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Mental health risks & patterns among on-campus resident students during the COVID-19 pandemic

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ABSTRACT

Objective: This study examined the effects of the COVID-19 global pandemic on the mental health and well-being of college students residing in a rural community. Particular attention was paid to student gender identity and sexual orientation. Eligible students reported on their mental health statuses, coping strategies, distresses, demographics, and original items to capture students' experiences.

Participants: Participants were 372 undergraduate and graduate student's living in residence halls or on-campus housing enrolled in a public university between January and March 2021.

Methods: Univariate and bivariate statistical analyses were utilized. Open-text responses about navigating mental health challenges during the COVID-19 pandemic are summarized.

Results: Students who identified as LGBTQ+ (p<0.001) or non-binary (p=0.0022) scored significantly higher in depressive symptoms, while year in school, race, or ethnicity did not appear to play a role in overall mental health status.

Conclusion: This study can be used to help enhance current mental health services offered on-campus, especially for students who face higher burden of mental health risks.

Keywords: mental health, COVID-19, college students

INTRODUCTION

Mental health, specifically depression, has affected an estimated 17.3 million adults aged 18 or older in the U.S. Evidence suggests that 11.3% of these adults were between the ages of 18-25 years old [1]. In 2013, data from the National College Health Assessment (NCHA) found that approximately one-third of all college students had trouble functioning due to depression within the previous 12 months [2]. Around 39% of students in college have experienced a significant mental health issue with 75% of mental health cases beginning by the age of 24. Moreover, two-thirds of students diagnosed with anxiety or depression did not seek treatment, highlighting the gap in service delivery to college student population [3]. The Anxiety and Depression Association of America reported that 30% of college students stated that stress negatively affected their academic performance, 41.6% stated anxiety as their top presenting concern, 85% reported they felt overwhelmed, while 24.5% reported they were taking psychotropic medications [4].

Risks & Barriers to Mental Health Supports and Services in Rural Areas

Rural communities face greater barriers to accessing mental health care services than urban communities. Common barriers identified by the Health Resources and Services Administration state that societal stigma, lack of anonymity, shortage of mental health workforce professionals, lack of culturally competent care, affordability of care, and transportation were of the greatest concern for rural residents [5]. Needs assessment in the target population of college students in rural communities have found that 15% of students had major depression, 32% of students had depression overall, including major and moderate, and 39% had lifetime diagnoses of mental disorders. Around 20% of students had mental health therapy/counseling in the past year and 47% had any mental health therapy/counseling and/or psychiatric medication with positive depression or anxiety screens in the past year.

Compared to 10% of colleges in offering Telemental Health Services (TMH) in 2016, there was an increase to 59% offering TMH in 2018. This in part addressed the growing need for mental health services on college campuses, which has been increasingly recognized. Between 2007 and 2017, the rate of mental health treatment among college students increased from 19 to 34% [6]. The results of the American Council on Education's (ACE) latest Pulse Point Survey of (n=268) college and university presidents demonsrated that leaders in tertiary institutions are becoming increasingly concerned about the mental health of their students. Nearly 70% of presidents identified student mental health among their most pressing issues compared to 53% in the last survey. To support the mental health and well-being of their campus community, nearly 6 out of 10 college presidents report that their

institutions have "invested in virtual or teletherapy services" [7].

Lower perceived availability of social support, less active engagement in the community, and a lower sense of belonging were all associated with thoughts of suicide among college students [8]. Another study assessing rural university students found that over a quarter of their respondents reported feeling often or always anxious in new situations (26.2%), one-in-five reported often or always feeling unhappy or tearful, and 8% indicated they were currently, or in the past, diagnosed as having anxiety or depression [9]. Each signifying that psychological distress and accessibility of support services have significant impacts on mental health of rural communities.

In terms of gender identity, sexual orientation, and mental health trends, studies have assessed the importance of service utilization and current distresses of college students. One study found that more LGBTQ+ students had received treatment for anxiety (26.58%) than for depression while also reported seeking services for mental health concerns from a counselor/therapy/psychologist (42.43%) [10]. Participants who identified as LGBTQ+ students were three times as likely to report having been diagnosed with depression compared with heterosexual students [11]. Studies have also shown the severity of depressive or anxious symptoms may differ when considering gender identity and sexual orientation in student populations [12].

The Impact of COVID-19 on College Students' Mental Health Status

Few studies have been conducted to examine the effects the COVID-19 pandemic has placed on college students' mental health and well-being [13]. Over 40% of the college student respondents indicated that their opinion about their current school had gotten worse as a result of the COVID-19 pandemic, 1-in-4 college students rated the quality of their school's COVID-19 communication as fair or poor, while 8% of students indicated they felt that their college or university was not handling the COVID-19 outbreak well.

Within few studies, some sought the impact of the COVID-19 pandemic on the City University of New York (CUNY) students' self-reported general and mental health, as well as on their financial stability at the height of the first wave of the epidemic in NYC [15]. Through a cross-sectional online survey distributed in April of 2020, authors found that more than half of their student's (54.5%) reported experiencing anxiety and/or depression, about half (49%) reported an increased need for mental health services to help cope with stress, anxiety, or depression due to the pandemic, and some students (13.6%) reported an increased usage of alcohol. A majority of their student respondents (81.1%) reported they and/or someone else in their household lost income as a result of the pandemic, while around half (49.8%) reported being very or somewhat worried about losing their housing as a result of the pandemic [14].

Some examined the associations between individual, interpersonal, institutional, health, and stress-related factors and risks for clinically significant major depressive disorder (MDD) and generalized anxiety disorder (GAD) between June and July of 2020. About 35% of students met clinically significant criteria for MDD with 39% meeting the criteria for GAD [14]. Students who identified as queer, asexual, Asian, those who cared for adults, students with neurodevelopmental or cognitive disabilities, and students with two or more disabilities had significantly greater odds of MDD and GAD compared to their peers. Students who experienced food insecurity, housing insecurity, unexpected job loss or cancellation, unexpected increases in living expenses, and loss or reduction of income also had increased odds for GAD [14].

Understanding the scope of effects that the COVID-19 pandemic has had on the mental health status of those most affected by the virus living in rural communities is an important assessment effort, specifically college students who already bear a disproportionate burden of mental health conditions and who live in areas with fewer resources and supports for mental health. It is critical to providing essential resources and advancing a health system that is prepared to respond to these important needs as they emerge in the presence of the current pandemic. This study examines the mental health status and barriers to seeking mental health assistance and treatment that current rural college students face to identify the mental health resources they may need.

Aims

The purpose of this study was to examine differences in the mental health status of cis-gender and heterosexual when compared with non-binary and LGBTQ+ college students living in on-campus residence halls or apartments at a large public university located in a rural region of the United States. According to Kaur [15],

> "There is general acceptance now that mixed method is a holistic approach which researchers can use for searching answers to complex questions."

Mixed-methods were utilized to collect both quantitative measures of mental health outcomes as well as qualitative open-text survey responses on college students' experiences managing their mental health during a major pandemic event. This study will help inform and address current policies and procedures that are in place for mental health concerns of college students residing on rural campuses and assist college administrators and staff understand where their students are at during a global pandemic.

METHODS

Measures & Participants

The current study enrolled student respondents from undergraduate and graduate programs at a large public university in Washington State. The study population consisted of any student currently living in residence halls or on-campus apartment housing at the university during the study period of January to March 2021. Students were recruited via email sent out by Housing and Residence Life administrators to introduce them to the study and provide them details on the purpose, voluntary nature, risks/benefits, and their rights as study participants. Convenience sampling methods through online recruitment tools were prioritized due to the nature of the COVID-19 pandemic, the current stay-at-home orders during the period of data collection and because of the ubiquitous access to electronic communication among the target population. After presenting the study information, participants' consent was gained through a webform page that gave respondents the option to continue with the survey or dismiss it. The total population of eligible respondents was

1,525 and after accounting for missing data, the final sample size for this analysis was n=372 participants, or approximately 24% of the total population. This study was approved by the Central Washington University Institutional Review Board on January 19, 2021 (Protocol 2021-004).

The survey was administered online via Qualtrics and consisted of 37 questions across four domains including:

(1) self-reported mental health status,

(2) coping strategies,

(3) barriers and supports to managing mental health status, and

(4) respondent demographics [14].

All domains were included in the survey instrument, however, the analysis for this study will only cover the Patient Health Questionnaire-9 (PHQ-9) and the open-text questions. The Patient Health Questionnaire-9 (PHQ-9) was used to measure the students self-reported mental and emotional status on a 3-point Likert Scale from “Not at all” to “Nearly every day” [16]. The Brief-COPE scale was used to measure a students’ confidence in how they have dealt with certain situations described within the scale on a 4-point Likert scale from “I haven’t been doing this at all” to “I’ve been doing this a lot” [17]. The COVID-19 Distress scale was used to identify a students’ experiences with the COVID-19 pandemic and specific distresses (emotional and physical reactions) they have been going through. This was measured on a Likert scale from 0 (strongly disagree) to 4 (strongly agree) [18]. This section was modified for our study due to the original survey being created for cancer patients.

Student respondents were also asked to provide open-text responses on questions including, “In your own words, how would you say you’ve been able to manage your mental health and wellbeing during the COVID-19 pandemic,” and “Is there anything that has made managing your mental health particularly hard?” Student respondents were permitted to write as much or as little in response to these open-text questions.

Statistical Analyses

Item means, standard errors, confidence intervals, and *p* values were examined using Stata v.12. We examined means and proportions for the entire sample across groups, including gender identity (cisgender vs. non-binary) and sexual orientation (heterosexual vs. LGBTQ+). To compare the means of two groups, *t* tests were used to identify significant differences as well as Chi-square, ANOVA, and regression analyses to understand relationships between certain independent and dependent variables. When interpreting a students’ depression severity using the PHQ-9, a score between 1-4 indicates minimal depression severity, 5-9 indicates mild depression severity, 10-14 indicates moderate depression severity, 15-19 indicates moderately severe depression severity, and scores between 20-27 indicates severe depression severity [16].

RESULTS

Descriptive Statistics

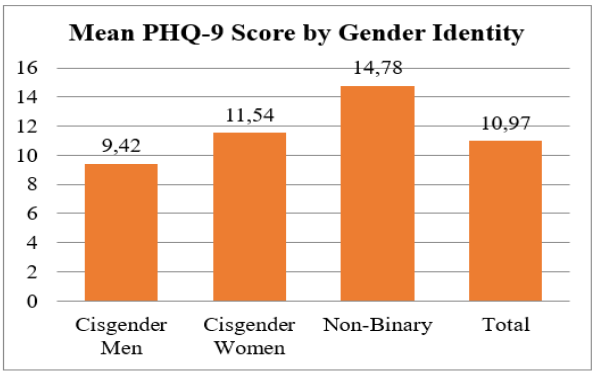
Around 41% of our study population consisted of participants who identified as cisgender women (153 respondents), while those who identified as cisgender men consisted of around 28% of data; respondents who identified as non-binary accounted for around 7.5% of the total sample (*n*=28). Most of our sample consisted of those identifying their race as white (56%), with 31% in their first year of college. Approximately 46% of our population identified as heterosexual, with 1.08% identifying as LGBTQ+ (**Table 1**).

Table 1. Demographic characteristics

Characteristics	Participants (n=372)		Full sample (n=1,610)	
	n	%	n	%
Residence				
CWU on-campus residence halls	259	69.62	1,074	66.71
CWU on-campus apartments	113	30.38	536	33.29
Gender				
Cisgender women	153	41.13	614	38.13
Cisgender men	106	28.49	662	41.19
Non-binary	28	7.53	17	0.010
Not reported	85	22.85	317	19.69
Hispanic, Latino, or Spanish origin				
No	246	66.13		
Yes	39	10.48		
Not reported	87	23.39		
Race				
White	210	56.45		
Non-White	69	18.55		
Not reported	93	25.00		
Enrollment status				
Full-time	280	75.27		
Part-time	5	1.34		
Not reported	87	23.39		
Sexual orientation				
Female	174	46.77		
Male	109	29.30		
Other	4	1.08		
Not reported	85	22.85		
Insurance status				
I have college/university student health plan	8	2.15		
I am covered by my parent/guardian’s plan	212	56.99		
I am covered by my employer-based plan (or spouse)	0	0.00		
I have Medicaid, Medicare, SCHIP, or VA/Tricare coverage	25	6.72		
I bought a plan on my own	5	1.34		
I do not have health insurance	6	1.61		
I do not know if I have health insurance	10	2.69		
I have health insurance, but I do not know the primary source	17	4.58		
Not reported	89	23.92		
Year in school				
1st year	118	31.72		
2nd year	49	13.17		
3rd year	57	15.32		
4th year	43	11.56		
5th year	7	1.88		
6th year/other	12	3.22		
Not reported	86	23.12		

Quantitative Results on Mental Health Experiences of College Students

Student respondents were asked to report how often in the last 2-weeks the following problems bothered them, on the PHQ-9 scale. Among the sample, 45.98% (*n*=160) indicated they



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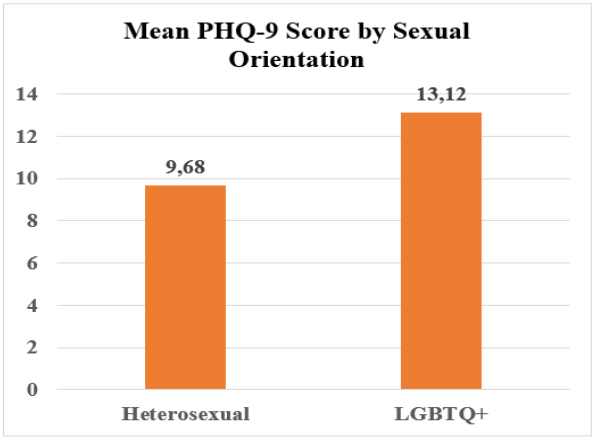

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Figure 1. PHQ-9 scores by gender identity & sexual orientation

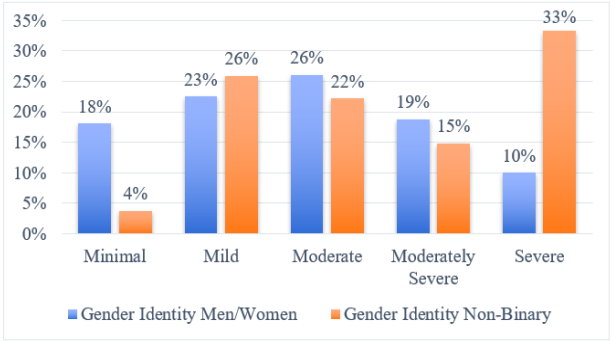

Figure 2. Depression severity by gender identity

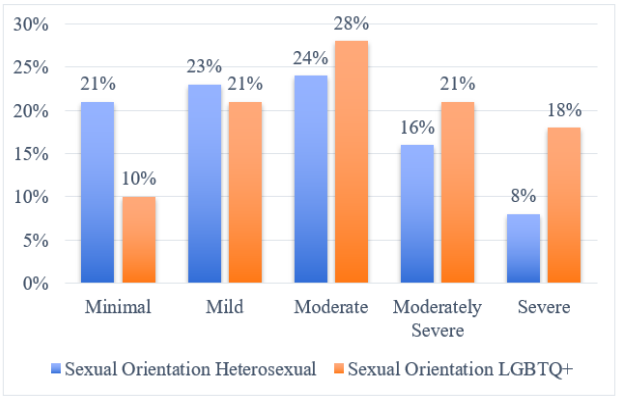

Figure 3. Depression severity by sexual orientation

had little interest or pleasure in doing things, 43.71% (*n*=153) reported feeling down, depressed, or hopeless several days a week, 34.96% (*n*=122) of the sample reported they had trouble falling or staying asleep, or sleeping too much nearly every day, and 37.82% (*n*=132) of the sample felt tired or had little energy. 32.47% (*n*=113) of the sample reported they had trouble concentrating on things, such as reading the newspaper or watching the television, while 16.14% (*n*=56) students indicated they thought they would be better off dead or hurting themselves. The mean PHQ-9 sum for the entire sample was 10.96 (95% CI: 10.27 to 11.66).

When accounting for PHQ-9 scores by gender identity, cisgender women had a mean sum of 11.54, cisgender men had a mean PHQ-9 score of 9.42, and students who identified as non-binary had mean PHQ-9 scores of 14.78 (*p*=0.022). Heterosexual students scored an average of *M*=9.68, while those who identified as LBGTQ+ scored *M*=13.12 (*p*<0.001) (**Figure 1**).

We also assessed depression severity using cutoff scores of the PHQ-9 scale. When considering gender identity, 18% of cisgender men/women indicated they had minimal depression compared to 3.7% of students who identified as non-binary (*p*=0.057). Cisgender and non-binary students had comparable rates of mild to moderate depression on the PHQ-9 scale (*p*>0.05), but 10% of cisgender men/women in our sample had severe depression compared to 33% of non-binary students (*p*=0.004) (**Figure 2**).

One-in-five (21%) heterosexual student's indicated minimal depression compared to one-in-ten (10%) who identified as LGBTQ+ (*p*=0.0183). No difference by sexual orientation was observed in the proportion of students with mild or moderate levels of depression, but 7.8% of heterosexual students indicated severe depression compared to 18% of students who identified as LGBTQ+ (*p*=0.0078) (**Figure 3**).

Qualitative Results on Mental Health Experiences of College Students

Respondents were then asked to describe in their own words how they would say they've been able to manage their mental health and well-being during the COVID-19 pandemic. 3 major themes were identified:

(1) Accelerators to mental health decline during the pandemic,

(2) Barriers to service utilization and care seeking, and

(3) Facilitators of positive coping.

Accelerators to mental health decline during the pandemic

Within this theme a large proportion of participants mentioned their mental health was declining, that they were having many ups and downs, they had unhealthy coping strategies, and they were having difficulties with academic and social life. Many expressed that they had no friends to talk to, no way of safely interacting with others, that schoolwork had become so difficult they couldn't focus, and to avoid their problems they took up unhealthy coping addictions. One student wrote:

> "Whew man, it's been pretty darn hard. Been living [here] for nearly as year with zero (0) of my friends. Speaking to humans feels strange at this point. Luckily, I have my girlfriend but I miss my homies too. Been using pretty much every drug imaginable at this point,

> even ones you haven't even heard of…I've been high since quarantine started and ill be high till its over, so I suppose you can say I'm "managing" it hahah…"

Several students reflected on the important role of social interactions that were severely limited due to the stay-at-home orders, physical distancing requirements, and other housing and residence life policies.

> "It's been difficult being that I have little to no friends here on campus and my social life is at a dead halt. I find making friends difficult given the circumstances, which makes my life feel much less useful."

> "…Lock downs have made it hard to do anything and schoolwork has been all online so there's no point in leaving my room."

> "It's hard because there are no campus events so people can't really branch out. It's kinda like we're stuck in our dorm rooms because of COVID."

> "Life during the lockdowns has been very tough for me. Most of my escapes have been shuttered…(indoor dining, gyms, large events), and for those that are open we have the mask mandates and temperature checks to deal with which makes it un-normal. I have deal with more mood swings and depression in the lockdowns than ever in my life… I worry about the chance of never getting a normal [college] experience ever again because people are angry, scared, and sad."

Others referenced the fact that the pandemic event removed their prior gains made toward positive mental health or other healthy habits, behaviors, and positive coping mechanisms. For example,

> "I feel like any sort of strides I had made towards my own well-being was completely erased when the pandemic hit, I haven't been able to get back the happiness I once had."

> "My mental health was bad before the pandemic, but the pandemic made it a lot harder to find the motivation to fight for myself especially since I had limited contact with friends."

> "COVID-19 has had a tremendous impact on my mental health. Although I was in therapy and on medication before the pandemic, the pandemic has caused many issues to progress negatively where I had previously made progress."

Additionally, students discussed the fact that many of them had not expected or intended to do their academic learning through online or remote modalities, and that these unexpected changes to the learning environment placed a significant burden on their mental health and stress.

> "…the classwork seems to be extensive."

> "At the beginning of the pandemic, I was able to manage my mental health a lot better. Professors and school staff were a lot more understanding and forgiving. College has been really hard during this pandemic. I've taken online courses before, but we are being expected to do so much during this prolonged trauma. Now, it's really hard. Courses are worse and harder than ever… [the administration] also took away the Emergency Pass/Fail option for classes even though we are still in the middle of a pandemic."

Finally, many students discussed how new or increased financial stressors made their mental health and wellbeing more challenging to navigate during the pandemic. For example,

> "I wish [university] actually care[ed] about its students instead of this bullshit, as they're still trying to capitalize on us financial during this time with rent increase and such. Finances are already a huge stressor for students."

> "I wish there was more financial support. I am completely independent and with my major it is hard to keep a job. I rely strictly on my financial aid and it is scary to think about if that money will last."

Barriers to service utilization and care seeking

The second theme that emerged was related to students' experiences seeking care or support services. The majority of respondents found that this was much harder during pandemic times, either because they could not access services, felt uncomfortable or had unmet needs, or because of changes to the delivery of mental health services on campus. For example,

> "I do wish there were more options to meet with people/women of color who are therapists or campus counselors."

> "The counseling services are hit and miss. I am fortunate enough to have good insurance through my parents and the ability to obtain good mental health resources but for those who don't, they're stuck with what the [university] has to offer. Sure, it's better than nothing."

> "I really don't know…I have therapy that is accessible to me, but I guess I'm scared… I probably need medication to fix my chemical imbalance, but I just can't bring myself to seek it out. What if it changes me for the worse?"

> "There's a lack of counseling staff services who look like me, the availability of session times and only telehealth appointments available."

Some students discussed the need to access insurance coverage or referrals for mental health and counseling services, either on campus or off-campus, and that this experience presented a barrier to them:

> "Therapy sessions… way more than they deliver here. It's so difficult to find a therapist when your healthcare [insurance] is the most important question they ask you about. And I understand that, but it slows down the process of getting help."

> "All the therapists that take my insurance have been full."

Others discussed that they had fear of seeking counseling services due to the perception that they could face legal repercussions or because they were connected to the university environment:

> "I really should see a therapist or counselor, but I'm worried they'll report me to authorities because of how much illegal shit I would be telling them."

> "YES, services are accessible, but I refrain from using services because I would feel better about using services away from my [campus] apartment. Since my living environment is the cause of my mental health issue."

Facilitators of positive coping

Respondents indicated that the mechanisms that helped them cope with pandemic-related stress and mental health burden included creating routines in their lives, focusing on their schoolwork and jobs to keep busy, having hobbies and recreation, access to therapeutic care and social support.

> "I've been able to handle my mental health by focusing on my relationships with people and keeping them strong while staying in the COVID-19 regulations, I feel like helping others in a way has helped me."

> "I've been going to weekly therapy appointments throughout the entire pandemic, and I can say with certainty that if I did not have my therapist I truly do not know where I would be, what I would be doing, what my life would be like...".

> "I try to self-care through activities like yoga, journaling and taking walks outside. I've done pretty well managing my mental health…"

> "The dorm rooms are spacious and I have my own bathroom so that I can do my daily routines which start my days off right and let me ease into bed every night. The campus is so welcoming."

> "I've picked up several hobbies such as drawing, writing, guitar, and exercising more."

> "I have been talking with a therapist, as well as communicating with my friends about these hardships. I try and make a set schedule for myself with goals and give myself "rewards" like reading time or being able purchase something."

Others noted that acute nature of the pandemic and that many mental health and distresses have been mitigated or improved over time and as student's built resilience. Some wrote:

> "I haven't been able to manage it well in the beginning but now that's it's been over a year, I've started to focus more on improving my mental health and how to combat the COVID-19 blues."

> "It has been very hard to manage my mental health and well-being in the COVID-19 pandemic. I feel that I personally was not coping well at all with using unhealthy coping strategies. It was not until the start of this year that I really started to manage my mental health and well-being better during the COVID-19 pandemic when I started working out from home, setting aside time for self-care, and re-establishing routines."

> "In the beginning of COVID-19, it was hard, but now it feels like normal life."

DISCUSSION

The current study sought to examine the self-rated mental health statuses and how students have been able to manage, or not manage their mental health and well-being during the COVID-19 pandemic. Ultimately, this study found that individuals who identified as LGBTQ+ or a non-binary gender identity scored significantly higher in depressive symptoms, at least in the short term during the COVID-19 pandemic event. We also found a higher proportion of students who identified as LGBTQ+ or non-binary gender meeting the threshold for severe depression compared to heterosexual or cisgender men/women in the sample, while a much higher proportion of cisgender and heterosexual students had mild or minimum depression, compared with non-binary and LGBTQ+ students. Our findings suggest that students who identified as LGBTQ+ or non-binary may comprise the most vulnerable populations for pandemic-related mental health decline and are more susceptible to higher depression severity, which is supported by prior literature on risk factors for depression and anxiety [10].

Our qualitative findings suggest that most of the student participants had challenges in managing their mental health and well-being during the pandemic, and highlighted accelerators of mental health decline, the barriers to care seeking behaviors, and the facilitators of positive coping during the pandemic. Like previous research, our respondents indicated that their stress and anxiety had increased due to the pandemic, had difficulties concentrating on their academic work and life, and that students were at an increased risk for depression symptoms if they were worried about contracting or spreading COVID-19 [13,14,19-22]. However, we did have a significant number of student's report that they were able to manage their mental health, were putting in the work to improve it, or were using positive coping styles throughout the pandemic.

While the qualitative findings support a variety of supportive interventions across all student populations, future research should investigate the types of mental health and social support that would better enhance the wellbeing of students at highest risk of poor mental health outcomes, including LGBTQ+ and non-binary students.

Limitations

There are various limitations to this study. First, we had to consider that selection bias may be present. This study utilized a convenience sampling method due to our inclusion and exclusion criteria that were created. The sampling method itself may not be representative of all students at this university, and the timing for which students were to complete the survey may have been difficult at times. This study was able to represent many diverse backgrounds of college students, however, overrepresentation and underrepresentation of

certain populations and demographics of students existed. The second limitation to this study was that there may have been recall bias within our participants. They were asked to recall how they felt 2 weeks ago in terms of their mental and emotional health statuses. Respondents may not have remembered actual events/phenomenon's to accurately describe their experiences.

Although this study reached the intended sample size to achieve statistical power, we had to collapse certain demographics due to limited representativeness and the findings should not be considered generalizable across the entire university population. With a larger sample size and more representation, we might have found statistical significance with the other variables in our sample. Future studies would benefit from requiring students to fill out the entire demographic portion of their questionnaires. Our study may have limited our data results by not requiring students to answer pertinent demographic questions for analysis. Lastly, we realize that there may have been social desirability bias, where participants may report what they believe the researchers will want to hear from them. It may be a helpful next step to continue collecting this data over the next year, as the pandemic continues to evolve and as university communities respond to the emerging needs of their student populations to determine if there are time effects that would modify the results generated in this analysis.

Future studies should examine the specific barriers to student's accessing mental health services on this campus and campuses across the U.S. These studies should also evaluate the intersection of marginalized and minoritized communities regarding their mental health status and barriers to accessing mental health services. It is unknown if these students utilized health services on campus and would be beneficial for counselors to understand what may push students away. It would also be beneficial for future studies to assess which health practices would be best served for LGBTQ+ and non-binary student's attending universities. Future studies could also look at what coping strategies are used by college students who live in residence halls and on-campus housing at their universities. This would be important in assessing what programs or strategies current counselors are offering to their students and examine what needs to be fixed or brought on by campus services. Lastly, future studies should examine the specific COVID-19 distresses that college student's living in on-campus housing and residence halls have faced during the academic years and offer insight into what can be changed within housing and residence life policies on campus.

CONCLUSION

College students are facing a critical time in their lives where they may have to balance college-level coursework, possibly work to afford school, and their social lives. The purpose of this study was to examine the mental health status and coping strategies in college students living in on-campus and apartment housing residing in a rural U.S. community during the COVID-19 global pandemic. This study can be used to help enhance current mental health services offered on-campus, especially those that are culturally congruent with the populations of student's who face higher burden of mental health risks. This study is the first of its kind for this specific university and will help inform health services on campus for students are at most risk, and what services are essential in helping these students manage their mental health and well-being.

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Ethical committee approval: This study was approved by the Central Washington University Institutional Review Board on January 19, 2021 (Protocol 2021-004).

Declaration of interest: No conflict of interest is declared by authors.

Data sharing statement: Data supporting the findings and conclusions are available upon requestfrom the corresponding author.

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