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# Helping Students Make Meaningful Connections: A Cross-Sectional Survey of College Student Loneliness

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## ABSTRACT

**Background:** Young adults are experiencing high levels of anxiety, depression, and loneliness. At colleges and universities across the United States, programs exist to address student mental health needs exacerbated by the COVID-19 pandemic.

**Purpose:** Current levels of loneliness among students ( $n = 487$ ) at a Midwest university were researched to compare with previous trends and develop clearer recommendations for purposeful interventions.

**Methods:** This study utilized a cross-sectional study design with the UCLA Loneliness Scale during the fall 2022 semester.

**Results:** Higher levels of loneliness were linked to the demographics of identifying as cis-males, non-binary, and/or students of color. Students who had greater than 4+ h of social media usage per week and first year students also displayed the highest levels of loneliness. Qualitative data from student participants highlighted the importance of having a peer attend events with them, familiarity of event structures, and expanding access to counseling services and mentorship programs.

**Discussion:** Intentional development of programs needs to be prioritized to address student loneliness on campus.

**Translation to Health Education Practice:** With the increase in loneliness across the United States, there exist opportunities for mentoring programs for struggling students and to build community to normalize the promotion of mental and emotional health resources.

## ARTICLE HISTORY



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## Background

In 2022, an article was published in *The New York Times* that sounded the alarm on the epidemic of loneliness among young adults, citing loneliness as one of the most important predictors of depression and suicide (Richtel, 2022). Though the article ultimately focused on young adults in the United States, young adults across the world are reporting higher levels of loneliness since 2008 (Barreto et al., 2021; Twenge et al., 2021). In 2023, the U.S. Surgeon General published a report titled, "Our Epidemic of Loneliness and Isolation," which called for focused attention for multiple levels of intervention to address loneliness. National reports highlight general increases in loneliness among almost half of Americans; however, individuals ages 18 to 22 report the highest levels of loneliness (Chatterjee, 2018; O'Day & Heimberg, 2021). Many faculty and staff working in higher education have witnessed this phenomenon of increased student loneliness despite the transition back to face-to-face learning from the mass interruptions to education from COVID-19. In general, young adults experience a transitional time as they embark on a change to

adulthood. Focusing on the college student population, leaving home for the first time is an emotional rollercoaster allowing young adults to practice their skills of autonomy and empowerment and time management, managing stressors and coping with challenges, and navigating their educational paths and opportunities (Moeller & Seehuus, 2019; Qualter et al., 2015). Research behind the mental and emotional toll of this experience is not a new phenomenon, as institutions of higher education are well-versed in implementing programs focused on addressing the needs of first-year and transfer students (Chow & Healey, 2008; Ferguson et al., 2016; Pokorny et al., 2017; Stirling, 2016; Thomas et al., 2017, 2020). With the onset and continued navigation of the COVID-19 pandemic, addressing the mental and emotional health needs of students has been at the forefront of colleges and universities because students are experiencing unprecedented levels of anxiety, depression, and loneliness (Kruisselbring-Flatt, 2013; Moeller & Seehuus, 2019; Pedrelli et al., 2014; Prince, 2015; Prowse et al., 2021).

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### **Health impacts of loneliness**

*Loneliness* is defined as “a subjective distressing experience that results from perceived isolation or inadequate meaningful connections, where inadequate refers to the discrepancy or unmet need between an individuals preferred and actual experience” (National Academies of Sciences, Engineering, and Medicine [NASEM], 2020; Prohaska et al., 2020; U. S. Surgeon General, 2023, p. 7). Important to note is the subjective nature of loneliness, because individuals who are alone may not identify as being lonely, and individuals who persist in social circles may not enjoy the quality of their relationships (O’Day & Heimberg, 2021). Chronic experiences with loneliness are linked not only to an increase in other mental health issues like depression and anxiety but also to sleep interruptions, elevated blood pressure, and impaired immune response (Cacioppo & Cacioppo, 2014; Cacioppo et al., 2013; Cohen, 2021; Heinrich & Gullone, 2006; Kerr & Stanley, 2021; U.S. Surgeon General, 2023). Multiple studies and reports have also highlighted the higher risk of mortality due to chronic loneliness and lack of social connection, which can be the equivalent to smoking 15 cigarettes a day (Holt-Lundstad et al., 2017; Kerr & Stanley, 2021; U.S. Surgeon General, 2023). Economic impacts from loneliness and isolation include absenteeism from work and job attrition, leading to billions of dollars in employer cost (Leland, 2022).

### **Historical loneliness trends among adolescents and young adults**

Loneliness is not a new phenomenon; previous studies have measured and highlighted predictors and outcomes of loneliness among young adults (Holt-Lundstad et al., 2010; Keyes et al., 2019; Mercado et al., 2017; Page, 1988). However, the frequency of self-reported loneliness and the increase in student mental health issues highlights the importance of studying this phenomenon. Even before the pandemic, loneliness, depression, and self-harm increased in the 2010s among adolescents in the United States (Keyes et al., 2019; Mercado et al., 2017; Mojtabai et al., 2016; Twenge, Cooper, et al., 2019; Twenge, Martin, et al., 2019; Twenge et al., 2021). Suicide rates also increased 57% among youth and young adults between the ages of 10 and 24 between 2007 and 2018 (Curtin, 2020; U.S. Surgeon General, 2021). Research has pointed to potential links between the increase in mental health concerns among youth including openness to discussing mental health needs and challenges (Armstrong, 2020), usage of social and digital media (Hagan et al., 2017; Riehm et al.,

2019; Twenge et al., 2018), increasing academic pressures (Eckersley & Dear, 2002; Kasser & Ryan, 1996; Twenge et al., 2010), historical stressors (i.e., 2008 financial crisis [Doepke & Zilibotti, 2019; Golberstein et al., 2019], the COVID-19 pandemic, and highlighting of systematic racism), and climate change (Clayton et al., 2021; Marks et al., 2021). Loneliness can be amplified by internal (preexisting health conditions) and external (historical challenges, environment, etc.) factors. Though current increases in loneliness have been linked to screen time and social media usage (Chatterjee, 2018; O’Day & Heimberg, 2021; Twenge et al., 2018), another factor impacting the increase in reported loneliness is related to the cognitive discrepancy model developed by Peplau and Perlman (1982). Young adults are inundated with ideas that the college experience will be the best 4 years of their lives, but research has demonstrated that students often feel their actual experiences are different than what they expected (Moeller & Seehuus, 2019; Richardson et al., 2017), causing a lack of quality of their social connections (Larson et al., 1982; Laursen & Hartl, 2013; Lim et al., 2016; Lodder et al., 2017; Moeller & Seehuus, 2019). Experiencing shame behind this feeling of being isolated in the college experience can further amplify loneliness (Lim et al., 2016; Moeller & Seehuus, 2019).

Many institutions across the United States participate in the American College Health Association’s (ACHA) National College Health Assessment (NCHA) conducted every year. At the university in this study, the NCHA is conducted every other year in the spring semester. According to NCHA data from 2021, 53.4% of cis men and 73.9% of cis women agreed to strongly agreed that they felt they belonged at the university, whereas only 50% of transgender/gender-nonconforming students indicated they felt they belonged. For the NCHA in 2023, 49.2% of trans/gender nonconforming, 57.4% of cis men, and 67.5% cis women felt they belonged at the university (Illinois State University, Health Promotion and Wellness, 2023). Regarding loneliness, cis men and transgender/gender-nonconforming students were also more likely to exhibit higher levels of loneliness as identified with NCHA questions that were included using the UCLA Loneliness Scale (55.8% and 67.6%, respectively; Illinois State University [ISU], Health Promotion and Wellness [HPW], 2021). These trends are a change from the 2019 NCHA-III assessment, which indicated that women were more likely to report feelings of loneliness. For 2023, 51.9% of cis men, 50.1% of cis women, and 74.6% of trans/gender-nonconforming ISU students scored positive on the UCLA Loneliness Scale. A similar study noted that

individuals who are Gen Z (ages 18–22) had the highest prevalence of reported loneliness with men and individuals who frequently use social media experiencing the highest levels (Demarinis, 2020; Primack et al., 2017; Song et al., 2014; Twenge et al., 2021). Other studies have noted that women are more likely to experience loneliness (Labrague et al., 2021; Losada-Baltar et al., 2020; Salo et al., 2020). Although gender differences in loneliness are debatable based on the current research trends, there is no ambiguity regarding the fact that regardless of NCHA data set, transgender and gender-nonconforming students often display high amounts of loneliness. Trends from the 2023 NCHA data collected from # of students identified that the number of students who experienced loneliness decreased by a percentage point (2021, 53.3%; 2023, 52.0%), but students who had higher scores from suicide-related behaviors increased from 27% (2021) to 30% (2023).

### **COVID-19 and loneliness**

Although it was anticipated that the pandemic would equate with increasing levels of loneliness and isolation due to the policies related to social distancing (Bu et al., 2020; Labrague et al., 2021; Rauschenberg et al., 2020), other collateral impacts included a disruption to routines (Auger et al., 2020; Labrague et al., 2021), academic impacts (Prowse et al., 2021; Zhai & Du, 2020), and overall higher stress levels (Batra et al., 2021; Birmingham et al., 2021; Husky et al., 2020; Lee et al., 2021; Pfefferbaum & North, 2020; Prowse et al., 2021; Samuolis et al., 2023; Shanahan et al., 2020). As previously stated, studies have had conflicting results regarding the gender-based risk factors for loneliness, but important to note are the studies that assessed loneliness during the COVID-19 pandemic. Pandemic-related loneliness research has highlighted the need to really focus on younger and older women (Wickens et al., 2021). Though the pandemic impacted groups and communities differently, marginalized communities were more likely to be negatively impacted (Freibott et al., 2022; Moore et al., 2021). A 2021 study found that 60% of gender and sexual minority students experienced psychological distress (Freibott et al., 2022; Moore et al., 2021). Recently, it was identified that Latinx and Black students were more likely to screen positive for depression and anxiety during the initial stages of the pandemic (March–December 2020; Freibott, 2021). The impacts of COVID-19 on adolescents and young adults have been profound and are still being researched. Understanding the demographic trends of who is most at risk for loneliness-related

mental health challenges is important for future planning and interventions (Holmes et al., 2020; Wickens et al., 2021).

### **Social media and loneliness**

In general, individuals are becoming more socially isolated, with social relationships decreasing in individualized societies (Holt-Lundstad et al., 2010; Kannan & Veazie, 2023; Putnam, 2000; U.S. Surgeon General, 2023). Younger individuals are more likely to engage in social interactions that are in online and social media-based platforms (Nielsen Wire, 2010; Smith & Anderson, 2018; Yavich et al., 2019). Though social media usage is a strong predictor of loneliness (Stankovska et al., 2016), research is ambiguous about the impacts of loneliness on academic performance, with studies focusing more on the negative impacts of social media use on academics (Anderson, 2001; Anderson & Dill, 2000; Robles et al., 2010). Continuing to be researched are the links to lasting connection, belongingness, and social media usage, with many studies citing negative impacts on health and development (Dror & Gershon, 2012; Hu, 2009; Hunt et al., 2018; Sheldon, 2008; Yavich et al., 2019). In a study conducted before the pandemic, social media usage was not found to increase college student loneliness (Yavich et al., 2019). These findings might be explained by the study parameters, including a sole focus on Facebook as the only social media platform in the study. Important to note is that while social media's impacts on youth development are still being investigated, some young adults may be more at risk to negative effects of media usage (Richtel, 2022).

### **Purpose**

This study's purpose was to measure current levels of loneliness among college students at a large Midwestern university. Furthermore, to better develop interventions that are preferred to address loneliness among college students, the instrument included qualitative questions for students to provide feedback on practical ways to address loneliness on campus. Individuals representing health services, wellness, student affairs, and student counseling were met with in advance to identify how student loneliness was measured to address student loneliness on campus. In 2021, "42% of students felt persistently sad or hopeless and nearly one-third (29%) experienced poor mental health" (Centers for Disease Control and Prevention, 2024). Often, the lack of social connections can inhibit student advancement in college because loneliness is often noted as the primary

reason for leaving a program (U.S. Surgeon General, 2023). The following research questions guided the study:

- (1) What demographic characteristics are linked with self-perceived loneliness among college students at the university in the study?
- (2) What types of interventions are most likely to be utilized by students to address loneliness?
  - a. What recommendations do students have for the development of interventions to build connections on campus?
- (3) How can faculty/staff enhance student connection on the university campus?

## Methods

### Sample

The sample for this study included college students who were at least 18+ years of age. Students who attended a state university in the Midwest were sought to participate in the study to measure current levels of loneliness, demographic characteristics and variables associated with loneliness, and interventions developed to address loneliness. Approximately 487 students completed the survey, with the majority of the sample including students who identified as female ( $n = 329$ , 65.7%) and Caucasian/White ( $n = 368$ , 73.5%; Table 1).

### Study design

Before this study was implemented, the research team met with key leaders from both colleges representing health services, wellness, student affairs, and student counseling to identify how student loneliness was measured tasked to address student loneliness on campus. Every 2 years in the spring, both institutions participate in the ACHA-NCHA-III, which includes select questions from the UCLA Loneliness Scale (“How often do you feel that you lack companionship?”, “How often do you feel left out?”, and “How often do you feel isolated from others?”). The UCLA Loneliness Scale (Russell et al., 1980) has been cited by several studies and organizations (Project UnLonely, 2022; Thomas et al., 2020; Yavich et al., 2019) as a valid and reliable instrument to determine levels of loneliness and was utilized in this study. The scale includes 20 questions with responses options including *always* (4), *sometimes* (3), *rarely* (2), and *never* (1). Positively worded questions were reverse coded. The UCLA Loneliness Scale has undergone considerable revisions since its development in the 1980s to include positively and negatively worded questions and also address the readability of the instrument for face validity (Russell, 1996). The internal

**Table 1.** Select sample demographic characteristics.

Demographic category	<i>n</i> (%)
<b>Gender</b>	
Male	129 (25.7)
Female	329 (65.7)
Non-binary	29 (5.8)
Prefer not to say	2 (0.4)
<b>Race</b>	
Arab, Middle Eastern	4 (0.8)
Asian, Asian American	24 (4.8)
African American, Black	26 (5.2)
Bi/multiracial	1 (0.2)
Caucasian, White	368 (73.5)
Hispanic, Latin(o/a), Latinx	38 (7.6)
Native American, American Indian, Indigenous peoples	2 (0.4)
Native Hawaiian, Pacific Islander	1 (0.2)
Prefer not to say	8 (1.6)
<b>Year in school</b>	
First year	108 (21.6)
Second year	70 (14)
Third year	114 (22.8)
Fourth year	104 (20.8)
Fifth+ year	19 (3.8)
Grad student	72 (14.4)
International student	21 (4.2)
<b>RSO involvement</b>	306 (61.1)
<b>Outside school employment</b>	282 (56.3)
<b>Military service</b>	16 (3.2)
<b>Daily social media use</b>	
Not use	11 (2.2)
<1 h	52 (10.4)
1–2 h	154 (30.7)
3–4 h	205 (40.9)
5+ h	67 (13.4)

consistency of the scale is .92 for students (Russell, 1996), and for this study, Cronbach’s alpha test for reliability of the scale indicated was  $\alpha = .942$ .

A cross-sectional survey design utilizing all scale questions from the UCLA Loneliness Scale was implemented using a Qualtrics survey. Additionally, four open-ended questions were added to learn more about current interventions the university was implementing for loneliness, types of interventions that students prefer, what they would like to see on their campuses to address loneliness and isolation, and what instructors can do in their classrooms/courses to address loneliness/isolation. Finally, 10 demographic questions included the school the student attended, gender, age, race, year in school, Resident Student Organization (RSO) involvement, transfer student, military service, housing type (on/off campus), and social media usage. An incentive for a random drawing for 1 of 10 \$25 gift cards was offered for students who participated in the study. Institutional review board approval was obtained in fall 2022 and the survey was distributed in October 2022 through a mass e-mail sent to all full-time college students. The e-mail was only sent once with no reminder e-mail and the link was available for 2 weeks after the initial e-mail. After 2 weeks’ time, any survey data that were completed but not submitted were included for data analysis.



## Data analyses

Data were analyzed using IBM SPSS 23 to measure mean loneliness scores based on the UCLA scale and was obtained by adding all 20 scale questions, with lower scores indicating higher levels of loneliness (IBM Corp., 2021). The highest score attainable was an 80 and the lowest score was a 20. Chi-square, Kruskal-Wallis tests, mean comparisons, and cross-tabulations were conducted among demographic categories including race, gender, year in school, and social media use. Frequencies and percentages were also obtained for each scale question. Open-ended questions were analyzed using a content analysis following the guidelines of Merriam (2009).

## Results

**RQ1:** What demographics are linked with self-perceived loneliness among college students at the university in the study?

On average, loneliness scores for the entire sample were 48.99 (median = 48;  $SD = 11.24$ ), with the maximum score being 79 and the minimum score being 23. Cis males and non-binary students were more likely to have lower scores (higher levels) of loneliness (48.21 and 46, respectively) as well as students who identified as being in an underrepresented racial group (Table 2). First-year students also had the highest levels of loneliness ( $X = 46.97$ ,  $SD = 10.49$ ) with seniors ( $X = 49.31$ ,  $SD = 12.47$ ) and graduate students ( $X = 52.75$ ,  $SD = 10.04$ ) having the lowest levels of loneliness. Students who utilized social media 3 to 4 h a day ( $n = 203$ ) had lower levels of loneliness ( $X = 46.97$ ,  $SD = 11.36$ ), with a precipitous decline as loneliness levels increased as social media hours increased (5+ h of use,  $X = 46.97$ ,  $SD = 9.90$ ). It is important to note that students who identified as Asian/Asian American were more likely to use social media for 5+ h a day (29%) but also were least likely to experience loneliness. Although there were no significant differences among gender, race, or year in school in regard to the total loneliness score, trends among individual questions lead to important outcomes. Non-binary students were more likely to indicate that they sometimes (34%) or always (41%) lacked companionship/friendship ( $X^2_{(9)} = 24.668$ ,  $p = .003$ ) and felt isolated from others sometimes (39%) or always (48%;  $X^2_{(9)} = 16.993$ ,  $p = .049$ ). Non-binary students were also more likely to feel alone (34.4%), more likely to feel left out (27.5%), had no one to turn to for help (27%), and only 13% felt like they were part of a group of friends. Lastly, in terms of gender, students who identified as male were more likely to indicate that they rarely (26.3%) or never (9.3%) had someone they

**Table 2.** Loneliness scores by demographic category.

	Mean	n	SD
<b>Gender</b>			
Male	48.21	129	11.65
Female	49.62	326	11.20
Non-binary	46	29	9.48
Prefer not to say	37	2	1.41
Total	48.98	486	11.25
<b>Race</b>			
Arab, Middle Eastern	43	4	7.16
Asian, Asian American	52.37	24	13.04
African American, Black	47.84	26	10.54
Bi/multiracial	37	1	.
Caucasian, White	49.11	365	11.15
Hispanic, Latin(o/a), Latinx	48.07	38	13.25
Native American, American Indian, Indigenous peoples	45.5	2	13.43
Native Hawaiian, Pacific Islander	40	1	.
Prefer not to say	46.12	8	8.32
Total	48.96	469	11.33
<b>Year in school</b>			
First year	46.97	107	10.49
Second year	49.42	69	11.59
Third year	48.01	113	10.76
Fourth year	49.31	104	12.47
Fifth+ year	49.15	19	12.30
Grad student	52.75	72	10.04
Total	49.01	484	11.26
<b>Social Media use</b>			
Not use	47.09	11	11.40
<1 h	48.78	52	11.18
1–2 h	47.96	153	11.52
3–4 h	50.57	203	11.36
5+ h	46.97	67	9.90
Total	48.98	486	11.25
<b>Other demographics</b>			
Military service	53.62	16	13.40
RSO involvement	49.61	303	10.64
International student	49.52	21	11.24
Work outside of school	49.3	280	11.30

could turn to ( $X^2_{(9)} = 25.520$ ,  $p = .002$ ) and were more likely to state that their interests were not shared by others around them (25.5%).

In terms of year in school, first-year students were more likely to state that they always felt there was no one to turn to for help (18.5%) and were more likely to feel alone (25.9%). Senior students had a higher score for feeling left out (25.9) compared to first-year students (20.3), and seniors were also more likely to feel isolated from others (24%). Though graduate students were less likely to exhibit high levels of loneliness compared to other years in school, they were the most likely to state that they felt there was no one to talk to (41.6%) as opposed to first-year students (20.5%) and seniors (28.8%). Second-year/sophomore students also felt they lacked people to talk with (37.1%).

For almost every item in the survey, underrepresented students had the highest levels of loneliness. Although students who identified as being Native American, American Indian, Indigenous, or Native Hawaiian, Pacific Islander represented only 0.6% of the study sample. Almost every question that was answered was in the

*always* category, including “How often do you feel that there is no one you can turn to for help?”, “How often do you feel alone when you don’t want to be alone?”, “How often do you feel left out?”, “How often do you feel isolated from others?”, and “How often do you feel you lack companionship/friendship?”

**RQ2:** What types of interventions are most likely to be utilized by students to address loneliness?

To address student loneliness at the university, students were aware of or had utilized specific reach-out programs ( $n = 16$ ), residence life house calls ( $n = 103$ ), RSOs ( $n = 459$ ), counseling services ( $n = 427$ ), and the multicultural center ( $n = 233$ ). Approximately 16% of the survey sample did not know of any resources or utilize any resources to address loneliness on their campus. Regarding recommendations for what would help students attend events on their campuses, students mentioned having more time to attend events ( $n = 35$ ), more identity-based RSOs ( $n = 42$ ), more outreach/awareness ( $n = 103$ ), knowing friends who are attending the event ( $n = 71$ ), being convenient ( $n = 75$ ), and having specific information in the marketing for the event so they know what to expect ( $n = 37$ ). Regarding the second part of research question 2 – “What recommendations do students have for the development of interventions to build connections on campus?” – the programs/initiatives that students would like to see implemented included having more events to meet others on campus ( $n = 183$ ; throughout the semester, not just during the first week of school), including activities to explore the city/community, open tables at the dining halls to make friends, small-group events, identity-specific events ( $n = 13$ ), peer mentor programs ( $n = 10$ ), expanding counseling options/services ( $n = 37$ ), and more events focused on mental health/wellness ( $n = 82$ ). Regarding peer mentoring, several students mentioned that mentoring would be helpful because “a mentor program for new students [would allow them] to get to know each other.” Another participant recommended that “incoming freshman could choose to meet regularly with an upperclassman who authentically desire to help [first-year students] find their way and community.” Though programs for first-year students are very common and well-practiced, other students mentioned the importance of focusing on other groups of students as well. According to one participant, “A large portion of the students are atypical ... transfers, older, or commuter students. Make them feel a part of campus, too. Keep them in mind when making events.”

**RQ3:** How can faculty/staff enhance student connection on the university campus?

Participants mentioned that faculty often include get-to-know-you activities on the first day of class, include small-group discussions with peers, discuss campus events and encourage student participation, provide e-mail check-ins for class and/or projects, and attend events with their students. To enhance their course experience, participants stated they wanted more structure for group projects ( $n = 177$ ; i.e., having pods/tables for work and opportunities to work together), sharing and discussing more resources for mental health and current issues happening in the world ( $n = 51$ ), more mental health accommodations for all students ( $n = 18$ ; mental health days, allowing late work, and not overloading assignments within and among courses), and more inclusive/welcoming environments ( $n = 17$ ). In the qualitative comments, students really emphasized the importance of discussing loneliness as being a ubiquitous issue for many students, because they mentioned “making students recognize we are not alone,” “maybe flat out talk about it [mental health]. Some teachers seem afraid or don’t care/worry about their student’s health,” and “honestly, just talk about it [mental health] candidly.” In terms of general events on campus, students ( $n = 24$ ) mentioned that though more events to address loneliness on campus are important, teaching students the signs of depression/anxiety and coping skills is helpful for their self-advocacy and recognition. Finally, including more events to check in with students around holidays was mentioned. In building the connection, a participant mentioned, “They [the university] need to bring more attention to the fact that almost everyone in college is struggling in some way. Many people are struggling a ton just to get through each day. If those people had others to relate to, I think it’d work wonders. Awareness and connection are extremely important when it comes to this.”

## Discussion

Students who identified as non-binary, students of color, and first-year students were more likely to indicate that they were lonely and/or have scores indicative of loneliness. In comparing students who identified as male and female, males were more likely to have lower scores for almost every item on the survey, which was also indicative of higher levels of loneliness. Graduate students, those who used 1 to 2 h of social media (or less), those who served in the military, and students who were in an RSO were less likely to be lonely. Previous studies have indicated that men are more likely to experience loneliness (Barreto et al., 2021; Fujimori et al., 2017; Van Den Broek, 2017). Other studies, however, have indicated

that women are more likely to experience loneliness (Dong & Chen, 2017; Luhmann & Hawkey, 2016). According to Wickens et al. (2021), before the onset of the pandemic, studies that focused on loneliness found that adolescent and young adult boys and men were at greater risk of loneliness. Explanations for this phenomenon highlighted that girls and women may be more likely to seek social support from others; however, COVID-19 may have impacted their ability to seek interactions due to physical distancing (Wickens et al., 2021). Regarding depression, self-harm, and suicidality, girls ages 10 to 14 had the greatest increases from 1999 to 2014 (Curtin et al., 2016; Mercado et al., 2017; Mojtabai et al., 2016). Individuals from gender and sexual minorities are more likely to also experience specific physiological and psychological needs, with some studies identifying at least 60% of members from these communities experiencing mental health challenges during the pandemic (Freibott et al., 2022; Moore et al., 2021).

Previous work has indicated that first-year students are more at risk for loneliness and isolation due to their recent transition to college (Barreto et al., 2021; Thomas et al., 2020). Though it is expected that these transitions will cause higher amounts of stress and mental health challenges, senior/fourth-year students in the study had higher levels of loneliness compared to second- and third-year students. For students across the United States, first- and fourth-year students have been documented as having the highest rates of mental health challenges (Ibrahim et al., 2013; Moeller & Seehuus, 2019; Mortier et al., 2017; Price et al., 2006).

Students who used social media for 5+ h a day also had higher levels of loneliness. Having higher levels of loneliness linked to higher levels of social media usage is also indicative in several studies. A recent study by Yavich et al. (2019) found no associations between social media and loneliness levels among individuals ages 19 to 33. Using social media may not be indicative of loneliness per se versus the notion of the time used on social media and that those who are lonely might detrimentally use social media (O'Day & Heimberg, 2021; Petrocchi et al., 2015; Phu & Gow, 2019).

Students' knowledge about programs and resources on campus was important, but their utilization of these resources is a key factor in determining what is effective to address loneliness. Most students were aware of or had utilized counseling services and RSOs; however, research indicates that over 50% of college students report being lonely regardless of their involvement in activities (Cheng & Zhao, 2017; Gifford, 2023). It is advised that RSO executive boards be aware of the data and statistics about student mental health so they

can take appropriate steps for their members, especially in the sharing of campus resources and support.

Many schools also offer programs related to enhancing student health and well-being, and intentionality of program design should be at the forefront of program development. Students in the study recommended purposefully crafting programs to enhance student loneliness all year instead of focusing many efforts during move-in and first week as well as during mid-terms and finals. Graduate students were also less likely to test positively for loneliness; however, they stated that felt they did not have someone to "talk to" regarding their specific needs.

### Study limitations

This study was conducted at a large, public institution of higher education in the Midwest; therefore, results may not be generalizable to all students in the United States. The study also did not have robust survey completion from underrepresented students. Regarding the challenging issue of student loneliness, underrepresented and minority students have the highest levels of loneliness and therefore need to be oversampled and focused on to ensure that their needs are being addressed. This study also only sought to learn the number of hours students are utilizing social media but did not clarify how they are using social media and the platforms they are utilizing. More specifics on how social media is utilized would be important to obtain a clearer understanding of how social media continues to influence young adults' mental health.

### Translation to Health Education Practice

Building connections with peers, teachers, and university communities has lasting impacts for overall health and well-being. According to Paul Farmer (2011), *accompaniment* is "to accompany someone to go somewhere with him or her, to break bread together, to be present on a journey with a beginning and an end. There's an element of mystery, of openness, of trust in accompaniment" (p. 234). Around the world, the accompaniment model is utilized by health care organizations, including Partners in Health, because it builds empathy and humanizes allowing individuals to share their experiences with another who is trained and able to identify their needs and serve as a resource person. Accompaniment models create lasting connections to ensure that peoples' needs are met while they are being treated for other health concerns. As described by Eustache et al. (2017), a teacher accompaniment model



proved effective for students experiencing mental health challenges. Their study was not only theoretical but practical in their measurement of the “feasibility, acceptability, and utility of a school-based mental health intervention” (Eustache et al., 2017, p. 4). Because many institutions of higher education are already using a peer-based approach for many student needs on campus (i.e., tutoring), providing a peer accompaniment model would allow for multiple needs to be addressed, including (1) professional benefits for the peer mentor (i.e., working on campus, financial support, enhancing leadership skills), (2) localized support for the seeking student, and (3) addressing the stigma of feeling like the “only one” affected by mental health needs. Subcompetencies “2.3.3. Assess the effectiveness and alignment of existing interventions to desired outcomes” and “2.3.4. Adopt, adapt, and/or develop tailored intervention(s) for priority populations to achieve desired outcomes” are met with the development of purposeful and credible interventions (National Commission for Higher Education Credentialing, Inc. [NCHEC], 2020).

As a first step to enhancing appropriate interventions at institutions of higher education, current levels of loneliness and demographics more likely to report higher levels of loneliness need to be measured. Determining baseline loneliness levels meets Subcompetency “1.1.3. Determine the health status of the priority population(s)” (NCHEC, 2020). Enhancing students’ skills related to identifying the symptoms of anxiety and depression was expressed as an important need on campuses, because students may be unaware of their current mental health needs (Nobiling & Maykrantz, 2017; Rosenthal & Wilson, 2008). According to Nobiling and Maykrantz (2017), students are unlikely to seek help for mental illnesses, so providing enhanced opportunities to identify symptoms and where/how to seek assistance is crucial. Along with these important skills, providing opportunities on campus for enhancing student gratitude and altruism can be effective tools for coping (Leland, 2022). A recent study identified the importance of providing more applicable personal health courses at the collegiate level, including a focus on identifying campus resources and making them easier to access, unpacking stigmatized topics, harm reduction strategies, and active learning (Brewer et al., 2023); therefore, these recommendations for enhancing student skills are helpful. As part of Subcompetency “8.1.4. Promote health equity,” it is essential for Health Educators to actively work in reducing the stigma around mental health to ensure that tools and resources are accessible for all students (NCHEC, 2020).

Providing meaningful connections is also essential in a path forward for student coping. Defining the importance of a meaningful connection (not just quantity of connections but quality) is important for maintaining relationships to enhance social connection (Lodder et al., 2017; Masi et al., 2011; Richtel, 2022). The cognitive discrepancy model provides an opportunity to explain how students can be connected and yet still feel lonely by the lack of quality connections (Hawkey et al., 2003; Moeller & Seehuus, 2019; Richardson et al., 2017). Providing realistic expectations for the college experience can help offset the feelings of shame and inadequacy among students (Eaton et al., 2023). Though this study did not focus on individuals with learning and/or other disabilities, a study by Laslo-Roth et al. (2022) identified the need to ensure that individual with disabilities or mental health needs (including attention deficit hyperactivity disorder) are not forgotten as loneliness strategies are developed. Providing social support as well as a structured inclusion of hope theory enhanced students’ transitions and educational outcomes during their first semester at school (Feldman et al., 2016; Laslo-Roth et al., 2022).

Lastly, guides and materials are developed to address loneliness on college campuses and in K–12 schools. For example, the document “Protecting Youth Mental Health” provided by the U.S. Surgeon General (2021) provides recommendations for multiple levels of student support, from families to media organizations. There are also specific recommendations for “what educators can do” to enhance student mental health, including creative positive, safe environments; expanding social–emotional learning programs; recognizing signs of mental and physical health needs; and providing tiered supports to students focused on early intervention. Early intervention is essential to provide a secondary level of prevention for children and young adults, providing opportunities for therapy and rehabilitation (as needed), because mental health challenges in youth are positively correlated with adult mental health challenges (Eustache et al., 2017; Kessler et al., 2005; Patton et al., 2016). A more recent document provided by the U.S. Surgeon General (2023) is focused on “Our Epidemic of Loneliness and Isolation” and contains strategies to enhance social connections. ProjectConnect provides resources and training for individuals and campuses to address student loneliness by building connection through conversation and engagement. Project UnLonely, through The Foundation for Art & Healing, utilizes a public health approach to collaborate with multiple partners and “work directly with local leaders” (The Foundation for Art & Healing, 2023). Regarding student-led advocacy

for mental health, Active Minds – an organization created to address student mental health and suicide prevention – provides guides and strategies for “creating policy changes that result in long-term campus support for mental health” (Active Minds, 2023). They also have a program focused on suicide prevention called Send Silence Packing, to end silence around mental health needs and suicide.

In a 2017 publication by Mercado et al., they provided data focused on increased emergency room visits for self-inflicted injuries among U.S. youth ages 10 to 24 from 2001 to 2015. Their call to action highlights the need for strengthening access to care for youth who are at risk for self-harm, while also recommending the need for coping and problem solving and promoting youth connectedness. Their call to action was in 2017, before the onset of the COVID-19 pandemic. We are beyond the point of passive band aid solutions and need active strategies and engaged communities to enhance the loneliness epidemic among our nation’s youth.

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