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"Coping in the Time of Crisis": A Study on College Students' Mental Health and Coping Mechanisms amidst the COVID-19 Pandemic.

Amir Bhochhibhoya

Kean University, amir.bhochhi@gmail.com

Liz McDowell

Lander University, lmcdowell@lander.edu

Sayward Harrison

University of South Carolina - Columbia, HARRI764@mailbox.sc.edu

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Abstract

The sudden closure of colleges and universities, among other challenges, disrupted higher education across US states during the subsequent waves of the COVID-19 pandemic, significantly impacting the mental health of college students. The study was designed to comprehend the major stressors that college students encountered during the COVID-19 pandemic and the strategies they employed to cope with these stressors. The participants included undergraduate students from a small rural public university in the Southeast region of the US. A survey comprising 35 items to evaluate the effects of COVID-19 on mental health and coping mechanisms was employed. The study included 170 student participants. Descriptive statistics were used to summarize quantitative data and a thematic qualitative analytic approach was employed for qualitative data. The majority of the participants reported increased stress and negative emotions, and also faced financial hardships. Participants also reported receiving social support from friends and family. The study found that students predominantly used social and entertainment-based coping mechanisms, while mindfulness-based exercises were the least utilized coping strategies. College students who experienced increased stress during the COVID-19 pandemic are more likely to develop mental and behavioral health disorders, experience academic challenges, and have a lower quality of life. Even though the pandemic is over, continued proactive support and well-designed interventions are needed to address the lingering effects of the pandemic and support their overall well-being.

Keywords

COVID-19, College Students, Mental Health, Stress, Depression

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“Coping in the Time of Crisis:” A Study on College Students' Mental Health and Coping Mechanisms amidst the COVID-19 Pandemic

Amir Bhochhibhoya, PhD, MBA, MCHES
Liz McDowell, PhD, MDiv, RN, CNE, CNL
Sayward Harrison, PhD

Abstract

The sudden closure of colleges and universities, among other challenges, disrupted higher education across the United States (U.S.) during the waves of the COVID-19 pandemic, significantly impacting the mental health of college students. We designed this study to comprehend the major stressors that college students encountered during the COVID-19 pandemic and the strategies they employed to cope with these stressors. The participants included undergraduate students from a small rural public university in the Southeast region of the U.S. We used a survey comprised of 35 items to evaluate the effects of COVID-19 on mental health and coping mechanisms. The study included 170 student participants. We used descriptive statistics to summarize quantitative data and a thematic qualitative approach to analyze qualitative data. Most participants reported increased stress and negative emotions, and also faced financial hardships. Participants also reported receiving social support from friends and family. We found that students predominantly used social and entertainment-based coping mechanisms; mindfulness-based exercises were the least utilized coping strategies. College students who experienced increased stress during the COVID-19 pandemic are more likely to develop mental and behavioral health disorders, experience academic challenges, and have a lower quality of life. Even though the pandemic is over, continued proactive support and well-designed interventions are needed to address the lingering effects of the pandemic and support their overall well-being.

Keywords: COVID-19, college students, mental health, stress, depression

* Corresponding author may be reached at amir.bhochhi@gmail.com

Introduction

In the fall of 2019, the COVID-19 virus was discovered in Wuhan, China (Kaplan, 2020). Soon COVID-19 was understood to be highly transmittable and associated with significant morbidity and mortality (Wang et al., 2020). By the end of January 2020, the virus had made its way to the United States (U.S.) (Centers for Disease Control and Prevention [CDC] 2021). By March 2020, a nationwide emergency had been declared, and the U.S. began to implement widespread “shutdowns” to curb the spread of the virus, causing massive disruptions to everyday life

(CDC, 2023). The virus also created considerable psychological distress due to disruption in work and life routines, economic problems, and social isolation (Shanahan et al., 2022).

Policies to prevent and control COVID-19 transmission significantly disturbed people's daily routines and lives. During the initial wave of the COVID-19 pandemic, college students like others, faced uncertainty, health concerns, fear, boredom, and frustration with inadequate and inconsistent information (Brooks et al., 2020; Wang et al., 2020). In addition, the sudden closure of colleges and universities disrupted higher education

across the U.S. Whereas some universities quickly switched to online modalities, other institutions remained shuttered for weeks and/or months, and when courses resumed, many students found continuing their education cumbersome (Sahu, 2020).

An array of challenges existed for college students during the subsequent waves of the COVID-19 pandemic. Students who preferred face-to-face instruction, as well as students taking courses ill-suited for online delivery, such as labs, practicums, or artistic performance, faced major challenges (Sahu, 2020). Some students also struggled with issues related to access to the technology needed for remote learning, including a lack of quality computers and high-speed internet (Kecojevic et al., 2020). The restrictions on various social activities and loss of typical social interaction reduced social connection and resulted in social isolation for many college students. This loss of peer interaction was associated with vast increases in anxiety and depression symptoms during the pandemic (Merolla et al., 2021). In addition, students had to deal with other pandemic-caused challenges, such as housing insecurity and financial difficulties due to the loss of on-campus and off-campus employment. Other academic challenges included the loss of internships and study abroad experiences, research project disruption, and graduation delays (Lee et al., 2021; Zhai & Du, 2020). Students who were able to remain on-campus during the early waves of the pandemic faced other unique challenges, including concerns about returning home, as doing so could put other family members at risk, especially elderly family members (Zhai & Du, 2020). Although these factors resulted in more mental health concerns for many students, some evidence suggests that students with preexisting concerns had even poorer outcomes, in part, due to difficulty accessing mental health services (Hao et al., 2020).

Mental health issues among college students can significantly impair their physical health, academic success, and overall college experience (Bruffaerts et al., 2018). As stress is heightened, students may adopt various coping mechanisms. It is crucial to understand both positive and negative coping to address the impact they have on students' well-being. Positive coping strategies can help students deal effectively with stress and improve their mental health. Examples of positive coping mechanisms include seeking social support from friends, family, or counselors, engaging in physical activity, and engaging in creative activities like art or music. These strategies have been associated with better mental health outcomes and increased resilience among college students (Alsubaie et al., 2019; Stuckey & Nobel, 2010; Willson et al., 2021).

On the other hand, negative coping strategies, also known as maladaptive coping mechanisms, can exacerbate mental health issues and lead to further problems. Some examples of negative coping strategies include reduced physical activity, unhealthy diet, increased alcohol and substance use, and sleep problems, including both sleep deprivation and excessive sleeping (Ghrouz et al., 2019; Kenney et al., 2013; Wilson et al., 2021).

This study is conducted as an exploratory investigation to delve into the impact on mental health during the COVID-19 pandemic. The purpose of the current study was to gain a comprehensive understanding of stressors experienced by U.S. college students during the COVID-19 pandemic and the coping mechanisms they adopted in response to these stressors. In addition, the study also aimed to document the prevalence and severity of mental health concerns experienced by college students, as well as students' knowledge and awareness about available resources to support them during the COVID-19 pandemic.

Methods

Participants and Research Design

In this study, we used a cross-sectional study design to survey undergraduate students at a small public university in the Southeast region of the U.S. An online platform (Qualtrics.com) was used to collect the data, with data collection occurring during May 2021. The inclusion criteria for the study were: (1) being an undergraduate student currently enrolled at the partnering university, and (2) being aged 18 years and above. A recruitment email with a link to the survey was sent in April 2021 to an email listserv of all undergraduate students (N = 3,044). Participants who agreed to take part in the study provided their consent before beginning the survey. On average, participants took 15 minutes to complete the survey.

Measures

We developed a 35-item survey to assess the impact of COVID-19 on mental health and coping mechanisms utilized by college students. Survey development was informed by a rapid literature review and formative assessment including focus group discussion and pilot-testing with 10 currently enrolled college students. The survey included seven items designed to collect demographic information (e.g., age, gender, race, and year in college). Additionally, 11 items were included to collect information on the impact of COVID-19 among college students. For instance, students were asked, “*Do you find yourself more stressed during this time?*” and “*In what areas are you experiencing the most stress?*” Similarly, 14 questions related to coping strategies, such as querying students about whether they engaged in activities such as “*doing mindfulness-based exercises such as yoga and meditation,*”

“*watching movies and entertaining comedies,*” etc. Finally, an additional two questions assessed if participants benefitted from the coping techniques and if participants received support from different sources such as family friends, or school.

This study also included an open-ended question (“*Is there anything else related to COVID-19 and its impact on mental health you would like to share with us?*”) at the end of the survey. This allowed for capturing the richness of the participants’ experiences, perceptions, and thoughts (Labuschagne, 2003). This also allowed survey participants to provide more detailed information that might have been missed by the closed-ended questions.

Data Analysis

We used descriptive statistics to summarize demographic variables, as well as the impact of COVID-19 on students’ mental health, education, and employment. We also used descriptive statistics to characterize coping strategies employed by students to deal with the effects of COVID-19. We used SPSS 24.0 for analysis of quantitative data.

We adopted a thematic analytic approach for qualitative data gathered through the open-ended item. After data were collected, two researchers (LM and AB) separately analyzed the data. Both researchers first conducted a naïve reading, noting the responses as a whole and becoming acquainted with the data. They further independently determined major themes that emerged from the data. The iterative process lasted until consensus was attained. Then, the next step was an interpretive reading (i.e., determining the major themes and making purposeful connections based on both researchers’ understanding and agreement). Finally, an overall interpretation of the qualitative data was conducted, ensuring a comprehensive understanding, and reflecting

on the previous steps (Speziale & Carpenter, 2007).

Results

A total of 170 students participated in the study. Most participants were female (84%), white (73.6%), and between the ages of 18 and 21 years (61.1%). Table 1 shows the descriptive statistics of the participants and other key variables.

Regarding mental health, 87% of the participants reported “agree” or “strongly agree” with respect to experiencing more stress during the pandemic. Overall, 54% of participants reported stress due to school, and 33.8% reported stress coming from home and personal issues. Most students reported negative emotions during COVID-19, such as frustration (13.7%), anxiety (12.5%), boredom (10.3%), isolation and loneliness (9.7%), and depression (9.5%). Only 2% reported not experiencing any stress at all.

Participants also reported their education was *very* or *extremely* affected (58%) by the pandemic. In all, 50% of participants reported going through financial hardship during this time, with many reporting complete (13%) or partial (20.7%) loss of employment. Participants overwhelmingly reported receiving social support from friends (92.9%) and family (90.6%) during this time period. About 50.9% also reported receiving support from the school, and 30.1% reported receiving support from the workplace (30.1%). Only 16% reported receiving no support at all. Regarding financial relief from the university and government, 30.8% reported receiving financial relief from the university. In comparison, 30.2% said they did not, and the remaining (39.1%) were not aware of any financial relief. More students reported they received no financial relief from the state or federal government (60.4%) compared to those who did (21.9%). In addition, 17.7% of

students reported they were not aware of any state or federal incentives.

One-fourth of participants reported that they tested positive for COVID-19 since the onset of the pandemic. In addition to COVID-19 infection, the pandemic also impacted health-related behaviors. Some impacts of COVID-19 on the behaviors included too much sleeping (41.10%), lack of interest in things that previously were interesting (39.10%), decrease in physical activity (39.10%), inability to sleep (27.20%), increased frequencies of overeating (26.07%), loss of appetite (21.80%), and increased use of drugs and alcohol (15.80%). Figure 1 illustrates how COVID-19 affected participants' behaviors.

Participants also reported coping mechanisms during the pandemic. Based on the results, chatting with friends and watching movies, and entertaining comedies were the most utilized, and counseling and doing mindfulness-based exercises such as yoga meditation were the least utilized coping strategies. Figure 2 shows the coping strategies utilized by students.

During the qualitative analysis, eight main themes emerged: (1) Some students experienced COVID-19 as an existential crisis and felt the experience greatly changed them; (2) Students found transitioning to online classes worsened their mental health by exacerbating anxiety, fear, and stress; (3) Students reported a lack of motivation, procrastination, and lack of focus resulting in lower grades; (4) Students expressed concern and frustration regarding the actions taken by the university and faculty during the pandemic; (5) Students reported an increase in maladaptive behaviors such as the use of drugs and alcohol, social isolation, and suicide ideation; (6) Some students revealed direct loss of friends and family due to the COVID-19 virus and others expressed loss of relationships, connections, financial security, and normalcy; (7) Students were aware of the

political divide regarding the COVID-19 response; and (8) Some students expressed hope for the future, whereas others worried

about the future. Table 2 shows these eight themes and examples of participants' responses.

Figure 1

Change in health behavior during the COVID-19 pandemic

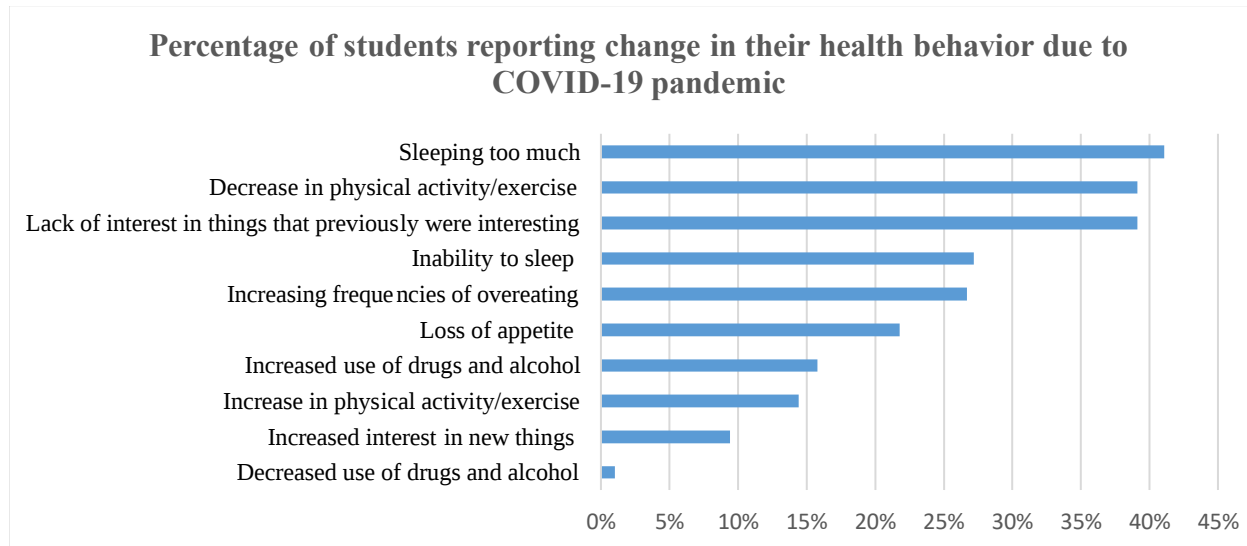


Figure 2

Coping strategies during the COVID-19 pandemic

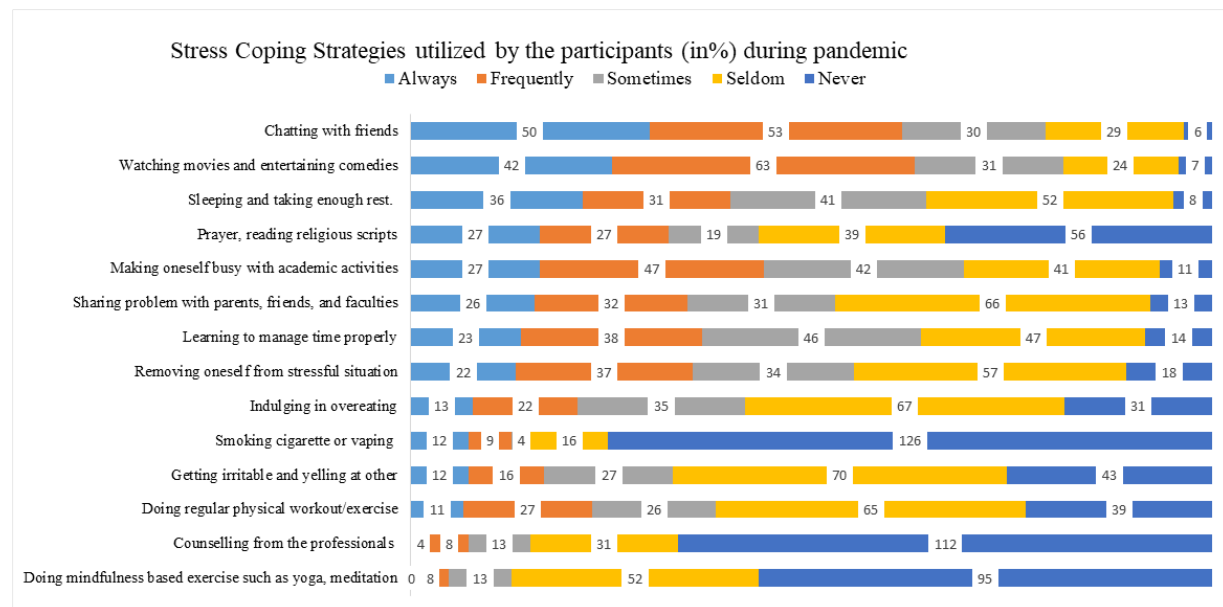


Table 1*Descriptive characteristics of the participants*

Variables	N (%)
Gender	
Female	142 (84)
Male	25 (14.8)
Transgender	1 (.6)
Other/Prefer not to answer	1 (.6)
Age	
18-21	91 (61.1)
22-24	47 (31.5)
25+	11 (7.4)
Race	
White	131 (77.5)
Black or African American	22 (13)
Hispanic or Latino	11 (6.5)
Multiracial or Multiethnic	2 (1.2)
Another race or ethnicity	2 (1.2)
Class Year	
Freshman	29 (17.2)
Sophomore	44 (26)
Junior	54 (32)
Senior	36 (21.3)
Housing Status	
Residence Halls	91 (53.8)
Off-Campus Housing	51 (30.2)
Commuter	25 (14.8)
Employment Status	
Full time	15 (8.9)
Part-time	69 (41.1)
No paid Employment	84 (50.7)
Health Insurance	
Yes	158 (93.5)
No	10 (5.9)
Tested Positive for COVID-19	
Yes	42 (24.9)
No	127 (75.1)
Increased stress during the Pandemic	
Strongly agree	84 (49.7)
Agree	62 (36.7)
Neither agree nor disagree	10 (5.9)
Disagree	9 (5.3)

Variables	N (%)
Strongly disagree	3 (1.8)
Areas students experiencing most stress	
School	146 (54.3)
Home or personal	91 (33.8)
Work	27 (10)
No stress at all	5 (1.9)
Education being affected by COVID-19 pandemic	
Extremely	56 (33.1))
Very	42 (24.9)
Moderately	51 (30.2)
Slightly	13 (7.7)
Not at all	7 (4.1)
Faced Financial Hardship	
Strongly agree	32 (19)
Agree	53 (31.5)
Neither agree nor disagree	44 (26.2)
Disagree	17 (10.1)
Strongly disagree	22 (13.1)
Loss of employment due to COVID-19	
Yes	22 (13)
Partially	35 (20.7)
No	112 (66.3)
Sources of support during COVID-19	
Family	153 (90.5)
Friends	156 (92.9)
School	85 (51.2)
Work	49 (30.2)
Did not receive any support	22 (15.6)
Received financial relief from the University	
Yes	52 (31)
No	51 (30.4)
Not aware of any incentives	65 (38.7)
Received financial relief from the State and/or Federal Government	
Yes	37 (22)
No	102 (60.7)
Not aware of any incentives	29 (17.3)

Table 2*Themes and examples derived from students' open-ended responses about COVID-19*

Themes	Examples
Some students experienced an existential crisis.	<i>"You probably won't be the same person anymore."</i> <i>"I can't remember what life was like, before COVID; it's already been a year. I wonder if it will ever go back to normal."</i> <i>"I wake up every morning and hate my life more and more."</i>
Transition to online classes caused increase stress and anxiety.	<i>"I'm not an online learner, so it has taken a toll on my GPA and my feeling of overall success."</i> <i>"It increased my anxiety, more panic attacks due to being stressed and trying to cope with online nursing courses."</i> <i>"How classes have changed so drastically has really messed me up."</i> <i>"I am stressed about school all the time. Online learning is so hard and it takes so much energy."</i>
Lack of motivation, lack of focus, and procrastination resulted in lower grades.	<i>"COVID has caused me to mostly stay in my room, and I feel as though it's starting to affect me based on my lack of motivation."</i> <i>"Lack of motivation and ability to concentrate began in the fall."</i> <i>"I find myself daydreaming, zoning out, thinking of everything else I need to do..."</i>
Students were frustrated with the COVID-19 response by the university and the university's faculty	<i>"Some professors seem to genuinely not care that there is a pandemic going on."</i> <i>"University has been hypocritical in COVID procedures while getting students/organizations in trouble for not wearing masks outside and off-campus but throwing a Tree Lighting ceremony on campus outside with hundreds of students without masks."</i> <i>"Overall, I think COVID is ruining students' mental health because we're kept out of the loop about the amount of cases we have on campus and we don't know what's coming next and that is scary for all of us."</i>
Students faced with a mental health challenge.	<i>"It has gotten me to the point that between school and COVID, I became so depressed I tried to take my life."</i> <i>"I found that drug and alcohol use has increased, amount of sleep has increased, a sense of loneliness has set in, heavy depression."</i> <i>"Increased feelings of social isolation, more intrusive suicidal thoughts began in the fall."</i>
Students experienced loss of family members, relationships, connections, financial security, and normalcy	<i>"I have lost two close family members during this pandemic. It has been hard."</i> <i>"COVID-19 has somewhat caused me to feel disconnected from others. I feel as though relationships that are usually made in college aren't being made because of the pandemic. I also feel as if we are being disconnected from parts of our families, specifically those who have health conditions."</i> <i>"Because of schoolwork and how much my grades matter, I cannot really work which affects my financial situation and stress."</i>

Students expressed an awareness of the political divide in the country.	<i>“loss of friends due to the split between some people taking the virus seriously and some refusing to wear a mask.”</i> <i>“I’m over this bull crap. I’m tired of wearing masks and think COVID is made up.”</i> <i>“There is so much information about COVID that are contradicting to one another and no one knows who to believe.”</i>
Some students were hopeful about the future while others were not.	<i>“There is an end in sight.”</i> <i>“We must all keep the faith.”</i> <i>“I think this will have a long-term effect on not only our mental health but how everyone operates.”</i> <i>“Everyone is worried about what our future would look like, especially in the US.”</i>

Discussion

The protracted COVID-19 pandemic and measures undertaken to control its spread (e.g., lockdowns, stay-at-home directives) have had widespread and negative impacts on the overall global population (Magson et al., 2021). The results of this study shed light on how the COVID-19 pandemic affected college students' mental health and well-being at a small rural public university in the southeastern U.S. Notably, although some students reported minimal negative impacts of the pandemic on their quality of life, many expressed significantly heightened symptoms of mental health disorders, including depression and anxiety.

Several studies have examined how COVID-19 has affected college students across the world. A study conducted by Cao et al. (2020) among college students from a medical school in China reported an increased level of depression and anxiety during the COVID-19 pandemic. Another large-scale survey conducted among 85 universities in China also indicated that college students had a higher rate of depressive symptoms (7.7%) compared to the general population (4.3%) during the pandemic (Chen et al., 2020). Similarly, a study conducted among French college students reported a high level of distress,

depression, and anxiety (Essadek & Rabeyron, 2020). A study conducted among Bangladeshi college students also revealed a high level of anxiety and moderate to poor mental health status (Faisal et al., 2021). A few studies conducted in the U.S. also have reported similar outcomes. For instance, KecoJevic et al. (2020) showed that the COVID-19 pandemic contributed to adverse mental health among college students in New Jersey. Wang et al. (2020) reported concerning levels of anxiety, depression, and suicide ideation among college students at Texas A&M University due to the COVID-19 pandemic. Wilson et al. (2021) also reported that the mental health of college students in Pennsylvania deteriorated during COVID-19.

This particular study distinguishes itself by concentrating on the well-being of rural college students. The effects of the COVID-19 pandemic on mental health may have manifested differently for urban and rural students. Urban students potentially encountered elevated stress levels due to the densely populated environments they reside in (Smith et al., 2021). Conversely, rural students grappled with feelings of isolation stemming from their remote living arrangements and a scarcity of social activities (Johnson & Brown, 2020). Disparities also extend to housing and living

conditions, as rural students often contend with limited options for safe and affordable off-campus housing in contrast to their urban counterparts (Jones et al., 2020). Moreover, students at urban universities typically have greater access to resources such as technology and Internet connectivity, which facilitate remote learning and support services (Smith & Johnson, 2020). In contrast, rural universities might encounter obstacles in ensuring equitable access to these resources for their students (Brown et al., 2021). A comparative study aimed at assessing the COVID-19 pandemic's impact on the mental well-being of students would yield valuable insights into these dynamics.

This study was conducted during the COVID-19 pandemic. Thus, most participants (87%) reported experiencing elevated stress at the time of the pandemic. This aligns with the study conducted among college students by Son et al. (2020), in which 71% of the participants reported an increased level of stress and anxiety. However, the study was conducted in 2020 when the overall impact of COVID-19 had just begun. We collected data for the current study in 2021, more than a year after the emergence of the novel virus, showing that mental health concerns persisted across waves of the pandemic for college students. Interestingly, the participants' major source of stress was school. College life is challenging for many due to developmental transitions from adolescence to independent adult life, as well as various other stressors such as academic pressures, new and changing relationships, and the need to balance work, studying, and social life (Liu et al., 2019; Teixeira, Brandão, & Dore, 2021). Even before COVID-19, one in five college students reported at least one diagnosable mental health condition (American College Health Association, 2019; Auerbach et al., 2018). The figures in this study suggest that

COVID-19 has drastically exacerbated mental health issues among college students.

Among the negative emotions reported by students in the current study, frustration was a prominent one. Some other studies also have reported similar findings. Hagedorn, Wattick, and Olfert (2022) found that college students expressed frustration mainly over classwork, social relationships, technology, and financial aspects of life during COVID-19. Similarly, Tasso et al. (2021) reported college students' frustration stemming from changes in teaching methods, increased workload, poor quality of education, and concerns about completing academic programs successfully. The participants reported changes in health behaviors during the COVID-19 pandemic, such as too much sleep, decreased physical activity, increased use of substances, and overeating. The behavior changes reported in this study align with other studies that suggest similar health behavior changes, such as negative changes in sleep, eating habits, and exercise habits during COVID-19 (Acharya, Jin, & Collins, 2018; Clayborne & Colman, 2019).

Most of our participants reported receiving social support from their friends and families. During the COVID-19 pandemic when many college students were displaced from the campus community, as well as occasionally isolated or quarantined, social support from friends and family may have been a strong protective factor against deteriorating mental health. This is corroborated by earlier studies that indicate that strong social support reduces the negative effects of stress (Shi et al., 2017; Szkody & McKinney, 2019). Colleges, universities, and many governmental and non-governmental entities have offered financial support during the COVID-19 pandemic including emergency grants, and financial assistance which covered expenses not only for college fees but also technology, food, housing, healthcare, and childcare. In

the current study, students reported receiving support from the school, workplace, and government. However, some students reported not receiving any support from any entity and also were not aware of such support. A lack of awareness might have led to missed opportunities to reach out to those students who would have benefited from such support.

Our study also identified several coping mechanisms used by participants, including talking with friends and consuming entertainment. A few students also reported maladaptive coping behaviors, such as indulging in overeating and smoking/vaping. Most interventions may focus on counseling, meditation, or mindfulness-based exercises, but those were the least utilized coping strategies as reported by the students. This highlights an opportunity to develop more tailored interventions for college students that utilize mindfulness and/or other positive psychology techniques to strengthen positive coping skills among this population (Son et al., 2020).

Limitations

The study's findings may be affected by various limitations inherent in the research. Our results might be affected by regional bias as the study was conducted in a small university in the southeastern rural U.S. The impact of COVID-19 on students may be different in urban and large universities. Additional study limitations include a low response rate, an over-representation of females and white participants, and a relatively smaller sample size for the quantitative analyses. Thus, it is important to exercise caution before generalizing the results to broader populations or contexts. The study did not employ a formal theoretical background or approach, potentially limiting the depth of analysis in certain aspects.

Also, the study utilized a cross-sectional design, which cannot suggest causality between health behaviors and mental health issues. Similarly, findings were based on the self-report, which may be subject to reporting bias. In addition, self-reported mental health status was not confirmed by mental health professionals, and participants might have over- or under-reported their mental health concerns. Finally, although COVID-19 was a grave public health issue, it also had severe educational, economic, political, and social ramifications that were not suitably examined in this study. As a result, this study may not reflect the entirety of how COVID-19 affected college students.

Implication for Health Behavior Practice, Policy, and Research

We found negative mental health and changes in health behaviors. College students went through a vastly disruptive experience during COVID-19, negatively impacting their social, academic, and mental health. Thus, faculty, college administrators, and parents or caregivers should be alert to the need for close monitoring of students' mental health and be ready to respond to needs related to social support and academic support. For example, college administrators should understand that students do not necessarily experience mental health crises during office hours. Thus, universities should provide or partner with telehealth providers to offer services as needed (Carrasco et al., 2021). Also, telehealth may reduce some of the increased burdens on the overwhelmed university services. At a minimum, university officials should at least follow-up with students who have reported mental health concerns to ensure their symptoms do not worsen and to provide them with prompt linkage to care as needed.

In addition to the well-being of the individual students, the implication of

COVID-19 also resonates deeply within institutional policies. In the future, it is warranted to interweave mental health support into the fabric of college policies shared by faculties and administrators and other stakeholders in the university system, ensuring cohesive and seamless access to mental needs of students.

In today's post-COVID pandemic environment, follow-up studies should be conducted to examine if the mental health of college students has improved with improvement in pandemic conditions or if the effects have been lingering. Future studies also should concentrate on understanding the long-term impact on mental health for those who were infected with COVID-19 and those who were not.

Conclusions

Almost 9 out of 10 college students in the current sample reported experiencing more stress during the COVID-19 pandemic. This suggests that college students continued to experience high levels of stress and anxiety more than a year into the COVID-19 pandemic. College students experiencing mental and behavioral health disorders are at risk for greater academic challenges and more impairment to their daily quality of life. Even though the pandemic phase of COVID-19 is over, COVID-19 cases are still ongoing at the time of this writing. This population warrants a high level of attention and well-designed interventions to address the current and lingering effects of the pandemic and support their overall well-being. Our findings highlight those urgent needs and provide coping strategies reported by participants to inform future interventions.

Discussion Questions

Given the lingering effects of the COVID-19 pandemic and the persistent mental health

challenges faced by college students, what will be the strategies and initiatives for supporting the mental well-being of college students in the post-pandemic scenario?

What might be the enduring impact of the pandemic on college students' mental health, academic performance, and social experiences?

How are higher education institutions and relevant stakeholders intending to address these issues?

Ethical Approval

The study was approved by the Institutional Review Board of Lander University (IRB 2020-15).

Conflict of Interest Disclosure

The authors have no conflicts of interest to declare.

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Appendix

Survey Questions

Impact of COVID-19 on Mental Health Among College Students

Thank you for participating in our survey. This survey is designed to better understand the impact of COVID-19 in mental health among college students at Lander University. There is no right or wrong answer. Please be completely open and honest in providing information. Your individual responses will not be identified with you in any way. All answers will be combined, and only overall results will be reported. This survey is voluntary and there are no repercussions if you decide not to take it or withdraw at any time. Thank you in advance!

Section 1: Demographic information

1. What year were you born? Please enter a number.

2. Are you_____? Select only one answer.
 - a. Female
 - b. Male
 - c. Transgender
 - d. Other (please specify)
 - e. Prefer not to answer

3. What is your classification in college?

a. Freshman	c. Junior
b. Sophomore	d. Senior

4. What is your race? Please select all that apply.
 - a. White
 - b. Black or African American
 - c. Hispanic or Latino
 - d. Asian
 - e. American Indian/Alaskan Native/Pacific Islanders
 - f. Multiracial or Multiethnic
 - g. Another race or ethnicity, please describe below

5. What is your current housing status?
 - a. Residence Halls

- b. Off-campus apartment or house
 - c. Commuter
 - 6. What is your current employment status?
 - a. Employed Full-Time
 - b. Employed Part-Time
 - c. Student
 - 7. Are you currently covered by health insurance?
 - a. Yes
 - b. No
-

Impact of COVID-19

- 8. Were you ever been diagnosed with the COVID-19?
 - a. Yes
 - b. No
- 9. If yes in previous questions, did you seek medical care for the COVID-19?
 - a. Yes
 - b. No
- 10. Do you find yourself more stressed during this time?
 - a. Strongly Agree
 - b. Somewhat Agree
 - c. Neither agree nor disagree
 - d. Somewhat Disagree
 - e. Strongly disagree
- 11. In what areas are you experiencing the most stress in?
 - a. School
 - b. Home or personal
 - c. Work
 - d. I am not experiencing stress
- 12. Do you find your education being affected by COVID-19 pandemic?
 - a. Extremely
 - b. Very
 - c. Moderately
 - d. Slightly
 - e. Not at all
- 13. Have you experienced a loss of employment due to COVID-19?
 - a. Yes
 - b. No
 - C. Partially (such as cutting on hours or furlough)
- 14. Have you faced financial hardship during this time?
 - a. Strongly Agree
 - b. Agree
 - c. Neither agree nor disagree
 - d. Disagree
 - e. Strongly Disagree
- 15. Have you received relief incentives from the university?
 - a. Yes
 - b. No

- c. I am not aware of any incentives
16. Have you received relief incentives from the state and Federal government?
- d. Yes
 - e. No
 - f. I am not aware of any incentives
17. How has COVID-19 overall affected your emotions in the past 30 days? Has it made you feel_____. *Select all that apply.*
- a. Angry
 - b. Anxious
 - c. Apathy
 - d. Boredom
 - e. Depressed
 - f. Frustrated
 - g. Hopeful
 - h. Isolated and lonely
 - i. Joyful
 - j. Loved
 - k. Relief
 - l. Resistance
 - m. Satisfied
 - n. Scared
 - o. Stressed
 - p. Worried
18. How has COVID-19 overall affected your behaviors? *Select all that apply.*
- a. Lack of interest in things that previously were interesting
 - b. Increased interest in new things
 - c. Loss of appetite
 - d. Increasing frequencies of overeating
 - e. Inability to sleep
 - f. Sleeping too much
 - g. Increased use of drugs and alcohol
 - h. Decreased use of drugs and alcohol
 - i. Increase in physical activity/exercise
 - j. Decrease in physical activity/exercise

Coping mechanisms:

19. Please see the following coping strategies and respond how often, you use them to cope with your stress.

Stress coping strategy	Never	Seldom	Sometimes	Frequently	Always
Doing mindfulness-based exercise such as yoga, meditation					
Doing regular physical workout/exercise					
Watching movies and entertaining comedies					
Chatting with friends					
Counselling from the professionals					
Making oneself busy with academic activities					
Sharing problem with parents, friends, and faculties					
Removing oneself from stressful situation					
Prayer, reading religious scripts					
Learning to manage time properly					
Sleeping and taking enough rest.					
Indulging in overeating					
Getting irritable and yelling at other					
Smoking cigarette or vaping					

20. To what extent have you benefitted from the techniques you have utilized to cope with stress?

- a. To a great extent
- b. Somewhat
- c. Very little
- d. Not at all
- e. Not relevant

21. Have you received any type of support during this time from the following sources?

- | | | | | |
|------------------------------------|-------|-----|-------|----|
| a. Family | _____ | Yes | _____ | No |
| f. Friends | _____ | Yes | _____ | No |
| g. School. | _____ | Yes | _____ | No |
| h. Work. | _____ | Yes | _____ | No |
| i. Other sources. (Please specify) | _____ | Yes | _____ | No |
| j. Support not received. | _____ | Yes | _____ | No |

22. Is there anything else related to the COVID-19 and its impact on mental health you would like to share with us?

That concludes the survey. Please click on the “Submit” button when you are finished. Thank you for participating in this Survey.