Assessing the Effects of the COVID-19 Pandemic on Nontraditional Students’ Mental Health and Well-Being

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Abstract
The current study sought to measure how the COVID-19 pandemic affected the mental health and well-being of college students, particularly nontraditional students. Participants ($n = 321$) completed a series of surveys assessing their level of depression, anxiety, sleep disturbances, insomnia, and well-being. Participants also indicated their nontraditional student characteristics, level of resilience, and additional life stressors due to the pandemic. Statistical analyses found that participants reported higher levels of depression, anxiety, sleep disturbances, and insomnia, with corresponding lower levels of well-being across all students, compared with prepandemic levels. Results showed that while nontraditional students indicated an increased number of life stressors during the pandemic compared with their traditional peers, nontraditional students also demonstrated higher levels of resilience. Nontraditional students appear to be more successful at managing stressful life events due to the increased resilience that comes with age and experience, which can better prepare them to persevere and overcome challenges.

Keywords
nontraditional students, COVID-19, pandemic, mental health, resilience

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The COVID-19 pandemic is an unprecedented, worldwide crisis. While the pandemic has affected everyone, young and old, one particularly vulnerable group is college students. COVID-19 is more likely to affect young adults financially and socially, and to create a barrier for learning (Boeren et al., 2020). Young adults are more likely to work in less stable fields, such as restaurant wait staff, fast food, and retail; all industries that were affected heavily by the pandemic and subsequent closures (Boeren et al., 2020). These types of jobs also put their workers in direct contact with the public, increasing the likelihood of infection, which could also negatively affect them both financially and personally (Boeren et al., 2020).

The effects from COVID-19 are already impeding college access and success for many students, especially those who are low-income (Causey et al., 2021). In fall 2020, 22% fewer high school graduates immediately attended college after high school when compared with fall 2019. There was a 29% drop in college enrollment among graduates from low-income high schools, compared with a 17% drop from higher income high schools, which suggests the pandemic is disproportionately affecting low-income young adults (Causey et al., 2021).

College Students’ Mental Health

Social distancing and the shift from in-person classes to online learning also means that college students are receiving less social and emotional support from friends, family, peers, and professors (Elmer et al., 2020; Hussein et al., 2020; Sharma et al., 2020), which can increase mental health problems. Anxiety and depression were already common concerns for college students prior to the pandemic (McFarland et al., 2019); up to 30% of students reported that their personal lives and academic functioning were negatively affected due to anxiety and depression (Hart Abney et al., 2019). After the onset of the pandemic, studies have found that rates are increasing. Chirikov et al. (2020) found that 35% of undergraduate students screened positive for major depressive disorder, and 39% screened positive for generalized anxiety disorder after the onset of COVID-19. Another study found that 71% of student participants indicated they had increased levels of stress, depressive thoughts, and anxiety due to the pandemic (Eysenbach et al., 2020). French university students in Eastern France, an area hit hard by the pandemic, reported elevated levels of depression (43%), anxiety (31%), and distress (43%; Essadek & Rabeyron, 2020). In addition, Chinese students reported severe levels of acute stress (35%), depression (21%), and anxiety (11%; Ma et al., 2020). Students with high media exposure and low social support were more likely to report anxiety and depressive symptoms. Across studies, most of these symptoms were based on health concerns for themselves and family, difficulty concentrating, sleep disturbances, social isolation, and academic concerns (Eysenbach et al., 2020).

Sleep disturbances have long been a common issue for college students. Schlarb et al. (2017) found that up to 60% of college students have poor sleep quality, and over 7% of these meet the criteria for insomnia. Poor sleep quality is associated with low GPA, poor academic performance, and a lower level of well-being (Fischer et al., 2020; Hartmann & Prichard, 2018; Pagel & Kwiatkowski, 2010). In fact, Hartmann
and Prichard (2018) found that sleep disturbances were a significant predictor of academic problems such as dropping a course and lowering cumulative GPA, at equal or greater rates as binge drinking, stress, and drug use.

Historically, events such as war, terrorist attacks, and natural disasters such as earthquakes and floods lead to increases in stress, anxiety, depression, and sleep disturbances (Belleville et al., 2019; Lavie, 2001). As a unique global event, COVID-19 will likely influence the mental health of all populations of people. In fact, Lin et al. (2021) found that, during the early stages of the pandemic, Chinese adults experienced high rates of insomnia (20%), acute stress (16%), anxiety (19%), and depression (25%). Participants completed the Insomnia index twice, based on both current rates and pre-COVID rates, and findings suggest a 37% increase in the rates of insomnia. Cao et al. (2020) found similar results in Chinese college students in regards to rates of anxiety, and found that anxiety increased with lack of social support and the addition of life stressors such as academic delays and economic strain. Kibbey et al. (2021) found that U.S. students in a COVID-19 “hotspot” experienced significant increases in anxiety, depression, and health anxiety.

Fluctuating work hours, whether due to an increase or decrease in number of hours worked, as well as online schooling, will also have likely affected sleep patterns. One study found that college students were likely to experience apprehension regarding transitioning to online courses and adapting to changes in coursework and delivery, and this nervousness was correlated with an increase in anxiety, depression, and sleep disturbances (Tasso et al., 2021). Cellini et al. (2020) found that young adults in Italy reported going to bed later and waking up later than usual. For those who lost their employment, or for health care workers who are working around the clock, the effects of the pandemic on their sleep will be especially exacerbated (Mimoun et al., 2020). There is also a possibility of acute insomnia leading to chronic insomnia, especially as the pandemic continues to affect social interaction, education, and employment (Morin & Carrier, 2021).

**Nontraditional Students**

College students who were already vulnerable due to multiple life stressors will be especially affected by the pandemic. These students were already juggling school, work, and family, and the additional challenges brought on by COVID-19 may significantly delay enrollment and/or graduation, reduce retention, and increase mental health issues (Giancola et al., 2009). Students with significant work and family obligations are typically nontraditional students. Considering that nontraditional students are the fastest growing population of college undergraduates, and currently make up about 75% of the college population (Chen, 2017; Radford et al., 2015), it is reasonable to assume that a greater segment of the population will have been affected by the pandemic.

The U.S. Department of Education defines nontraditional students using seven characteristics: being 25 years of age or older; being a single parent; having dependents other than a spouse; enrolling in college part-time; having a GED instead of
a high school diploma; delaying college attendance by a year or more; being financially independent; and working full-time while attending college (Choy, 2002; Radford et al., 2015). This is in comparison with traditional students, who typically live on campus as full-time students, enrolling immediately after high school graduation.

When compared with their traditional counterparts, nontraditional students face a variety of challenges. These challenges include balancing family, work, and school, financial barriers, cultural barriers, confidence, and learning to use modern technology (MacDonald, 2018; Remenick, 2019). The more nontraditional characteristics a student possesses, the more barriers they will face, as their academic needs will often interfere with their jobs and the needs of their families (Ellis, 2019). Prepandemic, nontraditional students were already more than twice as likely to drop out during or after their first year of college compared with traditional students, at a rate of 38% versus 16% (McFarland et al., 2019). Nontraditional students report that their most significant sources of stress are conflicts between school and work and between school and family (Giancola et al., 2009). Nontraditional students also reported higher levels of life stress, depression, and anxiety when compared with their traditional peers (Trenz et al., 2015). After the onset of the pandemic, it is likely that nontraditional students are now managing their own online education, working jobs that may include issues with longer or reduced hours, caring for children and managing their online schooling, and caring for other family members. Because nontraditional students are more likely to hold outside employment than their traditional counterparts, they are more likely to experience distress due to furloughs or similar cuts to hours or wages (Mimoun et al., 2020). These additional demands on nontraditional students will likely negatively impact their educational goals, sleep, and mental health.

However, the outlook for nontraditional students is not always bleak. Nontraditional students also possess characteristics that make them more likely to succeed when compared with traditional students. For example, students with multiple nontraditional characteristics are less likely to display academic entitlement when compared with traditional students (Crone et al., 2020), which emphasizes the student’s own role in their education and success. In addition, Carney-Crompton and Tan (2002) found that nontraditional students’ psychological functioning does not seem to depend on their emotional and social support as much as traditional students’ functioning. Nontraditional students are able to perform better academically with fewer sources of support, when compared with traditional students. Therefore, social isolation from peers, professors, and colleagues may influence their mental health less than with traditional students.

**Resilience in Nontraditional Students**

Nontraditional students also display higher levels of mental health resilience, which can help offset depression, anxiety, and stress (Chung et al., 2017). Resilience is the capacity of individuals to overcome difficulties and maintain constancy in their lives.
(Martin et al., 2015; McMurray et al., 2008; Waugh et al., 2008). Higher levels of resilience and distress tolerance are related to higher levels of cognitive flexibility and emotion regulation (Arici-Ozan et al., 2019); therefore, the “real-world” life experiences of nontraditional students, such as work experience and caring for a family, may help create a more mature and successful student. Resilience will be an important trait in facing the threat of the pandemic. Kimhi et al. (2020) found that individual resilience and well-being were the biggest predictors of anxiety regarding the threat of COVID-19 and uncertainty involving a vaccine or cure. Ye et al. (2020) similarly found that, in the face of life stressors associated with the pandemic, the effects of acute stress disorder could be facilitated by resilience, adaptive coping strategies, and social support. Nontraditional students may serve as a model for other groups regarding handling the uncertainty of future global problems.

Current Study

The current study seeks to understand the impact of the COVID-19 pandemic on the mental health and well-being of college students in the United States. In addition, this study compares nontraditional students to traditional students, as well as differentiates between students with one nontraditional characteristic versus students with multiple nontraditional characteristics. Having multiple nontraditional characteristics may affect a student to a greater degree when compared with a student with fewer characteristics (Horn & Carroll, 1996). While it is expected that all college students will experience higher levels of depression, anxiety, sleep disturbances, and insomnia in relation to the pandemic, the nontraditional student population may be affected differently. Although they will likely experience more life stressors, their increased age and life experiences should be correlated with increased levels of resilience, which should allow them to cope with the effects of the pandemic better than their traditional peers. Understanding how the COVID-19 pandemic has influenced students, particularly students who are more vulnerable due to life circumstances, is vital in meeting the needs of these students and in planning appropriate retention and persistence interventions. Therefore, this study attempts to address the following research questions: (1) What is the impact of the COVID-19 pandemic on US college students’ mental health and well-being? (2) Are students with multiple nontraditional characteristics and life stressors experiencing more severe mental health effects due to the pandemic? (3) Do nontraditional students demonstrate more resilience than traditional students? In addition, does increased resilience correlate with better mental health outcomes for nontraditional students?

**Hypothesis 1:** All participants will report lower levels of well-being and higher levels of depression, anxiety, sleep disturbances, and insomnia during the COVID-19 pandemic, when compared with prepandemic fall 2019 levels.

**Hypothesis 2:** Nontraditional participants will experience increased life stressors due to the pandemic, when compared with traditional participants.
**Hypothesis 3:** Nontraditional participants will report higher levels of resilience when compared with traditional participants, which will correlate with lower levels of depression, anxiety, sleep disturbances, and insomnia.

**Method**

**Participants**

The participants ($N = 321$) for this study were recruited from undergraduate psychology classes at a large, urban, nonresidential university in the southeastern United States. Their ages ranged from 18 to 62 years of age ($M = 25.88, SD = 8.29$). The sample was predominantly female (77.7%; $n = 249$) and 22.4% male ($n = 72$) and a majority identified as Latinx (53.0%, $n = 170$), followed by Black/African American (23.1%, $n = 74$), and White (13.1%, $n = 42$). A large majority of participants identified as single (80.1%, $n = 257$), followed by married (14.6%, $n = 47$), and divorced (4.4%, $n = 14$). Participants were split by academic level with the most participants reporting their academic level as senior standing (37.4%, $n = 120$), followed by junior (29.0%, $n = 93$), sophomore (16.8%, $n = 54$), freshman (15.6%, $n = 50$), and finally graduate students (1.2%, $n = 4$).

**Measures**

**Nontraditional Factors.** Participants completed demographic questions regarding criteria used to define them as traditional or nontraditional, including age, high school graduation status, enrollment delay, financial independence, having dependents, single parent status, hours employed, and their enrollment status (Choy, 2002; Radford et al., 2015). Participants were coded as nontraditional if they: were 25 years or older; earned their GED instead of their high school diploma; did not enroll in college immediately after finishing high school; indicated they were financially independent; had dependents other than a spouse; were a single parent; worked 35 hours or more per week; or were part-time students.

In addition, participants were then designated as traditional, minimally nontraditional, moderately nontraditional, or highly nontraditional students, based on Horn and Carroll’s (1996) original classification and used most recently in Crone et al. (2020). Participants with no nontraditional characteristics were categorized as traditional ($n = 77; 23.8%$), participants with one nontraditional characteristic were categorized as minimally nontraditional ($n = 70; 21.7%$), participants with two or three nontraditional characteristics were categorized as moderately nontraditional ($n = 98; 30.3%$), and participants with four to seven nontraditional characteristics were categorized as highly nontraditional ($n = 78; 24.1%$).

**Depression.** The *Patient Health Questionnaire* (PHQ-9; Spitzer et al., 1999) is a 9-item self-report measure assessing the presence of depressive symptoms in the prior 2 weeks, via four Likert-type answer choices ranging from *(not at all)* to *(nearly every*
day). Items include “Poor appetite or overeating,” “Thoughts that you would be better off dead, or of hurting yourself,” and “Little interest or pleasure in doing things.” The PHQ-9 includes items that assess sleep, appetite, anhedonia, and self-harm and is considered a reliable and valid measure of depressive symptom (Löwe, Gräfe, et al., 2004). Cronbach’s α for the present sample was .91.

Anxiety. The General Anxiety Disorder Scale (GAD-7; Spitzer et al., 2006) is a seven-item self-report measure evaluating anxiety symptoms and severity over the past 2 weeks. Items on the GAD-7 include “Not being able to stop or control worrying,” “Trouble relaxing,” and “Feeling afraid as if something awful might happen.” Participants rated these items on a Likert-type scale ranging from (not at all) to (nearly every day). Research has shown the GAD-7 as a measure of anxiety is both valid and reliable (Kroenke et al., 2010; Löwe et al., 2008). Cronbach’s α for the present sample was .93.

Sleep Quality. The Pittsburgh Sleep Quality Index (PSQI; Buysse et al., 1989) is a 19-item self-report assessment that measures nighttime sleep quality. Participants reported their nighttime sleep quality in the past month. The items are grouped into seven component scores which include subjective sleep quality, sleep duration, and sleep disturbance. Answer choices are weighted from 0 to 3 and then added up to create an overall score from 0 to 21—with higher scores indicating worse sleep quality. Research shows that the PSQI has good test–retest reliability (Buysse et al., 1989) and internally consistency (Carpenter & Andrykowski, 1998). Cronbach’s α for the present sample was .84.

Insomnia. The Insomnia Severity Index (ISI; Bastien et al., 2001) is a seven-item self-report measure that assesses insomnia symptoms over the past 2 weeks. The first three items rate difficulty falling asleep, staying asleep, and waking up too early on a 4-point scale. Each subsequent item is scored on a 0 to 4 scale, with total scores ranging from 0 to 25. A sample item is “To what extent do you consider your sleep problem to INTERFERE with your daily functioning?” with options ranging from 0 for “not at all Interfering” to 4 for “very much Interfering.” The ISI has been shown to have adequate test–retest reliability over 3 months and concurrent validity with sleep diaries and polysomnography (Bastien et al., 2001; Savard et al., 2005). Cronbach’s α in the present sample was .89.

Well-Being. The WHO-5 Well-Being Index (WHO-5; Topp et al., 2015) is a five item self-report instrument assessing positive quality of life, in a deliberate attempt to avoid symptom-related terminology. Sample items include “I have felt cheerful and in good spirits” and “My daily life has been filled with things that interest me.” Item statements are rated on a 6-point Likert type scale with answer choices ranging from (at no time) to (all of the time). Prior research has found support for the psychometric properties of the WHO-5 (Bech et al., 2003; Löwe, Spitzer, et al., 2004). Cronbach’s α in the present sample was .93.
Resilience. The *multidimensional individual and interpersonal resilience measure* (MIIRM; Martin et al., 2015) is a 22-item self-report measure designed to assess eight factors (Self Efficacy, Access to Support Network, Optimism, Perceived Economic and Social Resources, Spirituality and Religiosity, Relational Accord, Emotional Expression and Communication, Emotional Regulation) in adults. A sample item includes, “I tend to bounce back after illness or hardship,” with options ranging from 0 for *not true at all* to 4 for *true nearly all the time* with greater scores indicative of great resilience. Evidence is strong for validity and reliability in the MIIRM. Cronbach’s α for the present sample was .77.

Procedure

Students were recruited for participation in their undergraduate psychology courses using the Sona Systems online experiment management system. After reviewing the study, participants were directed to a link in Qualtrics to complete the consent form and the study. This study was approved by the institutional review board. Participation in this study was voluntary, and after consent, students were compensated with either extra credit or the completion of a research requirement in their psychology course. Participants then completed a series of demographic questions, followed by the mental health questionnaires pertaining to their current state. Next, following a temporal anchoring prompt, participants were then asked to complete the same measures again pertaining to their recalled experiences in the fall of 2019.

Data Analysis

Data analysis was completed using IBM SPSS Version 26. First, a series of paired-sample *t* tests were conducted to determine if there were significant differences on key outcomes, before and after the onset of the COVID-19 pandemic. Next, one-way analyses of variance (ANOVAs) were used to determine if there were significant differences between the different levels of traditional and nontraditional students on key outcome measures, both before and after the onset of the pandemic. Subsequently, 2 × 4 mixed model ANOVAs were used to determine the effect of traditional student status on outcome measures (anxiety, depression, well-being, sleep) across the course of the pandemic. Then, chi square tests were used to determine if there were significant differences among nontraditional groups with regard to life stressors due to the pandemic. Follow-up analyses of significant omnibus chi-square tests were then conducted, with each nontraditional group dichotomized to calculate odd ratios. Finally, a one-way analysis of variance was used to determine if there was a significant difference between the different levels of traditional and nontraditional students on a measure of resilience.

Results

Paired samples *t* tests were conducted to determine if there were changes in participants’ reports on the main outcomes measures from prepandemic to the current time.
Results revealed there were significant differences for depression, \( t(320) = 10.79, p < .001 \); anxiety, \( t(319) = 11.35, p < .001 \); well-being, \( t(316) = -11.67, p < .001 \); insomnia, \( t(316) = 9.19, p < .001 \); and sleep quality, \( t(301) = 10.16, p < .001 \). For anxiety, depression, insomnia, and sleep quality, scores increased, indicative of worsening symptomology. For well-being, scores decreased, indicative of a decline in well-being. See Table 1 for means, standard deviations, and Cohen’s \( d \).

Next, ANOVAs were conducted to determine if student categorization impacted participant scores on the main study outcomes, both past and current. Results revealed that for both past and current measures, the only significant difference was in sleep quality. Past: \( F(3,306) = 4.71, p = .003, \eta^2 = .04 \); Current: \( F(3,309) = 3.86, p = .010, \eta^2 = .04 \). For the past, pre-pandemic sleep problems, post hoc tests revealed the significant differences were between traditional and moderately nontraditional students, traditional and highly nontraditional students, minimally nontraditional and moderately nontraditional students, and minimally and highly nontraditional students. For the current sleep problems, post hoc tests revealed the significant differences were between the minimally nontraditional and the highly nontraditional students. See Table 2 for means and standard deviations. Subsequently, a series of \( 2 \times 4 \) mixed model ANOVAs were conducted to determine the effect of nontraditional student status on outcome measures (anxiety, depression, well-being, sleep) across the course of the pandemic. None of the models were significant, suggesting that level of nontraditional student status did not significantly impact the change in outcome measures over the course of the pandemic.

Next, chi-square tests examined differences among nontraditional groups with regard to life stressors due to the pandemic. Results revealed a significant association between nontraditional groups and change in financial independence, \( \chi^2(3) = 14.98; p = .002 \). Follow-up analyses utilizing a Bonferroni correction indicated a significant individual chi-square test for a change in financial independence in both the traditional group, \( \chi^2(1) = 12.34; p < .001 \), odds ratio \( [OR] = 0.28 \), confidence interval \( [CI: 0.13, 0.59] \) and highly nontraditional group, \( \chi^2(1) = 6.57; p = .011, OR = 2.02, CI [1.17, 3.47] \). Participants who endorsed a change in financial independence were more likely to be classified in the highly nontraditional group,

**Table 1. Past and Current Means Comparisons on Main Outcome Measures.**

|        | Past       | Current    | Cohen’s \( d \) | \( t \) |
|--------|------------|------------|-----------------|--------|
| GAD-7  | 5.31 (5.36)| 9.11 (6.16)| 0.65           | 10.79* |
| PHQ-9  | 14.50 (5.49)| 18.46 (6.97)| 0.63           | 11.35* |
| WHO-5  | 16.13 (6.42)| 11.42 (6.23)| 0.74           | -11.68*|
| ISI    | 6.66 (5.92)| 10.15 (6.49)| 0.56           | 9.19*  |
| PSQI   | 5.50 (3.53)| 7.89 (3.92)| 0.64           | 10.16* |

*Note. GAD-7 = Generalized Anxiety Disorder–7; PHQ-9 = Patient Health Questionnaire–9; WHO-5 = WHO-5 Well-Being Index; ISI = Insomnia Severity Index; PSQI = Pittsburgh Sleep Quality Index. *\( p < .001 \).*
whereas participants who endorsed a change in financial independence were less likely to be classified in the traditional group. An omnibus chi-square test also revealed a significant association between nontraditional groups and reduction in enrollment hours due to COVID-19, $\chi^2(3) = 13.51; p = .004$. Follow-up analyses utilizing a Bonferroni correction indicated a significant individual chi-square test for a reduction in enrollment hours due to COVID-19 and the traditional group, $\chi^2(1) = 12.75; p < .001$, $OR = 0.15$, CI [0.05, 0.49]. Participants in the traditional group were more likely to endorse they did not reduce their enrollment hours due to COVID-19. Next, an omnibus chi-square test revealed an association between nontraditional student groups and student report of social isolation, $\chi^2(3) = 16.32; p = .001$. Follow-up analyses utilizing a Bonferroni correction indicated significant individual chi-square tests for student report of social isolation and the traditional group, $\chi^2(1) = 5.71; p = .017$, $OR = 2.24$, CI [1.14, 4.40]; the minimally nontraditional group, $\chi^2(1) = 4.20; p = .040$, $OR = 1.92$, CI [0.98, 3.79]; and the moderately nontraditional group, $\chi^2(1) = 11.92; p = .001$, $OR = 0.41$, CI [0.24, 0.68]. Students in the traditional and minimally nontraditional groups were more likely to endorse feeling socially isolated, while participants in the moderately nontraditional group were less likely to report feeling socially isolated. Finally, an omnibus chi-square test revealed that a significant association between nontraditional groups and students reporting they struggled to transition to all online classes, $\chi^2(6) = 51.37; p < .001$. Follow-up analyses utilizing a Bonferroni correction indicated significant individual chi-square tests for students reporting a difficult time with the transition to all online classes and the traditional group, $\chi^2(1) = 10.91$;

Table 2. Results of ANOVAs Comparing Main Outcomes Measures.

|                 | Traditional | Minimally non | Moderately non | Highly non |
|-----------------|-------------|---------------|----------------|------------|
| Past            |             |               |                |            |
| M (SD)          |             |               |                |            |
| GAD-7           | 5.17 (5.22) | 6.06 (5.36)   | 5.33 (5.43)    | 4.94 (5.43) |
| PHQ-9           | 14.31 (5.39)| 14.43 (5.26)  | 14.82 (5.45)   | 14.36 (5.49)|
| WHO-5           | 16.23 (6.36)| 16.29 (6.50)  | 15.55 (6.37)   | 16.63 (6.56)|
| ISI             | 5.58 (4.64) | 5.89 (5.68)   | 7.37 (6.08)    | 7.51 (6.82) |
| PSQI            | 4.80 (3.19) | 4.57 (3.00)   | 5.95 (3.60)    | 6.38 (3.88) |
| Current         |             |               |                |            |
| M (SD)          |             |               |                |            |
| GAD-7           | 9.26 (5.92) | 8.84 (5.65)   | 9.00 (6.37)    | 9.31 (6.58) |
| PHQ-9           | 19.32 (7.38)| 19.03 (6.43)  | 17.99 (7.14)   | 17.79 (6.91)|
| WHO-5           | 10.29 (5.92)| 11.07 (6.15)  | 12.19 (6.08)   | 11.72 (6.64)|
| ISI             | 10.09 (6.36)| 9.73 (6.20)   | 9.86 (6.13)    | 10.90 (7.34)|
| PSQI            | 7.93 (3.96) | 6.74 (3.27)   | 7.88 (3.82)    | 8.97 (4.33)|

Note. ANOVAs = analyses of variance; GAD-7 = Generalized Anxiety Disorder–7; PHQ-9 = Patient Health Questionnaire–9; WHO-5 = WHO-5 Well-Being Index; ISI = Insomnia Severity Index; PSQI = Pittsburgh Sleep Quality Index.
$p < .001, OR = 2.66, CI [1.47, 4.81]$; the minimally nontraditional group, $\chi^2(1) = 6.77; p = .009, OR = 2.19, CI [1.21, 3.99]$; and the highly nontraditional group, $\chi^2(1) = 18.02; p < .001, OR = .25, CI [0.13, 0.49]$. Participants in the traditional and minimally nontraditional groups were more likely to indicate they had a difficult time with the transition to all online classes, while the highly nontraditional students were less likely to indicate they struggled with this transition.

There were no significant associations between nontraditional student groups and other measured life stressors, including: care for siblings or additional relatives or dependents, reduced enrollment hours, withdrawal from courses, decision to take the satisfactory/unsatisfactory grading option, change in graduation date, professor support, peer support, technological support, and seeking mental health support services.

Finally, an ANOVA was conducted to determine if there was a significant difference in resilience among students according their nontraditional factors group. Results of the omnibus test revealed an overall significant difference, $F(3,322) = 3.65, p = .013, \eta^2 = .03$. Highly nontraditional students had the highest level of resilience ($M = 57.29, SD = 10.05$) followed by moderately nontraditional ($M = 55.54, SD = 11.28$), minimally nontraditional ($M = 52.99, SD = 10.18$), and traditional ($M = 52.30, SD = 10.88$). Post hoc tests revealed the significant differences were between the traditional and moderately nontraditional groups, the traditional and highly nontraditional groups, and the minimally nontraditional and highly nontraditional groups.

**Discussion**

The pandemic has negatively affected students’ mental health overall. As expected in Hypothesis 1, participants showed significantly lower levels of well-being and higher levels of depression, anxiety, insomnia, and sleep disturbances after the onset of COVID-19 across all student groups, when compared with levels in fall 2019. These results support other findings regarding the mental health of college students during the pandemic (Cellini et al., 2020; Chirikov et al., 2020; Essadek & Rabeyron, 2020; Eysenbach et al., 2020; Kibbey et al., 2021; Lin et al., 2021; Ma et al., 2020).

Participants reported increased issues with quality of sleep after the onset of COVID-19. Highly nontraditional students, followed by traditional students, were the most likely to experience sleep disturbances during the pandemic when compared with minimally and moderately nontraditional students. This result can be explained by increased demands for highly nontraditional students, and disruption of normal schedules for traditional students. Highly nontraditional students had more nontraditional characteristics when compared with other groups, and were therefore more likely to have dependents, work, and possess other life stressors that would further interfere with their normal sleep schedule. Prepandemic, traditional students reported fewer sleep disturbances than both moderately and highly nontraditional participants. However, these students had their schedules disrupted when classes were transitioned entirely online, and most likely altered their sleep patterns, which could have resulted
in more sleep, or more time in bed but with lower quality sleep (Cellini et al., 2020; Tasso et al., 2021). These results are consistent with previous research demonstrating higher rates of insomnia and sleep disturbances in college students, especially during highly stressful events (Belleville et al., 2019; Lin et al., 2021).

During the pandemic, nontraditional participants encountered more life stressors compared with traditional participants, as predicted in Hypothesis 2. These results are consistent with previous studies, which indicate that nontraditional students experience higher levels of life stress when compared with traditional students (Trenz et al., 2015). This is likely due to obligations to family and work competing with their academic obligations, which is the primary source of stress in nontraditional students (Giancola et al., 2009). Traditional students indicated that they did not experience a change in their finances during the pandemic; the only group that experienced significant changes in their financial independence when compared with traditional students are highly nontraditional students. This indicates that highly nontraditional students, who have four or more nontraditional characteristics, are more likely to need assistance from family, the government, and others, because the pandemic has affected their jobs and families to a greater extent than students who are traditional, minimally nontraditional, and moderately nontraditional. Those students may still live at home with parents, or not have children to care for, or may not work full-time, and therefore, have more resources during the pandemic.

Furthermore, traditional students did not reduce their enrollment in college courses, while all three categories of nontraditional participants reported reducing their credit hours during COVID-19. Traditional students did not work full-time, nor have dependents, so it makes sense that these students would not be affected as severely by the pandemic as those students who are experiencing conflicts between their education and their work and family obligations. However, traditional and minimally nontraditional students indicated they struggled with the transition from in-person to online learning modalities; yet, highly nontraditional students successfully navigated the switch to online courses. Moderately nontraditional students showed no differences when compared with the other groups, likely indicating that some of these students were already online students, while some were not, unlike highly nontraditional students who were more likely to indicate that they were experienced with online education, and may not have had any disruption to their schedules and class format. In addition, traditional and minimally nontraditional students were more likely to feel socially isolated than moderately and highly nontraditional students, likely due to the lack of normal interactions with other students and faculty after the move to online classes, which is consistent with previous findings (Elmer et al., 2020; Hussein et al., 2020; Sharma et al., 2020). Finally, traditional students were also less resilient than both moderately and highly nontraditional students, but showed no differences from minimally nontraditional students. Interestingly, the more nontraditional characteristics a participant reported, the more resilience they displayed, suggesting that better coping strategies are developed along with real world experiences, which is consistent with previous findings (Chung et al., 2017).
Implications and Conclusions

The implications of this study suggest that the pandemic will negatively affect all college students’ mental health and well-being, as well as increase the high baseline of sleep disturbances and insomnia already experienced by college students (Schlarb et al., 2017). However, there is good news regarding nontraditional students, in that both age and other nontraditional characteristics are correlated with higher levels of mental health resilience, which is related to the ability to overcome challenges, regulate emotions, and maintain status quo (Arici-Ozan et al., 2019; Martin et al., 2015). Therefore, although support services will be needed for all students to ensure their educational goals are attained throughout and after the pandemic, nontraditional students may be better equipped to maintain and return to their previous levels of success.

Although this sample provided an excellent opportunity to examine how the pandemic is affecting nontraditional students, one limitation of this study is that the sample is not representative of all college students; therefore, the findings may not be generalizable to students at more traditional, noncommuter campuses. Future studies should examine the mental health and well-being of traditional students who live on campus.

Another limitation is that students were asked to retroactively analyze their pre-COVID rates of anxiety, depression, well-being, insomnia, and sleep disturbances. This is not an ideal methodology for collecting this data, but due to the sudden onset of the pandemic, there was no way to measure these rates in real time. The authors also could have included pre-COVID and postonset stress levels, which would have added to the literature. Future studies should also investigate additional short-term and long-term effects of the pandemic, such as how grades, retention, attrition, graduation, and career goals are affected by mental health, well-being, resilience, and other nontraditional factors. Potential research would also benefit from examining the university support services offered to traditional compared with nontraditional students to determine which amenities are most helpful.

College is a particularly stressful time in an adult’s life under normal circumstances; as the pandemic continues to influence students’ personal, social, and academic lives, universities will need to strategize in order to reduce dropout rates and increase academic achievement, particularly for nontraditional students (McFarland et al., 2019). The authors suggest that student support services develop more flexible services, such as additional after hours and virtual counseling and advisor appointments, so that students who work full-time and/or care for family members may take advantage of these services. University counseling services should also employ programs that are designed to increase resilience and coping skills, such as those implemented by First et al. (2018), Rose et al. (2013), and Steinhardt and Dolbier (2008).

In conclusion, this study allowed for a substantial examination of the effects of COVID-19 on adult learners, particularly nontraditional students. It seems as though, consistent with previous studies, nontraditional adult learners appear to be more successful at managing stressful life events than their traditional counterparts. This enhanced resilience comes with age and experience, and can better prepare
nontraditional students to persevere and overcome future challenges. On an additional positive note, all students, especially traditional students, are now more prepared for future online learning than they were before the pandemic.

Declaration of Conflicting Interests
The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding
The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This project was partially supported by an Organized Research and Creative Activities grant from the University of Houston-Downtown.

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