

Influencing Factors, Academic Impacts, and Effective Evidence-Based Interventions for University and College Students' Mental Health: A Systematic Review

Pauviya A/P Guna Segar

School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi
Malaysia, 81310 Johor Bahru, Johor, Malaysia
Email: pauviyapauvi@hotmail.com

Azlina Binti Mohd Kosnin

School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi
Malaysia, 81310 Johor Bahru, Johor, Malaysia
Email: p-azlina@utm.my

To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v14-i9/22707> DOI:10.6007/IJARBSS/v14-i9/22707

Published Date: 27 September 2024

Abstract

Mental health of university and college students has become a significant concern in higher education. This systematic literature review seeks to investigate factors affecting students' mental health, understand the impact of mental health problems on academic variables, and identify effective evidence-based interventions for addressing mental health issues. A comprehensive search strategy was employed across multiple databases, including PubMed, ERIC, BMC, Google Scholar, and Science Direct, targeting empirical studies published between 2013 and June 2023. The review included quantitative, qualitative, and mixed-method studies focusing on university and college students worldwide, exploring factors related to mental health, academic performance, and intervention strategies. Eighteen studies met the inclusion criteria, examining factors associated with poor mental health such as gender, age, ethnicity, family economic status, social support, mental health history, ADHD, physical disease, lifestyle choices, and educational changes caused by the COVID-19 pandemic. Mental health problems were found to contribute significantly to academic impairment, with internalizing and externalizing issues negatively influencing academic performance. Nonetheless, mental health also plays a role in fostering intrinsic motivation and self-compassion. The COVID-19 pandemic further exacerbated academic stress, disengagement, and uncertainty among students. The review identifies several evidence-based interventions, including staff training in mental health literacy, peer-led interventions, and mindfulness-based courses, all of which have demonstrated positive effects on students' mental well-being

and academic commitment. This review highlights the urgent need for comprehensive mental health support services within educational institutions, calling for collaborative efforts between academia, healthcare providers, and policymakers to enhance student mental health and academic achievement. The review identifies a gap in the literature concerning the role of cultural context in mental health outcomes. Future studies might explore how cultural factors impact mental health, academic performance, and intervention effectiveness to create more culturally sensitive support systems for university and college students.

Keywords: Mental Health, University and College Students, Influencing Factors, Academic Variables, Effective Evidence-Based Interventions.

Background

In recent years, the significance of addressing the mental health of university and college students has risen in higher education due to the escalating prevalence of mental health issues in this population over the past decade (Hughes & Spanner, 2019; Lipson et al., 2019; Storrie, 2010). A substantial transformation in one's life occurs as one makes the transition from high school to university or college. This transition is marked by a rise in academic demands, social pressures, and newly discovered independence. These factors can have a substantial impact on student's mental health, in addition to the unique challenges they face at this point in their lives. Mental health issues are more prevalent among students than in the general population (Limone & Toto, 2022). For instance, a study performed in Australia found that 67.4% of university students exhibited subsyndromal symptoms and that 19.2% of students had mental health issues (Stallman, 2010). Zivin et al (2009), found through longitudinal research that 60% of students reported having a mental health issue at baseline and persisted in having a minimum of one mental health issue 2 years later. Similarly, a study conducted in the United States found that rates of mental health service utilization by college students had significantly increased over 10 years (Lipson et al., 2019). Additionally, one study found that 19% of pupils reported serious psychological anguish (Sontag-Padilla et al., 2016), while another study reported prevalence rates of 34.9% for acute stress, 21.1% for depressive symptoms, and 11% for anxiety symptoms among university and college students (Ma et al., 2020). Because mental illness is more common among university and college students, there is a greater need for mental health services on campuses around the world. Some universities have reported a doubling in the number of students seeking treatment (Thorley, 2017).

Beginning higher education is a big milestone and a key turning point in a young person's life. It heralds the start of a fresh chapter chock with possibilities, personal development, and academic endeavours. Starting a higher education programme causes noticeable changes and raises expectations for students' university or college experiences and academic success from both themselves and those around them. These expectations cover a wide range of topics, including learning to live independently, making new friends, adjusting to varied learning styles, and managing the greater financial responsibilities that students now face (Campbell et al., 2022).

Students in universities and colleges are suffering greatly from the effects of the recent global COVID-19 outbreak. The pandemic's remarkable disruptions and changes have led to several difficulties and stressors that have had a negative impact on student's

mental well-being. Amidst the COVID-19 pandemic, the frequency of mental health problems including anxiety, depression, acute stress, suicidal thoughts, and distress has risen, leading to an increase in visits to psychological practitioners among university and college students from various countries, including Bangladesh, China, and France (Fu et al., 2021; Hosen et al., 2021; Ma et al., 2020; Wathelet et al., 2020). Over the past ten years, mental illnesses have become much more common in Malaysia. Comparing university students to the general population, it is common to find that they are more susceptible to the negative effects of quarantine (Kumaran et al., 2022). In fact, even during the COVID-19 pandemic, Malaysian university students had high levels of mental health concerns as a result of an abrupt shift in the educational system, namely in the manner in which teaching is provided (Kumaran et al., 2022). The COVID-19 pandemic has added a layer of "chronic and unpredictable" stress to the already-increasing levels of mental health issues that students have already reported, which has created an ideal environment for a mental health crisis (Hughes & Spanner, 2019). The persistent nature of the pandemic and its ongoing consequences on mental health underline the need for ongoing assistance and proactive measures to address the particular mental health difficulties experienced by university and college students during these difficult periods.

In addition to mental health issues, university and college students encounter other difficulties such as academic pressure, financial stress, and employment concerns (Du, 2019; Jiang & Zhou, 2019; McIntosh et al., 2012). The competitive nature of higher education leads to heightened stress levels and feelings of inadequacy, especially when combined with the fear of academic failure, as students face academic demands and pressure to excel in coursework, exams, and assignments. Financial stress arises from the rising cost of tuition fees, textbooks, accommodation, and living expenses, causing students to struggle to afford their education and potentially resort to part-time jobs or student loans. Additionally, graduating students experience uncertainty and anxiety about finding suitable job opportunities in the competitive market, which further adds to the challenges they face (Du, 2019; Jiang & Zhou, 2019). These pressures to succeed academically and secure employment can lead to mental health problems among the population.

Therefore, at the present moment, it is essential to assess the incidence of and concerns about mental health issues among university and college students. The most current systematic review largely examined the mental health difficulties experienced by university and college students, investigating the risk factors for these problems, identifying solely the interventions, or concentrating exclusively on the contexts of particular countries (Campbell et al., 2022; Nair & Otaki, 2021; Worsley et al., 2022). However, this systematic literature review aims to provide a comprehensive holistic view of the influencing factors related to mental health among university and college students, examine the impact of mental health problems on academic-related variables, and identify effective evidence-based interventions to address mental health issues in this population. Through this comprehensive systematic literature review, we hope to bridge the gap in the existing body of knowledge and contribute valuable insights to the field of mental health in higher education. The findings of this review will serve as a vital resource for researchers, educators, mental health practitioners, and policymakers alike, guiding them in designing and implementing holistic approaches to

address the mental health issues faced by university and college students. Ultimately, the goal is to foster a supportive and thriving academic environment that prioritizes students' mental well-being and enables them to reach their full potential in their educational journey and beyond.

Research Objectives

1. To identify the influencing factors of university and college students' mental health.
2. To identify the influence of mental health issues on academic-related variables in university and college students.
3. To identify effective evidence-based interventions for mental health issues among university and college students.

Methodology

To achieve the three research objectives, the review followed specific methodologies in identifying relevant evidence, selecting the target population, and conducting a comprehensive search strategy. The inclusion criteria served as a guide for choosing studies that examined mental health factors during the university or college phase as stated below.

Population

We included students from universities and colleges all around the world. Students from a variety of education settings were included (age; government and/or private university and college students, international students, and online learning).

Context

Universities and colleges students from all around the world.

Research Focus

Any factors that research has linked to students' mental health during their time in university or college. The inclusion criteria involved choosing research articles that address at least one of the objectives, which aim to explore the factors influencing mental health among university and college students, examine its effects on their academic performance, and identify effective evidence-based intervention strategies to provide better support for their mental well-being.

Study Design

The review concentrates on empirical studies utilizing quantitative, qualitative, or mixed-method designs that investigate the factors influencing mental health outcomes among university and college students, explore the impact on their academic performance, and identify effective evidence-based intervention strategies to enhance their mental well-being.

Search Strategy

Searches were conducted in the following electronic databases: PubMed, ERIC, BMC, Google Scholar, and Science Direct. The search technique included several keywords related to risk factors, students at universities and colleges, and mental health. Freetext and subject

searches were both used. Only publications that dealt with humans and were published in English between 2013 and June 2023 were included in the search. Figure 1 shows the overall flow of studies through the review process using the PRISMA method.

Results

To achieve the three research objectives, the review included eighteen studies, incorporating quantitative, qualitative, and mixed methods, that met the inclusion criteria (Refer to Table 1). Fifteen of these studies employed quantitative approaches and involved a varying number of students, with participant counts ranging from 113 to 746,217. The age range of students in these fifteen studies spanned from 18 to 44 years. Among the included studies, there were two qualitative studies, with student participation ranging from 7 to 29 individuals. The age group of these students was between 18 and 25 years old. Additionally, there was one mixed-method study that involved 62 student participants, with a mean age of 23.2 years.

In terms of participant recruitment, seven studies exclusively recruited students from a single university or college. Ten studies included students from multiple universities or colleges, with participant numbers varying from 4 to 62. One study did not report (NR) the number of universities or colleges from which the student participants were recruited.

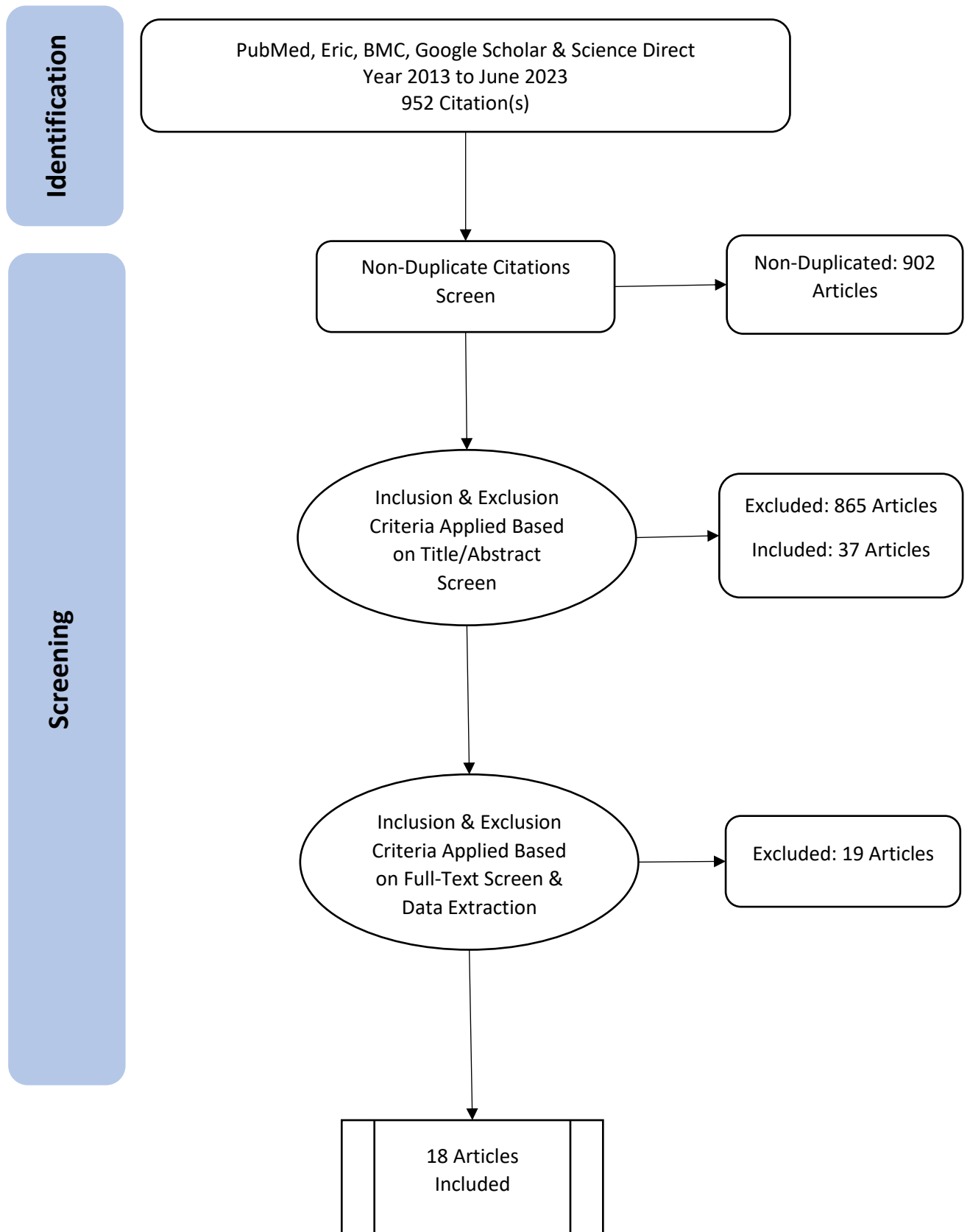


Figure 1. The PRISMA Flow Diagram

Design and Quality Appraisal of the Included Studies

Out of the included studies stated in Table 1, the majority (n=6) adopted a cross-sectional design. Three studies employed a correlational design and three studies utilized a survey design. On the other hand, other study designs were used in only one study each. These included longitudinal design, case study design, pretest-posttest design, descriptive design, focus group design, and mixed-method concurrent design.

Factors Associated with Poor Mental Health

The studies have identified and evaluated the numerous influencing factors that have been investigated with university and college students' mental health. For example, the factors that affect university and college students' mental health are gender, age, ethnicity, sexual orientation, family economic status, parental educational level, parental factor, social support, history of mental health, attention-deficit hyperactivity disorder (ADHD), physical disease, lifestyle choices, educational change/online learning during COVID-19 and personality. Numerous psychological factors were all compared to various mental health outcomes, including depression, anxiety, suicidal ideation, self-harming behaviour, somatization, psychosis, obsessive-compulsive disorder (OCD), and paranoia.

Gender

Five studies (Fu et al., 2021; Gnan et al., 2019; Wathelet et al., 2020; Velten et al., 2018; Yao et al., 2023) examined the relationship between gender and variables related to mental health. These studies seek to determine whether there are any differences in the results, symptomatology, and prevalence of certain mental health issues between male and female students. According to three studies, having a mental health problem, being at risk for suicide, self-harming, and anxiety are all statistically significantly associated with being female (Fu et al., 2021; Gnan et al., 2019; Velten et al., 2018). Suicidal thoughts, extreme distress, a high level of perceived stress, severe depression, and a high degree of anxiety are all risk factors for mental health, and reporting at least one mental health outcome was linked to the female gender (Wathelet et al., 2020). The results were not consistent, with another study stating that poor mental health was positively related to being male (Yao et al., 2023).

Age

Three studies have examined the relationship between university students' ages and various mental health indicators (Fu et al., 2021; Velten et al., 2018; Yao et al., 2023). These studies seek to comprehend how various age groups of university students might encounter outcomes, symptoms, and difficulties related to their mental health. According to one study, students between the ages of 26 and 30 were more likely than students of other ages to exhibit anxiety (Fu et al., 2021). The results of another study (Yao et al., 2023) revealed a similar trend: deteriorating mental health (anxiety and depression) is strongly correlated with growing older. The results of one study, however, conflicted with those of the other two studies, which found that students' higher ages did not predict their mental health issues (Velten et al., 2018).

Ethnicity

One study examined how university students from various ethnic groups would do in terms of their mental health (Yao et al., 2023). According to the study results, a small proportion of people of ethnicities other than Han experience poorer mental health with high depression and anxiety disorder (Yao et al., 2023). When compared to students of the Hans ethnicity, students of minority ethnicity at universities are more likely to exhibit depression and anxiety symptoms (Yao et al., 2023). In addition, another study focuses on ethnic groups participating in mindfulness-based training to improve their mental health (Medlicott et al., 2021). According to the study's findings, participants classified as "White," including "White British," "White Irish," and any "Other White," ethnicity, were significantly more likely to attend sessions than participants from other ethnic groups (Medlicott et al., 2021). As a result, ethnicity was a predictor of completing the mindfulness-based programme.

Sexual Orientation

Two studies look at how students' sexual orientation and mental health difficulties are related. According to the study's findings, LGBTQ and nonbinary university students frequently experience high rates of suicide risk, self-harm, severe distress, high levels of perceived stress, severe depression, elevated levels of anxiety, and mental health issues (Gnan et al., 2019; Wathelet et al., 2020). These students may be more at risk for mental health issues due to the increased levels of isolation and discrimination that minority groups frequently face.

Personality

The association between personality and the mental health of students has been examined in two studies. According to one study's findings, optimism and favourable teacher ratings were linked to excellent mental health, whereas conscientiousness protected motivation from the negative effects of stress, and openness was linked to the stress that comes with learning (Gibbons, 2022). Another study found that increased neuroticism, decreased conscientiousness, and decreased openness were all positively correlated with poorer mental health, especially high levels of depression and anxiety (Yao et al., 2023).

History of Mental Health

Three studies were conducted to investigate the relationship between students' mental health history and mental health issues. These studies seek to comprehend how a history of mental health problems or illnesses may affect outcomes, symptoms, and difficulties associated with mental health during the university or college years. According to the results of one study, anxiety and/or depressive symptoms were substantially correlated with previous mental health issues (Ma et al., 2020). Another study discovered that revealing a minimum of one mental health issue was related to a history of psychiatric follow-up through the COVID-19 pandemic and that thoughts of suicide, acute distress, a high level of perceived stress, major depression, and high levels of anxiety are potential risk factors for mental health (Wathelet et al., 2020). According to another study, students who had mental health issues in the past or present exhibited noticeably greater reductions in discomfort after completing the mindfulness-based course (Medlicott et al., 2021).

Attention-Deficit Hyperactivity Disorder (ADHD)

One study examined the relationship between ADHD and the mental health issues of students. University students with ADHD described significant difficulties with attention, emotional regulation, motivation, organizing their time, self-consciousness, working memory, organization, and planning, as well as a complex relationship with the classification of ADHD (Lagacé-Leblanc et al., 2022). Students' struggles appear to be closely tied to executive function deficiencies. The understanding of functional impairment is made more difficult by this connection. They develop anxiety disorders as a result of these factors (Lagacé-Leblanc et al., 2022).

Physical Disease

The relationship between physical illness and mental health indicators among university or college students has only been studied in one study. This study seeks to comprehend how physical health issues may affect the course of one's mental health, psychological well-being, and overall quality of life while in university or college. Physical illness was positively correlated with worse mental health (Yao et al., 2023). Anxiety and depression are exacerbated by the difficulties of managing physical health conditions, such as pain, exhaustion, lifestyle changes, and treatment regimens (Yao et al., 2023).

Lifestyle Choices

One study has examined the relationship between students' lifestyle choices and their impact on their mental health. For example, in a study conducted by Velten et al. (2018), it was found that individuals with improved mental health, characterized by higher positive mental health (PMH) and fewer mental health problems (MHP), at the beginning of the study exhibited several lifestyle factors. These factors included having a lower body mass index, engaging in physical and mental activities more frequently, not smoking, following a non-vegetarian diet, and maintaining a more consistent social rhythm (Velten et al., 2018). Those who follow a negative lifestyle choice encounter poor mental health including severe stress, anxiety, and depression (Velten et al., 2018).

Family Economic Status

Two studies examined the association between family economics and students' mental health issues. According to one study's findings, university students with lower family incomes, greater perceived impact of the COVID-19 pandemic on their lives, and higher levels of concern about COVID-19 were more likely to experience anxiety (Fu et al., 2021). Accordingly, another study found that worse mental health (high anxiety and depression) was positively associated with worse economic status (Yao et al., 2023). Indeed, a significant issue that may affect students' mental health is their family's economic situation. Numerous facets of a student's mental health can be strongly impacted by their financial situation.

Parental Educational Level

Two studies examined the connection between parental educational attainment and mental health problems among university or college students. The findings of the two studies revealed that somatization and anxiety symptoms were more prevalent in college students with lower father educational attainment compared to those with higher paternal education

levels (Fu et al., 2021; Ge et al., 2022). In regard to psychological wellness, a father's high level of education improves his children's capacity to control their surroundings, set goals for the future, and feel good about themselves (Ge et al., 2022). Except for autonomy and personal advancement, students whose mothers completed secondary school do badly based on psychological wellness (Ge et al., 2022). College students with mothers who hold bachelor's degrees or higher, however, score higher on somatization, psychosis, depressive disorders, and interpersonal relationship sensitivity while scoring lower on obsessive-compulsive, antagonism, and paranoia (Ge et al., 2022). This finding suggests that mothers' educational attainment has a significant impact on their children. This shows that parents' level of education has a big influence on their children.

Parental Factor

In two studies, the relationship between parental factors and mental health problems among university and college students was examined. For instance, according to the findings of one study, parents' parenting styles and the mental health of college students are significantly correlated, suggesting that parents should show their children more affection and understanding (Ge et al., 2022). Only appropriate parenting styles can benefit college students' mental health (Ge et al., 2022). In light of this, another study claimed that bad parental relationships were positively correlated with poorer mental health with high anxiety and depressive symptoms (Yao et al., 2023). Therefore, healthy parental relationships and positive parenting styles are crucial for students' mental health.

Social Support

Four studies examined the relationship between social support and the mental health of students. The value of social support during the COVID-19 pandemic is emphasized in three studies. For instance, according to two studies, people with low and moderate levels of social support (Fu et al., 2021) or those who perceive their social support as being low were 4.84-5.98 times more likely to experience anxiety and depressive symptoms during the coronavirus outbreak than people who perceive their social support as being high (Ma et al., 2020). Similarly, another study reported that social isolation during the COVID-19 pandemic was associated with reporting a minimum of one mental health issue, along with thoughts of committing suicide, significant distress, high levels of perceived stress, major depression, and high levels of anxiety. Additionally, a lack of social support, which is associated with loneliness, was also revealed to be the strongest overall determinant of mental discomfort in university students (McIntyre et al., 2018).

Educational Change/Online Learning During COVID-19

Two studies have examined the connection between students' mental health and changes in education or online learning during the COVID-19 pandemic. According to the findings of one study, the COVID-19 pandemic caused a major shift in the educational system that led to a significant prevalence of depression and anxiety among Malaysian university students (Kumaran et al., 2022). This change particularly affected how lessons took place. Similarly, the findings of another study indicated that students who studied at home felt more disoriented and apprehensive about their exams, and they had higher levels of stress despite having more time for self-reflection (Idris et al., 2021).

Table 1

Table of included studies

Author (Year)	Design	Participants/ Gender	Universities or colleges	Age Range (AR) or Mean Age (MA)	Main Findings
Ahorsu et al., (2021)	Mixed-method concurrent design	62 students Male: 27.4% Female: 72.6%	62 universities in Hong Kong	MA: 23.2 ± 5.1 years	-The peer-led intervention helped university students become more conscious of their mental health and knowledgeable about coping mechanisms for both themselves and others.
Bruffaerts et al., (2018)	Correlational study design	4,921 students Male: 44.6% Female: 55.5%	1 University in Belgium	AR: Aged 18 years or older in 2012 and 2013	- Decreased academic functioning is related to mental health issues.
Fu et al., (2021)	Cross-sectional study design	89,588 students Male: 43.75% Female: 56.25%	21 colleges in China	AR: 18-30 years	- Age, grade level, education, socioeconomic situation, parental education, and social support, were all risk variables for anxiety symptoms.
Ge et al., (2022)	Correlational study design	300 students Male: 66.33% Female: 33.67%	1 university in China	AR: 18-20 years	-Parenting styles that are affected by parents' educational backgrounds can have a big impact on college student's mental health.
Gibbons (2022)	Survey-based,	162 students Male: 13% Female: 86.4%	NR	MA: 22 years	-The study revealed high levels of adverse

	correlational design				mental health and a profound lack of motivation. -Negative perceptions of teaching quality had a detrimental effect on learning motivation. -Personality positively influenced learning motivation and mental health.
Gnan et al., (2019)	Cross-sectional design	1948 students Male: 46.3% Female: 46.9% Identified in another way: 6.8% Sexual orientation: - Heterosexual: 1.1% - Gay/Lesbian:61.7% - Bisexual:22.9% - Not sure:5.3% - Something else:9.1%	Multiple universities and colleges in the United Kingdom	MA: 20.34 years	-Students who identify as LGBTQ may be at greater risk for mental health problems, including suicidal ideation and self-inflicted injury, as a result of both general risk factors and identity-related bad experiences.
Idris et al., (2021)	Cross-sectional	279 students Male: 27.4% Female: 72.6% 56 lecturers Male:33.3% Female:66.7%	1 university in Brunei	Students' AR: 18-30 years Lecturer AR: 41-50 years	-Students who engaged in home-based studying experienced increased feelings of disorientation and apprehension regarding their exams. -Despite having more time for self-reflection, they also reported higher levels of stress.
Kotera et al., (2022)	Cross-sectional study	113 students Male: 16.81% Female: 78.15%	Multiple universities and colleges in the Czech Republic	AR: 19-44 years	-Positive connections between mental health, self-compassion, and intrinsic

					motivation were seen, but negative relationships were seen with amotivation and self-criticism.
Kumaran et al., (2022)	Descriptive research study	500 students Male: 32.8% Female: 67.2%	1 university in Malaysia	AR: 19-24 years	The study contends that major changes to the educational system, notably in teaching strategies, are responsible for the high rates of depression, anxiety, and stress.
Lagacé-Leblanc et al., (2022)	Qualitative study	29 students Male: 34.5% Female: 65.5% 9 counselors	Multiple universities and colleges in Canada	Students' MA: 23.9 years	-The participants in the study reported significant academic difficulties, and these problems appeared to be strongly related to executive function deficiencies, making it difficult to determine the overall impact of the ADHD diagnosis on their performance.
Ma et al., (2020)	Cross-sectional study design	746,217 students Male: 44.4% Female: 55.6%	108 universities and colleges in China	AR: 18-26 years	- Previous mental health issues, senior year status, and low perceived social support were all strongly associated with anxiety and/or depressive disorder symptoms.
McIntyre et al., (2018)	Survey	1135 students Male: 26% Female: 71%	1 university in England	MA: 20.78 years	- Social identity variables explain variance in

					<p>depression and anxiety scores.</p> <ul style="list-style-type: none"> - Academic pressures are linked to increased depression rates. -When compared to other social identities, the participants' strong identification with their university friends was very helpful in preventing discomfort, and this positive impact was connected to lowered feelings of loneliness.
Medlicott et al., (2021)	Pretest-posttest design	86 students Male: 31.4% Female: 67% Other: 1.2%	1 university in the United Kingdom	AR: Below 18 years	<ul style="list-style-type: none"> - Mindfulness-based courses showed a significant improvement in well-being and mental health, academic goal orientation, and motivation.
Payne (2022)	Case Study	7 students Male: 44.88% Female: 55.12% LGBT+: 3.75% 17 teaching staff	1 university in the United Kingdom	Students' AR: 18-25 years Teaching staff's AR: 50s	<ul style="list-style-type: none"> -Teaching personnel need support and education in mental health literacy, which includes information, skills, qualities, and understanding, to serve students with poor mental health. -This assistance and instruction can be included in

					a complete policy for student mental health that applies to the entire institution and is in line with the institution's Mental Health Charter.
Sontag-Padilla et al., (2016)	Survey	33,943 students Male: 36.39% Female: 63.60% 14,018 staff and faculty	39 colleges in California	Students AR: 19-26 years	- It is crucial to have working partnerships with community-based organizations to enhance students' mental well-being.
Velten et al., (2018)	Longitudinal study design	2991 German students: Male: 41.1% Female: 58.9% 12,405 Chinese students: Male: 38.1% Female: 61.9%	4 universities in Germany and China	German students' MA: 21.69 years Chinese students' MA: 20.59 years	- Physical activity, nonsmoking, and regular social rhythm improve mental health over 1 year.
Wathelet et al., (2020)	Survey study	69,054 students Male: 26.1% Female: 72.8% Nonbinary: 1.1%	Multiple universities and colleges in France	AR: 18-22 years	-Risk factors for reporting these outcomes included female or nonbinary gender, precariousness, history of psychiatric follow-up, COVID-19 symptoms, and social isolation.
Yao et al., (2023)	Cross-sectional study	2583 students Male: 44.6% Female: 55.4%	6 universities in China	MA: 20.22 years	-Older age, belonging minority ethnicity, having physical health issues, poorer economic status, and experiencing difficulties in the parent-child relationship were

					linked to worse mental health. -Additionally, worse mental health was associated with higher levels of neuroticism and lower levels of conscientiousness and openness.
--	--	--	--	--	---

Mental Health Issues Impact University and College Students' Academia

The effect of university or college students' mental health on their academic performance has been examined in seven studies. According to the results of one study, 11% of students reported severe academic impairment due to mental health issues in the previous year (Sontag-Padilla et al., 2016). Similar findings were reported in a study that showed freshmen with internalizing mental health issues (such as depression, anxiety, sleep problems, posttraumatic stress disorder, and suicidal ideation) and externalizing mental health issues (such as inattentiveness, hyperactivity, impulsivity, and conduct disorder) perform significantly worse academically than other students (Bruffaerts et al., 2018). However, according to another study, mental health was inversely correlated with amotivation and self-criticism and positively correlated with intrinsic motivation (i.e., academic motivation) and self-compassion (Kotera et al., 2022). Only one study examined how the academic performance of ADHD students was affected, and the findings revealed that these students had significant academic impairment (such as issues with attention, emotional control, motivation, managing time, self-consciousness, working memory, organization, and planning) and a complex relationship with the classification of ADHD (Lagacé-Leblanc et al., 2022). Additionally, two studies examined how aspects of academic performance were impacted by students' mental health issues during the COVID-19 pandemic. For instance, assessment stress was the most significant academic predictor whereas loneliness was the largest overall predictor of mental discomfort (McIntyre et al., 2018). Furthermore, students who studied at home reported feeling more disengaged (72.0%), stressed out (66.7%), and uncertain about their exam performance. Finally, the findings of one study indicate that a mindfulness intervention is suitable, effective, and supportive of academic studies for university or college students (Medlicott et al., 2021).

Effective Evidence-Based Intervention

Concerns about mental health among university and college students are highly significant. Numerous educational institutions, society, and the government have begun implementing various interventions and support services to boost students' mental health and well-being in recognition of the significance of addressing these concerns. Five studies identified evidence-based suggestions or interventions for the poor mental health of university or college students.

A study suggests that it is essential to provide mental health literacy training for all educators in universities, covering various aspects of knowledge, skills, attributes, and understanding (Payne, 2022). The study specifically suggests offering training in pastoral care for personal tutors and in pedagogy for staff involved in health professional programs (Payne, 2022). Additionally, teaching staff should receive support when assisting students with mental health issues. The study advocates incorporating such training and assistance into a comprehensive, university-wide strategy for enhancing student mental health, following the institution's Mental Health Charter (Payne, 2022).

Similarly, a different study discovered that peer-led intervention had a good effect on university students' self-help and assisted others by increasing their awareness of mental health issues and their knowledge of coping mechanisms (Ahorsu et al., 2021). The "Game of Tones" Project (suicide prevention project) used a peer-led intervention comprising two components: mental health promotion through videos and booklets, and coping strategy-based group workshops (Ahorsu et al., 2021). The goal was to educate participants about mental health, encourage them to seek help, and teach effective relaxation methods for improving their overall well-being and fostering positive help-seeking behaviour (Giamos et al., 2017).

The implementation of a mindfulness-based course is a noteworthy intervention aimed at addressing the mental health concerns of university and college students. A study examining the effects of participating in such a course demonstrated positive outcomes. The mindfulness-based course is an adaptation of mindfulness-based cognitive therapy (MBCT), featuring 8 in-person weekly 90-minute sessions of reduced-intensity MBCT, with the primary goal of alleviating general distress and enhancing overall well-being (Teasdale et al., 2000; Williams & Penman, 2011). Students showed significant improvements in their general mental health during the session and after a 6-week follow-up (Medlicott et al., 2021). Furthermore, there were significant improvements observed in the student's commitment to their academic goals, their perceived likelihood of achieving those goals, and their perception of possessing the necessary skills and resources (Medlicott et al., 2021).

By implementing these types of intervention programs, students' mental well-being can be significantly improved, leading them to develop a more positive self-perception. Studies have indicated that cultivating optimistic thinking (Gibbons, 2022) and practicing self-compassion (Kotera et al., 2022) are closely linked to good mental health. Additionally, the ability to exert control over one's environment plays a crucial role in enhancing students' academic motivation and their drive to excel.

Discussion

A total of eighteen studies were conducted across the world to investigate the association between multiple factors and the mental health concerns faced by university or college students. Some of these studies looked particularly at the connection between mental health and academic performance, while others concentrated on interventions targeted at addressing and resolving student mental health problems. Our study's goal is to identify and evaluate a wide variety of variables that have been investigated in connection to university

and college students' mental health. Additionally, we aim to determine how these students' mental health issues are associated with academic-related variables. Additionally, we seek to discover interventions that are backed by evidence and that may successfully prevent or treat mental health problems in the population of university and college students.

Mental health problems were correlated with gender. The findings of four investigations (Fu et al., 2021; Gnan et al., 2019; Wathelet et al., 2020; Velten et al., 2018) revealed a strong association between poor mental health and female gender. They have a higher risk of mental health problems than men do, including suicidal thoughts, self-harming a high degree of perceived stress, major depression, and significant levels of anxiety.

Another factor that was found to be related to poor mental health was older age. According to the findings of two studies, being older is linked to experiencing outcomes, symptoms, and challenges connected to one's mental health, such as depression and anxiety (Fu et al., 2021; Yao et al., 2023).

The mental health of an individual can be influenced by personality traits. Numerous studies have examined the connection between personality qualities and outcomes related to mental health, such as anxiety and depression. According to the study, higher levels of depression and anxiety were shown to be positively connected with increased neuroticism, decreased conscientiousness, and decreased openness (Yao et al., 2023).

Ethnicity is another significant risk factor for poor mental health, and studies have shown that people from minority ethnic groups may have greater rates of depression and anxiety than people from the general population (Yao et al., 2023; Medlicott et al., 2021). These results imply that people from minority ethnic origins may experience particular stresses and difficulties that might worsen their mental health.

Additionally, a significant factor in students' poor mental health is their sexual orientation. Two studies found that LGBTQ and nonbinary sexually oriented students experienced poor mental health including suicidal thoughts, self-harming behaviours, extreme distress, high levels of perceived stress, severe depression, and heightened levels of anxiety due to increased levels of isolation and discrimination (Gnan et al., 2019; Wathelet et al., 2020).

Moreover, two studies highlight the influence of family income and parental education on students' mental health (Fu et al., 2021; Ge et al., 2022). Low family income and lower levels of paternal education are associated with increased mental health issues. However, the impact of maternal education is more complex, with different effects on various aspects of mental health. Additionally, the parenting style of parents plays a crucial role in students' well-being, emphasizing the importance of affection and understanding. Poor parental relationships have also been linked to negative mental health outcomes (Yao et al., 2023).

Indeed, social support is crucial for students' mental health. Four studies have examined the connection between social support and the outcomes of this population's

mental health, and the results consistently show that having less social support is linked to worse mental health, including higher levels of stress, anxiety, and depressive symptoms (Fu et al., 2021; Wathelet et al., 2020; Ma et al., 2020; McIntyre et al., 2018).

Previous mental illness was one of the key risk factors for poor mental health. Some risk factors for mental health include suicidal thoughts, severe distress, a high degree of perceived stress, major depression, and a high level of anxiety (Ma et al., 2020). For instance, at least one mental health result was linked to a history of psychiatric follow-up during the COVID-19 pandemic (Wathelet et al., 2020). Additionally, students with ADHD also experience anxiety issues (Lagacé-Leblanc et al., 2022).

In addition, unhealthy lifestyle choices could lead to poor mental health. For instance, unhealthy lifestyle choices include a higher body mass index, less regular participation in mental and physical activities, cigarette smoking, unhealthy eating habits, and having a more erratic social rhythm (Velten et al., 2018).

Undoubtedly, the COVID-19 pandemic has had a significant influence on students' mental health. Studies have also shown that throughout this period, there has been an upsurge in mental health disorders, including depression and anxiety. These difficulties have been further exacerbated by the modifications to the educational system brought on by the pandemic (Kumaran et al., 2022).

Various studies have examined the correlation between mental health and academic success among university or college students. Mental health issues can lead to academic impairment, especially when coupled with internalizing and externalizing problems. However, positive factors such as self-compassion and intrinsic motivation can also be linked to mental well-being and academic performance (Kotera et al., 2022). Additionally, the COVID-19 pandemic has contributed to increased evaluation stress and feelings of loneliness, particularly among students studying remotely (McIntyre et al., 2018; Medicott et al., 2021). In addition, a study of ADHD pupils indicated considerable academic obstacles as well as a complicated connection with the ADHD designation (Lagacé-Leblanc et al., 2022).

It is critical to address mental health issues among university and college students, and support services and interventions are being put into place to enhance student well-being. Numerous evidence-based interventions are suggested by studies:

- To help students with poor mental health, staff members must receive training in this area, which can be included in a comprehensive university-wide policy (Payne, 2022).
- Peer-led therapies have a favourable impact by increasing awareness and enhancing the understanding of coping skills for mental health problems (Ahorsu et al., 2021).
- Student's mental health, academic dedication, goal-setting, and perceptions of their abilities and resources have all significantly improved as a result of mindfulness-based training (Medicott et al., 2021).
- Good mental health is associated with developing an optimistic outlook and practicing self-compassion while having control over one's surroundings increases academic motivation and success (Kotera et al., 2022).

Students' mental health and self-perception can be dramatically improved by implementing these interventions into practice.

There are a few limitations to this literature review. The majority of the studies that were included (n=7) used a cross-sectional design, which evaluates variables at a single moment in time. As a result, it is harder to prove a link between the factors that have been found and the results in terms of mental health. The lack of longitudinal studies (n=1) is the second issue. The body of literature has few longitudinal studies that track students throughout time. These studies may offer insightful information about the development and dynamic nature of mental health problems in university or college students. Third, the review only includes studies that were written in English, possibly excluding pertinent investigations that were performed in other languages. We restricted our inclusion criteria studies to those published between 2013 and June 2023, thus indicating that we may have excluded pertinent data.

Conclusion

In conclusion, this systematic literature review sheds light on the factors associated with poor mental health among university and college students. Despite the drawbacks mentioned, the review offers insightful information about the many aspects of this population's mental health difficulties. The results suggest that a variety of factors affect students' mental health, including depression, anxiety, sleep disorders, posttraumatic stress disorder, suicidal ideation, inattentiveness, hyperactivity, impulsivity, conduct disorder, somatization, psychosis, OCD, and paranoia. Other factors identified include assessment stress, loneliness, and the challenges faced by students with ADHD.

Interventions and support services are essential for fostering students' mental health. The improvement of mental health, academic commitment, and general well-being has shown encouraging results when staff members have received training in mental health literacy, peer-led interventions, and mindfulness-based courses. However, further study is necessary to overcome the drawbacks of the current body of knowledge. To demonstrate causal linkages, take into account the diversity of student populations, and reflect the dynamic character of mental health concerns over time, longitudinal research and extensive assessment techniques are needed.

This comprehensive overview of the research highlights the need to treat the mental health issues that university and college students face. Students will benefit from a healthier and more supportive learning environment if stakeholders in academia, healthcare, and policymaking collaborate to study and treat the causes of poor mental health. Furthermore, this comprehensive literature review offers valuable insights and recommendations for future researchers interested in investigating mental health topics among university or college students. Notably, after reviewing 18 articles, it became apparent that none of them explored the crucial aspect of cultural context and its impact on mental health. Likewise, there was a lack of examination concerning how cultural factors influence mental health, academic outcomes, or intervention processes among students. As a result, this review presents a compelling rationale for future studies to incorporate the cultural context and its multifaceted

influence on mental health and related aspects within the university or college student population. By addressing this research gap, future scholars can gain a more nuanced understanding of the complex interplay between culture and mental well-being, paving the way for more effective and culturally sensitive interventions and support systems for students.

References

- Ahorsu, D. K., Sánchez Vidaña, D. I., Lipardo, D., Shah, P. B., Cruz González, P., Shende, S., Gurung, S., Venkatesan, H., Duongthiphewa, A., Ansari, T. Q., & Schoeb, V. (2021). Effect of a peer-led intervention combining mental health promotion with coping-strategy-based workshops on mental health awareness, help-seeking behavior, and wellbeing among university students in Hong Kong. *International Journal of Mental Health Systems*, 15(1). <https://doi.org/10.1186/s13033-020-00432-0>
- Bruffaerts, R., Mortier, P., Kiekens, G., Auerbach, R. P., Cuijpers, P., Demyttenaere, K., Green, J. G., Nock, M. K., & Kessler, R. C. (2018). Mental health problems in college freshmen: Prevalence and academic functioning. *Journal of Affective Disorders*, 225, 97-103. <https://doi.org/10.1016/j.jad.2017.07.044>
- Campbell, F., Blank, L., Cantrell, A., Baxter, S., Blackmore, C., Dixon, J., & Goyder, E. (2022). Factors that influence mental health of university and college students in the UK: A systematic review. *BMC Public Health*, 22(1). <https://doi.org/10.1186/s12889-022-13943-x>
- Du, G. (2019). Difficulties and countermeasures of college students' entrepreneurship in medical vocational colleges. *Proceedings of the 2018 8th International Conference on Education and Management (ICEM 2018)*. <https://doi.org/10.2991/icem-18.2019.53>
- Fu, W., Yan, S., Zong, Q., Anderson-Luxford, D., Song, X., Lv, Z., & Lv, C. (2021). Mental health of college students during the COVID-19 epidemic in China. *Journal of Affective Disorders*, 280, 7-10. <https://doi.org/10.1016/j.jad.2020.11.032>
- Ge, M., Sun, X., & Huang, Z. (2022). Correlation between parenting style by personality traits and mental health of college students. *Occupational Therapy International*, 2022, 1-14. <https://doi.org/10.1155/2022/6990151>
- Giamos, D., Lee, A. Y., Suleiman, A., Stuart, H., & Chen, S. (2017). Understanding campus culture and student coping strategies for mental health issues in five Canadian colleges and universities. *Canadian Journal of Higher Education*, 47(3), 136-151. <https://doi.org/10.47678/cjhe.v47i3.187957>
- Gibbons, C. (2022). Understanding the role of stress, personality and coping on learning motivation and mental health in university students during a pandemic. *BMC Psychology*, 10(1). <https://doi.org/10.1186/s40359-022-00971-w>
- Gnan, G. H., Rahman, Q., Ussher, G., Baker, D., West, E., & Rimes, K. A. (2019). General and LGBTQ-specific factors associated with mental health and suicide risk among LGBTQ students. *Journal of Youth Studies*, 22(10), 1393-1408. <https://doi.org/10.1080/13676261.2019.1581361>
- Hosen, I., Al Mamun, F., & Mamun, M. A. (2021). The role of sociodemographics, behavioral factors, and internet use behaviors in students' psychological health amid COVID-19 pandemic in Bangladesh. *Health Science Reports*, 4(4). <https://doi.org/10.1002/hsr2.398>

- Hughes, G., & Spanner, L. (2019). The University Mental Health Charter. *Leeds: Student Minds*.
- Idris, F., Zulkipli, I. N., Abdul-Mumin, K. H., Ahmad, S. R., Mitha, S., Rahman, H. A., Rajabalaya, R., David, S. R., & Naing, L. (2021). Academic experiences, physical and mental health impact of COVID-19 pandemic on students and lecturers in health care education. *BMC Medical Education, 21*(1). <https://doi.org/10.1186/s12909-021-02968-2>
- Jiang, Y., & Zhou, M. (2019). Study on employment psychology of students in Southwest petroleum University. *Creative Education, 10*(06), 1108-1115. <https://doi.org/10.4236/ce.2019.106083>
- Kotera, Y., Maybury, S., Liu, G., Colman, R., Lieu, J., & Dosedlová, J. (2022). Mental well-being of Czech University students: Academic motivation, self-compassion, and self-criticism. *Healthcare, 10*(11), 1-12. <https://doi.org/10.3390/healthcare10112135>
- Kumaran, V. V., Ismail, M. K., Thinagar, S., & Munawwarah Roslan, S. N. (2022). Mental health disorder among Malaysian universities students during COVID-19 pandemic. *Asian Journal of University Education (AJUE), 18*(3), 735-744. <https://doi.org/10.24191/ajue.v18i3.18965>
- Lagacé-Leblanc, J., Massé, L., & Rousseau, N. (2022). Academic impairments faced by college students with attention-deficit hyperactivity disorder: A qualitative study. *Journal of Postsecondary Education and Disability, 35*(2), 131-144. <https://files.eric.ed.gov/fulltext/EJ1364189.pdf>
- Limone, P., & Toto, G. A. (2022). Factors that predispose undergraduates to mental issues: A cumulative literature review for future research perspectives. *Frontiers in Public Health, 10*. <https://doi.org/10.3389/fpubh.2022.831349>
- Lipson, S. K., Lattie, E. G., & Eisenberg, D. (2019). Increased rates of mental health service utilization by U.S. college students: 10-Year population-level trends (2007–2017). *Psychiatric Services, 70*(1), 60-63. <https://doi.org/10.1176/appi.ps.201800332>
- Ma, Z., Zhao, J., Li, Y., Chen, D., Wang, T., Zhang, Z., Chen, Z., Yu, Q., Jiang, J., Fan, F., & Liu, X. (2020). Mental health problems and correlates among 746 217 college students during the coronavirus disease 2019 outbreak in China. *Epidemiology and Psychiatric Sciences, 29*. <https://doi.org/10.1017/s2045796020000931>
- McIntosh, B. J., Compton, M. T., & Druss, B. G. (2012). Students left behind: The limitations of university-based health insurance for students with mental illnesses. *Journal of American College Health, 60*(8), 596-598. <https://doi.org/10.1080/07448481.2012.726301>
- McIntyre, J. C., Worsley, J., Corcoran, R., Harrison Woods, P., & Bentall, R. P. (2018). Academic and non-academic predictors of student psychological distress: The role of social identity and loneliness. *Journal of Mental Health, 27*(3), 230-239. <https://doi.org/10.1080/09638237.2018.1437608>
- Medlicott, E., Phillips, A., Crane, C., Hinze, V., Taylor, L., Tickell, A., Montero-Marin, J., & Kuyken, W. (2021). The mental health and wellbeing of University students: Acceptability, effectiveness, and mechanisms of a mindfulness-based course. *International Journal of Environmental Research and Public Health, 18*(11), 6023. <https://doi.org/10.3390/ijerph18116023>

- Nair, B., & Otaki, F. (2021). Promoting University students' mental health: A systematic literature review introducing the 4M-Model of individual-level interventions. *Frontiers in Public Health*, 9. <https://doi.org/10.3389/fpubh.2021.699030>
- Payne, H. (2022). Teaching staff and student perceptions of staff support for student mental health: A University case study. *Education Sciences*, 12(4), 237. <https://doi.org/10.3390/educsci12040237>
- Sontag-Padilla, L., Woodbridge, M. W., Mendelsohn, J., D'Amico, E. J., Osilla, K. C., Jaycox, L. H., Eberhart, N. K., Burnam, A. M., & Stein, B. D. (2016). Factors affecting mental health service utilization among California public college and University students. *Psychiatric Services*, 67(8), 890-897. <https://doi.org/10.1176/appi.ps.201500307>
- Stallman, H. M. (2010). Psychological distress in university students: A comparison with general population data. *Australian Psychologist*, 45(4), 249-257. <https://doi.org/10.1080/00050067.2010.482109>
- Storrie, K., Ahern, K., & Tuckett, A. (2010). A systematic review: Students with mental health problems-A growing problem. *International Journal of Nursing Practice*, 16(1), 1-6. <https://doi.org/10.1111/j.1440-172x.2009.01813.x>
- Teasdale, J. D., Segal, Z. V., Williams, J. M., Ridgeway, V. A., Soulsby, J. M., & Lau, M. A. (2000). Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *Journal of Consulting and Clinical Psychology*, 68(4), 615-623. <https://doi.org/10.1037/0022-006x.68.4.615>
- Thorley, C. (2017). Not By Degrees: Not by degrees: Improving student mental health in the UK's universities.
- Velten, J., Bieda, A., Scholten, S., Wannemüller, A., & Margraf, J. (2018). Lifestyle choices and mental health: A longitudinal survey with German and Chinese students. *BMC Public Health*, 18(1). <https://doi.org/10.1186/s12889-018-5526-2>
- Wathelet, M., Duhem, S., Vaiva, G., Baubet, T., Habran, E., Veerapa, E., Debien, C., Molenda, S., Horn, M., Grandgenèvre, P., Notredame, C., & D'Hondt, F. (2020). Factors associated with mental health disorders among university students in France confined during the COVID-19 pandemic. *JAMA Network Open*, 3(10), 1-13. <https://doi.org/10.1001/jamanetworkopen.2020.25591>
- Williams, M., & Penman, D. (2011). *Mindfulness: A practical guide to finding peace in a frantic world*. Hachette UK.
- Worsley, J. D., Pennington, A., & Corcoran, R. (2022). Supporting mental health and wellbeing of university and college students: A systematic review of review-level evidence of interventions. *PLOS ONE*, 17(7), e0266725. <https://doi.org/10.1371/journal.pone.0266725>
- Yao, S., Xu, M., & Sun, L. (2023). Five-factor personality dimensions mediated the relationship between parents' parenting style differences and mental health among medical University students. *International Journal of Environmental Research and Public Health*, 20(6), 1-11. <https://doi.org/10.3390/ijerph20064908>
- Zivin, K., Eisenberg, D., Gollust, S. E., & Golberstein, E. (2009). Persistence of mental health problems and needs in a college student population. *Journal of Affective Disorders*, 117(3), 180-185. <https://doi.org/10.1016/j.jad.2009.01.001>