interdisciplinary dimensions of mental health research among scholars focusing on higher education contexts. Leveraging the extensive dataset available with 214 of articles under Scopus, the researchers explore the collaborative networks, citation patterns, and thematic trends present in scholarly publications addressing mental health issues among university students. Through meticulous examination of co-authorship networks and citation patterns, the researchers unveil the interdisciplinary engagement prevalent within this field, elucidating the degree of collaboration among scholars from various disciplines. Additionally, keyword analysis provides insights into the evolving thematic landscape and emerging areas of interest in mental health research within higher education settings. By synthesizing these findings, this study offers a nuanced 2 understanding of how scholars from diverse disciplinary backgrounds contribute to the advancement of knowledge and interventions in student mental health. Ultimately, this research contributes to enhancing interdisciplinary collaboration and guiding future research efforts aimed at addressing the complex challenges of mental health among higher education students
Keywords: Bibliometric Analysis, Interdisciplinary Research, Mental Health, Higher Education, Scholars, Co-Authorship Networks, Citation Patterns, Keyword Analysis, Collaborative Networks, Thematic Trends

Introduction
Mental health problems among higher education students have gained significant attention in recent years. As the prevalence of mental health issues among students rises, it becomes increasingly critical to understand the underlying causes, impacts, and effective interventions. This literature review aims to explore the key themes and emerging trends in research on mental health problems among higher education students, as revealed by keyword and citation analysis. By synthesizing findings from recent studies, this review provides a

comprehensive overview of the current state of research and highlights areas that require further investigation.

Literature Review
Methodology
To conduct this literature review, a comprehensive search was performed using various indexed journals. The search included keywords such as "mental health problems," "higher education students," "research," and "keyword and citation analysis." The search was limited to articles published in indexed journals within the last decade. This approach ensured that the review focused on the most recent and relevant studies, capturing the latest trends and developments in the field.

Key Themes and Emerging Trends
Prevalence and Impact of Mental Health Problems
Many studies have focused on examining the prevalence and impact of mental health problems among higher education students. These studies aim to understand the scope of the issue and its implications for students' well-being and academic performance. For instance, research has shown that a significant proportion of students experience anxiety, depression, and stress, which can adversely affect their academic achievements and overall quality of life (Auerbach et al., 2018; Lipson et al., 2019). The high prevalence of mental health issues underscores the need for effective interventions and support systems within educational institutions.

Factors Influencing Mental Health
Research has identified various factors that contribute to mental health problems among higher education students. These factors include academic stress, social pressures, financial difficulties, lack of social support, and the transition to university life (Beiter et al., 2015; Duffy et al., 2019). Academic demands and the pressure to succeed can lead to significant stress and anxiety. Additionally, the transition from high school to university often involves adjusting to a new environment, which can be challenging for many students. Understanding these factors is crucial for developing targeted interventions that address the specific needs of students.

Access to Mental Health Services
The availability and accessibility of mental health services for higher education students have been a significant area of research. Studies have explored the barriers students face in accessing services and have proposed strategies to improve access and utilization (Eisenberg et al., 2011; Hunt & Eisenberg, 2010). Common barriers include stigma, lack of awareness, and limited availability of services. Research suggests that increasing awareness, reducing stigma, and expanding service availability can significantly improve students' access to mental health care.

Interventions and Support Programs
Researchers have investigated the effectiveness of various interventions and support programs aimed at promoting mental health among higher education students. These interventions include counseling services, peer support programs, mindfulness-based interventions, and online mental health resources (Regehr et al., 2013; Vescovelli et al., 2017).

Evidence indicates that such programs can effectively reduce symptoms of mental health problems and enhance students' coping skills. However, more research is needed to identify the most effective and scalable interventions.

Intersectionality and Diversity
Recent research has highlighted the importance of considering intersectionality and diversity in understanding mental health problems among higher education students. Studies have examined how factors such as race, gender, sexual orientation, and socioeconomic status intersect with mental health experiences (Eisenberg et al., 2007; Yorgason et al., 2008). For example, minority students may face unique challenges that affect their mental health, such as discrimination and cultural adjustment issues. Recognizing the diverse experiences of students is essential for developing inclusive mental health strategies.

Research Framework and Hypotheses Development
The framework for understanding mental health problems among higher education students encompasses several critical dimensions, each shedding light on different facets of this complex issue. **Prevalence and Impact of Mental Health Problems** have been extensively studied, revealing that a substantial proportion of students grapple with conditions such as anxiety, depression, and stress. These mental health challenges not only diminish students' academic performance but also compromise their overall quality of life (Eisenberg, Hunt, & Speer, 2011).

The **Factors Influencing Mental Health** are multifaceted and include academic stress, social pressures, financial difficulties, a lack of social support, and the transitional challenges associated with entering university life (Duffy et al., 2019; Beiter et al., 2015). The intersection of these factors creates a unique set of stressors that exacerbate mental health issues.

The **Access to Mental Health Services** is another crucial area of research, which has illuminated various barriers that students face in seeking help. These barriers include stigma associated with mental health issues, limited awareness of available resources, and inadequate availability of mental health services on campus (Lipson, Lattie, & Eisenberg, 2019). Addressing these barriers is essential for improving service utilization and overall mental health outcomes.

Interventions and Support Programs have been evaluated for their effectiveness in mitigating mental health problems among students. Various strategies have been explored, including counseling services, peer support programs, mindfulness-based interventions, and online mental health resources. Research has shown that these interventions can play a significant role in enhancing students' mental well-being and academic success (Regehr, Glancy, & Pitts, 2013; Vescovelli, Sarti, & Ruini, 2017).

Finally, **Intersectionality and Diversity** have emerged as critical considerations in understanding mental health among higher education students. Recent studies emphasize the need to consider how factors such as race, gender, sexual orientation, and socioeconomic status intersect with students' mental health experiences, influencing both the nature of their challenges and their access to support (Auerbach et al., 2018; Yorgason, Linville, & Zitzman, 2008). This nuanced perspective helps to create a more comprehensive understanding of

mental health issues and informs the development of targeted and inclusive support strategies..

This framework provides a structure for understanding the key themes and emerging trends in research on mental health problems among higher education students. It highlights the prevalence and impact of mental health problems, factors influencing mental health, access to mental health services, interventions and support programs, and the intersectionality and diversity of mental health experiences. By considering these factors, educational institutions can better support their students' well-being and academic success.
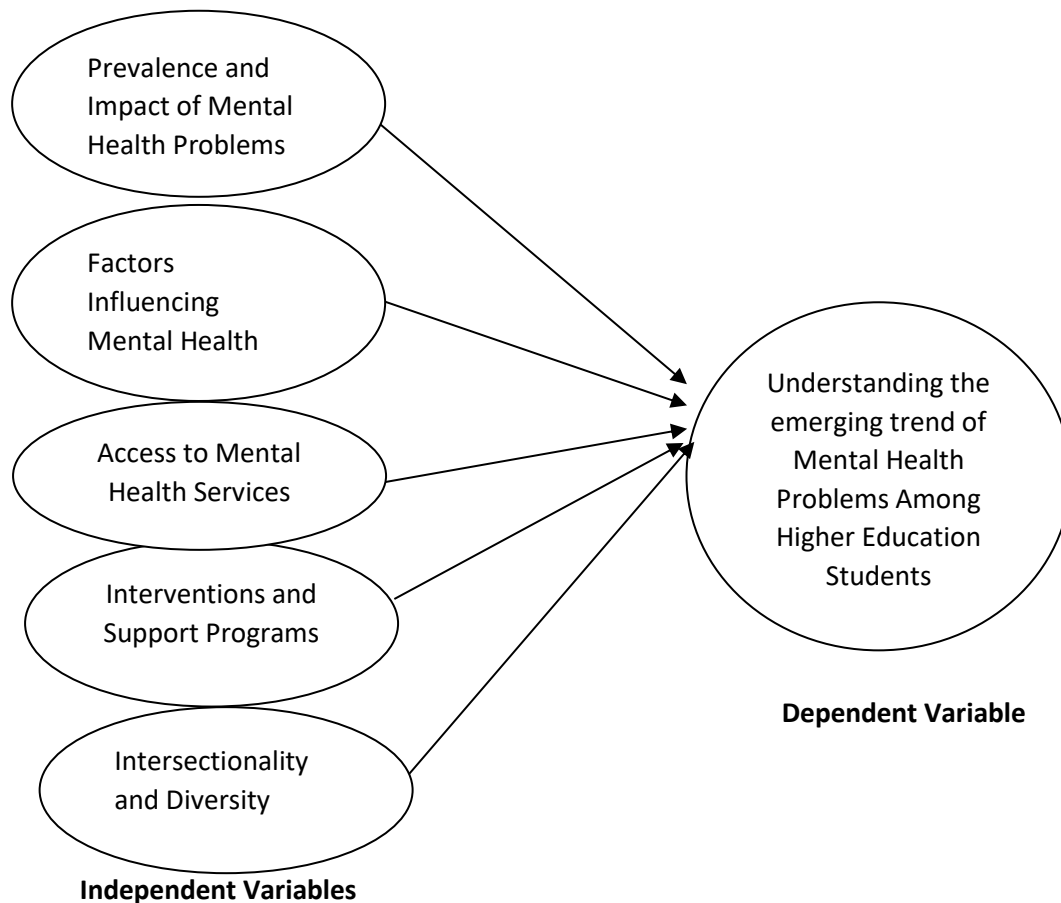

Figure 1: The Research Framework of the Study

Conclusion
The literature review demonstrates that research on mental health problems among higher education students has identified key themes and emerging trends. These include the prevalence and impact of mental health problems, factors influencing mental health, access to mental health services, interventions and support programs, and the intersectionality and diversity of mental health experiences. Further research is needed to continue exploring these themes and trends and to develop effective strategies for promoting mental health among higher education students. By addressing these issues, educational institutions can better support their students' well-being and academic success.
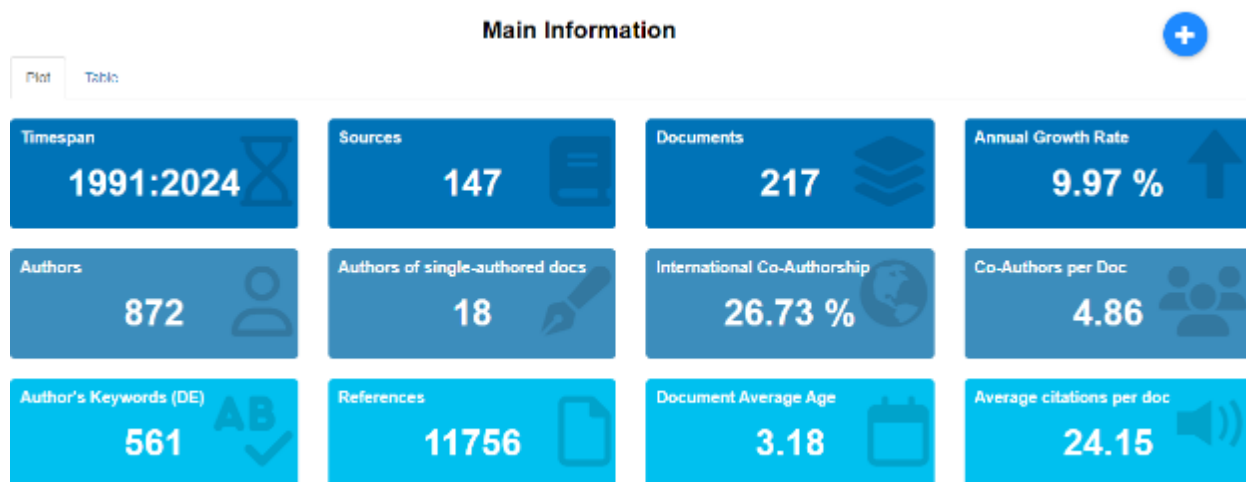
Research Methodology

Figure 2: The Sample of the Study

Measure

The analysis of average citations per year in the context of mental health research among students provides insightful perspectives that align with our research objectives. Our primary aim is to uncover emerging trends in this field, and the citation data reveals significant patterns that underscore the evolving interest and impact of mental health research within higher education contexts.

In the early years, from 1991 to 2004, the relatively low mean citations per year suggest that mental health research among students was still gaining traction. This period represents the foundational stage where the importance of mental health in academic environments was being recognized, but had not yet achieved widespread acknowledgment or influence. The subsequent years, particularly from 2007 to 2015, show a marked increase in citations, with a notable peak in 2014. This peak signifies a critical period when mental health issues among students likely garnered heightened attention and research publications in this domain resonated strongly within the academic community. The significant rise in citations during these years indicates that mental health became a prominent topic, reflecting growing awareness and concern over student well-being in higher education institutions.

In more recent years, from 2016 to 2024, the citation data illustrates fluctuating trends. The high mean citation values in 2017 and 2020 indicate the publication of particularly influential research, suggesting that these years produced significant findings or methodologies that advanced the understanding of student mental health. However, the subsequent decline in mean citations per year from 2021 to 2024 is a natural consequence of the recency of these publications. This decline does not necessarily indicate a decrease in interest but rather reflects the shorter time frame available for these newer studies to accumulate citations.

Overall, the citation analysis aligns with our research objectives by highlighting the evolving trends in mental health research among students. The data demonstrates an initial phase of growing interest, a peak period of significant influence, and a current phase where recent publications are beginning to build their impact. These trends underscore the dynamic nature

of research in this field and the ongoing importance of addressing mental health issues among students, reflecting both the historical development and the emerging focus areas within this critical domain of higher education research.
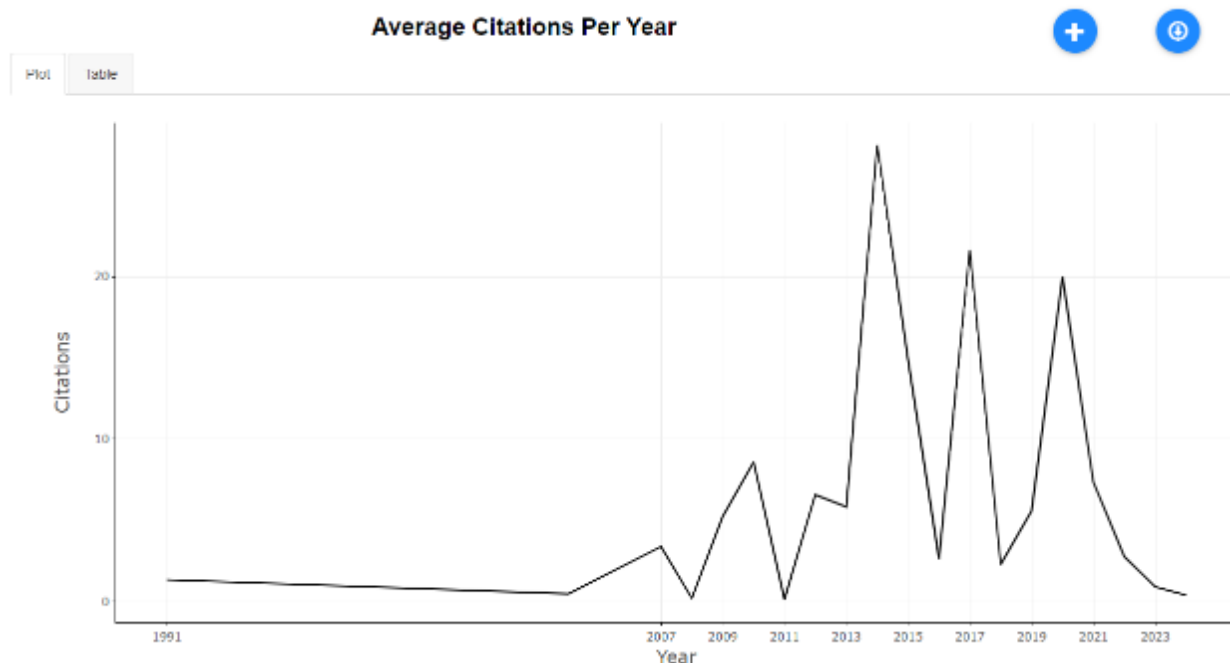

Figure 3: The average citation of the year

Results

Dataset

Table 1 provides an overview of various keywords related to mental health research, detailing their occurrences, centralities, and clustering information. The term "universities" appears 28 times and is highly central in the network, while "university" has slightly higher centrality scores. Keywords related to mental health disorders, such as "mental disorders," "stress, psychological," and "anxiety disorders," show lower centrality scores. The term "australia" has a relatively low centrality, similar to "mindfulness" and "meta analysis." Terms associated with systematic reviews, such as "systematic review," "review," and "priority journal," show moderate centrality scores. In sleep research, keywords like "sleep," "sleep quality," and "sleep time" are central. The data also reveals key aspects of psychotherapeutic research, with terms like "psychotherapy" and "clinical effectiveness" having moderate centrality scores. The term "sex difference" is prominent, indicating significant analysis of mental health across genders. The term "human" is highly central, along with "student" and "adult." The term "mental health" is highly central, as are keywords related to stress and mental health during the COVID-19 pandemic, such as "pandemic" and "covid-19." The "e-learning" domain appears with substantial centrality, reflecting its growing importance in mental health research. The data also includes terms related to data analysis and methodological aspects, like "big data," "data mining," and "decision trees," which have lower centrality scores but contribute to the overall analysis framework. This analysis highlights the central roles of institutions, research methodologies, and emerging trends in mental health research.
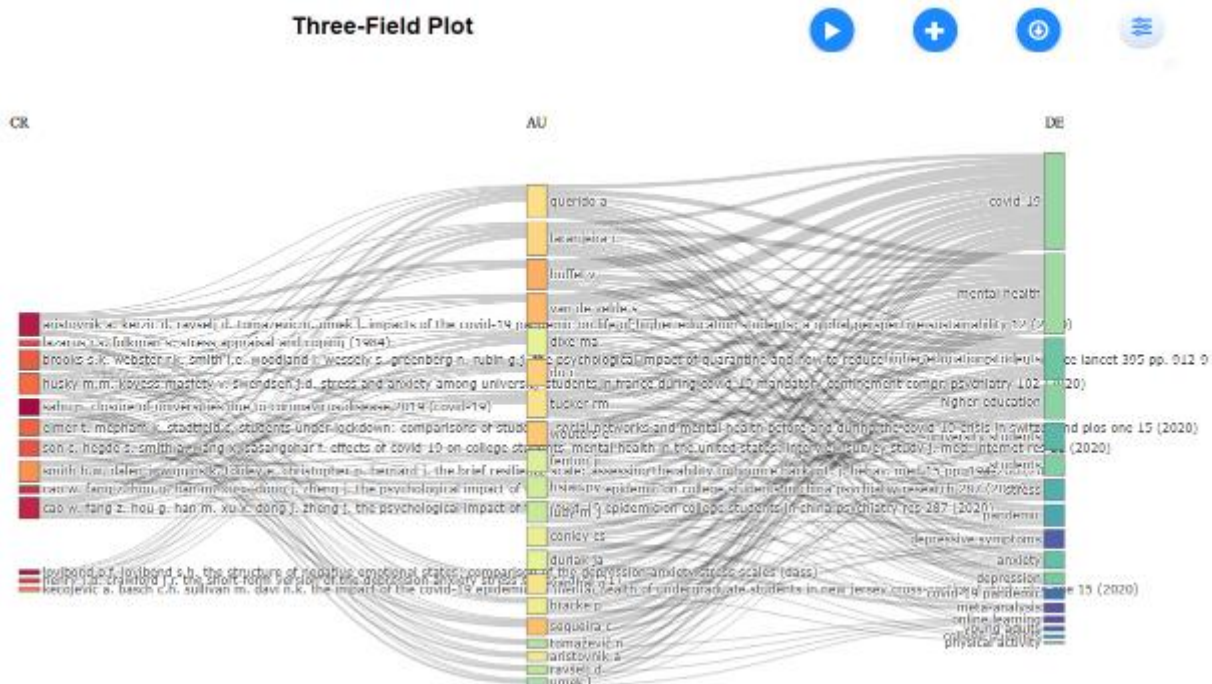
Figure 4: The Dataset of the Study

Assessment of the Measurement Model

The provided data reflects trends and shifts in research themes from the periods 1991-2021 to 2022-2024, highlighting emerging areas of focus in recent years compared to the previous three decades. The term "health" remains consistently significant across both time periods, indicating a continued broad interest in health-related topics, but recent years show an increased emphasis on "mental health," particularly among "students," reflecting growing concern for the mental well-being of the student population. The focus on "health promotion" has diversified to include specific themes such as "fear," "sleep quality," "outcome assessment," and "physiological stress," and recent research delves deeper into "psychological resilience," "health behavior," and specific demographic factors, highlighting a nuanced exploration of health promotion's impact on different populations.

Figure 5: The Thematic Term of the Study

The category of "higher education students" remains a key research area, underscoring ongoing interest in their health and well-being. The broad category of "human" has evolved into more specific conditions and studies, including "clinical outcome," "emotion," "depression," "anxiety," "prevalence," and "major clinical study," with an increased focus on demographic-specific issues such as "male," "female," "adult," and "middle-aged," and detailed investigations into "coping behavior," "academic achievement," "anxiety disorder," and "risk factor." The addition of the term "scoring system" indicates a growing interest in quantifying and assessing the outcomes of human experiments. The use of questionnaires has transitioned from general applications to specific health-related themes, including "health status," "student attitude," and the impacts of "lockdown," reflecting a response to recent global events like the COVID-19 pandemic. The theme of "loneliness" continues to be relevant, with a recent focus on its connection to "sleep disorder," suggesting a potential link between these two issues.

Systematic reviews remain significant, with an added emphasis on "meta-analysis" and "review," indicating a focus on consolidating and synthesizing existing research data. Recent years have seen the emergence of new focal points, including "e-learning," "substance use," "quality of life," "physical activity," "psychological well-being," "self-report," "social media," and "mindfulness," reflecting contemporary concerns in higher education and general health, likely influenced by technological advances, social changes, and the ongoing impact of the COVID-19 pandemic. Overall, the analysis reveals a notable shift from broader health and human themes towards more specific issues related to mental health, psychological well-being, and the impacts of the COVID-19 pandemic, with a marked increase in the focus on student populations and the rise of e-learning, mindfulness, and social media as research themes, highlighting the evolving nature of health and education research in the digital age.

Table 1
Results of Assessment Measurement Model

From	To	Words
health--1991-2021	health--2022-2024	health
health promotion--1991-2021	fear--2022-2024	sleep quality
health promotion--1991-2021	human--2022-2024	outcome assessment;physiological stress
health promotion--1991-2021	humans--2022-2024	health promotion;health survey;psychological resilience;health behavior;sleep time;united states
health promotion--1991-2021	reliability--2022-2024	alcohol consumption
higher education students--1991-2021	higher education students--2022-2024	higher education students

human--1991-2021	distress syndrome--2022-2024	clinical outcome
human--1991-2021	fear--2022-2024	emotion
human--1991-2021	human--2022-2024	male;female;human;adult;article;depression;anxiety;prevalence;major clinical study;cross-sectional study;mental disease;middle aged;risk factor;tertiary education;coping behavior;academic achievement;anxiety disorder
human--1991-2021	human experiment--2022-2024	scoring system
human--1991-2021	humans--2022-2024	student;humans;young adult;adolescent;controlled study;psychology;universities;mental stress;university;education;mental disorders;pandemic;stress, psychological;covid-19;coronavirus disease 2019;cross-sectional studies;epidemiology;educational status;sars-cov-2;internet;pandemics;united kingdom;perception;portugal;public health;prevention and control;epidemic
human--1991-2021	loneliness--2022-2024	sleep disorder
human--1991-2021	mental health--2022-2024	mental health;students
human--1991-2021	systematic review--2022-2024	meta analysis;review;systematic review
questionnaire--1991-2021	disease severity--2022-2024	health status;student attitude;lockdown
questionnaire--1991-2021	distress syndrome--2022-2024	distress syndrome;substance use
questionnaire--1991-2021	e-learning--2022-2024	e-learning
questionnaire--1991-2021	human--2022-2024	questionnaire;university student;quality of life
questionnaire--1991-2021	human experiment--2022-2024	human experiment
questionnaire--1991-2021	humans--2022-2024	higher education;physical activity;psychological well-being;self report;sex difference;surveys and questionnaires;college student;comparative study;lifestyle;wellbeing;gender;social media
questionnaire--1991-2021	loneliness--2022-2024	loneliness
questionnaire--1991-2021	systematic review--2022-2024	mindfulness

Word Frequency
The provided data represents a frequency analysis of words associated with mental health research within higher education contexts. The top occurrences include terms like "mental health," "female," "human," "male," "student," "adult," and "students," which highlights a significant focus on gender and age demographics in mental health studies. Other frequently mentioned words such as "depression," "young adult," "COVID-19," "anxiety," and "pandemic" suggest a high research interest in mental health issues exacerbated by the pandemic, particularly among young adults and students.

The prevalence of terms like "cross-sectional study," "controlled study," "questionnaire," and "prevalence" indicates a methodological emphasis on observational and survey-based research. The mention of specific mental health conditions and related terms like "anxiety disorder," "mental disorders," and "psychological well-being" suggests a detailed exploration of various psychological conditions.

Additionally, geographic references such as "Portugal," "Ireland," "Australia," "Lithuania," and "United Kingdom" highlight the international scope of research. Terms related to education, such as "tertiary education," "universities," "higher education," and "university student," underline the academic context of these studies.

Keywords related to specific research interests, such as "internet," "physical activity," "health promotion," "self-report," "stress," and "psychological resilience," indicate a multidisciplinary approach, encompassing technology, physical health, and psychological coping mechanisms. The less frequent terms provide insights into specific aspects or subfields within the broader research area, such as "cognitive behavioral therapy," "mindfulness," "telemedicine," "sleep disorder," "social media," and "substance use," reflecting a wide range of topics addressed in mental health research.

In summary, this word frequency analysis reveals a comprehensive landscape of mental health research among higher education students, with a significant focus on demographic factors, the impact of the COVID-19 pandemic, methodological approaches, international perspectives, and interdisciplinary themes.

Discussion
The findings from the literature review reveal a multifaceted landscape of mental health issues among higher education students, highlighting several key themes and emerging trends. The prevalence and impact of mental health problems, such as anxiety, depression, and stress, are substantial and have significant implications for students' academic performance and overall well-being. This aligns with previous studies indicating that mental health challenges are widespread among college students and can hinder their academic and personal development (Auerbach et al., 2018; Lipson et al., 2019).

Academic stress, social pressures, financial difficulties, and the transition to university life have been identified as critical factors influencing students' mental health. These factors contribute to a stressful environment that can exacerbate mental health problems (Beiter et al., 2015; Duffy et al., 2019). Addressing these issues requires a comprehensive approach that

includes academic support, financial counseling, and social integration programs to ease the transition to university life.

The accessibility and availability of mental health services remain a significant concern. Barriers such as stigma, lack of awareness, and limited availability of services prevent many students from seeking help (Eisenberg et al., 2011; Hunt & Eisenberg, 2010). Institutions must work to reduce these barriers by promoting mental health awareness, normalizing help-seeking behavior, and expanding the availability of mental health resources on campus.

Interventions and support programs have shown promise in promoting mental health among higher education students. Counseling services, peer support programs, mindfulness-based interventions, and online mental health resources have been effective in reducing symptoms and improving students' coping skills (Regehr et al., 2013; Vescovelli et al., 2017). However, the effectiveness of these interventions varies, and more research is needed to identify the most effective and scalable approaches.

The intersectionality and diversity of mental health experiences among students highlight the need for inclusive mental health strategies. Factors such as race, gender, sexual orientation, and socioeconomic status intersect with mental health experiences, creating unique challenges for minority students (Eisenberg et al., 2007; Yorgason et al., 2008). Understanding these diverse experiences is crucial for developing targeted interventions that address the specific needs of different student groups.

Findings and Conclusion

The literature review demonstrates that mental health problems among higher education students are prevalent and have significant impacts on their academic performance and overall well-being. Various factors, including academic stress, social pressures, financial difficulties, and the transition to university life, contribute to these mental health issues. Despite the availability of mental health services, barriers such as stigma and lack of awareness prevent many students from seeking help. Interventions and support programs, including counseling services and peer support, have shown promise in promoting mental health among students. However, the diverse experiences of students, influenced by factors such as race, gender, and socioeconomic status, require inclusive and targeted mental health strategies.

Future Research

Further research is needed to explore the effectiveness of various interventions and support programs in promoting mental health among higher education students. Longitudinal studies can provide insights into the long-term impact of these interventions on students' mental health and academic performance. Additionally, research should focus on understanding the unique mental health challenges faced by minority students and developing inclusive strategies to address these challenges. Investigating the role of digital mental health resources and their potential in reaching a broader student population is also a promising area for future research. Finally, there is a need for studies that examine the impact of institutional policies and practices on students' mental health and identify best practices for promoting a supportive and inclusive campus environment.

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