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Keywords

college students, mental health, multiply minoritized

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Examining Mental Health Among Multiply Minoritized College Students

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Abstract

Mental health among college students is a significant public health issue. Although mental health disparities by race, ethnicity, and sexual orientation have been well documented among college students, the exploration of mental health among multiple minoritized college students is lacking. This study aimed to address a gap in college health research by assessing how mental health issues among college students differ by the intersectionality of race/ethnicity with sexual and gender identity. A secondary analysis of American College Health Association-National College Health Assessment III data was employed. Participants comprised 1,465 students attending a large research university. Differences were observed for hazing ($p<.01$), microaggression ($p<.001$), sexual harassment ($p<.001$), and discrimination ($p<.001$) such that participants identified as double minority reported more experiences compared with double majority, single minority-race/ethnicity, and single minority-sexual/gender. Double minority and single minority-sexual/gender participants were also observed with higher rates of poor/fair health ($p<.05$), psychological distress, loneliness, suicide risk, and self-injury (all $p<.001$) and lower rates of belonging, flourishing, and resiliency (all $p<.001$). This study highlights the need for research and evaluation to shift from a focus on one layer of stratification, such as race/ethnicity, gender identity, or sexual orientation to a focus on the impact of multiple minoritized identities when exploring college student mental health.

Keywords: college students, mental health, intersectionality

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Introduction

Mental health, a social construct encompassing a continuum of psychological states ranging from happiness and positive emotions to mental disorders (Keith & Brown, 2018), is a significant public health issue. Critically, increases in both the prevalence and severity of depression and anxiety have been observed among college students over the past decade (Hunt & Eisenberg, 2010; Kodish et al., 2021; Lipson et al., 2022; Lipson et al., 2018). The prevalence of one or more mental health issues (i.e., depression, anxiety, disordered eating, self-harm, suicide attempt) among college students increased from 58.0% in 2018–2019 (last academic year pre-COVID-19 pandemic) to 60.2% in 2020–2021 (first complete academic year during COVID-19 pandemic). The same study revealed a 134.6% increase in depression, 32.5% decrease in flourishing, and 109.5% increase in anxiety (Lipson et al., 2022). Among notable increases in mental health concerns during COVID-19, the 2024 report from the *Center for Collegiate Mental Health* revealed continued increases in social anxiety and

family distress, decreases in academic distress, and flattening trends regarding eating concerns (Center for Collegiate Mental Health, 2024). Further, data from the 2022-2023 *Healthy Minds Study*, a comprehensive large multi-university study of U.S. college student mental health notes 41% of participants screening positive for depression, 36% for anxiety, and 29% with non-suicidal self-injury in the past year (The Healthy Minds Network, 2024).

Racial and ethnic minority college student mental health

Among college students, some studies suggest various racial/ethnic minority groups experience elevated depression, anxiety, and suicide risk when compared to non-Hispanic White students or all other students (Hunt et al., 2015; Institute of Medicine, 2011; Lipson et al., 2018; Liu et al., 2019). As part of the large multi-campus *Healthy Minds Study*, a sample of college students (n=32,133) attending 26 campuses within the U.S. revealed statistically significant higher mean depression scores for Hispanic, Asian, and Multiracial students as compared with their African American and White counterparts (Hunt et al., 2015). Similar results were revealed in a subsequent *Healthy Minds Study* (n=43,375; 60 campuses) which found 17.7% African American, 18.9% Asian, 19.4% Hispanic and 20.2% Multiracial students meeting criteria for depression as compared to 15.8% of students identified as White. Alternatively, the same study reported a lower percentage of African American (11.9%) and Asian students (14.6%) meeting criteria for anxiety as compared with 19.3% of Hispanic, 20.2% Multiracial, and 17.8% of White students (Lipson et al., 2018).

A cross-sectional study assessing racial and ethnic differences in mental health concerns among U.S. college students (n=2,090) revealed racial and ethnic differences in depression, anxiety, and suicidality (Kodish et al., 2021). More specifically, a greater percentage of African American (20.7%), Hispanic (11.3%), and Multiracial (13%) students were more likely to be categorized with severe depression as compared to White students (10.7%). Further, a greater percentage of African American (26.1%) and Hispanic (24.1%) students were observed more likely to be categorized with severe anxiety as compared to White (16.5%) students, and a larger percentage of African American (10%), Asian (7.9%), and Hispanic (8.8%) students were significantly more likely to screen positive for suicide risk relative to White (4.5%) students (Kodish et al., 2021).

Perceived racial discrimination has been found to be linked to a host of psychological issues, including increased anxiety, stress, and depressive symptomatology among African American young adults, and depression symptoms among diverse samples of young racial and ethnic minority adults (Bravo et al., 2021). In a cross-sectional study of college students enrolled at six universities across the U.S. (n=2,230), results reveal discrimination from specific sources such as teachers, supervisors, and strangers were linked to greater perceived stress among African American and Hispanic students as compared to White non-Hispanic students. Further, positive associations were observed between appraised stress regarding discrimination and depression, anger, anxiety, and suicidal ideation among African American students, and depression, anger, anxiety, and sleep disturbance among Hispanic students (Bravo et al., 2021). Smith, Chesin, and Jeglic (2014) compared mental health outcomes among racial and ethnic minority students attending predominately White colleges (PWC) vs. majority-minority colleges (MMC). Results revealed African American, Latinx, and White students attending MMC reported greater overall

psychological distress than White students at PWC. Moreover, being a racial or ethnic minority student predicted poorer mental health outcomes, including greater loneliness, depression, and past suicide ideation regardless of college type (Smith et al., 2014).

Regarding positive mental health, a recent study analyzing data from the 2020-2021 *Healthy Minds Study* exploring flourishing (i.e., optimal functioning) among college students revealed African American students are 1.36 times more likely to flourish with each year increase in age associated with 2% increased odds of flourishing (OR: 1.02; 95% CI: 1.02–1.03; $p < .001$). Asian and Multiracial students were observed with a lower odds of flourishing (24% and 9% respectively) as compared with White students (Oh , 2023). Similarly, post COVID-19 data from the 2022-2023 *Healthy Minds Study* revealed 40% of African American students flourishing as compared with 36.4% White, 33.9% Hispanic, and 32.9% Asian (The Healthy Minds Network, 2024). This finding may be explained, in part, by the mental health paradox where individuals who experience poor mental health outcomes may also exhibit high levels of psychological well-being suggesting a complex interplay of both positive and negative mental health states (Keyes, 2009; Louie et al., 2021; Mushonga & Henneberger, 2024).

Sexual and gender minority mental health

Sexual and gender minorities face unique health challenges and experience considerable health disparities (Meyer, 2003). College students who identify as transgender are more likely to experience victimization compared to cisgender students (Griner et al., 2020). Higher rates of psychological distress among those identifying as lesbian, bisexual, gay, transgender, and queer (LBGTQ+) have been observed as compared to their straight/heterosexual and cisgender counterparts (Herek & Garnets, 2007; Meyer, 2003; Woodford et al., 2015). Moreover, sexual and gender minority individuals are at heightened risk for mood, anxiety, and substance use disorders compared with heterosexuals (Rodriguez-Seijas et al., 2019).

With regard to flourishing, data from the 2020-2021 *Healthy Minds Study* reveal only 20% of sexual minority college students flourishing as compared with 41% of heterosexual college students (Oh, 2023). Further, multivariate logistic regression models found transgender/nonbinary/other gender college students to have 52% lower odds of flourishing when compared with cisgender men, and sexual minority students with 61% lower odds of flourishing when compared with heterosexual students (Oh, 2023).

As with racial/ethnic minority health disparities, these mental health disparities may be driven by sexual orientation and gender-based stigma-related stressors, like discrimination (Eaton, 2014). This may be explained by the minority stress theory (Frost & Meyer, 2023) The foundation of minority stress theory lies in the hypothesis that sexual minority health disparities are formed by excess exposure to social stress faced by sexual minority populations due to their stigmatized social status (relative to heterosexual populations) (Frost & Meyer, 2023). Minority stress is distinguished from general stress by its origin from discriminatory policies and microaggressions, internalized stigma, and expectations of rejections and identity concealment (Frost & Meyer, 2023).

Mental health among multiply minoritized college students

Multiple minoritization refers to individuals with intersections of

marginalization, discrimination, or oppression based on aspects of their identity such as race, ethnicity, gender, and/or sexuality (Crenshaw, 1991). Generally speaking, studies exploring mental health outcomes among multiply marginalized individuals reveal higher levels of psychological distress (Velez et al., 2015), depression (Ramirez & Paz Galupo, 2019; Schmitz et al., 2020), anxiety (English et al., 2021; Ramirez & Paz Galupo, 2019; Schmitz et al., 2020), alcohol intake (English et al., 2021; Schmitz et al., 2020) and poorer life satisfaction (Velez et al., 2015)

Studies that have examined mental health outcomes among sexual and racial minority college students using a multiply marginalized perspective (Cyrus, 2017) remain less explored. Further, current studies among multiply marginalized college students reveal varied results regarding anxiety (Boyle et al., 2022; Samek et al., 2024), depression (Clement et al., 2024; Kulick et al., 2017; Samek et al., 2024; Vu et al., 2019), and suicide risk (Clement et al., 2024; Samek et al., 2024; Shepherd et al., 2023).

With regard to depression, a longitudinal cohort study of U.S. college students (n=2,315) attending seven colleges in the state of Georgia found female participants who experienced discrimination based on sexual orientation and race/ethnicity were observed with significantly higher depressive symptoms compared to women who reported experiencing no discrimination (Vu et al., 2019). Correspondingly, a cross-sectional study of U.S. college students (n=460) revealed that among students identified as LGBTQ+ and racial/ethnic minority, sexual orientation victimization (i.e., threats, intimidation, assaults) had a significant main effect on depression scores (Kulick et al., 2017).

In contrast, analyses of data from the 2016-2019 American College Health Association-National College Health Assessment (ACHA-NCHA) II (n=228,640; 442 campuses) revealed no significant increased odds for diagnosed or treated depression, anxiety, and suicidal thoughts among students identified with intersecting identities of LGBTQ+ and racial/ethnic minority (Samek et al., 2024). Similarly, Boyle and colleagues (2022) examined indirect relationships between student identity and mental health outcomes via microaggressions among law students at a large U.S. university (n=8958). Results revealed no significant indirect effects linking students identified as LGBTQ+ and racial/ethnic minority to depression. However, the same study revealed statistically significant indirect effects linking students identified as LGBTQ+ and racial/ethnic minority to anxiety via microaggressions (Boyle et al., 2022). A cross-sectional study of 207 graduate students at a public U.S. university that examined differences in depression and suicide risk among multiply minoritized college students revealed similar results (Clement et al., 2024). More specifically, participants identified as LGBTQ+ and White revealed significantly higher depression scores compared to students identified as non-LGBTQ+ and racial/ethnic and non-LGBTQ+ and White. In contrast, the same study revealed students identified as LGBTQ+ and racial/ethnic minority were observed with higher suicide risk as compared to students identifying as non-LGBTQ+ and White (Clement et al., 2024). Similarly, a cross-sectional study of 262 college students from a university in Northeastern U.S. revealed students identified as LGBTQ+ and racial/ethnic minority reporting higher rates of suicidal ideation and suicide ideation risk factors (Shepherd et al., 2023).

Regarding sexual assault, data from the 2012-2014 ACHA-NCHA (n=71,421, from

120 colleges) revealed students identified as transgender and Black were observed with significantly higher odds of sexual assault than students identified as transgender and White (Coulter et al., 2017). Likewise, data from the 2011-2013 ACHA-NCHA revealed participants identified as transgender and Black with 6 times greater odds of reporting emotional intimate partner violence (Whitfield et al., 2021).

The purpose of population health research is to develop a better understanding of the health and well-being of populations (Bauer, 2014). Research on intersectionality that focuses on sexual and gender minorities has emphasized that specific social positions, such as identifying as LGTBQ+ and a racially minoritized person, shapes unequal health outcomes, including experiences of severe mental health concerns and depression (Lett et al., 2020). Understanding the mental health of college students who identify as both racial/ethnic and sexual/gender minorities should not be based on findings that focus on either racial/ethnic or sexual minority status exclusively (Pachankis et al., 2021). The purpose of this study is to add to the current literature on college student mental health by assessing the continuum of mental health (i.e., flourishing to psychological distress) among multiply minoritized students. More specifically, this study aims to explore differences based on the type (i.e., race/ethnicity, sexual and gender identify) and degree of marginalization (single, double). For our study, we use the term "multiply minoritized" intentionally to reflect that individuals have multiple identities and that there are numerous axes of oppression that can shape life experiences and poor health. Consistent with literature using intersectional lenses (Cyrus, 2017; Watson-Singleton et al., 2023), we refer to multiple possible experiences of discrimination, which can include but are not limited to discrimination on the basis of race, ethnicity, sexual orientation, and gender identity and presentation.

Conceptual framework

Theoretical frameworks aimed at describing mental health effects of individuals identified as LGBTQ+ or racial/ethnic minority include the minority stress theory previously described. This framework has been extended to apply to intersectional influences of race, gender, and sexual orientation on muliple minority stress and health outcomes (Ramirez & Paz Galupo, 2019). Mental health research has been challenged to apply intersectionality frameworks to examine how multiple identities affect mental health (Bauer, 2014).

Intersectionality theory is shared wth the minority stress theory in that discrimintion plays an important role in explaining health disparities between dominant and minority groups (Denise, 2012; Meyer, 2003). Intersectionality as a framework considers how socially disadvantaged identities, including disadvantaged races/ethnicities, genders, and sexual orientations, interact to shape experiences (Rodriguez-Seijas et al., 2019). The term emerged from critical race scholarship to examine how oppression exists "beyond one single categorical axis" (Crenshaw, 1991), and emphasizes that multiple systems of oppression converge to create unique forms of disenfranchisement that are different than inequalities created by a single axis of discrimination alone. Central to intersectionality theory is the idea that multiple social identities at the micro-level (e.g., race, sex, gender, sexual orientation) are linked to macro- and structural-level inequalities (e.g., racism, sexism, and poverty). More than being an "additive" varriable, an intersectionality approach posits that social inequality is uniquely different and complex for people whose identities are minoritized in multiple facets (Bowleg,

2008). Pathways regarding discrimination and mental health outcomes include heightened vigilance, challenging ones beliefs about fairness and justice, creating internalized stigma towards oneself, and physiological and psychological stress--all of which lead to poor mental health outcomes (Vu et al., 2019). Public health scholarship has, nevertheless, used intersectionality to examine how intersectional experiences are related to health disparities and how health disparities themselves are rooted in intersecting forms of social marginalization (Barrington et al., 2021; Bowleg, 2012; Caiola et al., 2014; Viruell-Fuentes et al., 2012; Weber & Parra-Medina, 2003).

Methods

Data and participants

The current study comprised a secondary analysis of the University of South Florida's Fall 2022 American College Health Association-National College Health Assessment III data (ACHA-NCHA III)(American College Health Association, 2022). The ACHA-NCHA III is a national population-based assessment that assists higher education institutions in collecting data about their students' self-reported health status and health behaviors on the most prevalent topics facing college students (American College Health Association, 2022).

A total of 1,580 students completed the Fall 2022 ACHA-NCHA; students missing data for sexual orientation or race/ethnicity were excluded from analyses, leaving a total study sample size of 1,465. No statistically significant differences were observed between those included vs. excluded on any variables investigated in this study. The sample included both undergraduate (68.4%) and graduate (31.6%) students with ages ranging from 18 to 74 years old and an average age of 24.2 (SD=7.6) years.

Measures

Race/Ethnicity: ACHA-NCHA III assessed race/ethnicity via a nominal response variable whereby participants could select as many responses as they identified with. Response choices included: White, Hispanic or Latino(a), Asian or Asian American, Black or African American, Biracial or Multiracial, American Indian or Native Alaskan, Arab/Middle Eastern/North African, Native Hawaiian or Other Pacific Islander Native, and Another Identity (American College Health Association, 2013). For this study, if a participant identified as White/Non-Hispanic, they were considered to be in the majority race/ethnicity category (RE majority). All other race/ethnic groups were categorized into the minority race/ethnicity (RE minority) group.

Sexual Orientation and Gender Identity: Sexual orientation was assessed with one variable that asked students to identify the category that best describes them with the following response options: asexual, bisexual, gay, lesbian, pansexual, queer, questioning, straight, or my identity is not listed above. Gender was self-reported as female, male, or transgender, or gender non-conforming. Participants who identified as any orientations other than straight or who identified as transgender/gender non-conforming were categorized into the sexual and gender minority (SG minority) group. Participants who identified as straight and cisgender were categorized into the sexual and gender majority (SG majority) group. See table 1 for the distribution of ethnicity, race, sexual orientation, sex, and gender identity of the sample.

Table 1.
Participant characteristics

	n (%)
Participants	1,465 (100)
Ethnicity	
• Non-Hispanic	1119 (76.4)
• Hispanic	346 (23.6)
Race	
• White	876 (59.8)
• Black	110 (7.5)
• American Indian/Native American	21 (1.4)
• Asian	285 (19.5)
• Native Hawaiian/Pacific Islander	9 (0.6)
• Other	8 (0.5)
Sexual Orientation	
• Asexual	16 (1.1)
• Bisexual	170 (11.6)
• Gay	14 (1.0)
• Lesbian	36 (2.5)
• Pansexual	23 (1.6)
• Queer	31 (2.1)
• Questioning	34 (2.3)
• Straight	1137 (78.0)
• Not listed	4 (0.3)
Sex	
• Female	979 (66.8)
• Male	410 (28.0)
• Transgender/GNC	66 (4.5)
Gender Identity	
• Woman	992 (67.8)
• Man	422 (28.8)
• Trans women	3 (0.2)
• Trans men	2(0.1)
• Genderqueer	6 (0.4)
• Agender	1 (0.1)
• Genderfluid	4 (0.3)
• Non-binary	28 (1.9)
• Another gender	6 (0.4)

Multiple Minority: A multiple minority variable was then created in that all participants were grouped into one of the following categories: a) double minority (i.e., RE minority/SG minority); b) single minority-SG (i.e., SG minority/RE majority); c) single minority-RE (i.e., SG majority/RE minority); and d) double majority (i.e., SG majority/RE majority).

Bullying, Discrimination, and Harassment: Participants were asked if, within the last 12 months, they had problems or challenges with bullying, cyberbullying, hazing, microaggression, sexual harassment, and discrimination. Response options were binary (yes/no) for each construct.

Health, Mental Health and Well-being: Overall health was assessed via the following Likert-type question: "How would you describe your overall health?" Response categories included excellent, very good, good, fair, and poor. For this study, responses were categorized into poor or fair, good, and very good or excellent.

Perceptions regarding belonging at the university were assessed via the following statement: "I feel that I belong at my college/university." Likert-type responses included strongly disagree, disagree, somewhat agree, agree, and strongly agree. These responses were categorized into agree or disagree for the current analysis based on the distribution of the responses.

The Diener Flourishing Scale is a brief 8-item scale assessing self-perceived success in relationships, self-esteem, purpose, and optimism. Items included statements such as "My social relationships are supportive and rewarding" and "I am optimistic about my future." Responses were on a 7-point Likert scale ranging from Strongly Disagree to Strongly Agree. The scale provides a single psychological well-being score ranging from 8-56, with higher scores indicating higher levels of flourishing (Diener et al., 2010).

The Kessler-6 population-based screening for non-specific mental illness scale is a shortened version of the Kessler-10, a 10-question scale initially developed to provide an efficient population-level screen for mental illness. Respondents were asked how often they felt a range of emotions (e.g., nervous, hopeless, worthless, etc.) on a five-point Likert scale ranging from none of the time to all the time. A sum score is generated (0-24), and scores are collapsed for interpretation as follows: a score of 0-8 for no or low psychological distress, a score of 9-12 for moderate psychological distress, and a score of 13-24 for serious psychological distress (Kessler et al., 2003).

The Short UCLA Loneliness Scale has three items and a simplified response set to measure overall loneliness. The scale generates a sum score between 3 and 9, with higher scores revealing higher levels of loneliness. Scores are then categorized for interpretations, including a score of 3-5 for a negative screening for loneliness and a score of 6-9 for a positive screening for loneliness (6-9) (Austin, 1983).

The Connor-Davison Resilience scale (CD-RISC) is a brief, self-rated measure of resilience with sound psychometric properties. This scale comprises items such as "I tend to take a long time to get over setbacks in my life" and "I usually come through difficult times with little trouble." Responses were on a 5-point Likert scale ranging from Strongly Disagree to Strongly Agree. Sum scores were calculated, with higher scores reflecting greater resilience (Vaishnavi et al., 2007).

The Suicidal Behaviors Questionnaire (SBQ-R) is a 4-item version of the SBQ that assesses the frequency and severity of suicidal behaviors and history of suicide attempts. Used frequently in research studies, the SBQ-R generates a score between 3 and

18, with higher scores reflecting a higher risk for suicide. The score is then collapsed into one of two categories: a score of 3-6 reflects a negative screening for suicide risk, and a score of 7-18 reflects a positive screening for suicide risk (Osman et al., 2001).

Self-injury was assessed via a single item, "Within the last 12 months, how often have you intentionally cut, burned, bruised, or otherwise injured yourself?" Ordinal response options ranged from never to daily and were categorized as having no self-injury behaviors or having any self-injury behaviors in the past 12 months.

The Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) generates a Substance Specific Involvement Score (SSIS) for each of the 12 different substances (McNeely et al., 2014). The range for each SSIS is 0-39, where the higher score reflects a higher level of risk associated with alcohol use. For the purposes of this study, we focused on alcohol risk. For the purposes of this study, alcohol use was included as there was adequate power. Lower rates of self-reported other substance use limited power for analyses.

Data analysis

A one-way ANOVA power analysis was conducted using IBM SPSS 28 to determine if adequate power was achieved with the obtained sample size. The alpha level was set at .05 and Cohen's f effect size of .25. The total sample size was 1,465, distributed among four groups (n=140, n=198, n=544, n=583). Based on the parameter estimates, the obtained power was .999, indicating that the study had adequate power for analyses. After determining there was adequate power, analyses were conducted in IBM SPSS 28. Descriptive statistics were gathered for all variables, including counts and percentages for categorical variables and means and standard deviations for continuous variables. The majority of respondents provided information for all variables included in this study. The most any variable was missing was 14 responses (<1.0%), except the Kessler-6, which was missing 26 responses (1.8%). Given the low rate of missing data, respondents were excluded independently on a casewise basis for each variable investigated. Comparative analyses included tests for differences between categories, including Chi-Square tests, one-way ANOVAs with Tukey post hoc tests, and Kruskal Wallis tests for significance.

Results

Demographic characteristics

Table 2 displays the frequency of intersectional groups. A total of 9.6% of the sample (n=140) self-identified as double minority and 39.8% (n=583) as double majority. Regarding single minority status, 13.5% (n=198) self-identified as single minority-SG, and 37.1% (n=544) self-identified as single minority-RE.

Violence, Discrimination, and Harassment

Overall, 15.2% of participants reported experiencing microaggressions, and 11.0% experienced discrimination in the past 12 months. Additionally, 8.3% of students reported experiences of sexual harassment, and 5.9% reported being bullied (Table 3).

Statistically significant differences were observed with hazing [$X^2(3,1451)=14.126$, $p=.003$], microaggression [$X^2(3,1453)=62.999$, $p<.001$], and discrimination [$X^2(3,1452)=31.018$, $p<.001$]; post hoc analyses revealed a greater percentage of participants identified as double minority were observed experiencing hazing, microaggression, and discrimination. Statistically significant differences were also

Table 2.
Intersectional groups comprising sexual orientation and gender (SG) and race/ethnicity (RE)

	n (%)
Double minority	140 (9.6)
Single minority-SG	198 (13.5)
Single minority-RE	544 (37.1)
Double majority	583 (39.8)

Note: Double minority (RE minority & SG minority); Single minority-SG (RE majority & SG minority); Single minority-RE (RE minority & SG majority); Double majority (RE majority & SG majority)

observed among participants experiencing cyberbullying [$X^2(3,1451)=19.228$, $p<.001$]. Post hoc analyses revealed a greater percentage of single minority-SG participants experiencing cyberbullying (8.6%) as compared with single minority-RE and double majority participants. No differences were observed for cyberbullying rates between double minority participants with any other participant groups. No differences were observed for having experienced bullying in the past year by intersectional status.

Double minority participants were observed to have higher rates of experiencing hazing than single minority-RE and double majority participants. No differences in hazing rates were observed between single minority-SG participants as compared with other participant groups. Results revealed no statistically significant differences in microaggression rates between single minority-SG (20.7%) and single minority-RE participants (15.8%). However, both groups had significantly lower rates than double minority participants (33.8%) and significantly higher rates than double majority participants (8.4%). Double minority participants were also observed with significantly higher rates of having experienced discrimination than all other participant groups, with no other observed differences in discrimination rates.

Lastly, statistically significant differences were observed about the number of participants reporting sexual harassment [$X^2(3,1451)=56.134$,vp<.001]. Post hoc analyses revealed experiences with sexual harassment were observed highest among participants categorized as double minority (18.7%) or single minority-SG (16.7%). While no statistically significant differences between these two groups were observed, both had significantly higher rates of sexual harassment than participants self-identified as single minority-RE (3.2%) and double majority (7.7%) participants. Additionally, the sexual harassment rate among double majority participants (7.7%) was significantly higher than that of single minority-RE participants (3.2%).

Overall Health, Belonging, and Mental Health

Results revealed statistically significant differences between intersectional status for all levels, including: “poor” or “fair” self-reported health, [$X^2(3,1359)=9.269$, $p=.026$], good health [$X^2(3,1359)=27.563$, $p<.001$],

Table 3.
Experiences of Violence, Discrimination, and Harassment in the Past 12 Months

	Total n (%)	Double Minority n (%)	Single Minority-Sexual/Gender n (%)	Single Minority-Race/Ethnicity n (%)	Double Majority n (%)	p-value
Bullying	89 (5.7)	12 (8.6)	17 (8.6)	30 (5.6)	27 (4.6)	.104
Cyberbullying	15 (3.6)	7 (5.0)	17 (8.6)[2,3]	19 (3.6)	11 (1.9)	<.001***
Hazing	26 (1.7)	7 (5.0)[1]	5 (2.5)	8 (1.5)	4 (0.7)	.003**
Microaggression	235 (15.2)	47 (33.8)[1]	41 (20.7)[3,4]	84 (15.8)[3,4]	49 (8.4)	<.001***
Sexual Harassment	124 (8.0)	26 (18.7)[2,3]	33 (16.7)[2,3]	17 (3.2)	45 (7.7)[2]	<.001***
Discrimination	170 (11.0)	32 (23.2)[1]	25 (12.6)	62 (11.6)	41 (7.0)	<.001***

Notes: *p<.05, **p<.01, ***p<.001; [1]Indicates the group was significantly different from all others; [2]Indicates the group was significantly different from single minority-RE group; [3]Indicates the group was significantly different from double majority group; [4]Indicates the group was significantly different from double minority group.

and "very good/excellent" self-reported health [$X^2(3,1359)=39.211$, $p<.001$] (Table 4). Post hoc results revealed double minority and single minority-SG participants were observed with a higher proportion self-reporting "poor" or "fair" health and a lower proportion of participants self-reporting "good" and "very good/excellent health" as compared to single minority-RE and double majority counterparts. No differences in self-reported health status were observed between double minority and single minority-SG nor between double majority and single minority-RE participants. Statistically significant differences were also observed between groups about the proportion of participants self-reporting a sense of belonging at their university [$X^2(3,1460)=27.408$, $p<.001$]. Specifically, fewer double-minority and single minority-SG participants reported a sense of belonging compared to their single minority-RE and double-majority counterparts.

Statistically significant differences between groups were also observed for psychological distress, including "no" or "low" psychological distress, [$X^2(3,1439)=54.173$, $p<.001$] and "serious" psychological distress [$X^2(3,1439)=52.532$,$p<.001$]. Post hoc analyses revealed a greater percentage of double minority and single minority-SG participants were observed with lower rates of "no" or "low" psychological distress and higher rates of "serious" psychological distress. No statistically significant differences were observed for psychological distress between double minority and single minority-SG participants nor between double majority and single minority-RE participants. Further, no statistically significant differences were observed between any intersectional status groups about the proportion of students experiencing moderate levels of psychological distress.

Loneliness [$X^2(3,1452)=28.896$,$p<.001$], suicide risk [$X^2(3,1452)=127.998$, $p<.001$], and self-injury [$X^2(3,1454)=51.453$, $p<.001$] all differed by minoritized groups. Post hoc analyses revealed no difference in loneliness

Table 4.
Overall Health, Mental Health, and Belonging

	Double Minority n (%)	**Single Minority-Sexual/Gender** n (%)	**Single Minority-Race/Ethnicity** n (%)	**Double Majority** n (%)	**p-value**
Overall Health					
Poor or Fair	19 (14.4)[2,3]	17 (9.4)[2,3]	36 (7.0)	37 (7.0)	.026*
Good	54 (40.9)[2,3]	89 (49.2)[2,3]	162 (31.5)	157 (29.5)	<.001***
Very Good or Excellent	59 (44.7)[2,3]	75 (41.4)[2,3]	316 (61.5)	338 (63.5)	<.001***
Belonging					
Agree	83 (59.3)[2,3]	117 (59.1)[2,3]	401 (74.1)	429 (73.8)	<.001***
Disagree	57 (40.7)[2,3]	81 (40.9)[2,3]	140 (25.9)	152 (26.2)	
Mental/Behavioral Health					
Non-Specific Psychological Distress					
No or Low Distress	21 (15.3)[2,3]	24 (12.3)[2,3]	174 (32.6)	205 (35.7)	<.001***
Moderate Distress	69 (50.4)	102 (52.3)	252 (47.3)	285 (49.7)	.646
Serious Distress	47 (34.3)[2,3]	69 (35.4)[2,3]	107 (20.1)	84 (14.6)	<.001***
Positive Loneliness	87 (63.0)[2,3]	115(58.7)[2,3]	267 (49.6)	245 (42.2)[2]	<.001***
Positive Suicide Risk (SBQR)	59 (43.7)[2,3]	87(44.4)[2,3]	79 (14.6)	89 (15.4)	<.001***
Self-Injury in Past Year	22 (16.1)[2,3]	38 (19.3)[2,3]	40 (7.4)	26 (4.5)	<.001***
	m±sd	m±sd	m±sd	m±sd	
Flourishing	40.6±9.0[2,3]	42.0±9.1[2,3]	45.4±8.5	46.8±7.7[2]	<.001***
Resiliency	5.6±1.6[2,3]	5.7±1.6[2,3]	6.1±1.6	6.5±1.4[2]	<.001***
Alcohol Risk (among drinkers)	8.8±8.2[2,3]	6.9±6.9	6.3±6.0	6.0±5.1	<.001***

Notes: *p<.05, **p<.01, ***p<.001; [1]Indicates the group was significantly different from all others; [2]Indicates the group was significantly different from single minority-RE group; [3]Indicates the group was significantly different from double majority group.

between double minority and single minority-RE participants, in addition to a greater percentage of double minority and single minority-SG participants observed with higher scores for loneliness as compared with their double majority counterparts. Additionally, double minority participants were observed to have higher rates of loneliness as compared to single minority-RE participants. No statistically significant differences were observed for positive suicide risk screenings and self-injury behavior in the past year between either double minority and single minority-SG participants, as well as between double majority and single minority-RE participants. However, double minority and single minority-SG participants were observed to have higher rates of both positive suicide risk screenings and self-injury behavior in the past year as compared to single minority-RE and double majority participants.

Similarly, statistically significant differences were observed between groups in flourishing scores [F(3,1453)=31.187, p<.001], resiliency scores

[F(3,1450)=20.686, p<.001], and alcohol risk scores [F(3,904)=5.591, p<.001]. No differences were observed between double minority and single minority-SG participants in terms of resiliency and flourishing scores, and both groups had lower resiliency and flourishing scores than single minority-RE and double majority participants. Moreover, double minority participants were observed to have higher resiliency and flourishing scores than single minority-RE participants. Double minority participants were observed with significantly higher alcohol risk scores than single minority-RE and double minority participants, with no statistically significant differences observed between single minority-SG participants nor any other participant group pairing.

Discussion

College student mental health is deemed a significant public health issue. More specifically, although mental health disparities among race, ethnicity, gender, and sexual orientation have been documented, understanding the continuum of mental health among college students who identify as ***both*** racial/ethnic minority ***and*** sexual/gender minority should not be based on findings that focus on ***either*** racial/ethnic minority ***or*** sexual minority status exclusively. This study adds to the current literature by assessing the continuum of mental health among multiply minoritized college students. The results of the current study point to two notable key findings.

First, results indicate that college students who identified as double minority (i.e., African American, or Hispanic and sexual or gender minority) or single minority-SE (i.e., White, and sexual or gender minority) were observed with significantly poorer mental health indicators along the continuum as compared with those who identified as double majority (White and heterosexual) or single minority-RE (African American, or Hispanic and heterosexual). More specifically, findings support the work of others (Boyle et al., 2022; Clement et al., 2024; Kulick et al., 2017; Shepherd et al., 2023; Vu et al., 2019) in that college students identified as multiply minoritized (i.e., double minority) were observed with higher rates of poorer overall health, serious psychological distress, as well as observed positive for suicide risk and self-injury. Further, findings also note multiply minoritized college students were observed with lower levels of flourishing, resiliency, and belonging, higher levels of loneliness, and more experiences with microaggressions, hazing, and sexual harassment. Collectively, these findings support the work of others in that sexual minority people of color may experience unique forms of marginalization that occur at the intersection of sexual, gender, and racial oppression, resulting in increased rates of psychological distress (Meyer, 2003; Nemoto et al., 2011).

As intersectionality scholars have highlighted, social institutions can perpetuate unique forms of oppression that harm people with multiple intersecting minoritized identities. Institutions of higher education may be places where students with multiple minoritized identities encounter oppression acutely because they may be excluded from social networks based on one or more of their identities. For example, LGBTQ+ Black students may encounter racism within campus LGBTQ+ communities, and heterosexism among Black student affinity organizations. Much like Crenshaw's example of Black women encountering workplace discrimination on the basis of gender *and* race (and the legal system's inability to respond to it) (Crenshaw, 1991) our study highlights racially minoritized sexual and gender minority students' experiences of discrimination in college settings that are unlike those of students who

are sexual and gender minorities or racial minorities alone. Similarly, much like how problematically equating women with Whiteness and Blackness with men invisibilizes Black women (Bowleg, 2008), our study suggests a need to ensure future research on college students does not invisibilize other multiply minoritized groups. Specifically, our research underscores the ongoing importance of using intersectional frameworks in examining college student health to limit assumptions of students' universal experiences and heterogeneity in life experiences.

Similarly, as compared with those who identified as double majority (White and heterosexual) or single minority-RE (African American, or Hispanic and heterosexual), participants identifying as single minority-SG were observed with higher rates of poorer overall health, serious psychological distress, positive suicide risk, and self-injury in addition to lower levels of flourishing, resiliency, and belonging, higher levels of loneliness, and more experiences with sexual harassment and cyberbullying. These findings support the work of others (Coulter et al., 2017; Herek & Garnets, 2007; Meyer, 2003; Oh, 2023; Woodford et al., 2015) who found sexual and gender minority college students experiencing higher rates of psychological distress and victimization, in addition to lower rates of flourishing. Although the rate of cyberbullying among single minority-SG participants in our study (8.6%) is less than reported findings from a systematic review which revealed between 10.5% and 71.3% of cyberbullying among LGBTQ youth (Abreu & Kenny, 2018), current findings support the work of others in that sexual minorities experience higher rates of mental health issues and stigma-related stressors (Breslau et al., 2006; Eaton, 2014; Rodriguez-Seijas et al., 2019; Woodford et al., 2015), and may point towards the negative mental health effects of cyberbullying on LBGTQ youth (Abreu & Kenny, 2018). Collectively, these findings may further be explained by the previously described minority stress theory which posits that sexual minority health disparities are produced by excess exposure to social stress faced by sexual minority populations due to their stigmatized social status (relative to heterosexual populations) (Frost & Meyer, 2023).

Second, results from the current study indicate college students identified as single minority-RE (i.e., African American, or Hispanic, CIS male/female, heterosexual) were observed with significantly better mental health indicators as compared to double minority and single minority-SE participant groups. More specifically, dissimilar to previous studies that reveled poorer mental health outcomes among racial/ethnic minority college students (Hunt et al., 2015; Kodish et al., 2021; Lipson et al., 2018; Smith et al., 2014) our findings note both single majority-RE observed with higher rates of very good/excellent overall health and lower rates of psychological distress, loneliness, suicide, and alcohol risk. As perceived racial discrimination has been found to be linked to poorer mental health among racial/ethnic minority college students (Bravo et al., 2021), these findings may be explained, in part, by our results that indicate lower rates of bullying, hazing, harassment, and discrimination among participants identified as single minority-RE as compared with double minority and single-minority SE.

The current study should be interpreted considering several limitations. First, due to the study's cross-sectional design, temporal ordering cannot be inferred. Second, data were self-reported, and, as such, social desirability bias may contribute to non-differential misclassification. Third, due to inadequate sample size, the aggregation of race/ethnicity, sexual orientation, and gender

was employed to permit an intersectional analysis. Moreover, due to smaller sample sizes, we were unable to adjust for potential confounders that may contribute to the health disparities described in this paper. There were also a few limitations to the measures within this study. The Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) was employed with only the alcohol construct as lower rates of self-reported other substance use limited power for analyses. Research is needed with larger samples to explore associations between substance use and intersectionality further. Lastly, respondents were sampled from one university, limiting the ability to generalize results to all college students. Additional research is needed to fully understand the life experiences of intersectional college student experiences and structural systems that may increase the risk of oppression, marginalization, and discrimination.

Implications for Health Behavior Research

Collectively, findings from the current study suggest several implications for college student mental health research. First, when exploring mental health, both campus leaders and researchers should not rely on aggregated data to fully capture mental health and well-being among the college population. Second, rather than focusing on one layer of stratification, such as race/ethnicity, gender identity, or sexual orientation, evaluation efforts can examine mental health by considering multiple minoritized identities. To integrate intersectional evaluation, college health teams must integrate data collection methods that permit this type of examination and assure adequate sampling of marginalized groups for these types of quantitative analyses (Spierings, 2012).

Additionally, our findings suggest needed institutional interventions that can directly benefit college students who identify as both racial and ethnic minorities and sexual and gender minorities. Interventions can include specific programming to improve students' mental health, reduce alcohol use, and decrease incidence of harassment and discrimination. Such programming can include establishing peer cohorts for multiply minoritized students to develop supportive social networks that may help reduce feelings of isolation and loneliness while increasing social connectivity. Similarly, educational institutions could also increase the visibility of intersectional identities as part of broader diversity, equity, and inclusion programming. For example, institution-wide events aimed at increasing awareness related to diversity, equity, and inclusion that highlight historically important individuals could emphasize all aspects of those individuals' identities. For example, during Black History Month or LGBTQ+ History Month, key social justice figures to highlight at a campus level might include individuals such as Bayard Rustin, a gay Black man who played a role in advancing civil and LGBTQ+ rights. These high visibility moments may help students minoritized on multiple axes of oppression see themselves as included in the campus community.

Discussion Questions

Our findings indicate the need to move away from analyzing data focused on one stratification layer. What are the best approaches for moving forward in assessing the mental health impact of multiply minoritized individuals?

Ethical Approval

The current study was deemed exempt by the University of South Florida Institutional Review Board.

Conflict of Interests

The authors have no conflicts of interest to declare.

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