Sociodemographic Differences in Barriers to Mental Health Care Among College Students at Elevated Suicide Risk

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Abstract

Background: College student mental health (MH) problems and suicide risk have steadily increased over the past decade and a significant number of students with MH problems do not seek treatment. While some barriers to mental health care service utilization (MHSU) have been identified, very little is known regarding how these barriers differ among sociodemographic subgroups of students.

Method: Participants were 3,358 college students from four US universities who screened positive for elevated suicide risk (defined as 2 or more of: depression, alcohol misuse, suicidal ideation, suicide attempt) and were not actively receiving MH services. Reported barriers to MHSU were categorized into: Low perceived need, privacy/stigma concerns, questioning helpfulness of treatment, logistics, time constraints, finances, and cultural issues.

Results: Adjusted odds ratios indicated that finances were a greater barrier for women, sexual and gender minority students, and Black and Hispanic students. Privacy/stigma concerns were more prominent for men and young undergraduate students. White students and older

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undergraduate and graduate students were more likely to report a lack of time, and cultural sensitivity issues were significant barriers for sexual and gender minority, and racial/ethnic minority, students.

Limitations: Participating sites were not nationally representative. The barriers assessment did not examine the degree to which a specific barrier contributed to lack of MHSU relative to others.

Conclusions: In light of the significant variation in barriers based on age, gender identity, race/ethnicity, and sexual orientation, efforts to increase MHSU should be tailored to meet the unique needs of specific sociodemographic student subgroups.

Keywords

sociodemographic differences; college students; service utilization; barriers to care

Introduction

The transition to, and experience of, college can be stressful, as individuals are faced with new living situations, academic expectations, and relationships (e.g., Byrd and McKinney, 2012). Stressful life events contribute to mental health (MH) disorders and suicide risk among college students (Liu et al., 2019), and the first-onset of many psychiatric conditions, such as mood and substance use disorders, often occurs during late adolescence and early adulthood (Kessler et al., 2005). Furthermore, suicide is a leading cause of death among college students in the US (Suicide Prevention Resource Center, 2014). Taken together, college students are at elevated risk for mental health problems and suicide, suggesting a need to better understand the experiences of college students in order to inform prevention efforts.

College student MH and suicide risk have steadily worsened from 2007 to 2017, as a study of over 150,000 college students by Lipson, Lattie, and Eisenberg (2018b) indicated that prevalence rates for lifetime mental health diagnosis increased from 22% to 36% during this time period, and past-year suicidal ideation increased from 5.8% to 10.8%. Notably, the same study found that attitudes toward MH treatment during this period improved, with reduced stigma and increased service utilization. Nevertheless, a significant number of students experiencing a MH problem still do not seek formal treatment (e.g., Eisenberg et al., 2011; Lipson et al., 2015; Lipson et al., 2018b) and 87% of college students who die by suicide do not seek services at local campus clinics (Gallagher, 2012). This suggests that understanding treatment barriers specific to college students at elevated risk for suicide may be especially useful.

Common barriers to mental health service utilization (MHSU) among college students at elevated suicide risk include lack of time, lack of perceived need, stigma or privacy concerns, preference for self-management, as well as lack of access to care (e.g., Czyz et al., 2013; Han et al., 2018; Hom et al., 2015). Yet, these barriers may vary widely as a function of sociodemographic factors such as race or sexuality (e.g., Dunbar et al., 2017; Han and Pong, 2015). Few studies have examined how common barriers to MHSU among college

students at elevated suicide risk might differ as a function of age, race/ethnicity, gender, or sexual orientation.

College women are more likely than college men to report mental health problems and suicidal thoughts/behaviors (e.g., Auerbach et al., 2018; Mortier et al., 2018), and are more likely to utilize mental health care resources (e.g., Bruffaerts et al., 2019; Eisenberg et al., 2011). Moreover, research indicates that stigma is a more prominent barrier to MHSU for men than women (e.g., Clement et al., 2015; Ojeda and Bergstresser, 2008). Further, a study by Mojtabai and colleagues (2010) indicated that among US adults with a past-year psychiatric diagnosis, men were more likely than women to report a low perceived need for treatment. This is consistent with other studies that have indicated men are less likely to seek help, even when distress levels are similar to women (e.g., Möller-Leimkühler, 2002).

College students identifying as a sexual minority (e.g., gay/lesbian, bisexual, queer) or gender minority (e.g., transgender, non-binary) are more likely to report mental health problems, suicidal thoughts/behaviors, and to utilize mental health care relative to heterosexual and cisgender peers (e.g., Burgess et al., 2007; Dunbar et al., 2017; Kuper et al., 2018; Williams and Chapman, 2011). The higher likelihood of mental health problems among sexual and gender minority (SGM) persons may be explained by the minority stress model (Meyer, 1995), whereby the ownership of a stigmatized social identity (e.g., transgender, gay) exposes individuals to increased external (e.g., discrimination) and internal (e.g., identity concealment) stressors that contribute negatively to health outcomes over time. In spite of higher MHSU rates, SGM persons often report greater unmet mental health care needs (e.g., Burgess et al., 2007). SGM adolescents and college students also report more concerns about confidentiality and are more likely to receive services outside of school or off-campus (e.g., Dunbar et al., 2017; Williams and Chapman, 2011). A lack of cultural competence among health providers has also been cited as a prominent barrier to care for SGM persons in need of services (Wilkerson et al., 2011). Additional research is needed to better specify the specific barriers to MHSU that result in higher levels of unmet treatment needs among SGM college students, particularly among SGM students with depression and/or suicidal ideation.

In a recent study of over 40,000 college students, racial and ethnic minority students were less likely to receive mental health services or to have received a psychiatric diagnosis relative to White counterparts, in spite of similar or greater severity of mental health symptoms (Lipson et al., 2018a). Explanations for why racial and ethnic minority college students receive mental health treatment less frequently than their White peers vary and include: perceptions that mental illness and mental health treatment are highly stigmatizing (DeFreitas et al., 2018); mistrust of providers (McGuire and Miranda, 2008); and perceptions of racial bias in providers (Mays et al., 2017). While individuals have idiosyncratic reasons for not utilizing mental health services, there may be particular barriers disproportionately impacting racial and ethnic minority students.

Very few studies have examined age-related differences in MHSU barriers, and none of them have specifically examined how barriers differ between college students of different ages or degree programs. Existing studies suggest that rates of MH problems, including depression

and suicidal ideation/attempts, are higher among undergraduate than graduate students (e.g., Drum et al., 2009; Eisenberg et al., 2007; Lipson et al., 2016), yet older/graduate students are more likely than younger/undergraduate students to report past-year MHSU (Drum et al., 2009; Eisenberg et al., 2011). These contrasting findings suggest that younger undergraduate students may face more barriers to care. Identifying unique barriers based on age or degree program has significant implications for the student engagement strategies of colleges and universities, as incoming freshmen likely encounter barriers that differ from those of undergraduate upperclassmen or students in graduate or professional programs. A better understanding of these barriers would allow universities to tailor their messaging more effectively to reach students at risk for suicide and facilitate MHSU.

In summary, we have only a limited understanding of how specific barriers to MHSU vary by socio-demographic factors such as age, race/ethnicity, sexual orientation, and gender identity. While studies have examined the prevalence of barriers within specific subgroups, few have made direct comparisons to determine whether a given barrier is significantly more prominent for one group relative to other groups, and even fewer have utilized at-risk samples. Given that rates of MHSU remain low despite the growing number of college students with mental health problems, it is imperative that efforts to increase MHSU are appropriately tailored to address the specific barriers that are most likely to interfere with treatment seeking behaviors among an increasingly diverse student population. In order to achieve this, additional research is needed with sufficient power to directly examine which specific barriers to MHSU have a significantly greater influence among distinct sociodemographic groups, particularly among individuals within these groups who are not receiving, and have the potential to benefit from, MH treatment.

The primary aim of this study was to build upon the existing literature by directly comparing the ways in which specific MHSU barrier categories are more or less prominent as a function of gender, sexual orientation, race/ethnicity, and age/school status, among college students at elevated risk for suicide and not actively engaged in MH treatment (e.g., taking medications, seeing a therapist/counselor). We hypothesize that 1) male college students will be more likely to report perceived problem severity as a barrier, and report greater concerns regarding privacy and stigma relative to females; 2) SGM college students will report more total barriers, more concerns related to privacy and stigma, and more concerns related to cultural sensitivity issues relative to heterosexual and cisgender peers; 3) racial/ethnic minority students will report more concerns related to privacy and stigma, and more concerns related to cultural sensitivity issues relative to White students; and 4) younger undergraduate students will report more total barriers than older undergraduates or graduate/ professional students.

Method

Participants

Participants were 3,358 college students at four US universities who screened positive for elevated suicide risk (see Measures) and were not receiving any mental health services at the time of the study. Recruitment took place during the fall semesters of 2015–2018 as part of a larger intervention study. The sample was more than half female (62.3%), with 34.9%

identifying as male and 2.8% as transgender or genderqueer. Nearly half (47.2%) of participants were young (18 or 19 years old) undergraduate students, 26.1% were older (20–25; Median age: 22) undergraduate students, and the remaining 26.7% were graduate/professional students (Median age: 25). Racial/ethnic distribution was as follows: 59.2% Caucasian, 18.9% Asian, 11.6% Hispanic, 7.0% Black, 3.3% Other Race. Sexual orientations included: 59.9% heterosexual; 15.1% bisexual or pansexual; 13.3% mostly heterosexual; 5.4% gay or lesbian; and 6.3% other sexual minority. Eligibility criteria for study screening included age 18 or above, enrollment in a degree-seeking program, and residing domestically (e.g., not studying abroad). Exclusion criteria included those who were within one semester of graduation.

Measures

Demographics.—Participants reported their age, degree program, gender identity, race/ethnicity, and sexual orientation. They were able to „check all that apply" from a wide range of gender identity, race/ethnicity, and sexual orientation options. Responses were categorized into mutually exclusive categories for analyses. For gender identity, these included: male, female, transgender or genderqueer. For race/ethnicity, these included: non-Hispanic White, Black, Hispanic, Asian, and Other. For sexuality, these included: heterosexual, mostly heterosexual, gay/lesbian, bisexual/pansexual, and other sexual minority.

Screen for Elevated Suicide Risk.—Participants were eligible for the study if they screened positive for at least two of four (depression, alcohol use, suicidal ideation, suicide attempt) suicide risk factors.

Depression.—The Patient Health Questionnaire-2 (PHQ-2; Kroenke et al., 2003) is a two-item screener for depression that assesses anhedonia and low mood, derived from the first two items of the full-length Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001). Past studies have identified an optimal cut-off score of 3 (Löwe et al., 2005), which was used in this study to indicate a positive depression screen. Those who screened positive for elevated suicide risk completed additional items making up the full PHQ-9 scale, which assesses frequency of all nine DSM depression symptoms over the past two weeks on a 4-point Likert scale (full scale range of 0–27).

Alcohol Use.: The Alcohol Use Disorders Identification Test (AUDIT; Saunders et al., 1993) is a 10-item scale that assesses frequency, quantity, and negative consequences associated with alcohol use. Items are rated on a 5-point Likert scale; the scale has a range of 0–40. The AUDIT has been used to detect high risk drinking in college students with a recommended cutoff of 6–8 (Kokotailo et al., 2004). In order to maximize specificity, a cutoff of 8 was used to indicate a positive screen.

Suicidal Ideation.: Dichotomous yes/no questions derived from the National Comorbidity Survey (Kessler et al., 2004) were used to assess suicidal ideation. Affirmative responses to, "In the past 12 months, has there ever been a period of 2 weeks or more when you felt like you wanted to die?" or "In the past 12 months, have you ever felt so low that you thought about committing suicide?" were considered a positive screen for suicidal ideation.

Additionally, the ninth item from the PHQ-9, "Over the last two weeks, how often have you been bothered by thoughts you would be better off dead or of hurting yourself in some way?" was considered a positive screen for suicidal ideation with a non-zero response. In the study analyses, we utilized the more conservative/specific "you felt so low that you thought about committing suicide" item to indicate past-year suicidal ideation.

Suicide Attempt.: A positive screen for suicide attempt was defined by an affirmative response to the National Comorbidity Survey (Kessler et al., 2004) question, "In your lifetime have you ever attempted suicide?".

Mental health service use (MHSU).—For medications, participants were asked, "In the past 12 months, have you taken any of the following types of medications at least several times per week with a prescription from a health professional (select all that apply): psychostimulants, antidepressants, anti-psychotics, anxiety-anxiety medications, mood stabilizer, sleep medications, other medication for mental or emotion health (specify), none. Those with an affirmative response were then prompted, "Of the medication(s) you just noted, which ones are you currently taking?" and presented with a similar list. For therapy/ counseling, participants were asked a dichotomous yes/no, "In the past 12 months, have you received counseling or therapy for you mental or emotional health from a health professional (such as psychiatrist, psychologist, social worker, or primary care doctor)?". Those with an affirmative response were then prompted with a dichotomous yes/no, "Are you currently receiving counseling or therapy?".

Barriers to service use.—Participants who were not receiving services when surveyed were prompted, "In the past 12 months, which of the following factors led you to receive fewer services (counseling, therapy, or medications) for your mental or behavioral health?". Participants were able to check all that apply from a list of 24 barriers derived from a previous web-based survey of college students (Downs and Eisenberg, 2012) that included a range of different attitudes, beliefs, and experiences that may have resulted in lack of service utilization. In line with previous research utilizing this measure (Busby et al., 2019), barrier items were grouped into the following categories: Lack of perceived need or preference to manage problems on their own without professional help (Low Perceived Need), lack of time (Time), worries about loss of privacy or stigma (Privacy/Stigma), lack of financial resources (Finances), doubts about usefulness of therapy (Unhelpful/Questioning), practical issues related to treatment availability (Logistics), and lack of sensitivity to issues affecting gender, sexual, or racial/ethnic minorities (Cultural).

Procedures

IRB approval was obtained at all four participating universities. Students were invited by e-mail (obtained from registrar databases) to participate in a confidential, online wellness screen 3–4 weeks into the fall semesters from 2015–2018. Invited participants at each campus were enrolled in a drawing for ten $100 amazon gift cards. Of the 178,879 invitations sent, 42,148 (23.6%) provided informed consent, and 41,617 (98.7%) of those consenting completed the full screen. Elevated suicide risk criteria (at least two of four positive screens among: depression, alcohol use, suicidal ideation, suicide attempt- see

criteria above) was met by 5,772 (13.9%) students. Those who screened positive were assessed for mental health service utilization and completed additional clinical measures. Our analytic sample of 3,358 students was attained after excluding participants currently taking psychotropic medications (n = 1,127), seeing a health care provider for an emotional or mental health issue (n = 572), or both (n = 536). Those who did not respond to the service utilization items (n = 89) were also excluded from analyses.

Data Analytic Plan

Data were analyzed utilizing SPSS version 24. The mean number of barriers reported (7.31) exceeded the number of barrier categories (7), and the number of barriers within a specific category ranged from 1–6. Due to this wide range of individual items among the barrier categories, and relative ease by which one could indicate a particular barrier (check-boxes for all that apply), we required barrier categories with 4 or more items to have at least 50% endorsement for items within that category to be considered „endorsed" (see Table 1). This served to increase confidence that a particular category meaningfully contributed to lack of MHSU, and was not merely a function of having more items available to „screen-in" to a barrier category. Chi-square analyses were utilized to examine differences in the distribution of age/school, gender, race, and sexual orientation across barrier categories. We performed post-hoc testing for chi-square analyses by examining the unique contribution (i.e., standardized residual) of each cell (Beasley and Schumacker, 1995), with standardized residuals of 2.58 (p-value of < .01) or greater reported as statistically significant in order to control for Type I error rate. Chi-square analyses also examined clinical variables (e.g., depression, suicide attempt history) in relation to barrier categories. A series of logistic regressions were conducted to compute adjusted odds ratios for sociodemographic variables in relation to each of the seven barriers categories. These are presented with 95% confidence intervals and also controlled for total barriers endorsed, university site, depression, alcohol use, past-year suicidal ideation, lifetime suicide attempt, and past-year service use. Hosmer-Lemeshow goodness of fit tests were conducted and indicated that the data fit the models well.

Results

The majority of participants screened positive for depression (75%) and suicidal ideation (87%), with an additional 39% screening positive for heavy alcohol use and 26% reporting a lifetime history of suicide attempt. Across the entire sample, depression scores were on average moderate in severity [PHQ-9: M(*SD*), Med (*Q1, Q3*) = 12.89 (*5.6*), 13 (*9, 17*)], and 54% responded affirmatively to active thoughts of suicide in the past-year, including 22% who endorsed this item in the past month. Overall rates of reporting specific barriers to MHSU and the broader categories are provided in Table 1. The most commonly endorsed barriers were lack of time (66.7%), questioning seriousness of needs (65.0%), and feeling as though stress is a normal aspect of being a college/graduate student (57.5%).

Age/School-related Barriers

In direct comparisons (see Table 2), younger undergraduate students were less likely to report barriers related to logistics, time, and finances, but were more likely to report

concerns about privacy and stigma, a low perceived need for treatment, and doubts about the helpfulness of treatment. Graduate/professional students reported fewer total barriers relative to undergraduate students. In binary logistic regressions (see Tables 3 and 4), the adjusted odds ratios (AORs) for logistics, time, and finances were all significantly higher (AOR range = 1.38–2.12) for older undergraduates and graduate/professional students relative to younger undergraduates. Conversely, the odds for endorsing low perceived need and concerns about privacy and stigma were significantly lower (AOR range = 0.51–0.81) for older undergraduates and graduate/professional students relative to younger undergraduate students. Graduate/professional students also had 2.5-fold greater odds for reporting cultural sensitivity issues as a barrier to MHSU, relative to undergraduate students.

Gender-related Barriers

In direct comparisons (see Table 2), cisgender women were more likely than cisgender men to report all barriers apart from privacy/stigma concerns. Transgender and genderqueer students reported more total barriers and were also more likely to report financial and cultural concerns relative to cisgender peers. In binary logistic regressions (see Tables 3 and 4), cisgender men had 50% greater odds for privacy/stigma concerns relative to cisgender women,[1] whereas cisgender women had 59% greater odds for endorsing lack of time and 37% greater odds for endorsing financial concerns relative to cisgender men. Transgender/ genderqueer students had significantly higher AORs for financial concerns and cultural sensitivity issues as barriers to MHSU, relative to cisgender students.

Race/Ethnicity-related Barriers to MHSU

In direct comparisons (see Table 2), White students were less likely to report barriers related to privacy/stigma, finances, logistics, or cultural concerns relative to racial/ethnic minority groups. In binary logistic regressions (see Tables 3 and 4), the odds for reporting a low perceived need for treatment was significantly lower for Black students (AOR = 0.71), the odds for questioning the helpfulness of treatment were also significantly lower for Asian, Hispanic, and Other Race students (AOR range = 0.50–0.71), and the odds for endorsing lack of time (AOR range = 0.66–0.70) were significantly lower for Black, Asian, and Hispanic students, relative to White students. In contrast, the odds for logistical concerns were 44% greater among Black students, the odds for financial concerns were 64% greater among Black and 43% greater among Hispanic students, and the odds for cultural sensitivity barriers were 3.3–6.3-fold higher among all racial/ethnic minority groups, relative to White students.

Sexual Orientation-related Barriers

In direct comparisons (see Table 2), heterosexual students were less likely to report barriers related to finances, perceptions of treatment as being unhelpful, logistics, or cultural concerns relative to sexual minority students. In binary logistic regressions (see Tables 3 and

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[1]Fear of hospitalization was also examined independently in a supplemental regression, and no gender or racial/ethnic differences were significant. Graduate students reported lower odds [AOR (95% CI) = 0.70 (0.54, 0.89)] for this barrier than young undergraduates, whereas odds were higher among gay/lesbian [(AOR=1.51(1.02, 2.25)] and bisexual/pansexual [(AOR=1.48(1.14, 1.92)] students relative to heterosexual students.

4), the odds for reporting a low perceived need for treatment were significantly lower for gay/lesbian and „other sexual minority" students (AOR range = 0.60–0.68), whereas the odds for financial concerns were 47% greater among gay/lesbian and 62% greater among bisexual/pansexual students, relative to heterosexual students. The odds for questioning the helpfulness of treatment was significantly lower for bisexual/pansexual students (AOR = 0.71), yet 51% greater among „other sexual minority" students, relative to heterosexual students. The odds for cultural sensitivity barriers were significantly higher among all sexual orientation groups (AOR range = 1.86–5.27), apart from mostly heterosexual students, relative to heterosexual students.

Discussion

This multi-site study directly examined sociodemographic differences in reported barriers to care among a large sample of college students who screened positive for elevated suicide risk and were not receiving MH services. Of significance, frequently reported barriers included both internal perceptions (e.g., low perceived need, usefulness of therapy, stigma) and external practical concerns (e.g., lack of time, finances). At a broad level, these findings suggest that different approaches are required to address these barriers to MHSU. Further, our findings offer insights into how some of these barriers might be differentially prominent for specific sociodemographic subpopulations.

With regard to differences between men and women, our hypotheses were partially confirmed. While our findings support previous research (e.g., Clement et al., 2015; Ojeda and Bergstresser, 2008), and suggested that men had 50% greater odds for reporting privacy and stigma concerns relative to women, we did not find that men were more likely to endorse low perceived need as a barrier. Further, women had 59% greater odds to report lack of time and 37% greater odds to report financial concerns relative to men. This is consistent with results from a national survey that indicated women entering college were more likely than men to report financial concerns in attending college and were more likely to anticipate seeking employment while in college (Eagan et al., 2017). Thus, these financial and time barriers may be reflective of challenges women are more likely to face broadly in attending college, and may not be unique to mental health services.

Consistent with our hypotheses, SGM students reported more total barriers and were more likely to endorse cultural barriers than their heterosexual and cisgender peers. The frequency of reporting at least one cultural sensitivity barrier was particularly high (50.5%; over five times higher than cisgender women) for students identifying as transgender or genderqueer. Unlike previous studies reporting greater concerns related to confidentiality (e.g., Dunbar et al., 2017; Williams and Chapman, 2011) among SGM youth, privacy and stigma concerns did not differ for SGM college students relative to heterosexual and cisgender peers. However, gay/lesbian and bisexual/pansexual students were more likely to report a fear of hospitalization as a barrier to care, relative to heterosexual students. This fear may be based on past experiences, as sexual minority youth are more likely to have a history of psychiatric hospitalization relative to heterosexual peers (e.g., Berona et al., 2020). Notably, SGM students were more likely to report financial barriers to receiving mental health care. This may be reflective of broader disparities experienced by the SGM community, such as

workplace discrimination, lack of access to health care, and higher rates of poverty (Daniel and Butkus, 2015).

Consistent with our hypotheses, barriers related to cultural insensitivity concerns were more frequently reported among all racial/ethnic minority groups relative to their White peers by a 3 to 6-fold margin. Of significance, we also found that adjusted odds for financial barriers to MHSU were 64% greater for Black students and 43% greater for Hispanic students, relative to White peers. Similar to women, Black and Hispanic students were more likely to report financial concerns in attending college in a national survey (Eagan et al., 2017), suggesting that access to affordable mental health care is especially important for these students. Contrary to our hypotheses, privacy and stigma concerns were not more likely among racial/ethnic minority students, relative to White students, when controlling for clinical and other demographic influences. A study by Lipson and colleagues (2018a) indicated that only 6% of Black college students reported personal stigma as a barrier to MHSU, so it is possible that the degree of stigma related to mental health in the Black community differs in college student samples relative to community samples. Interestingly, questioning the helpfulness of treatment and lack of time were more prominent as a barrier for White students, relative to some of the racial/ethnic minority students. It is possible that since service utilization is generally higher among White students (Lipson et al., 2018a), they may be more likely to have had past experiences with therapy or medications that decreased their confidence in utility.

Age and degree program were also important factors in understanding barriers to MHSU. Consistent with our hypothesis, undergraduate students reported more total barriers than graduate/professional students. General patterns suggested barriers were similar for older undergraduate students and graduate/professional students, relative to younger undergraduates. In particular, younger undergraduate students were more likely to report barriers related to low perceived need and had nearly double the odds for reporting concerns about privacy and stigma, whereas older undergraduates and graduate/professional students were more likely to report logistical, time, and financial barriers. These findings suggest that barriers for younger students are more based in internal perceptions about MHSU, and that they may benefit from interventions related to destigmatizing mental health treatment, increasing knowledge related to confidentiality, and psychoeducation regarding norms for stress and signs that one might benefit from MH services. In contrast, older undergraduate students and graduate students reported more practical barriers, which may relate to being more likely to live off-campus or having increased roles or responsibilities. As such, these students may benefit more from increased awareness regarding off-campus mental health resources, or universities partnering with local community resources to help reduce cost of services.

It is worth noting that despite 75% of the sample scoring 9 or higher on the PHQ-9 (scores of 5–9 indicate mild depression, scores of 10–14 indicate moderate depression), over half the sample questioned the seriousness of their needs and felt their stress levels were „normal" for college, suggesting that students may lack awareness of their own symptoms or have misperceptions regarding the stress of others. Similarly, despite no-cost campus mental health services available at all four participating universities, nearly half of the sample cited

finances as a barrier to MH treatment. The rise in demand for MH care among college students has led to some counseling centers placing limits on sessions, having longer waitlists, and referring more students to off-campus providers (Gallagher, 2012). Thus, in spite of efforts to increase accessibility and affordability, many college counseling centers are under-resourced to meet the needs of the student population, particularly those with moderate-to-severe MH problems.

In summary, the barriers to MHSU among elevated-risk students on college campuses present a significant challenge and require a tailored, multifaceted approach. Our findings suggest that different sociodemographic groups on college campuses may require different types of support in addressing these barriers as a function of gender, race/ethnicity, sexual orientation, and age or degree program. Future directions in this line of research include an examination of intersectionality and the ways in which identification with multiple marginalized groups impacts barriers to MHSU. Further, additional research is needed to develop and evaluate interventions and programs directly targeting these MHSU barriers on college campuses, and to determine the extent to which tailored approaches based on sociodemographic factors can improve outcomes.

Limitations

Findings should be interpreted within the context of the study limitations. Although our study sample was drawn from four universities from different parts of the US, it was not a nationally representative sample. Our initial online screen had a consent rate of 23%, which enabled us to reach a particularly large study sample and is consistent with other large college campus surveys (e.g., Lipson et al., 2018b). Nevertheless, a minority of invited students participated, which limits the generalizability of findings. A study by Fosnacht and colleagues (2017), however, demonstrated that low response rates in college samples can provide reliable estimates as long as administrative sample sizes are large. While racial/ethnic distribution of those participating in the screen aligned with the population statistics reported by their respective universities, women were more likely than men to participate in the study, and it is possible that other differences exist between those who completed or did not complete our screening survey. Further, our assessments of suicidal ideation and attempt were with dichotomous variables that did not capture differences in severity (e.g., whether ideation included intent, methods used in past suicide attempt, etc.), so there may have been variation in risk that was not fully accounted for among our sample of students at elevated suicide risk. Similarly, barriers were identified by participants by checking a box from a list of common barriers, and we were thus unable to determine the degree to which the checked barriers were differentially influential in preventing MHSU. Finally, the inclusion of students with past-year treatment (though not current/active) and without past-year SI may have made the sample more heterogeneous and unspecified,[2] though past-year SI and past-year treatment were included as control variables in the regressions.

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[2] We conducted separate analyses from a subsample of 1,260 participants with past-year SI and no past-year treatment and found results that had similar AORs, but became non-significant due to reduced sample sizes for the sociodemographic minority groups [e.g., Black students** AOR (95% CI) for financial barriers went from 1.64 (1.21, 2.22), *p* = .002, to 1.51 (0.93, 2.45), *p* = .096 in the restricted subsample. As a result, we reported on the full sample.

Conclusions

Mental health problems, including suicidal thoughts and behaviors, are increasing among college students, yet rates of MHSU remain low. Addressing this increased need for care requires a dynamic approach that targets both practical access-related barriers and internalized beliefs that reduce likelihood of help-seeking in college students. Our findings suggest that financial concerns are more prominent for women, racial/ethnic minorities, and SGM students; privacy and stigma concerns are more prominent for men and younger undergraduates; and cultural sensitivity issues continue to be barriers for SGM and racial/ethnic minority students. In order to reduce unmet needs for mental health care, approaches to increase MHSU must be tailored to address the barriers and meet the specific needs of subgroups within an increasingly diverse college student population.

Acknowledgments

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Highlights

- Financial barriers more common among women, racial/ethnic/gender/sexual minorities

- Male students were more likely to report privacy and stigma barriers to care

- Young students reported more perceptual barriers (e.g., stigma, low perceived need)

- Older students reported more practical barriers (e.g., time, finances, logistics)

- Cultural barriers were common among racial/ethnic/gender/sexual minority students

Table 1

Frequencies for specific barrier items and categories

	%
Low Perceived Need [Any barrier (3 or more)]	85.0 (49.8)
I question how serious my needs are	65.0
Stress is normal in college/graduate school	57.5
I prefer to deal with issues on my own	56.8
The problem will get better by itself	38.9
I get a lot of support from other sources, such as family and friends	19.8
Time (single item)	66.7 (66.7)
I don't have enough time	66.7
Privacy/Stigma [Any barrier (3 or more)]	64.3 (31.8)
I worry about what others will think of me	41.1
I worry that someone will notify my parents	31.8
I am concerned about privacy	31.4
I worry that my actions will be docum^ nte[4] in medical record	28.6
I worry that my actions will be docum ented in academic record	22.8
I fear being hospitalized	21.7
Finances (single item)	49.3 (49.3)
There are financial reason s (e.g., no insurance, too expensive)	49.3
Questioning/Unhelpf l [Any barrier (2 or more)]	59.2 (30.1)
I question whether medication or therapy is helpful	40.7
I don't think anyone can understand my problems	22.5
I question the quality of my options	22.3
I have had bad experiences with medication or therapy	17.5
Logistics [Any barrier (2 or more)]	42.3 (21.6)
The hours are inconvenient	26.4
The location is inconvenient	20.4
The waiting time until I can get an appointment is too long	16.3
The number of sessions is too limited	11.3
Cultural Sensitivity [Any barrier]	12.6 (12.6)
People providing services aren't sensitive enough to cultural issues	9.0
People providing services aren't sensitive enough to sexuality issues	5.0
I have a hard time communicating in English	1.7

Table 2

Endorsement of Barrier Categories by Demographic and Clinical Variables

	Barriers Total M (SD)	Low Need %	Time %	Priv/Stig %	Finance %	Unhelpful %	Logistics %	Cultural %
Total Sample	7.32 (3.8)	49.8	66.7	31.8	49.3	30.1	21.6	12.6
School Age	a:b > c ***	***	*	***	**	**	**	***
[a]18–19 Undergraduate	7.71 (3.9)	54.5 (+)	64.2 (−)	39.1 (+)	4J.3 (−)	32.8 (+)	19.0 (−)	11.1
[b]20–25 Undergraduate	7.33 (3.7)	50.4	68.8	28.8	51.1	29.8	23.8	11.2
[c]Graduate/Professional	6.59 (3.7)	40.8 (−)	69.2	21.8 (−)	52.7	25.6 (−)	24.2	16.4 (+)
Gender	c > a > b ***	**	***	n.s.	***	***	***	***
[a]Woman	7.64 (3.8)	51.9 (+)	70.8 (+)	32.3	53.1 (+)	32.2 (+)	23.7 (+)	12.7
[b]Man	6.61 (3.8)	46.5 (−)	59.5 (−)	30.1	40.7 (−)	25.8 (−)	17.7 (−)	9.2 (−)
[c]T ransgender/Queer	8.86 (4.1)	41.9	65.6	40.9	73.1 (+)	36.6	25.8	50.5 (+)
Race	**(p-hoc n.s.)	n.s.	n.s.	**	***	n.s.	**	***
[a]White	7.11 (3.6)	50.2	68.6 (+)	29.0 (−)	46.7 (−)	31.0	19.8 (−)	5.6 (−)
[b]Black	7.65 (4.1)	43.8	63.4	33.6	60.4 (+)	32.8	29.4 (+)	25.1 (+)
[c]Asian	7.58 (4.2)	49.0	63.6	35.1	46.8	27.6	23.9	25.7 (+)
[d]Hispanic	7.66 (4.0)	51.5	63.8	37.7 (+)	59.2 (+)	30.0	22.3	17.9 (+)
[e]Other Race	7.63 (3.4)	52.3	68.5	37.8	51.4	24.3	23.4	16.2
Sexuality	d:e > a ***	n.s.	*	*	***	**	***	***
[a]Heterosexual	6.99 (3.8)	50.7	65.4	30.2	44.3 (−)	28.1 (−)	19.2 (−)	8.3 (−)
[b]Mostly Heterosexual	7.57 (3.8)	51.9	71.6	30.7	49.7	33.2	26.9 (+)	10.6
[c]Gay/Lesbian	7.63 (3.6)	40.7	69.2	36.3	54.9	29.7	21.4	30.2 (+)
[d]Bisexual/Pansexual	8.02 (3.7)	49.9	68.9	35.4	63.0 (+)	30.5	26.1 (+)	20.6 (+)
[e]Other Sexual Minority	7.98 (3.7)	45.0	61.6	37.0	58.3 (+)	41.2 (+)	23.7	21.3 (+)
Past Year Treatment	n.s.	**	**	***	ns.	***	***	n.s.
[a]No	7.28 (3.8)	51.6 (+)	65.3 (−)	34.9 (+)	48.4	27.3 (−)	18.2 (−)	12.3
[b]Yes (27.5%)	7.41 (3.7)	45.0 (−)	70.5 (+)	23.8 (−)	51.7	37.4 (+)	30.6 (+)	13.3
Depression Screen +	b > a ***	n.s.	**	***	*	***	n.s.	n.s.
[a]No11	6.72 (3.9)	50.5	62.2 (−)	26.3 (−)	45.9	23.1 (−)	20.3	11.4
[b]Yes (75.0%)	7.52 (3.8)	49.5	68.3 (+)	33.7 (−)	50.4	32.5 (+)	22.1	13.0
Alcohol Screen +	a > b ***	*	ns.	**	***	**	***	***
[a]No	7.59 (3.8)	48.0 (−)	67.5	34.0 (+)	52.6 (−)	31.9 (+)	23.6 (+)	15.0 (+)
[b]Yes (38.7%)	6.89 (3.8)	52.6 (+)	65.6	28.4 (−)	44.0 (+)	27.2 (−)	18.5 (−)	8.7 (−)
Past Year SI	b > a ***	n.s.	n.s.	***	**	***	**	n.s.
[a]No	6.79 (3.7)	51.1	66.4	25.3 (−)	46.5 (−)	24.3 (−)	19.1 (−)	11.5
[b]Yes (54.4%)	7.76 (3.9)	48.7	67.0	37.2 (+)	51.6 (+)	35.0 (+)	23.8 (+)	13.5
Lifetime SA	b > a ***	n.s.	n.s.	**	***	***	**	***
[a]No	7.14 (3.7)	50.7	67.2	30.3 (−)	46.9 (−)	28.4 (−)	20.4 (−)	11.1 (−)
[b]Yes (25.6%)	7.83 (4.0)	47.0	65.4	36.1 (+)	56.1 (+)	35.2 (+)	25.2 (+)	16.8 (+)

*
Note. $p < .05$

**
$p < .01$

***
$p < .001$. Oneway ANOVAs (with Tukey post-hoc) and t-tests utilized to examine demographic and clinical variables with total barriers. Chi-square significance tests reported for demographic and clinical variables with the seven barrier categories. (+) and (−) indicates statistical significance at $p < .01$ for post-hoc analyses used to interpret chi-square contingency table test results. Low Need, Low Perceived Need; Priv/Stig, Privacy or Stigma; Transgender/Queer, Transgender or Genderqueer/non-conforming; SI, suicidal ideation; SA, suicide attempt; p-hoc, post-hoc; n.s., non-significant.

Table 3

Logistic Regressions Examining Associations with Treatment Seeking Barriers

	[a]Low Perceived Need		[b]Privacy/Stigma		[c]Unhelpful/Questioning		[d]Logistics	
	Wald X^2	AOR (95% CI1)	Wald	X^2 AOR (95% CI)	Wald X^2	AOR (95% CI)	Wald X^2	AOR (95% CI)
Age (Ref: 18–19 UG)								
20–25 UG	4.99	0.81 (0.67, 0.97) *	23.12	0.56 (0.45, 0.71) ***	0.13	0.96 (0.77, 1.19)	16.49	1.59 (1.27, 1.99) ***
Grad/Prof	22.17	0.63 (0.52, 0.76) ***	27.30	0.51 (0.40, 0.66) ***	0.03	1.02 (0.81, 1.28)	25.87	1.81 (1.44, 2.27) ***
Gender (Ref: Woman)								
Man	0.64	0.93 (0.78, 1.11)	13.55	1.50 (1.21, 1.86) ***	0.31	1.06 (0.87, 1.30)	2.45	0.85 (0.69, 1.04)
Trans/Queer	1.78	0.72 (0.44, 1.17)	0.81	1.31 (0.73, 2.36)	0.04	0.95 (0.56, 1.63)	0.99	0.76 (0.44, 1.30)
Race (Ref: White)								
Black	4.75	0.71 (0.52, 0.97) *	0.13	1.08 (0.73, 1.58)	0.57	0.87 (0.62, 1.24)	4.51	1.44 (1.03, 2.02) *
Asian	0.52	0.93 (0.75, 1.14)		1.28 (0.99, 1.66)	9.76	0.68 (0.53, 0.86) **	0.17	1.05 (0.83, 1.35)
Hispanic	0.44	0.92 (0.71, 1.18)	2.05	1.25 (0.92, 1.70)	5.60	0.71 (0.53, 0.94) *	0.15	1.06 (0.79, 1.42)
Other Race	0.00	0.99 (0.65, 1.55)	1.67	1.40 (0.84, 2.34)	6.93	0.50 (0.30, 0.84) **	0.19	1.12 (0.68, 1.83)
Sexuality (Ref: Het)								
Mostly Heterosexual	0.14	0.96 (0.75, 1.21)	1.70	0.82 (0.61, 1.10)	0.13	1.05 (0.80, 1.37)	3.33	1.28 (0.98, 1.67)
Gay/Lesbian	8.05	0.60 (0.42, 0.85) **	0.00	0.99 (0.64, 1.53)	0.47	0.87 (0.58, 1.30)	0.13	1.08 (0.71, 1.62)
Bisexual/Pansexual	1.79	0.85 (0.68, 1.08)	0.72	0.88 (0.67, 1.17)	6.72	0.71 (0.54, 0.92) *	2.08	1.21 (0.93, 1.57)
Other SM	5.21	0.68 (0.49, 0.95) *	0.04	1.04 (0.70, 1.54)	4.92	1.51 (1.05, 2.16) *	0.05	0.96 (0.65, 1.40)

*
Note. $p < .05$

**
$p < .01$

***
$p < .001$.

[a]$\chi^2(22) = 812.52$, $p < .001$, Nagelkerke $R^2 = .288$;

[b]$\chi^2(22) = 1495.82$, $p < .001$, Nagelkerke $R^2 = .506$

[c]$\chi^2(22) = 1028.96$, $p < .001$, Nagelkerke $R^2 = .376$;

[d]$\chi^2(22) = 544.87$, $p < .001$, Nagelkerke $R^2 = .232$. Logistic regression models controlled/adjusted for university site, total barriers endorsed, past-year mental health treatment, depression, alcohol misuse, suicidal ideation, suicide attempt. AOR, Adjusted Odds Ratio; CI, Confidence Interval; UG, Undergraduate; Grad/Prof, Graduate or Professional Student; Trans/Queer, Transgender or Genderqueer/non-conforming; Het, Heterosexual; SM, Sexual Minority

Table 4

Logistic Regressions Examining Associations with Treatment Seeking Barriers

	[a]Time		[b]Finances		[c]Cultural	
	Wald X^2	AOR (95% CI)	Wald X^2	AOR (95% CI)	Wald X^2	AOR (95% CI)
Age (Ref: 18–19 UG)						
20–25 UG	10.16	1.38 (1.13, 1.68)[**]	19.08	1.51 (1.25, 1.81)[***]	3.23	1.32 (0.98, 1.79)
Grad/Prof	30.20	1.77 (1.44, 2.17)[***]	60.57	2.12 (1.75, 2.56)[***]	38.14	2.51 (1.88, 3.37)[***]
Gender (Ref: Woman)						
Man	25.75	0.63 (0.53, 0.76)[***]	13.54	0.73 (0.62, 0.87)[***]	2.76	0.78 (0.59, 1.05)
Trans/Queer	2.35	0.68 (0.41, 1.12)	4.04	1.69 (1.01, 2.81)[**]	37.54	5.15 (3.05, 8.70)[***]
Race (Ref: White)						
Black	6.06	0.67 (0.49, 0.92)[*]	10.07	1.64 (1.21, 2.22)[**]	75.41	5.88 (3.94, 8.77)[***]
Asian	14.09	0.66 (0.53, 0.82)[**]	0.84	0.91 (0.74, 1.11)	142.5	6.34 (4.68, 8.59)[***]
Hispanic	7.04	0.70 (0.54, 0.91)[**]	8.14	1.43 (1.12, 1.82)[**]	48.18	3.61 (2.51, 5.19)[***]
Other Race	0.44	0.86 (0.55, 1.35)	0.01	0.98 (0.64, 1.48)	15.33	3.30 (1.81, 5.99)[***]
Sexuality (Ref: Het)						
Mostly Heterosexual	0.53	1.10 (0.85, 1.41)	0.21	1.05 (0.84, 1.32)	0.14	1.08 (0.74, 1.57)
Gay/Lesbian	1.57	1.26 (0.88, 1.82)	5.04	1.47 (1.05, 2.06)[*]	56.78	5.27 (3.42, 8.11)[***]
Bisexual/Pansexual	0.38	0.93 (0.73, 1.18)	17.76	1.62 (1.30, 2.03)[***]	22.15	2.17 (1.57, 3.00)[***]
Other SM	7.26	0.63 (0.45, 0.88)[**]	2.74	1.31 (0.95, 1.80)	8.02	1.86 (1.21, 2.86)[**]

[*]Note. $p < .05$

[**]$p < .01$

[***]$p < .001$.

[a]$\chi^2(22) = 607.95$, $p < .001$, Nagelkerke $R2 = .231$;

[b]$\chi^2(22) = 532.0$, $p < .001$, Nagelkerke $R2 = .196$;

[c]$\chi^2(22) = 625.48$, $p < .001$, Nagelkerke $R2 = .323$. Logistic regression models controlled/adjusted for university site, total barriers endorsed, pastyear mental health treatment, depression, alcohol misuse, suicidal ideation, suicide attempt. AOR, Adjusted Odds Ratio; CI, Confidence Interval; UG, Undergraduate; Grad/Prof, Graduate or Professional Student; Trans/Queer, Transgender or Genderqueer/non-conforming; Het, Heterosexual; SM, Sexual Minority.