## The Qualitative Report

Volume 28 | Number 12

Article 14

12-5-2023

# College Student Mental Health in the COVID-19 Era: Results of an Expressive Writing Prompt

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#### **Recommended APA Citation**

Daniello-Heyda, C., Hynes, K., & Tambling, R. R. (2023). College Student Mental Health in the COVID-19 Era: Results of an Expressive Writing Prompt. *The Qualitative Report, 28*(12), 3609-3625. https://doi.org/10.46743/2160-3715/2023.6467

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#### Abstract

The novel SARS-CoV-2, or coronavirus, has greatly altered the landscape of college life for students across the United States. The ever-present health concerns and quarantine have been linked to increased anxiety, depression, stress, and post-traumatic stress disorder. To this end, we examined the influence of the COVID-19 pandemic on the psychosocial health of college students. We explored the impact of COVID-19 on levels of stress and distress in college students using a qualitative expressive writing methodology. Results of this study suggested that the college students included in the sample were moderately distressed – their scores on inventories of depression, anxiety, and COVID-19-related stressors suggested moderate distress.

#### Keywords

college students, COVID-19 pandemic, expressive writing prompt, thematic analysis

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### College Student Mental Health in the COVID-19 Era: Results of an Expressive Writing Prompt

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The novel SARS-CoV-2, or coronavirus, has greatly altered the landscape of college life for students across the United States. The ever-present health concerns and quarantine have been linked to increased anxiety, depression, stress, and post-traumatic stress disorder. To this end, we examined the influence of the COVID-19 pandemic on the psychosocial health of college students. We explored the impact of COVID-19 on levels of stress and distress in college students using a qualitative expressive writing methodology. Results of this study suggested that the college students included in the sample were moderately distressed – their scores on inventories of depression, anxiety, and COVID-19-related stressors suggested moderate distress.

*Keywords:* college students, COVID-19 pandemic, expressive writing prompt, thematic analysis

#### Introduction

SARS-CoV-2, known as COVID-19, is a novel respiratory coronavirus that emerged in 2019. Over the course of 2020, this disease spread across the world and developed into a global pandemic. As of August 2023, over 760 million confirmed cases, and 6.9 million deaths have been reported worldwide, marking this pandemic as one of the deadliest events in recent history (World Health Organization, 2023). COVID-19 and the related pandemic have had numerous impacts on biopsychosocial health worldwide. The pandemic has disrupted mental health and economic stability, social support networks, access to healthcare, and numerous other aspects of biopsychosocial health (Callaway et al., 2020). However, although the biological health consequences have been well-documented and thoroughly discussed, impacts of COVID-19 on psychosocial health also deserve similar attention in the literature (Levin, 2019; Usher et al., 2020).

Pandemics historically have profound impacts on mental health. They generate feelings of hopelessness, despair, grief, loss of purpose, and hypervigilance, as well as a fear of personal and family infection (Brooks et al., 2020; Levin, 2019; Perrin et al., 2009). The COVID-19 pandemic is no exception. The novel coronavirus and related quarantine have been linked to increased anxiety, depression, stress, and post-traumatic stress disorder (PTSD), as well as lower psychological well-being (Bo et al., 2020; Rubin & Wessley, 2020; Sønderskov et al., 2020; Zhou et al., 2020). When environments and routines change, people often experience higher levels of anxiety and insecurity (Usher et al., 2020). COVID-19 has caused countless amounts of change to people's environments, robbing many of their sense of safety and exacerbating barriers and stressors (Usher et al., 2020). One population who has experienced a high volume of changes, barriers, and stressors due to COVID-19 are college students. The swift closure of many colleges and universities in the United States left many students in a

precarious mental health situation – reporting increasing rates of symptoms of depression and anxiety, with little social support and a sense of uncertainty about their academic institutions' response (Wang, Pan, Wan, Tan, Xu, Ho et al., 2020).

#### **Purpose of the Study**

The COVID-19 pandemic has significantly impacted psychosocial health across the world (Bo et al., 2020; Rubin & Wessley, 2020; Sønderskov et al., 2020; Zhou et al., 2020). Furthermore, college students have experienced unique stressors that may exacerbate negative outcomes related to mental health (Wang, Pan, Wan, Tan, Xu, Ho et al., 2020), particularly for those in marginalized communities (Hoyt et al., 2021; Lederer et al., Owens et al., 2020; Zimmerman et al., 2020). However, despite the documented impact of COVID-19 on psychosocial health, most of the current literature focuses on the biological effects of the disease. Therefore, it is important that researchers expand our understanding of COVID-19 by examining its influence not only on biological health but psychosocial health as well.

#### Literature Review

#### **Unique Challenges of COVID-19 for Undergraduate Students**

College students appear to be at particular risk for adverse mental health outcomes related to COVID-19, specifically pertaining to stress (Wang, Pan, Wan, Tan, Xu, Ho et al., 2020). During the peak years of the COVID-19 pandemic, many students participated solely in online learning and while some students were able to stay on campus, many returned to their childhood homes to do their coursework causing them to forgo formative college social experiences that are important for well-being (Lederer et al., 2020; Peltier et al., 2000). Additionally, many students experienced high degrees of social isolation which can lead to a lack of belonging. This lack of belonging contributed to numerous social, academic, and psychological struggles, most concerningly suicidal behaviors (Gopalan & Brady, 2020; Gummadam et al., 2016).

In a sample of American college students, Cohen and colleagues (2020) found that many college students experienced health-related anxiety for themselves and their families, and discrimination directed at college students related to their role in the transmission of disease. In this sample, students noted intrusive thoughts, perseverance, and other symptoms of anxiety related to COVID-19 (Cohen et al., 2020). Lechner and colleagues (2020) found that college students were not only experiencing symptoms of depression and anxiety but experienced a distressing loss of social support and increased use of alcohol to cope with mental health problems. Alarmingly, students without preexisting mental health concerns were most likely to report deteriorating mental health and distressing anxiety and depression symptoms (Hamza et al., 2021).

#### **Psychosocial Impact of COVID-19 on Undergraduate Students**

COVID-19 has contributed to numerous adverse mental health outcomes for students including depression, anxiety, and psychological distress (Cao et al., 2020; Hasan & Bao, 2020; Husky et al., 2020; Li, Yang et al., 2020; Zimmerman et al., 2020). In one study of undergraduate students in China, a quarter of the sample reported at least some degree of anxiety ranging from mild to severe (Cao et al., 2020). Financial effects, delays in academic activities, and disruptions to daily life all significantly contributed to increased anxiety while social support was linked with decreased symptoms (Cao et al., 2020). Changes to learning

environments in particular may uniquely predict psychosocial impacts. In one study of college students from Bangladesh, researchers identified e-learning and fear of missing an academic year as significantly strong predictors of psychological distress (Hasan & Bao, 2020). Researchers found similar adverse effects when examining the specific impacts of quarantine on the mental health of Chinese undergraduate students (Li, Cao et al., 2020). Students reported significantly higher levels of depression and anxiety post-quarantine compared to pre-quarantine assessments.

In addition to changes in learning environment, living in isolation also appeared to exacerbate negative impacts. In a sample of French college students, those who lived alone on campus and did not re-locate to be with family reported higher levels of anxiety than students who did re-locate (Husky et al., 2020). Students who did not re-locate also reported higher financial and health stress, further indicating that individuals with limited access to resources may be at particular risk for negative psychosocial outcomes. Similar results have been found in studies of American students. One longitudinal study examined distress across the 2019-2020 school year. Throughout the academic year, students in this sample experienced increased distress overall during the pandemic (Zimmerman et al., 2020). Pre-existing health conditions, Internet usage, and cognitive and behavioral avoidance predicted this distress. Another study of students in New Jersey found similar results (Kecojevic et al., 2020). The sample reported high levels of overall distress related to COVID-19. They also reported high levels of depression and anxiety which were both linked to academic struggles and employment losses with women once again reporting the highest levels (Kecojevic et al., 2020). Increased depression in particular contributed to academic struggles and loss of employment in this sample.

It should be noted that not all studies have found COVID-19 to be a unique risk factor for negative psychosocial outcomes in college students. One study found low prevalence of depression and anxiety levels (below 10%) in both students who have and have not contracted COVID-19 (Wang, Yang et al., 2020; though researchers did find that having a family member or loved one with COVID-19 increased risk of depression). Additionally, another longitudinal study found that while levels of stress, anxiety, and alcohol use increased in the spring of 2020, they returned to pre-pandemic levels by the fall 2020 semester (Charles et al., 2021). However, overall, few studies reported results depicting that the pandemic had little impact on psychosocial outcomes. Most researchers have found that COVID-19 had significant impacts on various aspects of psychosocial health indicating a need for further research to better understand these impacts.

#### **Contextual Barriers**

For many students, stressors and negative outcomes were exacerbated due to contextual factors such as race, socioeconomic status (SES), sexual and gender identity, and family stability. Many students from low-income families rely solely on campus resources for both housing and food (Goldrick-Rab et al., 2018; Owens et al., 2020; U.S. Department of Housing and Urban Development, Office of Policy Development and Research, 2015). According to the American College Health Association (2020), 45% of students are food insecure. Therefore, when campus food and housing resources were no longer available due to campus closures, many students were at even further risk for food and housing insecurity (Owens et al., 2020). However, for other students, returning home was the greater risk. Research shows an increase in family violence since the onset of COVID (Campbell, 2020). LGBTQ+ students may be at particular risk when returning home, especially if they are not "out" to their families or their families do not accept their sexual or gender identities (Lederer et al., 2020). In another study

that found similar results, LGBTQ+ students reported higher levels of anxiety and stress related to COVID-19 than non-LGBTQ+ students (Hoyt et al., 2021).

Women and those in minority racial groups have also consistently reported particularly high levels of negative outcomes related to COVID-19 (Hoyt et al., 2021; Labrague et al., 2020; Zimmerman et al., 2020). Across the literature, women have reported more distress, anxiety, stress, and loneliness related to COVID-19 compared to men (Hoyt et al., 2021; Labrague et al., 2020; Kecojevic et al., 2020; Zimmerman et al., 2020). Latino students have also reported higher levels of distress compared to other racial groups (Zimmerman et al., 2020). Additionally, Asian-American and Pacific Islander (AAPI) students faced unique challenges due to racial biases related to the virus's origin in China. Many AAPI students reported increased discrimination, including racially charged comments, racial slurs, and even threats of violence (Hahm et al., 2021; Cheah et al., 2020). Students from China make up the largest proportion of international students (Institute of International Education, 2019) and therefore, may be at increased risk for discriminatory attacks (Lederer et al., 2020). Overall, various contextual factors have largely shaped the impact of COVID-19 on undergraduate students, placing them at risk for various negative outcomes related to psychosocial health. Therefore, it is important that researchers account for these factors in their work in order to best understand the psychosocial impacts of COVID-19 for college students.

In addition to the changing landscape of course delivery, losses during the pandemic, and overall stress and anxiety, college students may experience a sense of isolation and lack typical opportunities for help with their mental health. Therefore, alternative methods of mental health treatment delivery, such as telehealth and asynchronous treatment types are needed during this time (Hatami et al., 2022). A web-based expressive writing intervention may be especially appealing to this group and is a viable alternative to face-to-face counseling for anxiety.

#### **Expressive Writing**

The term *expressive writing* is used to describe a type of writing focusing on traumatic, stressful, or emotional events, and on the feelings associated with those events (Pennebaker & Beall, 1986). Expressive writing interventions have demonstrated positive outcomes on stress, anxiety, and posttraumatic stress reactions. In particular, written emotional disclosure expressive writing tasks have demonstrated positive effects on emotional well-being, including the reduction of anxiety and lowering of perceived stress (Baikie et al., 2012; Graf et al., 2008) and the stimulation of posttraumatic growth (Gallagher et al., 2018; Pavlacic et al., 2019; Stockton et al., 2014). Research suggests that positive effects are durable over several months (Alparone et al., 2015; Sloan et al., 2008). Written emotional disclosure expressive writing tasks include a prompt for the individual to write about a stressful, traumatic, or upsetting event for a specified period of time each day. Frequency of this writing can be daily or weekly, and duration of the task ranges from several days to weeks. The present study utilized a weekly diary approach, combining expressive writing with survey-style reporting in a unique application of an expressive writing technique for college students experiencing stress and anxiety in the present exploratory study.

#### **Research Questions**

In this study, we explore the impact of COVID-19 on levels of stress and distress in college students. We hoped to contribute to the current literature by using a qualitative methodology to deepen and expand our current understanding of the psychosocial effects of the COVID-19

pandemic on college students. Using an expressive writing methodology, the following research questions were addressed:

- 1. What things do college students find stressful during the COVID-19 pandemic?
- 2. In what ways do stressors impact college students' daily lives?
- 3. How are stressors associated with interpersonal and intrapersonal experiences?
- 4. What coping skills are college students using?

In addition to analysis of the diary entries, quantitative assessments of a variety of psychosocial constructs were used in the examination to assist with contextualizing the qualitative data.

#### Methods

#### Procedures

Participants were recruited through an online recruitment management system that allows college students to participate in research studies for participation credit. After obtaining IRB approval from a university in the southwest region of the United States [IRB2020-822], the survey was posted to the student recruitment and participation system between January 2021 and April 2021. Potential participants viewed a brief description of the study and requirements before determining whether they would choose to participate. Participants were informed that the study involves several parts: three diary entries, and a pre and post survey. Participants received one unit of course credit per each of the three diary entries completed, a rate of compensation deemed equitable by the committee who oversees the larger project, and which is consistent with other research opportunities on the platform.

Initially, diary entry one had 60 responses, diary entry two had 29 responses, and diary entry three had 24 responses. Sixteen cases were removed from diary entry one because they were incomplete, for a total of 44 cases, then upon further review, 20 more cases were removed because they were unmatched with diary entries two and three. The final sample included 24 entries that have a diary entry one, two and three from each participant for a total of 72 diary entries.

#### **Participants**

The 24 participants were adult students from a southern university. The mean age of the sample ranged from 18-54 (M=24.8, SD=10.49), with two non-traditional students at age 37 and 54. However the sample was bi-modal for age, at 19 and 20. In terms of gender identity, the majority of the sample identified as female (22 participants, 91.7%). In addition, the participants primarily identified as heterosexual (20 participants, 83.3%), White (17 participants, 70.8%), and a Christian denomination (15 participants, 63%).

#### Measures

#### Generalization Anxiety Disorder (GAD-7; Spitzer et al., 2006).

The GAD-7 is a seven-item measure that assess for anxiety symptoms and can be used to evaluate an individual for the DSM-V criteria of Generalized Anxiety Disorder. Greater scores in the measurement indicate greater anxiety with cutoff scores of 5, 10, and 15 indicating mild, moderate, and severe anxiety, respectively. In a large study of primary care patients, it had an internal consistency ( $\alpha = .92$ ) and correlated highly with diagnoses made by mental

health professionals' interviews. The present study has similar consistency with a Time 1 Cronbach's  $\alpha$  of .85.

#### Major Depression Inventory (MDI, Olsen et al., 2003).

The MDI is a ten-item measurement that assesses the level and severity of depression and can be used to evaluate an individual for the DSM-V criteria for Major Depressive Disorder. Greater scores in the measurement indicate greater depression with cutoff scores of 20, 25, and 30 indicating mild, moderate, and severe anxiety, respectively (Cuijpers et al., 2007). It has high internal reliability ( $\alpha = .90$ ; Olsen et al., 2003) and in the present study a similar alpha was found at Time 1 that Cronbach's  $\alpha$  was .95.

#### Perceived Stress Scale (PSS; Cohen et al., 1983).

The PSS is a ten-item measurement of an individual's appraisal how stressed they are in their current situation Greater scores in the measurement indicate greater perceived stress. It had high internal reliability ( $\alpha = .85$ ) during the assessment creation. In the present study, the scale had acceptable internal reliability at Time 1 (Cronbach's  $\alpha = .81$ ).

#### Medical Outcomes Study Sleep Scale (MOS6; Viala-Danten et al., 2008).

The MOS-Sleep six-item questionnaire is a shortened version of the MOS-Sleep twelve-item version. The measurement is a self-report scale that asks individuals to assess their sleep quality for the past four weeks. Internal reliability for the subscales range from .71 to .81. This held true for the present study with the Time 1 total measure of Cronbach's ( $\alpha = .91$ ).

#### COVID Stressor Scale-Short (CSS-S; Tambling et al., 2021).

The CSS-R is a shortened version of the CSS (Park et al., 2021). It is a nine-item measure that evaluates stressor exposure and appraisal, to quantify overall stress associated with the COVID-19 pandemic. The Time 1 Cronbach's  $\alpha = .92$ .

#### **Data Collection**

#### Time 1 Procedures

Participants completed an initial demographic form that included basic demographic information. In the initial survey, participants completed the GAD-7, MDI, PSS, MOS6, and CSS-S. Following the assessments, the participants completed three diary entries with questions about their stress related to COVID-19. This diary included a written assessment of the occurrence of items that may have an impact on stress level (events at work, home, or school, and impacts of friends or relatives). Each affirmative reporting of an event triggered follow up primary appraisal questions that assessed the impacts of the stressor on the individual, a key component of stress assessment (Almeida et al., 2005). The open-ended response format of the occurrence and appraisal questions served as the expressive writing prompts.

#### **Time 2 Procedures**

In the second survey, participants completed a diary of stress instances, similar to the first survey. This diary also asked additional questions about stressors that may have occurred in the past week to the participants with subsequent appraisal questions.

#### **Time 3 Procedures**

In the third survey, participants completed the same assessment measures, GAD-7, MDI, PSS, MOS6, CSS-S. Following the assessments, the participants completed a diary of stress instances.

#### **Quantitative Data Analysis**

Though the primary data analysis for this study were qualitative, we include descriptive quantitative analysis to describe our participants. This practice is consistent with Teddlie and Tashakkori's (2009) recommendation that quantitative data can be used to describe participants, which serves to enhance and contextualize the findings. All assessment and demographic data were analyzed using SPSS (IBM Corp., 2017). Demographic data was run to identify frequencies and trends. Descriptive statistics were run for the quantitative assessments to identify means and standard deviations.

#### **Qualitative Data Analysis**

We used Braun and Clarke's (2006) approach and guidelines for using thematic analysis in psychotherapy research. To identify college student stressors during the COVID-19 pandemic, we sought a methodology that facilitates identifying, analyzing, and reporting patterns and themes across qualitative datasets. Thematic analysis allows for this analysis across cases and can be used in conjunction with a variety of frameworks (Braun & Clarke, 2006). For the purposes of the study, we examined the data while looking through a stress theory lens. This lens has been previously effective in conjunction with thematic analysis when examining young people (Branson et al., 2019). We used an inductive approach to qualitative thematic analysis, as we did not have a pre-existing coding frame or analytic preconception about the data and wanted the analysis to be data-driven (Braun & Clarke, 2006). While we acknowledge that it is impossible to be completely free of epistemological assumptions, we used bracketing techniques to maintain separation of our epistemological assumptions and the data (Braun & Clarke, 2006).

Data were collected using Qualtrics survey panel, and were uploaded into Microsoft excel, and then into NVivo (QSR International, 2020). Analyses were conducted using NVivo. We began the thematic analysis by immersing ourselves in the data. We reviewed each transcript to get a sense of the data as a whole. The first author generated initial codes in effort to understand the rawest form of the participant's statement (Braun & Clarke, 2006). The second author examined a random selection of 25% of entries from each time point, using a random number generator. The second author examined the first author's coding and agreed with all codes. The first author developed an initial list of themes, and then the authors then collaboratively to discuss and further develop the themes.

#### Self- of -the Researcher

I (CDH) identify as a Caucasian, married, cisgender woman. I am a mother, professor, practicing therapist, and researcher. I (RRT) identify as a mixed race, single cis-woman with a chronic health condition. I (KCH) identify as a queer, Korean American adoptee who is married and is a professor and researcher of therapy. During the COVID-19 pandemic, and at the time these data were collected, all authors were working full time on a university campus. In this professional role, it was necessary to navigate our own safety, as well as the safety of students and our families as it related to the COVID-19 pandemic. We all followed the guidance offered by our universities and the Center for Disease Control (CDC). This necessitated that all of us had daily lives that were impacted by the COVID-19 pandemic. National quarantines and shelter-in-place order impacted us all and we experienced the pandemic in many ways similar to the experiences of our subjects and the nation.

#### **Findings**

#### **Quantitative Description of Participants**

Participants were mildly to moderately distressed at time 1. The scores at the initial assessment found that participants were one point below the cutoff for mild depressive severity (MDI; M = 19.04, SD = 12.96), had mild anxiety symptoms (GAD-7; M = 8.17, SD = 4.40), had low distress (PSS; M = 12.43, SD = 6.45), had sleep difficulties (MOS-6; M = 13.67, SD = 5.15), and had some appraised COVID-19 related distress (CSS-S; M = 28.54, SD = 9.26). The scores at the time 3 did yield changes to the scores. Participants had below the cutoff for mild depressive severity (MDI; M = 16.04, SD = 13.92), had moderate anxiety symptoms (GAD-7; M = 14.09, SD = 5.41), had low distress (PSS; M = 13.09, SD = 6.71), had sleep difficulties (MOS-6; M = 12.70, SD = 4.93), and had some appraised COVID-19 related distress (CSS-S; M = 26.52, SD = 11.10).

#### **Qualitative Data Analysis**

The presentation of results is organized according to the study purpose to explore the stressors that impact college students. We also present the coping strategies that college students stated they found effective in coping with the unique stressors presented by COVID-19.

*Stressors.* The first diary entry prompt asked participants to discuss their current stress level, as well as events that occur in their life that contribute to their elevated stress level. Seven participants endorsed the COVID-19 pandemic as one of their primary stressors. For example, one participant said, "It is stressful wondering when one of us will actually get sick from COVID-19 after all the exposures." Another participant said, "I did not sleep well last night with a feeling of doom. After taking a nap, I discovered that our neighbor passed away [due to COVID-19]."

Five participants mentioned that they experienced stress related to friends and loved ones receiving a COVID-19 diagnosis. For example, one participant said, "I am so tired of COVID. We have lost friends to this awful virus and so many people do not take it seriously." Other participants described the stress that resulted from a friend receiving a COVID-19 diagnosis, a local acquaintance who passed away, and worry for the health and safety of their loved ones in general. These quotations illustrate the stressful impact of the COVID-19 pandemic and concern related to personal wellness as well as the health and safety of loved ones and acquaintances.

Three participants in our sample were non-traditional students and parents. These participants discussed the impact that COVID-19 has had on their children, and also how their children's stress affected their own. For example, one participant said, "My daughter was quarantined from her high school after contact tracing." Another participant said, "There is nothing more painful than watching your eight-year-old child get depressed because she can't see her friends or teachers, and not being able to do anything to change that. Heartbreaking."

*Life Stressors During Pandemic*. Two participants described that in addition to the unique stressors that occurred as a result of the COVID-19 pandemic, they also needed to manage daily life stressors. For example, one participant said,

Even with the current pandemic, life still happens. I work with COVID positive patients. But that's not the only thing that is stressful, because life still happens; family members still die from other illnesses, tragic events happen and then we deal with the mental health of our children along with ourselves.

Another participant discussed how COVID-19 has impacted visitation with an ill family member. They said, "My dad is dying and he lives over 2,000 miles away and we are in the middle of a pandemic causing restrictions and fear of giving him COVID-19." These excerpts illustrate how the COVID-19 pandemic has compounded situations that would be otherwise stressful.

Academics Increased Stress Levels. Eleven participants described heightened stress levels related to their academic performance. Participants discussed how a high workload, coupled with a lack of companionship lead to increased focus on academic stress. Academic work was identified as the primary stressor for participants in this study. Three participants stated that the sheer volume of work they needed to complete was stressful. One participant said, "The degree to which [school work] has to be performed at, the practicing and overthinking about it is stressful." Another participant said, "School is very stressful for me because I obsess over little things." Two participants also stated that they felt they were experiencing chronic stress. One participant said, "I am always stressed about something, honestly." Three participants also stated that they felt that their stress level accumulated throughout the school week. One participant said, "I feel calm [today] but it is the beginning of the week, so stress has not crept up on me yet."

Interpersonal Stressors. Two participants also mentioned interpersonal stressors that were specific to their roommates. For example, one participant said "My roommates are just very judgmental people and I feel like I can never do anything right with them and it just brought me down so low today." Another participant described a disagreement with roommates who had been supportive in the past. They said, "[My] roommates struggle with anxiety too and they are usually also understanding and I thought they would be more understanding [in this situation]." Another participant said, "I got an emotional support cat for Christmas and my roommates would not let me bring her [to school] with me even though I said it would help me a lot." These participants also described the stress that accompanied the idea of having to find new roommates if the relationships with current roommates became too tenuous. Therefore, participants seemed to face the pressure of trying to keep peace with their roommates.

*Financial Concerns.* Eleven participants also described how their financial situation contributed to an increased stress level. One student mentioned that they were overcharged on student fees. They said, "Being charged \$921 on something that was supposed to be \$567." Another stated that "not being able to afford books" contributes to their stress level. Another participant discussed how not begin able to afford books contributes to their stress. They said, "I have a time constraint before my [free] book trial ends so I'm trying to finish all the work before the trial ends so I don't have to pay for the book."

*Coping methods.* Participants discussed the ways that they are coping with the stressors that they faced. In general, fourteen participants discussed the importance of physical and emotional self-care. For example, one student said, "[I] exercise, take time out to try to relax and stay positive and focused." Another discussed the importance of exercise. They said, "I work out to allow my body to move and recover." Exercise emerged as an important mechanism for self-care. Three participants identified getting the proper amount of sleep as a critical coping mechanism. One said, "I actually slept last night and that has helped [my stress level] a lot." Three participants also mentioned using Cannabidiol (CBD) products as a way to reduce their stress level, "I use CBD and I try to get enough sleep." Two participants also discussed the importance of keeping a journal and trying to stay focused on the positive aspects of their life.

Time management was identified by seven participants as a critical way to avoid additional stress that accompanied procrastination and falling being in their schoolwork. For example, one participant said, "I created an excel spreadsheet with my to-do list for all schoolwork assignments along with anything addition that I need to do before a certain deadline. This has helped me to concentrate on getting things done." Another said, "I got a planner and wrote out all of my due dates for every single class to see them physically on paper. I also worked my tail off to pretty much finish my government class in the first week of school to take a class off my full load." Nine participants discussed talking with a trusted friend as an effective coping strategy for reducing stress. One participant said, "Talking to a good friend who offers really good advice, and then following through with that advice and being honest and straight forward with the people in the stressful situations." Other participants said that they talked to a trusted friend, boyfriend or girlfriend, or their family.

#### **Unique Findings**

These data were collected during an unprecedented winter storm event in the geographic region in which data were collected. The storm resulted in colder temperatures than normal, and an energy crisis. Five participants referenced the stress caused by the winter storm. For example, one participant said,

This last week, we experienced a snow and ice storm in our area and we have not seen snow like that in over 35 years. Our town experienced major damage from busted pipes, people were without electricity and water and are still without. We were stuck in our home with minimal food and could not leave for eight days. People even died from the cold.

Another said, "It was literally a week of trying to survive in the freezing and sub-freezing temps and being locked up in the house with no way to travel." Participants expressed that the winter storm seemed to compound the stressors they experienced as a result of the COVID-19 pandemic and resulted in further isolation and unprecedented challenges.

#### Discussion

We used an innovative diary method to gather information about college students' experiences of stress and coping during the COVID-19 pandemic. Respondents completed a battery of psychological measures at pre- and post-test, and three diary entries inspired by expressive writing methodologies. The diary entries included short essays in which respondents described their experiences of stressors, the relationship of those stressors to the inter- and intra-personal functioning, and the coping skills they used to manage stressors.

Results suggested that the college students included in the sample were moderately distressed – their scores on inventories of depression, anxiety, and COVID-19-related stressors suggested moderate distress. Scores on the Perceived Stress Scale were low, suggesting that, overall, the respondents' stress levels were low, and scores on the sleep measure suggested that they were sleeping well. The quantitative assessment of the participants' anxiety and depression appear to be similar to the general college student population levels (Stallman, 2010). However, the perceived distress levels were smaller than perceived distress before and during the COVID-19 pandemic in a different university sample (Charles et al., 2021).

Results of the qualitative thematic analysis of stressor experiences indicated that the college students who replied were generally concerned about COVID-19 particularly with regard to infection risk, and experiences of family and friends who were negatively impacted by COVID-19 infection. College students also reported that their experiences as college students impacted their stress level, and academics felt burdensome. College students also reported interpersonal difficulties and financial difficulties. College students indicated that they engaged in a number of coping skills to manage their stressors.

Remarkably, despite an unprecedented pandemic and never-seen-before winter storm, participants showed resiliency in their responses, despite the distress they also expressed. Participants discussed adapting to the circumstances and utilizing supports that helped them cope during this time period. While it is unknown how the coping strategies identified by participants or how the expressive writing journals helped or hindered participants, previous research found that different coping strategies resulted in different outcomes for undergraduate students during the COVID-19 pandemic (Patias et al., 2021). Thus, it is important to examine how participants in this study felt while using these strategies and pursue further research on the experiences of college students in this context.

#### Implications

Results of the present study carry implications for university personnel who interact with college students or develop policy that affects college students during the COVID-19 pandemic. First, it is important to note that college students experienced distress about their academic performances. It is important for course instructors, and those in administration who determine course and departmental policies to consider these additional burdens and stressors that college students face. For example, flexible attendance policies may be instrumental in allowing students to make decisions about the amount of health risk they are comfortable to take on. Further, supportive guidance for remaining abreast of the course workload is critical for students who are concerned about falling behind in their courses.

In addition, this study and others may be an indication about the current culture of university and academic systems. Participants identified basic needs not being met or difficulty in coping during a historically traumatic event and despite these issues, academics and work continued. Academic systems and others may need to identify and grapple with the implications of continuing as usual when students felt as though they were facing other, more pressing issues. When there more important things happening in their lives. In an event that cannot be replicated, what would have happened if the participants were able to focus on themselves and their loved ones rather than work and school?

#### **Limitations and Future Directions**

While the results of this study are interesting and provide valuable insight into the ways that college students have experienced the pandemic, the study is not without its limitations. First, we used an expressive writing-informed diary method that is unique to this study. We selected this innovative methodology as a way to capture the true experiences of our subjects, as they felt them. We also selected this methodology for its potential benefits to subjects (Baikie et al., 2012; Graf et al., 2008). However, the method is untested, and the particular prompts used were developed for this study. It is possible that other prompts would have gathered different information. Future researchers should include more respondents, more diverse samples, and a larger range of subjects geographically. Relatedly, the geographic area in which respondents lived experienced a second catastrophic event in addition to the COVID-19 pandemic. The area was struck by unprecedented cold and ice storms that impacted the lives of all respondents. As the study was ongoing at the time of this disaster, our data captured some stress related to the weather event. It is unknown how much the weather event contributed to ratings of stressors, and the perspectives of respondents.

Despite these limitations, the present work addresses useful questions about the experiences of college students relative to COVID-19. By responding to expressive writing prompts about their stressors, individuals who interact with college students gained useful information about how college students are processing, experiencing, and coping with stressors during this global pandemic.

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#### **Article Citation**

Daniello-Heyda, C., Hynes, K., & Tambling, R. R. (2023). College student mental health in the COVID-19 era: Results of an expressive writing prompt. *The Qualitative Report*, 28(12), 3609-3625. https://doi.org/10.46743/2160-3715/2023.6467