



# The Mental Health Status and Service Utilization among College Students: A Scoping Review

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## Abstract

**Background:** Mental health is vital for overall well-being, influencing thoughts, emotions, and actions. Suicide rates, notably among 18 - 25-year-olds, have risen by 35% since 1999, with males disproportionately affected. Texas' low mental health spending exacerbates college students' struggles, accentuated by pandemic-induced isolation. Innovative interventions, specifically new approaches that aim to improve the health and well-being of people with mental health conditions such as telehealth offer unique solutions. **Methods:** A scoping literature review was conducted to understand factors influencing college students' mental health service utilization. Analysis of 23 articles revealed barriers such as campus services and accessibility, awareness, and service delivery times, along with stigma and cultural norms. **Results:** From the initial pool, 23 studies were included, highlighting factors impacting service utilization. These encompass campus services and accessibility, awareness, and service delivery times, as well as stigma and cultural norms. **Conclusions:** This review underscores the need for tailored programmatic and resource initiatives in college mental health. While current efforts focus on counseling, diversifying approaches is vital. The lack of research on alternative resources is concerning given students' mental health challenges. Further investigation is crucial to support their diverse needs.

## Subject Areas

Public Health

## Keywords

College Health, Mental Health, Peer-led Initiatives, Innovative Interventions

## 1. Introduction

Mental health is a cornerstone of overall well-being, encompassing emotional, psychological, and social dimensions, intricately guiding individuals' thoughts, feelings, and actions while significantly shaping stress management, interpersonal relationships, and decision-making processes. Amidst the complexities of modern life, mental health trends underscore a concerning narrative, marked by notable peaks in suicides over recent decades, with a staggering 35% increase recorded from 1999 to 2018, particularly affecting the younger demographic of 18-25-year-olds [1]. Disturbingly, males are disproportionately affected, demonstrating a 3.7 times higher likelihood of succumbing to suicide compared to females [2].

The emergence and urgency of the mental health challenge narrative extends its reach onto college campuses, where the pressures of academia and transitional phases of life often magnify stressors. A variety of other factors also contribute to the excessive presence of mental health compromise among college students, particularly in Texas. Texas is ranked second-to-last in spending for mental health per capita, Texas faces a dire shortage of mental health professionals, aggravating the issue [3]. The apparent implications, with a concerning 7.5 suicides per 100,000 students nationwide, highlight the pressing need for intervention [4]. Additionally, college mental health status is connected to academic performance. Specifically, insufficiently addressed mental disorders are associated with academic under achievement [4]. The limited integration of mental health initiatives within non-behavioral health programs further underscores the response mechanisms' inadequacies [3].

Since the onset of the global pandemic in Spring 2020, there has been a notable rise in social isolation [5]. Research from the National Institute of Health (NIH) indicates that individuals who contracted COVID-19 are at heightened risk of experiencing various symptoms affecting brain function and mental health [6]. Serious infections, including COVID-19, have been linked to an increased susceptibility to mental illness, with symptoms such as posttraumatic stress disorder being reported [7]. Furthermore, the Centers for Disease Control and Prevention (CDC) reports indicate that 1 in 4 individuals have faced mental health challenges, and since June 2020, a significant proportion of young adults aged 18 - 24 have seriously contemplated suicide [8].

In addition, the pandemic not only exacerbated stress and mental health challenges but also triggered a significant shift in mental health care delivery. With in-person access limited to emergencies, telehealth services saw widespread adoption. Telehealth visits for mental health and substance use disorders increased significantly from 2020 to 2021, constituting nearly half of all total visits for behavioral health [9]. The widespread adoption of telehealth services has been particularly beneficial for individuals in rural areas or areas with limited access to mental health providers, who would otherwise face difficulties in accessing mental health support. However, existing disparities in resource availability, service provision, and demand for mental health services underscore the necessity of exploring alternative approaches to enhance mental health service utilization among college

students. Another challenge arises from a shortage of adequately trained personnel to address mental health needs in communities. Given the chronicity of diagnosable mental health disorders among this demographic and the alarming rates of suicide, urgent attention and intervention are imperative.

Evidence-based interventions have been developed to address mental health challenges in communities. In healthcare settings, professionals may utilize Screening, Brief Intervention, Referral, and Treatment (SBIRT) as an evidence-based practice. Additionally, interventions such as Mental Health First Aid (MHFA) are employed in communities to address stigma and enhance awareness. MHFA equips trainees with action plans containing essential strategies to foster a supportive and knowledgeable response to mental health challenges within university communities. Targeting both students and faculty, MHFA aims to empower individuals to effectively navigate mental health difficulties and promote holistic well-being on college campuses. Through comprehensive training programs and evaluation mechanisms, MHFA endeavors to bridge the gap between available resources and demand, fostering a culture of mental health awareness and empowerment [10].

The surge in demand for mental health services among young adults has posed challenges in matching them with appropriate care. This underscores the need to prioritize services beyond counseling centers, offering individualized healthcare support to students who do not require immediate assistance. Such services, including support groups, mental health training for faculty and students, mindfulness activities, and peer education, are tailored and time intensive. By extending beyond traditional counseling, these programs can reach a broader audience seeking support and address the gap in mental health service demand. Moreover, they equip college students with essential knowledge and transferable skills to recognize signs of distress, reduce stigma, and provide support to peers or individuals in need. Referral to care is crucial for individuals encountering extreme distress or experiencing a mental health crisis. Exploring the mental health status and service utilization among college students is essential for enhancing college student mental health and ensuring the provision of appropriate services.

### **Purpose**

The aim of this scoping review is to identify the factors influencing college students' utilization or non-utilization of mental health services, along with the alternative services available. By analyzing the existing literature, this review aims to reveal the barriers to service utilization, encompassing concerns related to campus services and accessibility, awareness, and stigma. Additionally, the review attempts to provide insights into strategies for cultivating a more inclusive and supportive mental health environment within college communities.

## **2. Methods**

This Scoping Review was conducted according to the Preferred Reporting Items for

Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guidelines [11]. The methodology for this Scoping Review was based on the framework outlined by Arksey and O'Malley and further refined by recommendations made by Levac [12] [13].

The review comprised the following 7 steps: 1) A database search with assistance from a librarian consultant; 2) Development of criteria for including and excluding relevant articles; 3) First level screenings of titles and abstracts obtained after searches were conducted, followed by 4) second level screenings of relevant full-text articles, 5) data analysis, 6) data extraction to summarize key findings among included articles, and 7) organizing findings for presentation. (Levac, *et al.*, 2010) (Arksey & O'Malley, 2005).

### 2.1. Database Search

The research team searched two electronic databases, PubMed and Semantic Scholar, with keywords including “mental health awareness”, “mental health status”, “accessibility”, “higher education”, “college”, “public health”, “Texas”, and “United States”. It is important to note that because of the lack of literature specific to mental health among college students in Texas, we had to expand the search to the United States, broadly. The search was performed from September 2023 to November 2023.

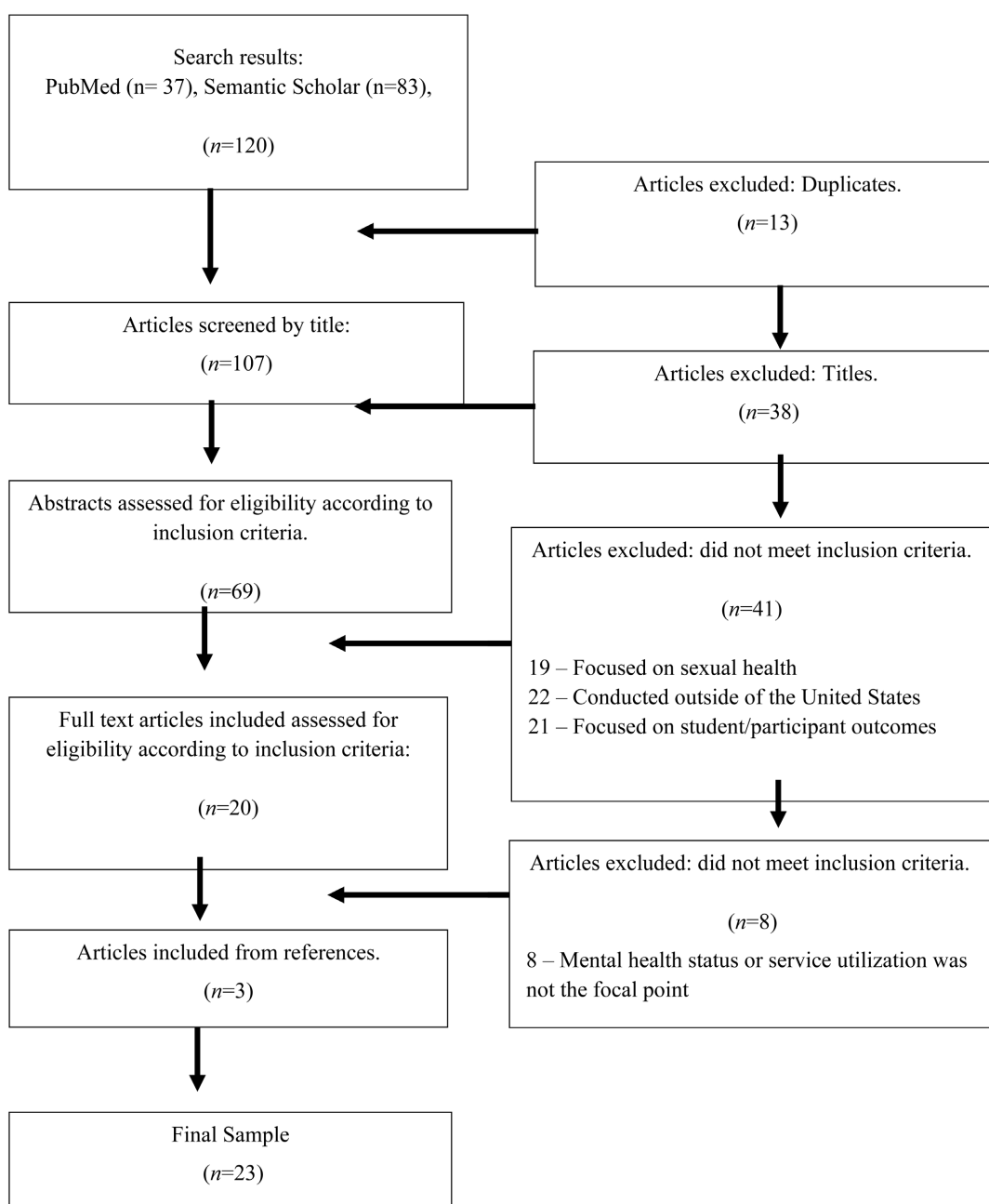
### 2.2. Inclusion/Exclusion Criteria

For inclusion in this review, articles had to meet the following criteria: 1) be written in English and published in a peer-reviewed journal, 2) be an empirical study (*an investigation with direct observation or measurements of a hypotheses*), a theoretical paper (*scholarly work that focuses on abstract concepts, models, and frameworks*), a meta-analysis (*an investigation combining quantitative and qualitative data from multiple studies*), or a systematic review (*a method using existing studies to draw conclusions on collective findings*), 3) focus on the mental health status and service utilization among college students, and 4) have been published between 1999 and 2023.

Articles not meeting the above inclusion criteria were excluded from the review. Specifically, exclusion criteria included 1) articles that were non-peer-reviewed, not written in English, or published before 1999, 2) opinion papers or conference presentations, and 3) conducted outside of the United States.

### 2.3. Data Extraction and Synthesis

The PRISMA flow diagram in **Figure 1** depicts the selection process of the articles included in this study. We identified a total of 120 articles as relevant, from searches conducted in the two electronic databases. Of the original 120, 13 were removed because they were duplicates, and we determined thirty-eight irrelevant based on the title. We removed forty-one articles after the abstract examination because 1) the focus was on sexual health among college students or 2) the study



**Figure 1.** PRISMA flow diagram of articles' retrieval and selection process.

was conducted outside of the United States.

Overall, thirty articles were reviewed in full. After a full-text review, we excluded 8 studies because mental health status or service utilization was not the focal point of the paper, resulting in 20 full-text articles included in the final sample. Subsequent to reviewing the references in all the included studies, 3 articles were determined pertinent to this study's purpose and, therefore, added to the sample. The final sample, therefore, comprised 23 studies.

We developed the protocol for abstracting data using the Scoping Review methodological framework proposed by Arksey and O'Malley and further refined by

the PRISMA-ScR checklist [12]. A research team of 3 members reviewed and coded all articles, extracting and organizing the information using Garrard's Matrix Method [14]. This review provides a comprehensive overview of the literature, including the factors impacting college students receiving or not receiving mental health services as 1) barriers including a) campus services and accessibility, b) awareness, and c) time to delivery of service, and 2) stigma/cultural norms.

### 3. Findings

The review thoroughly investigates the intricate barriers that influence college students' access to mental health services. It sheds light on challenges related to campus services and accessibility, such as geographical limitations or the limited availability of services on campus. Furthermore, it scrutinizes the role of awareness, emphasizing the necessity of promoting knowledge about available resources and destigmatizing mental health issues to foster help-seeking behaviors.

This review provides a comprehensive analysis of the literature, highlighting the diverse factors that impact college students' engagement with mental health services. The review identifies gaps and recurring themes concerning alternative mental health services and resources within the existing literature.

The characteristics of the included articles are delineated in the following narrative. Out of the reviewed studies, nine investigations primarily examined mental health service utilization, with a specific emphasis on traditional preventative counseling services [7] [15]-[27]. Additionally, 9 studies mentioned the role of alternative mental health services [28]-[36].

Similar to the field of study, geographic origin all 23 were conducted in the United States [15]-[37]. 21 were conducted in the northern region of the country [15]-[20] [22]-[37] while only 2 were conducted in the southern US [21] [29].

Studies employed diverse research designs, encompassing qualitative (n = 6) [20] [25] [31] [32] [34] [35], quantitative (n = 17) [15]-[37]. Qualitative methodologies included focus groups and surveys, with some studies incorporating literature reviews to contextualize the historical development and demand for mental health services, particularly among university students [20] [25] [31] [32] [34] [35]. Quantitative approaches utilized national datasets such as the Healthy Minds Study, American College Health Association's Mental Health survey, and the Center for Collegiate Mental Health to elucidate prevalent mental health disorders and trends in service utilization among students [15]-[30] [33] [36] [37].

Lastly, all articles included in the review focused on traditional-aged college students (18 - 24 years old) due to the search criteria. The review sought to explore the distinctive mental health needs of college students, uncovering several fundamental impediments related to their access to and utilization of mental health assistance, as discussed below.

#### 3.1. Barriers

All studies included in this literature review examined and addressed barriers

affecting college students and their utilization of mental health services. These barriers can be categorized into three main types: campus services and accessibility, awareness, and time to service delivery.

### 3.1.1. Campus Services and Accessibility

Busy academic and extracurricular schedules often lead to scheduling clashes, compounded by limited availability of counseling service personnel, making it challenging for students to attend appointments. Clark (2014), Walther (2014), Pace (2018), and Albright (2017) all discuss the hurdles experienced with competing demand and availability [15] [17] [26] [35]. Specifically Pace states, “the increased demand for services without a corresponding increase in resources is a major challenge and concern with only 21% of centers reported an increase in professional staff during the previous year” ([35], p. 2)

1) **Campus Services:** Seven studies found that mental health problems are highest at academic institutions due to poor utilization of on-campus mental health services. According to several studies, many colleges and universities have the lowest utilization of mental health services; as a result, students are more prone to developing or intensifying mental health issues and are less inclined to seek treatment. Lipson states the “mental health problems appear to be highest and treatment utilization lowest at institutions that tend to have fewer resources: large institutions, public institutions, nonresidential institutions, and institutions with low graduation rates” [33].

According to the articles, a significant number of college students experience mental health challenges because of inadequate mental health services. Saha states, “campus mental health services do not currently have adequate means to assess the evolving nature of demand or needs” ([25], p. 11)

The discussion of alternative mental health services and potential solutions are mentioned throughout five articles. Bagroy states, “Students prefer nontraditional campus services, including off-campus and online counseling services, due to fear of losing confidentiality, peer pressure, students too busy with their lifestyle, educational pressure, limited health insurance coverage for mental health treatment, paucity of knowledge about psychiatric services, the belief that stress is normal in college life, lack of time, nervousness about talking to a therapist, longer waiting time for mental health treatment, dissatisfaction with counseling services, and a lack of diverse providers specializing in college mental health continue to impact the availability of services.” ([28], p. 5). Fullmer describes the ideal service environment stating, “Students require a campus environment that is understanding of and supportive to their mental health needs.” [18]

Three authors suggest by addressing these concerns, colleges could enhance the campus climate by raising mental health awareness and support, increasing collaboration with counseling facilities, and frequently evaluating and improving mental health services.

Bracken discusses the general notion of “more schools could beef up their counseling centers and emphasize mental health through innovative programs aimed

at helping students before a serious problem emerges” [22] ([29], p. 5).

Additionally, Lipson suggests technology-based interventions, such as web-based screenings and treatments, can effectively aid in campus service options [22]. Given the high prevalence and severity of mental health problems among university students, improving mental health accessibility and awareness, and cutting down the waiting time to deliver counseling services can be implementing telehealth, or online mental health care treatment, in university settings can provide affordable and easily accessible mental health care for students, reach college students and address some of the barriers to treatment.

Lipson states, “To better meet the mental health care demand from students and reduce strain on existing services, campuses may wish not only to expand capacity but also to increase the use of preventive and digital mental health services, such as those delivered via mobile apps.” ([33], p. 4)

**2) Accessibility:** Two articles discuss an undersupply of accessibility, including transportation, physical access to campus counseling centers, and appropriately trained community health centers can interfere with students’ ability to seek help. Furthermore, delimited health insurance coverage and high costs of care pose significant barriers, especially for students from low socioeconomic backgrounds. These factors collectively contribute to challenges in accessing mental health services for college students.

Kraft discusses, “Many college mental health services today are understaffed to meet student demands for service and most colleges and universities are looking for ways to reduce their fees.” ([20], p. 4)

Larson poses the importance of alternative mental health services but discusses ensuring they are adequately trained, “The lack of appropriately trained professionals to staff comprehensive community mental health centers impedes the establishment of truly effective programs.” ([21], p. 3)

### 3.1.2. Awareness

Three articles discuss that students and faculty are unaware of the multitude of mental health resources and services available on their campuses. This lack of awareness perpetuates the pervasive belief that stress is a routine part of the college experience, leading students to normalize their distress and hesitate to seek assistance. Moreover, limited knowledge about available support options may further discourage students from accessing mental health services when needed. This lack of awareness underscores the importance of promoting mental health literacy and increasing the visibility of available resources to encourage help-seeking behaviors among college students.

To shed light on the lack of awareness, Beebe cites Eisenberg *et al.* (2007) who found that a majority of students (54%) did not know if they were offered mental health services or not, and 13% thought they did not have coverage for mental health services (when in fact they did)” ([24], p. 7).

Additionally, Kitzrow reiterates this notion by stating, “Students themselves often are not aware of the available mental health resources on campus or may be

reluctant to use them, so it is important to conduct an ongoing education, outreach, and advertising campaign to inform them about mental health issues and encourage them to use the services available to them.” ([32], p. 11)

Coleman discusses the lack of mental health service and training awareness among faculty by communicating “College counseling centers may have their own programs to train instructors, yet these programs are not always publicized or incorporated into instructors’ professional development.” ([30], p. 7)

### **3.1.3. Time to Delivery of Service:**

Three articles discuss time to delivery of service impacting students’ ability to receive timely mental health service [19] [24] [36]. This is particularly concerning given the escalating demand for mental health services on college campuses, which is outpacing the growth in student enrollment. Lengthy wait times for counseling appointments and limited staffing at campus health centers pose significant barriers, dissuading students from accessing the necessary support.

Pedreilli, Beebe, and Lipson all agree the delay in service delivery exacerbates students’ distress and may lead to further deterioration of their mental health [19] [24] [36]. Pedreilli states, “Given the effect that the academic calendar may have on continuity of care, it is critical for clinicians to ensure that college students receive treatment throughout the year and to coordinate with other clinicians that may be involved in the students’ care.” ([36], p. 11) Lipson supports this thought stating, “The trends revealed in this study have strained counseling centers across the country, given that many are under-resourced and operate at full capacity with waitlists for much of the year.” ([33], p. 4)

Lastly, Beebe discusses the wait times to service can deter help seeking behaviors, “it would be reasonable to think that a weeks-long waiting list may deter some students from seeking individual therapy on-campus.” ([24], p. 3)

### **3.2. Stigma/Cultural Norms**

In addition to these challenges, eleven articles highlighted the significant impact of stigma and cultural norms on students’ attitudes towards mental health and help-seeking behaviors.

Seven articles specifically discuss the role stigma has in mental health service utilization. Stigma surrounding mental health issues is particularly prevalent among certain student populations, such as male students, international students, and those from more religious or lower socioeconomic backgrounds. Concerns about privacy and fear of criticism or discrimination may discourage students from seeking help.

Lipson *et al.*, and Coduti *et al.* summarize the importance of stigma and the positive and negative way it can impact mental health [33]. Specifically, Lipson *et al.* discuss the negative association of stigma stating that, “Individuals who believe mental health help-seeking is stigmatized are less likely to seek help or talk about their mental health needs.” ([33], p. 2) However, Coduti *et al.* discuss how exposure can positively impact stigma, “Research on stigma shows that exposure to a

peer with a mental health disorder is the best way to reduce stereotypes, discrimination, and fear.” ([37], p. 4)

Bourdon, Yorgason, Pedrelli, Osborn, and Pilar all agree that stigma is a factor impacting service seeking and utilization behaviors [16] [23] [27] [34] [36]. Bourdan states, “Lack of time and stigma were barriers for students.” ([16], p. 9) Yorgason agrees by discussing, “Participants’ negative attitudes toward campus mental health services may not be directed solely toward university-based services but actually may stem from already existing stigmas about all mental health services.” ([27], p. 8) Similarly, Pedrelli states, “A few reasons have been proposed for the low rates of help seeking in this population, including fear of personal stigma, not perceiving treatment as urgent or essential, and lack of time.” ([36], p. 8)

Osborn and Pilar state self-stigma is a barrier to service utilization including that “Barriers such as self-stigma, perceived need, and self-reliance influence when and how they seek help.” [23] ([34], p. 2)

Moreover, four articles discuss the impact cultural beliefs and norms can influence students’ willingness to acknowledge and address mental health concerns. [16] [22] [31] [37]. Bourdon, Feldpausch, Coduti, and Lipson all agree minority populations are disproportionately impacted by decreased service utilization given cultural norms and beliefs as well as a lack of diverse providers [16] [22] [31] [37]. Bourdon states, “College students who are Black, Asian, or Hispanic have consistently been found to seek fewer services, receive less treatment, and report more barriers to treatment compared to white students.” ([16], p. 3)

Additionally, Feldpausch discusses the likelihood of minority students seeking services based on the lack of diversity among service providers, “Although offering service providers whose ethnic or cultural identity matches those of students may increase the likelihood of minority students seeking care, it can be difficult for university counseling centers to recruit and retain an ethnically diverse staff, especially if the college or university is small or is located in a rural area” ([31], p. 153).

Lipson acknowledges these hurdles and states, “Although these challenges are apparent, little progress has been made.” According to Lipson who states, “Findings show that little progress has been made—and indeed a worsening of inequalities has occurred—when it comes to the mental health ‘treatment gap’ for racial/ethnic minority students. This suggests a lack of attention and resources devoted to serving these populations and their unique needs.” ([22], p. 9)

Lastly, Coduti discusses the similarities in mental health related needs students with disabilities by stating that, “Because students with disabilities frequently contend with stigma, the fact that their psychological concerns are in many ways comparable to clients without disabilities may be helpful in alleviating others’ stigmatizing and pathologizing attitudes.” ([37], p. 6)

## 4. Discussion

This scoping review was conducted to synthesize the existing literature on the

mental health status and awareness among college students. It aimed to elucidate the myriad challenges impacting college students' mental health and subsequent utilization of mental health services, encompassing barriers such as campus services and accessibility constraints, limited awareness, prolonged wait times for services, and the pervasive stigma surrounding mental health issues. Additionally, it sought to explore disparities in service utilization across gender and racial/ethnic lines and investigate the potential of technology-based interventions to bridge gaps in service delivery.

The primary findings underscore the significant hurdles college students face in accessing mental health resources, including a shortage of providers specializing in college mental health, inadequate health insurance coverage, and dissatisfaction with available counseling services, leading to disparities in service delivery. Moreover, a concerning lack of awareness about on-campus mental health services was identified, exacerbated by the normalization of stress as an inherent aspect of college life. Furthermore, the review revealed disparities in service utilization, with women utilizing mental health services more frequently than men, and students of color, particularly Asian, Black, and Latinx populations, having lower rates of treatment compared to their white counterparts. These disparities highlight the imperative for targeted interventions aimed at dismantling cultural barriers and fostering a supportive and inclusive environment for all students.

The implications of these findings are manifold. There is a clear imperative to enhance the types of campus service availability and accessibility of mental health services on college campuses, including diversifying counseling personnel and expanding service reach to accommodate the diverse needs of the student population. Policy implications entail the development of guidelines and frameworks to support the effective implementation of technology-based mental health interventions, such as telehealth and online services, which offer promising avenues for providing affordable and accessible mental health care to college students.

Future research should focus on understanding the long-term outcomes of peer-led initiatives and awareness campaigns, particularly those targeting first-year students, to combat stigma and cultivate a culture of acceptance. Moreover, there is a critical need to substantiate the efficacy of technology-based interventions and ascertain best practices for supporting college students' mental health.

#### **4.1. Recommendations for Practice and Research**

The insights gleaned from this review serve to pinpoint areas requiring enhancement within the realm of college mental health and resource utilization. Particularly noteworthy is the urgent need highlighted by this review to instigate dialogues within the field of college mental health concerning programmatic and resource initiatives tailored to student needs. While existing resource endeavors predominantly focus on conventional one-on-one counseling modalities, the findings of this review advocate for the incorporation of non-traditional, distinctive, and contextually appropriate programmatic approaches to address college

mental health challenges comprehensively, thereby fostering better support for students and ensuring the continued efficacy of college campus counseling centers.

Moreover, the findings of this review underscore a notable research gap concerning the factors influencing college students' access to mental health services and the availability of alternative support options. Particularly striking is the virtual absence of studies investigating alternative mental health programs and resources for college students beyond those provided within campus or university counseling centers. Recommendations for future research include adopting a sequential approach to mental health resources that enhance the accessibility of services for college students prior to engaging with a campus counseling center. The dearth of research in the realm of college student mental health service utilization and alternative resources prompts the question: Why is there insufficient scholarly attention given to this critical area, especially considering that half of all college students experience psychiatric disorders and suicide ranks as the leading cause of death among individuals aged 18 - 24 in college settings?

While the existing body of research on factors influencing college students' uptake of mental health services and resource utilization remains limited, it underscores the vital need for continued investigation into this critical area. This insufficient comprehensive understanding necessitates further inquiry to elucidate the multifaceted dynamics surrounding college students' mental health care-seeking behaviors. By delving deeper into this subject matter, researchers can uncover nuanced insights that contribute to the development of targeted interventions and support mechanisms tailored to the diverse needs of college populations.

The literature review underscored the necessity for targeted and tailored interventions to address the multifaceted barriers identified, aiming to cultivate a more supportive and inclusive environment for all college students to access the mental health resources they require. Additionally, university campuses may encounter crisis situations, such as violence or incidents affecting a large number of students, as well as instances of loss or trauma impacting smaller groups within the community. Adopting a community-wide or systems approach involving stakeholders beyond mental health specialists and professionals is crucial to effectively responding to such situations and supporting students' well-being.

## **4.2. Limitations**

Despite its contributions, this review is subject to significant limitations. Primarily, due to the lack of literature directly addressing mental health among Texas college students, researchers were compelled to broaden the search scope to encompass mental health among college students across the United States. While the majority of the findings from this review may be applicable to the mental health of college students in Texas, it is essential to acknowledge that students' experiences could exhibit unique nuances influenced by the geographic, community, and cultural diversity prevalent across the United States.

Second, the researchers' personal biases regarding the interpretation of findings,

recommendations for future research, as well as for resource and programmatic efforts, should not be dismissed. Some of the bias's researchers bring to this review include various roles as health and mental health educators. The researchers support the inclusion of unique mental health programmatic and resource options because of the value of supporting college student mental health and the overall positive and negative impact mental health can have on a young person's academic and personal outcomes. To minimize these potential biases, however, researchers followed guidelines for conducting and reporting this scoping review and submitted their analyses to peer reviewers.

Lastly, the existing literature may not fully capture the scope of mental health challenges faced by college students, especially in the context of the COVID-19 pandemic. Additionally, further investigations are warranted on the long-term effectiveness of interventions and strategies for integrating technology-based services into existing mental health support systems on campuses. Furthermore, the review did not extensively explore the economic implications of mental health issues among college students, warranting additional investigation.

Notwithstanding these constraints, this review offers a significant contribution to the literature on college student mental health by initiating discourse on distinctive and alternative resource avenues. By identifying gaps in the professional literature, particularly concerning college mental health, and elucidating the advantages of both new and existing resources, this study serves as a foundational reference for future investigations in this domain.

In conclusion, this scoping review underscores the urgent need to prioritize college students' mental health by enhancing the availability and accessibility of support services. By addressing identified barriers and leveraging technology-based interventions, educational institutions can create a more supportive and inclusive environment that empowers students to navigate the challenges of academic life while safeguarding their overall well-being.

## Conflicts of Interest

The authors declare no conflicts of interest.

## References

- [1] Bagroy, S., Kumaraguru, P. and De Choudhury, M. (2017) A Social Media Based Index of Mental Well-Being in College Campuses. *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, Denver, 6-11 May 2017, 1634-1646. <https://doi.org/10.1145/3025453.3025909>
- [2] Walther, W.A., Abelson, S. and Malmon, A. (2014) Active Minds: Creating Peer-to-Peer Mental Health Awareness. *Journal of College Student Psychotherapy*, **28**, 12-22. <https://doi.org/10.1080/87568225.2014.854673>
- [3] Wakida, E.K., Talib, Z.M., Akena, D., Okello, E.S., Kinengyere, A., Mindra, A., *et al.* (2018) Barriers and Facilitators to the Integration of Mental Health Services into Primary Health Care: A Systematic Review. *Systematic Reviews*, **7**, Article No. 211. <https://doi.org/10.1186/s13643-018-0882-7>

- [4] Beebe, A. (2017) Barriers to Mental Health Service Access at a Large Public University. *McNair Scholars Online Journal*, **11**, Article No. 2. <https://doi.org/10.15760/mcnair.2017.2>
- [5] Canady, V.A. (2020) CDC: Pandemic Taking Heavy Toll on Mental Health of 1 in 4 Young People. *Mental Health Weekly*, **30**, 1-3. <https://doi.org/10.1002/mhw.32481>
- [6] Larson, E.A., Barger, B. and Cahoon, S.N. (1969) College Mental Health Programs: A Paradigm for Comprehensive Community Mental Health Centers. *Community Mental Health Journal*, **5**, 461-467. <https://doi.org/10.1007/bf01420032>
- [7] Pedrelli, P., Nyer, M., Yeung, A., Zulauf, C. and Wilens, T. (2014) College Students: Mental Health Problems and Treatment Considerations. *Academic Psychiatry*, **39**, 503-511. <https://doi.org/10.1007/s40596-014-0205-9>
- [8] Clark, BS, MBA Candidate, Q.M., Dietz, PhD, PE, J.E. and Howells, BS, J.F. (2011) Developing a Campus Mental Health Resource Plan. *Journal of Emergency Management*, **9**, 49-59. <https://doi.org/10.5055/jem.2011.0053>
- [9] Pilar, M.R., Cunningham-Williams, R.M. and Williams Woodson, S.L. (2019) Does the Andersen Behavioral Model of Health Services Use Predict College Students' Use of On-Campus Mental Health Services? *Journal of American College Health*, **68**, 631-643. <https://doi.org/10.1080/07448481.2019.1583665>
- [10] Western Michigan University (2022) Facts about Suicide. <https://wmich.edu/suicideprevention/basics/facts#:~:text=Available%20data%20suggests%20that%20suicide>
- [11] Garrard, J. (2011) Health Sciences Literature Review Made Easy: The Matrix Method. Jones & Bartlett Learning. <http://www.r2library.com/resource/title/9780763771867>
- [12] Lipson, S.K., Lattie, E.G. and 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**, 60-63. <https://doi.org/10.1176/appi.ps.201800332>
- [13] Reiss, A.B., Greene, C., Dayaramani, C., Rauchman, S.H., Stecker, M.M., De Leon, J., et al. (2023) Long COVID, the Brain, Nerves, and Cognitive Function. *Neurology International*, **15**, 821-841. <https://doi.org/10.3390/neurolint15030052>
- [14] Suicide Prevention Resource Center (2022) Men—Suicide Prevention Resource Center. <https://sprc.org/populations/men/>
- [15] World Health Organization (2022) Mental Health. <https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response>
- [16] Yorgason, J.B., Linville, D. and Zitzman, B. (2008) Mental Health among College Students: Do Those Who Need Services Know about and Use Them? *Journal of American College Health*, **57**, 173-182. <https://doi.org/10.3200/jach.57.2.173-182>
- [17] Coduti, W.A., Hayes, J.A., Locke, B.D. and Youn, S.J. (2016) Mental Health and Professional Help-Seeking among College Students with Disabilities. *Rehabilitation Psychology*, **61**, 288-296. <https://doi.org/10.1037/rep0000101>
- [18] Bracken, J.L. (2019) Mental Health and the College Freshman: An Exploration of Effective Ways to Address Mental Health Education in a First-Year Experience Course. *Journal of College Orientation, Transition, and Retention*, **14**, 32-39. <https://doi.org/10.24926/jcotr.v14i2.2664>
- [19] National Council for Mental Wellbeing. Mental Health First Aid. <https://www.thenationalcouncil.org/our-work/mental-health-first-aid/>
- [20] Coleman, M.E. (2022) Mental Health in the College Classroom: Best Practices for Instructors. *Teaching Sociology*, **50**, 168-182.

- <https://doi.org/10.1177/0092055x221080433>
- [21] Kraft, D.P. (2011) One Hundred Years of College Mental Health. *Journal of American College Health*, **59**, 477-481. <https://doi.org/10.1080/07448481.2011.569964>
- [22] Fullmer, L., Fleming, A.R. and Green, K.M. (2021) Perceptions of Help-Seeking Barriers among College Students with Mental Health Disabilities. *Rehabilitation Counselors and Educators Journal*, **10**, 1-10. <https://doi.org/10.52017/001c.24870>
- [23] Yuan, K., Gong, Y., Liu, L., Sun, Y., Tian, S., Wang, Y., et al. (2021) Prevalence of Posttraumatic Stress Disorder after Infectious Disease Pandemics in the Twenty-First Century, Including COVID-19: A Meta-Analysis and Systematic Review. *Molecular Psychiatry*, **26**, 4982-4998. <https://doi.org/10.1038/s41380-021-01036-x>
- [24] Tricco, A.C., Lillie, E., Zarin, W., O'Brien, K.K., Colquhoun, H., Levac, D., et al. (2018) PRISMA Extension for Scoping Reviews (Prisma-Scr): Checklist and Explanation. *Annals of Internal Medicine*, **169**, 467-473. <https://doi.org/10.7326/m18-0850>
- [25] Pace, K., Silk, K., Nazione, S., Fournier, L. and Collins-Eaglin, J. (2016) Promoting Mental Health Help-Seeking Behavior among First-Year College Students. *Health Communication*, **33**, 102-110. <https://doi.org/10.1080/10410236.2016.1250065>
- [26] Levac, D., Colquhoun, H. and O'Brien, K.K. (2010) Scoping Studies: Advancing the Methodology. *Implementation Science*, **5**, Article No. 69. <https://doi.org/10.1186/1748-5908-5-69>
- [27] Arksey, H. and O'Malley, L. (2005) Scoping Studies: Towards a Methodological Framework. *International Journal of Social Research Methodology*, **8**, 19-32. <https://doi.org/10.1080/1364557032000119616>
- [28] Abelson, R. (2022) Social Isolation in the U.S. Rose Even as the Covid Crisis Began to Sub-Side, New Research Shows. *The New York Times*.
- [29] Saha, K., Yousuf, A., Boyd, R.L., Pennebaker, J.W. and De Choudhury, M. (2022) Social Media Discussions Predict Mental Health Consultations on College Campuses. *Scientific Reports*, **12**, Article No. 123. <https://doi.org/10.1038/s41598-021-03423-4>
- [30] American Foundation for Suicide Prevention (2021) Suicide Statistics. <https://afsp.org/suicide-statistics/>
- [31] Cantor, J., McBain, R.K., Kofner, A., Hanson, R., Stein, B.D. and Yu, H. (2022) Telehealth Adoption by Mental Health and Substance Use Disorder Treatment Facilities in the COVID-19 Pandemic. *Psychiatric Services*, **73**, 411-417. <https://doi.org/10.1176/appi.ps.202100191>
- [32] Feldpausch, N.I. (2021) Telemental Health and Telepsychiatry in the College Setting. In: Riba, M.B. and Menon, M., Eds., *College Psychiatry*, Springer International Publishing, 141-153. [https://doi.org/10.1007/978-3-030-69468-5\\_11](https://doi.org/10.1007/978-3-030-69468-5_11)
- [33] Kitzrow, M.A. (2003) The Mental Health Needs of Today's College Students: Challenges and Recommendations. *NASPA Journal*, **41**, 167-181. <https://doi.org/10.2202/1949-6605.1310>
- [34] Mack, K.A., Hedegaard, H., Ballesteros, M.F., Warner, M., Eames, J. and Sauber-Schatz, E. (2019) The Need to Improve Information on Road User Type in National Vital Statistics System Mortality Data. *Traffic Injury Prevention*, **20**, 276-281. <https://doi.org/10.1080/15389588.2019.1576036>
- [35] Bourdon, J.L., Moore, A.A., Long, E.C., Kendler, K.S. and Dick, D.M. (2020) The Relationship between On-Campus Service Utilization and Common Mental Health Concerns in Undergraduate College Students. *Psychological Services*, **17**, 118-126. <https://doi.org/10.1037/ser0000296>
- [36] Lipson, S.K., Zhou, S., Abelson, S., Heinze, J., Jirsa, M., Morigney, J., et al. (2022)

Trends in College Student Mental Health and Help-Seeking by Race/Ethnicity: Findings from the National Healthy Minds Study, 2013-2021. *Journal of Affective Disorders*, **306**, 138-147. <https://doi.org/10.1016/j.jad.2022.03.038>

- [37] Osborn, T.G., Li, S., Saunders, R. and Fonagy, P. (2022) University Students' Use of Mental Health Services: A Systematic Review and Meta-Analysis. *International Journal of Mental Health Systems*, **16**, Article No. 57. <https://doi.org/10.1186/s13033-022-00569-0>