

Student Stresses: Lessons Learned

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ABSTRACT

Student stress is a fact of life. During the pandemic, students transitioned to asynchronous online classes. Students were suddenly forced into a learning environment they had never experienced, and in some cases, feared. Students were anxious about COVID-19's threat to their health, and experienced emotional stresses due to the rapid changes in society and education. We developed a survey to examine three student stresses: financial, academic, and Covid-related. We administered this survey to a large regional university in the southwest US (N=1,079). We found that students worried about their grades, graduation delays, and that the quality of their education suffered during the pandemic. When we examined subgroups of students using differences of means (ANOVA and t-tests), we found that employed students, married students, and parents were more stressed. In addition, we found that race, year in school, and First-Generation status had negligible effects on student worries. These findings are important in knowing how to target higher education support resources for students with the greatest stressors.

Key words: Stress, Covid-19, survey, college student

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INTRODUCTION

The mental health of college students is vitally important (Chen, Wang, & Yang, 2024). Even before Covid, anxiety and depression were significant on campus (McFarland et al., 2019) affecting nearly a third of students negatively (Hart Abney et al., 2019). Before the Covid outbreak, 60% of college students had poor sleep quality, and nearly one in ten met the criteria for insomnia (Schlarb et al., 2017).

Depression significantly increased among college students during Covid-19 at least partly because of the social distancing (Chen, Wang, & Yang, 2024). Covid worsened depression even for those who did not catch the illness (Cox, Camparo, & Yuen, 2024). There was plenty to be depressed about. America saw over 1,150,000 deaths from Covid (Cox, Camparo, & Yuen, 2024).

American Council of Education surveyed college presidents and found 35% planned on increased investment in student mental health services because of Covid-19 (Hathaway et al., 2023). Colleges need to strengthen their pandemic prevention policies and getting information to students (Chen, Wang, & Yang, 2024). By targeting interventions, schools can provide a supportive environment that fosters student development and success (Akhtar & Shaheen, 2024).

College students are particularly susceptible to stress due to a myriad of academic, social, and personal challenges inherent in higher education (Akhtar & Shaheen, 2024). College years are formative, representing a key transition point in a young person's life (Campbell et al., 2022), having a large impact on young people and their evolving adult identity (Blaskovits et al., 2023). College students are disproportionately susceptible to mental health issues (Kendl, 2023).

The pandemic made everything worse. The COVID-19 pandemic forced global higher education institutions to move to digital distance learning (Bandyopadhyay & Saha, 2024; Gonzales et al., 2023), and 194 countries temporarily closed their educational institutions, affecting more than 1.5 billion students worldwide (Sohail, 2022), nearly 70% of the world's student population (Gewalt et al., 2022). Students had to adjust their living environment because of the pandemic (Hathaway et al., 2023; Kendl, 2023).

The involuntary conversion of all students to an online format led to anxiety in both students and professors (Williams et al, 2023). The urgent imperative to 'move online', caused by the Covid-19 pandemic, added to the stresses and workloads experienced by university faculty and staff who were already struggling to balance teaching, research and service obligations (Rapanta, et al., 2020). Faculty had to prepare and deliver their classes from home, often without proper technical support. Students had to adjust their school schedules and work schedules, leading to more stress (Blaskovits et al., 2023).

When the Covid pandemic hit campuses, colleges shifted to remote learning out of necessity (Villasenor, 2022). With large in-person gatherings in classrooms suddenly off-limits, online instruction was viewed as the lesser of two evils — inferior to in-person classes, but infinitely better than no classes at all. Covid is more likely to adversely affect young adults socially and create a barrier for learning (Boeren et al., 2020).

Educational quality also suffered during Covid. Williams et al (2023) surveyed a large sample of US students and found that students believed they learned less in an online class, the online discussions were lower quality, and that quantitative classes were more difficult online. Gewalt et al., (2022) also found 89% of students reported a decrease in their learning during the pandemic.

The current project will examine student stressors to determine where academic resources should be placed. First, we will review the literature of student stresses in higher education. Next, we will examine our survey, the sample, and the data analysis. Then we will discuss the findings and conclusions. Lastly, we will discuss the limitations and avenues for further research.

LITERATURE REVIEW

Higher education has always been stressful. More than 80% of students reported high stress levels in 2020 (Hathaway et al., 2023). McGinty et al (2020) found an almost four-fold increase in psychological distress before and after the pandemic. Anxiety also spiked during the outbreak. Chirikov et al., (2020) found over a third of students screened positive for general anxiety disorder once Covid started. Cohen, Hoyt, & Dull (2020) surveyed a large sample of college students and found 40% agreed that they were so anxious because of Covid-19 that they could not pay attention to anything else. Son et al. (2020) found that 71% of US students indicated an increase in stress and anxiety based on multiple stressors (e.g. fear of infection, fear of loved ones contracting COVID-19, difficulty in academic concentration, disruptions in sleep patterns, isolation, fear of academic decline).

Transitioning to online learning during Covid led to anxiety, depression, and sleep disturbances (Tasso et al., 2021). The Covid pandemic led to chronic and unpredictable stress beyond the previous norms (Helleman, et al., 2020). Ettman et al (2020) found a threefold increase in depression before and after the Covid pandemic.

The pandemic, and the accompanying isolation was especially hard on college students. Loneliness is linked to negative outcomes like depression and anxiety (Kendl, 2023). Hamermesh (2020) predicted that lockdowns would have different views based on relationships. Specifically, Hamermesh (2020) estimated that lockdowns would be harmful for single people but increase satisfaction among married people.

Not all students were equally affected. Several studies found younger students were more harmed. Campbell et al., (2022) explained that the global pandemic impacted everyone, but younger people (18-25) especially. Blanchflower & Bryson (2022) found that the pandemic harmed the mental health of the younger students.

While age mattered, the year in school (sophomores versus seniors) did not have much effect. Some researchers found that stress levels did not vary by year in school (Hathaway et al., 2023).

Faith and religiosity might be a mitigating factor for students experiencing stress, depression, or anxiety (Joseph et al., 2023). Joseph et al. (2023) found a religiosity was negatively associated with Covid-19 stress.

Rural students were also impacted by the pandemic. College students lacked the social support which led to increased loneliness and distress, and those effects were worse for rural students (Elharake et al, 2023). Blaskovits et al., (2023) found those living in remote areas often had limited access to quality internet, limiting their progress in higher education.

Since Covid resulted in more remote learning, lower income groups were given less access to the online courses. Effects of Covid especially harmful for those with low income, which are predominantly young adults (Causey et al., 2021).

Nontraditional students felt more impacts from Covid on campus. The US Dept of Education defines nontraditional students as being twenty-five or older, a single parent, or other factors (Babb et al., 2022). Nontraditional students face a variety of challenges, resulting in

higher levels of anxiety and depression (Babb et al., 2022). Nontraditional students are less likely to display academic entitlement (Crone et al., 2020). Babb, Rufino, & Johnson (2022) n=321 in USA found students had higher levels of depression, anxiety, sleep disturbances and insomnia. While non-traditional students had more life stressors, they also exhibited more resilience, possibly from age and experience. Further, nontraditional students were less likely to reduce enrollment during the pandemic, likely because most had experienced online education prior to the pandemic.

Gender was a significant factor in the effects of Covid on campus. Virtual students in Saudi Arabia had higher levels of stress, even stronger stress for females (AlAteeq et al., 2020). Gewalt et al., (2022) found male students had a lower risk of high stress, and female students had slightly worsened mental health because of the pandemic (58% to 47%). Blanchflower & Bryson (2022) found that the pandemic harmed mental health of females more than males. When examining medical students in Saudi Arabia during the pandemic, Al-Rabiaah et al., (2020) found that females had much higher stress. A longitudinal study of Chinese adults found significantly higher negative impacts for females (Wang et al., 2020). Campbell et al., (2022) did a meta-analysis of thirty-one studies of university students from the UK. They found strong relationships with poor mental health and being female. Study of college students in India, gender did not provide statistical difference on stress levels (Akhtar & Shaheen, 2024). Females demonstrated higher stress levels than males (Hathaway et al., 2023).

LGBTQ status was associated with stronger impacts from the effects of Covid. Gonzales et al., (2023) surveyed a large sample of LGBTQ college students and discovered LGBTQ students had significant barriers to unmet mental health needs at the start of the pandemic. In addition, they found 25% of LGBTQ students had to go back in the closet (conceal their sexual identity) to get help during the pandemic; and the bad effects on mental health was increased for students 18-20; and 40% were concerned about finances and personal safety during Covid-19. Mental health was especially reported as poor for Hispanic/Latinx students (Gonzales, 2023). Gonzales et al., (2020) indicated that 60% of LGBTQ students were living with frequent mental distress prior to the pandemic. LGBTQ college students already had pre-existing disparities in mental and physical health prior to the pandemic (Salerno et al., 2020; Sanchez et al., 2020). LGBTQ students were already at risk by working in sensitive industries to Covid closures (Salerno et al., 2020; Sanchez et al., 2020). Many LGBTQ college students had hostile home environments before the pandemic (Gonzales et al., 2023). Campbell et al., (2022) did a meta-analysis of thirty-one studies of university students from the UK. They found strong relationships with poor mental health and LGBTQ status.

Additionally, financial status affected students on campus. Benson-Egglenton (2019) examined financial status and found that worse mental health was consistently associated with worse financial position. Blanchflower & Bryson (2022) found that the pandemic harmed mental health of females more than males, and younger and unemployed were adversely affected. International students who lacked family support and were unable to return home had a particularly rough time during the pandemic (King et al., 2020).

Besides mental health, Covid-19 affected food insecurity, which harms students especially. Owens et al., (2020) found that 34% of USA students were food insecure during the pandemic lockdown. College students of color disproportionately experience food insecurity (Gamba et al., 2024). Consistent access to food is important to physical, mental, and social health (Gundersen & Ziliak, 2015). Bennett et al., (2022) surveyed Australian students and found food

insecurity increased during covid and that worsened anxiety and depression. Those living alone and graduate students had higher risk of food insecurity.

The pandemic and the ill effects were not confined to the USA. Globally, during Covid isolation, less social and emotional support from friends was found in Switzerland (Elmer et al., 2020), United Arab Emirates (Hussein et al., 2020), The Netherlands (Koelen et al., 2021), Hong Kong (Leung & Pong, 2021), Germany (Gewalt et al., 2022), and Nepal (Sharma et al., 2020). Higher levels of depression and anxiety among students in China (Ma et al., 2020), Japan (Horita et al., 2022), Italy (Cellini et al., 2020), Greece (Kavvadas et al., 2023; Kaparounaki et al., 2020), Ethiopia (Simegn et al., 2023), India (Manasa & Sampathkumar, 2022), and France (Essadek & Rabeyron, 2020).

Koelen et al., (2021) surveyed students in the Netherlands and found mental health worsened during the pandemic, especially clinical depression and general anxiety, but that emotional support mitigated the damage. Gewalt et al., (2022) found over half (53%) of German students had worsening of mental health during the pandemic. Blaskovits et al., (2023) examined indigenous and non-indigenous students in Canada and found that the pandemic impacted students' emotional and psychological health, as well as adversely impacting their financial status and college experience. They found that the traditional supports from campus and their culture were not available during the Covid-19 crisis. The global pandemic had far reaching effects throughout the globe.

In the current project, we wanted to focus on American college students and the areas of stress in their lives. What were the significant student stressors in the USA during the pandemic? To complete our task, we divided this general statement into several research questions:

How much were academic worries heightened during the pandemic?

How much were financial worries heightened during the pandemic?

How much were contagion worries heightened during the pandemic?

In addition, we examined whether any stresses were different based on demographic factors, such as age, major, or employment.

DATA COLLECTION

Data was collected using an IRB approved online survey via Qualtrics. The survey was available to all undergraduate and graduate students at the authors' university from November 23, 2020, until March 27, 2021. During this period, there were 1,160 recorded responses. The first question filtered for student enrollment during either the Fall 2020 or the Spring 2021 semesters. Responses that did not answer the enrollment question affirmatively or were not completed were filtered out from the responses. A sample of 1,000 responses remained.

SAMPLE

Survey responses were spread amongst the student population with upperclassmen being over-represented, with 11.2% being freshman, 10.4% as sophomores, 30.6% juniors, 38.4% seniors, and 9.5% graduate students. All colleges at the authors' university were represented with the largest group being from business with 37.9%, then education 15.1%, math and sciences 14.7%, liberal arts 11.4%, nursing 8.3%, and the smallest percentage was from fine arts with 3.3% (9.2% chose "other.")

Over 73% of our student population worked while attending college, with 29.7% working full-time, 43.5% working part-time, and 12.2% actively searching for work. Only 14.6% of the respondents were not currently working by choice. Our respondents were primarily traditional aged students, with 56.2% between 18 and 22. Most (83.4%) were not married, and 82.7% did not have children. Only 4.6% had military experience. Nearly half of our sample (47.5%) identified as a first-generation college student, defined within the survey as a student whose parents did not graduate from a 4-year college.

This project was heavily influenced by the events surrounding the Covid-19 pandemic. Nearly all students (88%) indicated they knew someone who had tested positive for Covid-19, and 38.6% reported they personally knew someone who had died from Covid-19. At the authors' university, about one-third of classes are regularly scheduled to be online each semester. During the Fall 2020 semester, these continued to be offered. In addition, all traditional, face-to-face classes were offered with an online component. Students were able to choose whether they would attend in the classroom with required masks and social distancing or if they would rather attend class online synchronously. As the semester progressed, the number of students physically on campus dwindled to near zero.

Students were asked "How many online courses have you completed prior to Fall 2020?" Almost half (47.8%) responded with four or more previous online classes. Those that had not taken any online classes was 15.7%. We asked, "How many online or extended section courses are you taking in Fall 2020?" Over half (58.1%) were taking three or more online classes.

INSTRUMENT

We developed three short scales to measure each category of stressor: academic, financial, and COVID-related. The text of the questions is in the appendix. Full statistics are available from the authors. For each statement, we used a seven-point Likert scale, with 1=strongly agree; 2=agree; 3=somewhat agree; 4=neither agree nor disagree; 5=somewhat disagree; 6=disagree; and 7=strongly disagree. We started with some basic questions about online classes and moved to more specific issues. We used SPSS 27 for analysis and reported the statistically significant results. The academic subscale contained four items and had a Cronbach's alpha of .792. The financial subscale contained five items and had a Cronbach's alpha of .885. The COVID-related subscale contained four items and had a Cronbach's alpha of .904. All three subscales were deemed to be sufficiently reliable.

OVERALL RESULTS

We asked students four questions about academic worries. The results are shown in Table 1, below. On all four questions, students identified as stressed about the effects of the pandemic on their academic performance. The biggest impact was on the quality of education during the lockdown. We found 62.4% of students were more worried about their learning during the current semester. Students also reported significant increases in worries about their grades and, to a lesser extent, their ability to graduate on time.

This demonstrates that students understood that the push for online learning did not benefit students, at least not in every course. Students felt that the online courses, while hurried, did not reach the quality of in person classes or well-developed online courses.

Table 1. Academic Worries

Academic Worries	My grade in a certain class	My grades overall for this semester	The quality of my education this semester	My graduation being delayed
Worried far more than usual	21.6	19.4	25.5	15.9
Worried more than usual	20.2	20.4	19.3	10.3
Worried slightly more than usual	17.6	18.2	17.6	13.7
Worried about usual	23.1	22.8	17.3	20.5
Worried slightly less than usual	3.4	3.8	3.3	3.5
Worried less than usual	2.4	3.5	2.6	3.3
Worried far less than usual	1.9	3.1	2.8	2.5
Not worried at all	9.8	8.8	11.7	30.3

We asked students four questions about financial issues affecting them and how those changed during the pandemic. The results are shown in table 2, below. Students were very worried about paying for school during the current semester and the following term. In addition, students were concerned about paying for housing and food, but those concerns were overshadowed by their fears of paying for their education.

While the normal expenses of food/shelter did not see a strong increase during the pandemic, the ability to pay for school currently and in the future were heavy concerns for students.

Table 2. Financial Worries

Financial Worries	Paying for School this semester	Paying for School next semester	Paying for Food	Paying for Rent
Worried far more than usual	23.3	25.4	10.2	13.1
Worried more than usual	14.2	15.7	11.2	11.3
Worried slightly more than usual	12.9	12.4	14.2	12.0
Worried about usual	22.2	20.8	27.8	23.6
Worried slightly less than usual	4.2	3.3	3.2	2.6
Worried less than usual	2.5	2.3	3.3	1.8
Worried far less than usual	2.0	2.2	2.4	2.3
Not worried at all	18.8	17.9	27.3	33.4

We asked students four questions related to the pandemic. The results are shown in table 3, below. Our findings demonstrate that students were very concerned about members of their

immediate (70.5%) and extended family (73.4%) and friends (64.7%) developing COVID, but less so about their personal health (54.2%).

Students' lower worries about their personal health could probably be accounted for by the age of students, typically young and healthy, while their parents and (older) extended family faced greater mortality risks during the pandemic.

Table 3. COVID Worries.

COVID-19 Worries	Getting COVID myself	Immediate family	Extended family	Someone I know
Worried far more than usual	25.5	38.7	41.4	28.1
Worried more than usual	15.5	19.4	21.8	21.0
Worried slightly more than usual	13.2	12.4	10.5	15.6
Worried about usual	19.1	15.3	13.3	20.3
Worried slightly less than usual	5.5	3.4	2.2	3.5
Worried less than usual	4.3	1.9	1.9	1.8
Worried far less than usual	2.4	1.7	1.5	2.4
Not worried at all	14.5	7.1	7.3	7.3

Our secondary goal was to expand the depth of our understanding while expanding the analysis. Which students need the greatest amount of support? We included the following demographic variables for comparisons: age, year in school, major, employment, marriage, having children, race, income, military experience, and First-Generation status. (Gender information was not gathered due to a technical issue).

In our analysis, age was reduced to binary data, traditionally aged students (18-22) and older students. The number of children was collapsed into binary data, having children or not. For group comparisons we used t-tests for binary data and ANOVA for others.

Which demographic factors had the most impact?

We started by examining the effect on academic worries. The results are listed in Table 4, below. Only the statistically significant results are listed. Married students and students with children had significantly greater academic concerns. In addition, older students and employed students had greater academic worries. Students showed different results by major, but many of the subgroups were small, making comparisons less robust. Those with military experience had greater concerns, but that subgroup was very small (under 50/1000) making the findings suspect. Comparisons by year in school and income levels had negligible effects. Differences in race and First-Generation status had no significant results.

Table 4. Academic Worries by Subgroups.

Academic Worries	My grade in a certain class	My grades overall for this semester	The quality of my education this semester	My graduation being delayed
Married	t= -5.143 ***	t= -5.530 ***	t= -3.742 ***	t= -6.402 ***
Kids	t= -4.122 ***	t= -4.553 ***	t= -2.401 **	t= -7.390 ***
Employment		F=3.235 *	F=4.473 **	F=9.691 ***
Age	t= -2.079 *	t= -2.597 **		t= -4.793 ***
Income			F=3.305 ***	F=2.230 *
Major	F=5.117 ***	F=4.087 ***		F=2.403 *
Military	t= 2.285 *	t= 2.275 *		t= 2.962 **
Race				
First Generation				
Year in School			F=11.743 ***	

* = <.05; ** = <.01; *** = <.001

Next, we examined the effect on financial worries. The results are listed in Table 5, below. Only the statistically significant results are listed. Students who were married, had children, and those who were employed had significantly greater worries. Income variations had an effect on financial worries. Military experience also showed significant results, with the same concern as mentioned above. A students' age and race had minimal effects on their financial worries. A students' major had no effect on their financial worries.

Table 5. Financial Worries by Subgroups.

Financial Worries	Paying for School this semester	Paying for School next semester	Paying for Food	Paying for Rent
Married	t= -3.905 ***	t= -3.214 ***	t= -4.261 ***	t= -2.992 **
Kids	t= -3.116 ***	t= -1.846 *	t= -3.033 **	t= -1.781 *
Employment	F=9.513 ***	F=6.394 ***	F=7.912 ***	F=6.356 ***
Age		t= -1.735 *	t= -2.171 *	
Income	F=9.733 ***	F=11.605 ***	F=10.811 ***	F=12.504 ***
Major				
Military	t= 4.382 ***	t= 4.636 ***	t= 2.778 **	t= 2.612 **
Race		F=2.391 *		
First Generation	t= -3.533 ***	t= -4.140 ***		
Year in School		F=7.528 ***		

* = <.05; ** = <.01; *** = <.001

Lastly, we examined the effect on COVID worries. The results are listed in Table 6, below. Only the statistically significant results are listed. Military experience was significant, but lacked a robust comparison. Married students and students with children showed the greatest concerns for COVID issues. Several factors, income, First-Generation status, and year in school had no effect on their COVID worries.

Table 6. COVID Worries by Subgroups.

COVID-19 Worries	Getting COVID myself	Immediate family	Extended family	Someone I know
Married	t= -2.153 *	t= -2.182 *	t= -2.958 **	
Kids		t= -2.028 *	t= -2.450 **	t= -1.901 *
Employment			F=3.125 *	
Age			t= -2.191 *	
Income				
Major	F=2.655 *			F=2.220 *
Military	t= 3.243 ***	t= 3.495 ***	t= 3.380 ***	t= 3.292 ***
Race	F=2.936 **		F=2.122 *	
First Generation				
Year in School				

* = <.05; ** = <.01; *** = <.001

Overall, being married, having children, and being employed significantly raised the worries on all three issues: academic, financial, and health. Race, First-Generation status, and year in school had no real impacts on student concerns in our project.

CONCLUSION AND LIMITATIONS

Our findings confirm that student stresses, while omnipresent, were heightened during the pandemic in all three areas of our analysis: academic, financial, and COVID-related. Student stress increased however, the burden did not fall equally on all students. We found that older and employed students with spouses and children particularly felt the brunt of the worries during COVID. The findings tend to indicate that support resources should not only be increased but also should be targeted for the greatest need.

The current project, like all surveys, has limitations. First, the student sample while large (1,000) was not random, which limits generalizations. These findings might not represent all students on our campus. Further, one sample only examined on campus, which may or may not be representative of the typical American college campus. Finally, these results are a snapshot in time, unique to the events of the Covid-19 pandemic. Blanchflower & Bryson (2022) found that mental health had improved for anxiety, depression, and worry in 2022 compared to 2020.

Additionally, in our survey, gender was omitted from the questions asked. Most research has found gender differences in all areas of education, and stresses during the pandemic should be no different. Future projects should also target a larger sample, to allow more comparisons of non-traditional students. In addition, future projects should disperse the survey to different regions of the country to gain a more national sample. Our survey only involved a public institution. Do the students at private (or for-profit) colleges have different concerns? Lastly, future projects should also examine and compare undergraduate students to graduate students.

Higher education should strive to provide the support services needed by students. By understanding which students are experiencing stress, we can better allocate our resources to provide the greatest benefit. This project has indicated the students most affected by stress were married students, those with children, and employed students. Our support services should be focused on them.

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Appendix 1. Text of Survey Questions

Demographic Questions:

Were you enrolled at the (school) during Fall Semester 2020 or are you currently enrolled in the Spring Semester of 2021?

How are you currently classified at (school)?

In which college is your major?

Are you currently employed during this semester?

Are you married?

Please choose the category for your family income as accurately as you can. If you do not know the approximate income, please choose "I do not know."

What is your current age?

How many children do you have?

Are you a first-generation college student? A first-generation college student is someone whose parents did not graduate from a 4-year college.

Do you personally know someone who has tested positive for COVID-19?

Do you personally know someone who has died from COVID-19 or complications from COVID-19?

How many online courses have you completed prior to Fall 2020?

How many online or extended section courses are you taking in Fall 2020?

Do you personally know someone who has tested positive for COVID-19?

Do you personally know someone who has died from COVID-19 or complications from COVID-19?

Scale Questions:

At this point in time, how much are you worried about the following topics?

My grade in a certain class

My grades overall for this semester

My graduation being delayed

Paying for Tuition and/or books this semester

Paying for Tuition and/or books next semester

Paying for Food

Paying for Rent

Getting COVID myself

Someone in my immediate family getting COVID

Someone I know getting COVID

Someone in my extended family such as grandparents getting COVID

The quality of my education this semester