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### Title

A Literature Review on Factors Associated with Adverse Reactions to the COVID-19 Pandemic: The Impact on U.S. College Students

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A Literature Review on Factors Associated with Adverse Reactions to the COVID-19 Pandemic:  
The Impact on U.S. College Students

By

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A capstone project submitted for Graduation with University Honors

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University Honors

University of California, Riverside

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## **Abstract**

Everyone regardless, of age, sex, gender, and socioeconomic status, has been affected by the COVID-19 pandemic either directly or indirectly within the past three years. College students have faced a variety of personal, academic, social, and developmental challenges as universities struggled to adapt instruction and campus services to meet their needs. This was more difficult due to variability in rates of infection, political environment, and level of cooperation between state and local governments during a global crisis. The unpredictable nature of the pandemic has made this developmental process an uncharted territory for the student. Research is crucial because the COVID-19 pandemic is still ongoing and will continue to affect the upcoming generation. There must be an understanding of how the pandemic is affecting the student's psychological well-being and social functioning, or there will not be a basis upon which to help them. A literature review will be conducted on how these adverse reactions are being expressed and which factors are associated with or have mitigated the negative effects of the pandemic or responses to the pandemic. Knowledge of the short and long-term consequences of the pandemic is crucial to adapt to the current environment and future pandemics. This research will attempt to highlight the most important issues so that families, university personnel, and governing officials can understand what type of help is needed and how it might be delivered to colleges in the United States. There will also be suggestions on where to target future research in this area.

## **Acknowledgments**

I'd like to thank Assistant Clinical Professor of Psychiatry at UCR School of Medicine Doctor Eyrn Parks who is an amazing mentor and guided me throughout the entire process of this capstone project. He provided me with an immense amount of motivation, support, and advice and believed in me.

I'd like to also thank University Honors for encouraging and motivating students like me to be more proactive, creative, and innovative and for providing me with the resources to make this capstone project possible.

## **Introduction**

The level of stress and pressure that college students endure have been common knowledge, especially at an age of transition to adulthood where one is finding themselves while working towards their future career, networking, starting personal relationships, and gaining their independence. Social connection, work, and school responsibilities are accepted as ongoing, permanent features of the college student experience. However, with the COVID-19 pandemic, no one was certain about what the future entailed as everything was put to an abrupt halt, and students were forced to transition into a different lifestyle and maintain the same academic progress within a matter of days.

The United States has the highest confirmed COVID-19 infection rate in the world (Ritchie et al., 2020). Previous research has suggested that the impact of the pandemic and responses to it has worsened the suffering of college students in terms of depression, anxiety, and symptoms of trauma (Barbieri et al., 2021; Grineski et al., 2021). In a study about the lifestyle and mental health of college students after they have lived through a year of being in the COVID-19 pandemic, researchers found that there was a 36% increase of students at risk for clinical depression (Barbieri et al., 2021). Due to the high transmission rate of this unpredictable SARS-CoV-2 virus, students were forced to social distance and be confined to their living spaces, no matter what their circumstances may be. Some students went home to a family in duress, trying to make ends meet as millions of jobs were lost. Some came home to a family that was sick with the virus and in no condition to help. Some placed heavy burdens on students to resume their previous responsibilities or increase their assistance. And a percentage of students had no home at all. This caused a majority of students to learn how to cope in any way possible, as everyone only had a few days to adjust to virtual learning, had to deal with the fear of a deadly

and contagious virus, and lacked their usual support systems as well as physical and social connections.

Anxiety and depression were at all-time highs during COVID-19 (Oh et al., 2021) as stay-at-home mandates were put in place, with no certainty of how long they were to remain. Students were isolated from their friends and romantic partners and confined at home. Some international students were isolated alone on campus, facing the fear and stress of not knowing when they can go back to their home country, or how they can financially support themselves. Other undergraduates faced the stress-inducing circumstances at home as they went back to their families and had to balance their obligations at home along with schoolwork. With the difficulties that the COVID-19 pandemic has imposed, an increase in anxiety and depression should be anticipated, along with a decline in physical health and rest, because oftentimes, untreated mental health issues can lead to mental breakdowns, and schools should be prepared and offer a tremendous amount of support to help students recuperate.

## Materials and Methods

### *Eligibility Criteria*

The research was limited to include only articles that had only undergraduate college student participants all across the United States. To minimize bias, the geographic locations of the colleges, the diversity in ethnicity, sex, major, social-economic status, class year, previous psychological history, as well as international and non-traditional students were taken into consideration and included. The studies researched were grouped based on their focus on the impact on mental health, behavior, sleep, and exercise.

### *Sources of Information*

The articles referenced were obtained through the UCR library database, which included PubMed, MEDLINE, DOAJ, and PsycINFO as well as Google Scholar.

### *Data Collection*

Information was gathered from the full text of the 68 articles referenced that pertained to the psychological impacts that the COVID-19 pandemic caused on U.S. undergraduate college students. Articles that did not take place in the United States or focused on impacts aside from the student's mental health, social behavior, sleep, as well as their physical health were excluded. Articles that focused on nontraditional students, international students, and students studying within the health care field in order to take into account students who may have had more strenuous life stressors, and compared their experiences during the COVID-19 pandemic with traditional students who were regular undergraduate U.S. college students were included.

### *Example of Data Collection Table*

<b>Article</b>	<b>Method of Study</b>	<b>Findings</b>
Assessing the impact of the	- Qualitative & Quantitative	-“immigration status

<p>pandemic on undocumented college students</p>	<p>Survey using a 5pt. Scale</p> <ul style="list-style-type: none"> <li>- 1,067 undocumented students attending California 4-year Universities</li> <li>- Quantitative rating of the extent to which the pandemic negatively affected 6 areas: <ul style="list-style-type: none"> <li>-academic performance</li> <li>-attention to academics</li> <li>-own financial stability</li> <li>-family financial stability</li> <li>-mental health</li> <li>-physical health</li> </ul> </li> <li>- 2 of asspen-ended questions regarding how the pandemic affected them and their family, and how their immigrant origin affected these experiences</li> <li>- Participants were recruited at all 9 UC undergraduate campuses and 9 CSU campuses selected for similar geographic location</li> <li>-over 90% latina/o/x</li> </ul>	<p>exacerbated the negative economic effects of the pandemic, leading to severe financial strains that had cascading negative effects on undocumented students' academics and health.”</p> <ul style="list-style-type: none"> <li>- Strong association b/t students' prepandemic economic insecurity and negative effects of the pandemic</li> <li>- Negative pandemic impacts with legal vulnerability and family strains consistently weakening the association.</li> <li>- Legal vulnerability and family strains moderated this relationship</li> <li>-Academic performance negatively affected = 71.67%</li> <li>-Attention to academics negatively affected = 82.53%</li> <li>-Financial stability negatively affected = 82.53%</li> <li>-Family's financial stability negatively affected = 82.75%</li> <li>-Mental health negatively affected = 72.73%</li> <li>-Physical health negatively affected = 65.70%</li> <li>-Worried about not having money to pay for things = 81.58%</li> <li>-Having difficulty paying your bills = 62.94%</li> <li>-Had to without the basic things that you need = 43.87%</li> <li>-Had to go without the materials needs for your studies = 44.41%</li> <li>-No legal status= 25.77%</li> <li>-DACA or TPS = 74.23%</li> <li>-No parents have lawful status = 93.40%</li> </ul>
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<p>The impact of exercise on the rate of self-esteem and motivation on the College of Education Students' achievement during covid 19 pandemic.</p>	<ul style="list-style-type: none"> <li>-compared a measure of the level of cognitive achievement &amp; motivation to learn &amp; self-esteem b/t 190 male/female student regularly practicing sports, vs. 170 male &amp; female students who don't regularly engage in sports from Kuwait University</li> <li>-140 female &amp; 219 male</li> <li>-quasi-experimental approach</li> <li>-A triple scale to measure the level of cognitive achievement based on the last estimate or overall average score, the student's self-assessment level, and the motivation to learn.</li> </ul>	<ul style="list-style-type: none"> <li>-significant effect of the practice of sports activity on the total score of the scale for students &amp; an increase in the average scores of the scale of the level of self-esteem and motivation for learning and cognitive achievement</li> </ul>
<p>Stress and sleep in college students prior to and during the COVID-19 pandemic</p>	<ul style="list-style-type: none"> <li>-1222 US college students</li> <li>-online survey</li> <li>-PSS contains 10 items asking respondents how frequently they have had stress-</li> </ul>	<ul style="list-style-type: none"> <li>-stress, sleep quality &amp; insomnia were not significantly higher in the samples during the pandemic, but bedtime &amp; wake time were significantly later during</li> </ul>

	<p>related feelings/thoughts during the past month.</p> <ul style="list-style-type: none"> <li>-Pittsburgh Sleep Quality Index</li> <li>-Insomnia Severity Index</li> </ul>	<p>the pandemic, and sleep duration was significantly longer.</p> <ul style="list-style-type: none"> <li>-evidence of greater sleep latency, greater sleep medication use, and poorer sleep efficiency during pandemic</li> <li>-COVID-19's impact on stress and sleep may not be entirely negative.</li> </ul>
<p>Impact of covid-19 pandemic on College Student Mental Health and Wellness</p>	<ul style="list-style-type: none"> <li>-675 University students participate in behavioral &amp; emotional assessment during spring 2020</li> <li>-Survey consisted of measuring student's confidence in state/federal government's response</li> <li>-students reported how disruptive COVID had been to them personally on a 10-point scale</li> </ul>	<ul style="list-style-type: none"> <li>-Externalized &amp; attention problems increased after COVID, but not internalized symptoms</li> <li>-Students with internalized and attention symptoms who received campus support were less affected by COVID</li> <li>-Mood &amp; behavior were negatively affected, but not stress</li> <li>-87.3% = reported COVID being extremely disruptive to them personally</li> <li>-students in wellness programs experienced improved internalizing symptoms &amp; less deteriorating attention compared to those who weren't in the program</li> </ul>
<p>Effects of COVID-19 on College Students' Mental Health in the United States: Interview Survey Study</p>	<ul style="list-style-type: none"> <li>-195 students from a large public university in the United States</li> <li>-semistructured interview survey guide via zoom</li> <li>-assessed the mental health status of college students both quantitatively and qualitatively</li> <li>-Find out how students have been coping with the stress during pandemic</li> </ul>	<ul style="list-style-type: none"> <li>-71% = increased stress &amp; anxiety due to COVID-19 outbreak</li> <li>-91% negative impacts of pandemic</li> <li>-89% difficulty in concentrating</li> <li>-decreased social interaction = 86%</li> <li>-increased concern on academic performance = 82%</li> <li>-increased class workload =</li> </ul>

		<p>54%</p> <p>-70% = self management coping = physical exercise, streaming service, etc.</p>
<p>The Covid-19 pandemic and mental health of first-year college students: Examining the effect of Covid-19 stressors using longitudinal data</p>	<p>-419 first-year students from a large public university in North Carolina</p> <p>-25 min qualtrics online survey</p> <p>-random sample</p> <p>-evaluated descriptive data on mental health &amp; stressors by demographic characteristics &amp; estimated association b/t COVID -19 stressors &amp; mental health</p>	<p>-moderate-severe anxiety symptoms increased by 40% from pre to mid-pandemic</p> <p>-black students reported the highest prevalence of moderate-severe anxiety(probs cuz blm)</p> <p>-moderate-severe depression symptoms increased by 48%</p> <p>-58.6% employed students=work reductions</p>
<p>Stop Asian hate: The Mental Health Impact of racial discrimination among Asian Pacific Islander Young and emerging adults during COVID -19.</p>	<p>-evaluate trends in API mental health &amp; treatment utilization pre- and during pandemic</p> <p>-3 administrations of healthy minds study</p> <p>- Sept-Dec 2019 (n=33,372 students across 32 campuses), March-May 2020 (n=12,039 students across 7 campuses) and Sept-Dec 2020 (n=15,949 students across 28 campuses)</p>	<p>-API non-international students reported a 23% increase in severe anxiety &amp; 9% increase in severe depression</p> <p>-25% of API students experienced COVID-related discrimination or hostility</p> <p>- Treatment utilization among Asian students with at least one clinically significant mental health condition decreased by 26%</p>
<p>Stress and sleep across the onset of the novel coronavirus disease 2019 pandemic: impact of distance learning on US college students' health trajectories</p>	<p>-164 first yr college students</p> <p>-twice wkly questionnaires from January to May 2020</p>	<p>-student stress increased &amp; sleep duration &amp; quality decreased prior to distant learning</p> <p>-students' stress exposure and perception trajectories immediately and continuously decreased</p> <p>-sleep quality initially increased but decreased over time; and sleep duration</p>

		<p>increased but then plateaued for the remainder of the semester</p> <ul style="list-style-type: none"> <li>-transitioning to remote learning initially alleviated college students' stress and improved sleep, these effects plateaued, and greater exposure to academic, financial, and interpersonal stressors predicted worse sleep quality on both daily and average levels.</li> </ul>
<p>The impact of the covid-19 pandemic on lifestyle behaviors in U.S. college students</p>	<ul style="list-style-type: none"> <li>-189 college students</li> <li>-online survey on behaviors relating to sleep, sedentary activities, and physical activity before and during the COVID-19 pandemic</li> </ul>	<ul style="list-style-type: none"> <li>-increase in time to fall asleep, time spent in bed, as well as shifts in later bed and awake time</li> <li>-Total sedentary time increased during the pandemic, and time spent using a TV, computer, or phone</li> <li>-significant decrease in moderate-vigorous activity &amp; resistance training days</li> <li>-COVID-19 negatively influenced health behaviors in college students.</li> </ul>
<p>The Impact of the COVID-19 Pandemic on College Students' Health and Financial Stability in New York City: Findings from a Population-Based Sample of City University of New York (CUNY) Students</p>	<ul style="list-style-type: none"> <li>-cross-sectional online survey of a representative sample of CUNY students from April 14 to 22, 2020</li> <li>- simple random selection to select 10,000 students from the approximately 274,000 matriculated students in the spring 2020 semester</li> <li>-2282 completed 70% or more of the entire survey (response rate of 23%) and are included in this analysis</li> </ul>	<ul style="list-style-type: none"> <li>-More than half of students (54.5%) reported experiencing anxiety and/or depression, with 43.2% reporting anxiety and 42.2% depression</li> <li>- Feeling overwhelmed, anxious, and/or depressed was also a common theme identified in open-ended questions</li> <li>-Almost half (49.0%) reported an increased need for mental health services to help</li> </ul>

	<ul style="list-style-type: none"> <li>- sampling weights to account for non-response based on sex, race/ethnicity, type of campus (undergraduate versus graduate), and full-time or part-time student status</li> <li>-educational experience, household/living situation, economic impact, health impact, and sociodemographic characteristics; other socio-demographic and student status data such as sex, race/ethnicity, campus, and full-time or parttime student status</li> </ul>	<p>cope with stress, anxiety, or depression due to the pandemic.</p> <ul style="list-style-type: none"> <li>-More than half of students (56.8%) reported their ability to do schoolwork decreased as a result of the pandemic, of whom 73.4% identified their mental state as a reason for this decrease.</li> <li>-The majority of students (81.1%) reported that they (54.1%) and/or someone else in their household (68.9%) lost income as a result of the pandemic.</li> <li>Nearly half (47.8%) reported their weekly household expenses increased</li> </ul>
<p>Investigating Mental Health of US College Students During the COVID-19 Pandemic: Cross-Sectional Survey Study</p>	<ul style="list-style-type: none"> <li>-online survey was conducted among undergraduate and graduate students recruited from Texas A&amp;M University via email</li> <li>-two standardized scales—the Patient Health Questionnaire-9 and the General Anxiety Disorder-7—for depression and anxiety, and additional multiple-choice and open-ended questions regarding stressors and coping mechanisms specific to COVID-19</li> <li>-2031 participants</li> </ul>	<ul style="list-style-type: none"> <li>-48.14% (n=960) showed a moderate-to-severe level of depression</li> <li>-38.48% (n=775) showed a moderate-to-severe level of anxiety, and 18.04% (n=366) had suicidal thoughts</li> <li>-majority of participants (n=1443, 71.26%) indicated that their stress/anxiety levels had increased during the pandemic</li> <li>- Less than half of the participants (n=882, 43.25%) indicated that they were able to cope adequately with the stress related to the current situation.</li> </ul>
<p>Development and validation of a scale to evaluate students'</p>	<ul style="list-style-type: none"> <li>-mixed method approach (deductive and inductive</li> </ul>	<ul style="list-style-type: none"> <li>-C-19 Future Impact Perception Scale (C-19FIPS)</li> </ul>

<p>future impact perception related to the coronavirus pandemic (C-19FIPS)</p>	<p>methods)  was used in the scale development process  -sample phase 3 = 1,279 students  -sample phase 4 = 1,078  -The Future Time Perspective Scale [76] is a 12-item questionnaire assessed on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). It measures three perspectives of the future: Future as Open (4 items), Future as Limited (4 items) and Future as Ambiguous (4 items).</p>	<p>has proven to be an acceptable and reliable tool for assessing the impact of the Covid-19 pandemic on Spanish university students' perceptions of their future work and the economy of the country  - tool that helps the government and institutions to improve current support programs, particularly by taking young people into consideration. W</p>
<p>The Impact of the COVID-19 Pandemic on US College Students' Physical Activity and Mental Health</p>	<p>-online survey at northeastern US universities  -1,019 students;  predominantly women &amp; non-hispanically white</p>	<p>-significant decline in PA and an increase in perceived stress under COVID-19, but not normal, circumstances and a significant increase in depressive symptoms under COVID-19, but not normal, circumstances among women.  -significant decline in PA and mental health among college students occurred under COVID-19 circumstances, and PA did not appear to protect against deterioration in mental health.  -proactive &amp; innovative policies, programs, &amp; practices to promote student health &amp; well-being, must be explored immediately</p>
<p>The International Student Experience at U.S. Community Colleges at the Onset of the COVID-19</p>	<p>-mixed methods study beginning in June 2020  -random sample of individuals</p>	<p>-Not only do these students have to cope with the academic, social, and</p>

<p>Pandemic</p>	<p>-17/127 international student participants</p>	<p>financial pressures of the college experience but they also experience the acculturative stress of adapting to their new host culture</p>
<p>Sex and Relationships Pre- and Early- COVID-19 Pandemic: Findings from a Probability Sample of U.S. Undergraduate Students</p>	<p>-2 waves of data from US midwestern univ.          - Wave 1 was a confidential online survey of 4989 randomly sampled undergraduate students collected in January/February 2020          -Wave 2 was collected in April/May 2020 following campus closure          -assess how the COVID-19 related campus closure affected college students' romantic/sexual relationships          -examine students' past month sexual behaviors prior to the pandemic in comparison with their sexual behaviors during campus closure          -compare participants' pre-pandemic eventlevel sexual behaviors with those occurring during campus closure          - 2137 participants who completed both waves          -limitation of Wave 2 data collection is that some students may have lost, or had more limited, access to the Internet after campus closure</p>	<p>-sex significantly decreased          -14.5% breakup          -25.3% stayed in relationship but went home to different cities          -71.6% lived at home          8% requested to stay in campus housing after campus closure b/c travel was restricted to the country they'd return home to/they couldn't afford it/didn't feel safe          -sexting appears to have become more common for all students          -Not being able to spend time with partners may have meant they were missing out on important sources of support as they were trying to navigate stress and anxiety brought on by the pandemic.          -Findings demonstrate that college students' relationships and partnered sexual lives were subject to upheaval due to the COVID-19 pandemic and resulting campus closure          - Approximately one-third of students lost regular in-person contact with partners due to either breaking up or moving away from their partners.          -partnered sexual activity</p>

		<p>was less prevalent among these student</p> <ul style="list-style-type: none"> <li>-romantic and sexual experiences can enhance students' well-being, the loss of those experiences may have contributed to declines in health and wellbeing during the COVID-19 pandemic</li> </ul>
<p>Priorities for addressing the impact of the COVID-19 pandemic on college student mental health</p>	<ul style="list-style-type: none"> <li>-observations; starting point when considering the short and long-term needs of student mental health and well-being throughout and after the COVID-19 pandemic.</li> <li>-includes a variety of researches put together</li> </ul>	<ul style="list-style-type: none"> <li>-perspectives we hold are based on the events that we have seen thus far, which include college student relocation, a dramatic shift to online learning, strict public health guidelines regarding social distancing, shifting directives regarding international student visa guidelines</li> <li>-Carefully considering mental health, educational, and healthcare ecosystems through the lens of sociocultural identities can facilitate a more thoughtful, systematic, and informed approach to target evolving student needs</li> </ul>



<p>US college student mental health and COVID-19: Comparing pre-pandemic and pandemic timepoints</p>	<p>-Data collected from a sample of undergraduates in April 2020 (N=312) were compared to data collected in Spring 2017 (N=362)</p> <p>- Online measures of depression, anxiety, and stress symptoms and perceived control and coping (both samples); pandemic-related stressors and perceived benefits (April 2020)</p> <p>-Depression Anxiety and Stress Scales (DASS-21)36 is a 21-item measure containing three 7-item scales assessing depression, anxiety, and stress.</p>	<p>-Depression and stress symptoms were higher in April 2020 than in 2017</p> <p>- Top-rated stressors involved missing seeing friends and school-related stressor</p> <p>-Perceived control and approach coping were lower during the pandemic but related to better mental health; avoidant coping was higher during the pandemic and related to poorer mental health.</p> <p>-positive change in daily activities, which include four subcategories: having more free time (n = 134), exercising more (n = 36), sleeping more (n = 18), and eating healthier(n = 10)</p> <p>-positive changes in relationships (n = 123), which included spending more time with family and pets, and spending more time connecting with people (even if not in the same physical space)</p> <p>-positive changes related to work or finances (n = 25), including being able to work more, getting paid without having to work, and spending less money</p>
<p>What happens when the party moves home? The effect of the COVID-19 pandemic on U.S. college student alcohol consumption as a function of legal drinking status using</p>	<p>-Data were collected from students (n = 302) at a large, northeastern U.S. university at the beginning and end of the of the 2019 and 2020 Spring semesters via an</p>	<p>-Students over the legal drinking age impacted by the pandemic demonstrated a drastic decrease in alcohol consumption by</p>

<p>longitudinal data</p>	<p>online survey that assessed sociodemographic characteristics (age, gender, race/ethnicity, living situation) and alcohol consumption using the daily drinking questionnaire  -e. Data were analyzed using a 2 (cohort group: COVID-19 vs. normal) × 2 (age group: above 21 vs. under 21) × 2 (time: beginning vs. end of the semester) mixed model ANOVA</p>	<p>the end of the semester compared to those under normal circumstances  -Change in living situation as a result of the pandemic drastically impacted the alcohol consumption patterns of students over the legal drinking age  -students lost access to their preferred drinking establishments.  -drastic drop in alcohol consumption</p>
<p>Impacts of the COVID-19 pandemic on field instruction and remote teaching alternatives: Results from a survey of instructors</p>	<p>-survey of 117 faculty conducted during spring 2020 revealed substantial reduction of learning outcomes typically taught in the field, and frequent substitutions of less active and more instructor centered remote activities for field activities</p>	<p>- survey revealed generally negative instructor views on many remote teaching substitutions, yet also showed several approaches that instructors regarded as more effective, despite potential challenges with equitably teaching them</p>
<p>More Than Inconvenienced: The Unique Needs of U.S. College Students During the COVID-19 Pandemic</p>	<p>- provided several recommendations for institutions of higher education to mitigate these obstacles, including engaging in data-driven decision making, delivering clear and informative messaging to students, prioritizing and expanding student support services, and using an equity framework to guide all processes  - questions about students' COVID-19 beliefs, behaviors, and experiences to the</p>	<p>- college students had insufficient knowledge about COVID-19, with their primary sources of information being the internet and social media  -provide frequent, consistent, clear, reliable, and compassionate communication to students and the rest of the campus community, particularly through the channels that they utilize most readily  -health centers, counseling</p>

	<p>ACHA–National College Health Assessment and Healthy Minds Study to gain preliminary information about the impact of COVID-19 on students’ mental health in spring 2020</p>	<p>centers, health promotion offices, student affairs staff, and other support services including offices dedicated to LGBT students, multicultural affairs, students with disabilities, international students, and other underrepresented student populations should w/stand budget cuts &amp; be prioritized</p> <ul style="list-style-type: none"> <li>- faculty’s training and support needs as key gatekeepers in the campus mental health support system.</li> <li>- Institutional policies should give credence to the unprecedented conditions caused by COVID-19 Like in the spring many schools instituted more lenient grading policies. But this was a temporary measure.Despite having more of an adjustment period, students’ circumstances during the continued COVID-19 crisis may not be so different than they were when it originated.</li> <li>-guidance alone is insufficient given the many other concerns students now face</li> <li>-Comprehensive plans should be devised recognizing and responding to the toll that COVID19 has and will continue to take on students.</li> </ul>
<p>Constant Stress Has Become the New Normal”: Stress and Anxiety Inequalities Among U.S. College Students in the</p>	<p>-document young adults' perceived stress and anxiety in a diverse sample of college students across the U.S.</p>	<p>-All students, on average, were suffering from perceived stress and anxiety, with especially high levels in April</p>

<p>Time of COVID-19</p>	<p>during the COVID-19 pandemic          -recruited, via Instagram, a sample of full-time college students aged 18–22 from across the U.S. We surveyed them in April &amp; July 2020          -potential explanations for these health issues by analyzing baseline qualitative data</p>	<p>-identified inequalities in college student mental well-being, particularly by gender identity and sexual orientation.          -Women reported worse well-being compared with men; transgender and gender diverse and sexual minority youths reported worse outcomes than their cisgender, heterosexual peers at both time points.          -COVID-19 pandemic has generated educational, economic, and environmental stressors that are affecting college students' well-being          As colleges and universities think about how to manage and mitigate the infectious disease dimensions of COVID-19 among their student populations, they must also consider who is most at risk for increased stress and anxiety during the pandemic</p>
<p>Substance use, sexual behavior, and general well-being of U.S. college students during the COVID-19 pandemic: A brief report</p>	<p>-online survey between May 20th and July 5th, 2020 about COVID-19-related behavior change          -MTurk provides a cost-effective means of collecting data from a demographically diverse population          -All questionnaires were administered via Research Electronic Data Capture (REDCap)          -5-point Likert-type scale</p>	<p>-Most students reported a decrease in quality of life (71.7%), an increase in levels of anxiety (63.7%), and problems with basic resource needs (53.8%)          -Reports of alcohol consumption increased for 26.9% of students and 15.1% reported an increase in cannabis use.          -Most students (57.5%) reported a decrease in sexual activity, yet access to, and use of, condoms generally remained unchanged</p>

<p>Mental health impacts of COVID-19 lockdown on US college students: Results of a photoelicitation project</p>	<p>-photo-survey of students' experiences during the lockdown. Student researchers and faculty collaborated to analyze images and texts in a way that privileged students' interpretation  -a four-year, large, primarily residential university in Midwest USA.  -A Google formsVR survey was sent to 5000 randomly selected students on April 6, 2020</p>	<p>-Students frequently reported worsening mental health during the lockdown.  -Nonacademic aspects of students' lives such as work and the home environment significantly contributed to perceived stress.  - freshmen coped maladaptively with unmet psychosocial and educational needs.  -Faculty may underestimate the indirect impact of the pandemic on students' lives and academic outcomes</p>
<p>COVID-19 dimensions and psychotic experiences among US college students: Findings from the Healthy Mind Study 2020</p>	<p>-analyzed data from the Healthy Minds Survey (Fall Semester Cohort 2020), which is a nonprobability sample of students attending one of 36 universities in the United States, who completed an online survey during the COVID-19 pandemic (September–December 2020)  - used multivariable logistic regression to examine the associations between several COVID-19 dimensions (anxiety, discrimination, financial distress, infection, illness of loved one, death of loved one, caregiving) and 12-month psychotic experiences, adjusting for age, gender, race/ethnicity, and international student status.</p>	<p>-Each individual COVID-19 dimension was significantly associated with greater odds of having 12-month psychotic experiences, with the exception of being a caregiver  -When accounting for all COVID-19 dimensions simultaneously in the same model,  - COVID-19 dimensions were linked to psychotic experiences among university students, which may also apply to the larger population</p>

<p>Health Literacy, Digital Health Literacy, and COVID-19 Pandemic Attitudes and Behaviors in U.S. College Students: Implications for Interventions</p>	<p>- July 2020, 256 responses were collected, which mirrored the racial/ethnic and gender diversity of U.S. colleges - Single-Item Health Literacy Screener</p>	<p>- Only 49% reported adequate HL, and 57% found DHL tasks easy overall -DHL did not vary by HL level. -In multivariable models, both HL and DHL were independently associated with overall compliance with basic preventive practices. -Higher DHL, but not HL, was significantly associated with greater willingness to get a COVID-19 vaccine and the belief that acquiring the disease would negatively impact their life. -More than half of this sample (51%, N = 130) reported low H -Students with low HL were, on average, 2.3 years older than those with adequate HL</p>
<p>Anxiety and depression among US college students engaging in undergraduate research during the COVID-19 pandemic</p>	<p>-surveyed 962 UGRs who were conducting research in Spring 2020 at over 100 US Universities. -We conducted an online survey in July 2020. We analyzed data using descriptive statistics and multivariable generalized estimating equations. - 7-item Generalized Anxiety Disorder Scale (GAD-7),<sup>37</sup> which is one of the most widely used instruments for screening for anxiety disorders</p>	<p>- 63% reported at least mild anxiety and 73% reported at least mild depression based on GAD-7 and PHQ-9 scores; 15.2% reported severe anxiety (score <math>\geq 15</math>) and 23.4% reported severe depression (score <math>\geq 15</math>) - Faculty have an important role in the mental health of their mentees. - Additional interventions are needed to better support women and first-generation students</p>

<p>Psychosocial adjustment of U.S. college students in the early months of the COVID-19 pandemic</p>	<ul style="list-style-type: none"> <li>- Higher education students in the U.S. (N=228), recruited between March 2020 and May 2020</li> <li>-Participants completed self-report measures regarding their psychosocial functioning online</li> <li>- Qualitative and quantitative methods were used to explore participants' psychosocial adjustment</li> </ul>	<ul style="list-style-type: none"> <li>-Participants reported increased concerns about such stressors as academics, job loss, health, and social isolation.</li> <li>-They reported significantly elevated symptoms of depression, anxiety, perceived stress, and somatization, and prior history of psychological counseling was associated with greater levels of distress</li> <li>-Approximately one-third of participants reported inadequate perceived social support, which in turn was linked to psychosocial adjustment.</li> <li>- College students reported experiencing a wide range of stressors related to the pandemic</li> <li>- Increasing access to mental health services and providing supportive services in such areas as social connection and employment are encouraged.</li> </ul>
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<p>COVID-19 dimensions are related to depression and anxiety among US college students: Findings from the Healthy Minds Survey 2020</p>	<p>-analyzed data from the Healthy Minds Study (Fall Semester Cohort 2020), a non-probability sample of students across multiple colleges who completed an online survey between September – December 2020.</p> <p>- associations between COVID-19 dimensions (concern, racial/ethnic discrimination, financial distress, infection, illness of loved one, death of loved one, caregiving) and mental health outcomes (depression, anxiety), adjusting for age, gender, race/ethnicity, and international student status</p>	<p>- Nearly a fifth of the sample reported moderately severe or severe depression, and nearly a third reported moderately severe or severe anxiety over the past two weeks</p> <p>-When accounting for all COVID-19 dimensions in the same model, COVID-19 concern, racial/ethnic discrimination, financial distress, and infection were significantly associated with moderately severe or severe depression; COVID-19 concern, financial distress, and infection were significantly associated with moderately severe or severe anxiety</p> <p>- COVID-19 pandemic may have shaped mental health through a range of potential social and environmental dimensions.</p> <p>-Interventions are required that consider multiple dimensions of COVID-19 to improve mental health during and after the pandemic</p>
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<p>Impact of COVID-19 on the mental health of US college students</p>	<p>- investigated the impacts of the COVID-19 pandemic on domestic U.S. college students, ages 18–24 years</p> <p>-Pollfish®’s survey research platform, collected data from 200 domestic U.S. college students in this age range (N=200) regarding the physical, emotional, and social impacts of COVID-19 as well as key background information (e.g. whether or not they are first-generation or if they identify with the LGBTQIA+ community)</p>	<p>-students closer to graduating faced increases in anxiety (60.8%), feeling of loneliness (54.1%), and depression (59.8%)</p> <p>-Many reported worries for the health of loved ones most impacted their mental health status (20.0%), and the need to take care of family most affected current and future plans (31.8%)</p> <p>- Almost one-half of students took to exercising and physical activity to take care of their mental health (46.7%).</p> <p>-a third did not have strained familial relationships (36.5%), almost one half did (45.7%)</p> <p>-majority found it harder to complete the semester at home (60.9%), especially among those who had strained relationships with family (34.1%).</p> <p>-70% spent time during the pandemic watching television shows or movies</p> <p>-Significantly more men, first-generation, and low-income students gained beneficial opportunities in light of the pandemic, whereas their counterparts reported no impact.</p> <p>-First-generation students were more likely to take a gap year or time off from school</p> <p>-Although students found ways to take care of themselves and spent more time at home, the clear negative mental health impacts call for schools and</p>
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		federal regulations to accommodate, support, and make mental health care accessible to all students
<p>Improving Predictions of COVID-19 Preventive Behavior: Development of a Sequential Mediation Model</p>	<ul style="list-style-type: none"> <li>- develop a model for predicting COVID-19 preventive behaviors among US college students.</li> <li>- This study identifies a more optimal and defensible combination of variables to explain preventive behaviors among college students. - This segment of the US population is critical in helping slow the spread of COVID-19 because of the relative reluctance of college students to perform the needed behaviors given they do not feel susceptible to or fearful of COVID-19.</li> <li>-415 US college students were surveyed via Qualtrics and asked to answer questions regarding their fear of COVID-19, information receptivity (seeking relevant information), perceived knowledge of the disease, self-efficacy, and performance of preventive behaviors</li> <li>-The PROCESS macro (Model 6) was used to test our conceptual model, including predictions involving sequential mediation</li> </ul>	<ul style="list-style-type: none"> <li>-Sequential mediation results show that fear of COVID-19 leads individuals to seek out information regarding the disease, which increases their perceived knowledge and fosters self-efficacy; this is key to driving preventive behaviors</li> <li>- Self-imposed preventive measures can drastically impact the rate of infection among populations</li> <li>-Based on this study’s newly created sequential mediation model, communication strategies for encouraging COVID-19 preventive behaviors are offered</li> <li>- college students, and very possibly adults of all ages, must have a healthy fear of COVID-19 to set in motion a process where concerned individuals seek out COVID-19–related information, increasing their store of knowledge concerning the disease, their self-efficacy, and ultimately their likelihood of performing the needed preventive behaviors.</li> </ul>

<p>Stressors experienced during the COVID-19 pandemic and substance use among US college students</p>	<p>-analyzed data from the Fall 2020 Healthy Minds Study (N = 15,995), a non-probability sample of students attending one of 28 universities, who completed an online survey during the COVID-19 pandemic (September – December 2020).          -Using multivariable logistic regression, examined the associations between COVID-19 stressors (concern, racial/ethnic discrimination, financial distress, infection, illness of loved one, death of loved one, caregiving) and substance use (alcohol, cigarette, marijuana), adjusting for age, gender, race/ethnicity, and international student status.</p>	<p>-During the pandemic, about 46.89% of the sample reported drinking any alcohol (in the past 2 weeks), 7.38% used any cigarettes, and 16.87% used any marijuana.          -COVID-19 infection and caregiving were significantly associated with alcohol use.          -Racial/ethnic discrimination and financial distress were associated with smoking cigarettes.          -COVID-19 concern and COVID-19 infection were associated with marijuana use.          -COVID-19 stressors were related to substance use, though the strength and significance of the associations varied depending on the stressors and the type of substance.</p>
<p>The Stress of the COVID-19 Pandemic: Beyond the Data</p>	<p>-an opinion piece, part personal and part peer experiences          -presented in light of studies suggesting that the COVID-19 pandemic has imposed significant mental stress and anxiety upon students and faculty members within the academy.</p>	<p>-Loss of face-to-face interactions as a result of virtual instructions, lack of in-person mentoring, and loss of research productivity have affected mental health and well-being of the academic community.          -Despite the challenges of the pandemic, the ingenuity of the human spirit has innovated solutions to catch up on research productivity and to pursue academic excellence.</p>

<p>The Association between Imagination and Anxiety in the Times of the COVID-19 Pandemic</p>	<p>-two studies examined the link between imagination, anxiety, and loneliness during the COVID-19 pandemic. US college students (N = 101, Study 1) and participants from an international community sample (N = 61, Study 2) were tested when that rates of COVID-19 cases were escalating.</p>	<p>-Across both samples, we found that spending more time in one's imagination was associated with elevated levels of anxiety</p> <ul style="list-style-type: none"> <li>- frequency of imagination interacted with loneliness in predicting changes in anxiety during, compared to before the pandemic</li> <li>- lonely people who spent more time imagining experienced the largest increases in anxiety during, compared to before the pandemic</li> </ul> <p>-In Study 1 valence of imagination and changes in anxiety were also moderated by feelings of loneliness, although this effect was not replicated in Study 2.</p> <ul style="list-style-type: none"> <li>- at least some features of imagination, particularly how much time people spend in imaginative states, may be associated with negative mood states, such as feelings of anxiety.</li> </ul>
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<p>Study Results from Fordham University in the Area of COVID-19 Reported ("constant Stress Has Become the New Normal"Stress and Anxiety Inequalities Among Us College Students In the Time of Covid-19).</p>	<p>-document young adults' perceived stress and anxiety in a diverse sample of college students across the U.S. during the COVID-19 pandemic          - recruited, via Instagram, a sample of full-time college students aged 18-22 from across the U.S."          -surveyed them in April (baseline; N = 707; mean age = 20.0, SD = 1.3) and July (follow-up) 2020          -presents overall levels of perceived stress and general anxiety symptoms and inequalities across each of these outcomes by gender, sexual orientation, race/ethnicity, and household income.</p>	<p>-identified inequalities in college student mental well-being, particularly by gender identity and sexual orientation.          -Women reported worse well-being compared with men; transgender and gender diverse and sexual minority youths reported worse outcomes than their cisgender, heterosexual peers at both time points          -Qualitative data illustrate how the COVID-19 pandemic has generated educational, economic, and environmental stressors that are affecting college students' well-being.          -As colleges and universities think about how to manage and mitigate the infectious disease dimensions of COVID-19 among their student populations, they must also consider who is most at risk for increased stress and anxiety during the pandemic</p>
<p>Assessing the Effects of the COVID-19 Pandemic on Nontraditional Students' Mental Health and Well-Being. Adult Education Quarterly (American Association for Adult and Continuing Education)</p>	<p>-321 participants;77.7% female, 53%latinx, 80.1%single, psych students southeast          Self-report assessment          -Limitation: sample is not representative of all college students, and pre-covid rates were retroactively analyzed</p>	<p>-higher levels of depression, anxiety, sleep disturbances, and insomnia, with corresponding lower levels of well-being across all students, compared with prepandemic levels          all students, especially traditional students, are now more prepared for future online learning than they were before the pandemic</p>

<p>Lifestyle and mental health 1 year into COVID-19.</p>	<p>-1,179 students; spring 2019 - spring 202; east; 95% under 23 Biometric &amp; survey data</p>	<p>-Fitness: Daily steps 35% decline screen time significantly higher than pre-pandemic levels</p>
<p>Stress and depression in undergraduate students during the COVID-19 pandemic: Nursing students compared to undergraduate students in non-nursing majors.</p>	<p>-2,326; online survey, 68.9%female, white, under 22</p>	<p>-Nursing students = higher levels of student-life stress, but fewer depressive symptoms Differences between nursing and non-nursing students are likely due to a multifactorial combination of social support, resilience, and posttraumatic growth. elevated depressive symptoms in non-nursing majors support the findings of other authors that isolating college students from social networks contributes to higher levels of anxiety, depression, and suicidality in emerging adults</p>
<p>Psychological impacts from COVID-19 among university students: Risk factors across seven states in the United States.</p>	<p>-2,534; 61%women, 79%whites across US mid-march to early may 2020 cross-sectional data through web based questionnaires from 7 US universities; representative &amp; convenience sampling; qualitative open-ended questionnaire &amp; quantitative -coronavirus shelter in place in effect -high percentage of non-Hispanic Whites. This</p>	<p>-Smaller numbers of students reported positive changes from the COVID-19 pandemic as well. These included optimism, productivity, adaptation, and empathy</p>

	occurrence was likely the result of the demographic composition of the colleges and departments targeted for recruitment	
College student mental health risks during the COVID-19 pandemic: Implications of campus relocation.	-791 young adults (ages 18–30 years) east April 9 to August 4, 2020 cross-sectional survey data; CARES 2020 Project (COVID-19 Adult Resilience Experiences Study) is an online survey of young adults' mental health during the COVID-19 pandemic; snowball sampling -one-third of students reported being mandated to relocate	-Students mandated to relocate reported more COVID-19-related grief, loneliness, and generalized anxiety symptoms compared to those who did not even after controlling for the severity level of local COVID-19 outbreaks Students who had to leave behind valuable personal belongings reported more COVID-19-related worries, grief, and depressive, generalized anxiety, and PTSD symptoms
US college student mental health and COVID-19: Comparing pre-pandemic and pandemic timepoints.	-312 in April 2020 & 362 in Spring 2017 data comparison	-Depression and stress symptoms were higher in April 2020 than in 2017. Most students reported perceiving at least some pandemic-related benefits. Top-rated stressors involved missing seeing friends and school-related stressors. Perceived control and approach coping were lower during the pandemic but related to better mental health; avoidant coping was higher during the pandemic and related to poorer mental health.

<p>The Covid-19 pandemic and mental health of first-year college students: Examining the effect of Covid-19 stressors using longitudinal data</p>	<p>-419 first-year students (ages 18–20) east before (October 2019-February 2020) and after (June/July 2020)  -Causes including work reductions, health, distanced learning difficulties and social isolation</p>	<p>-We found that the prevalence of moderate-severe anxiety increased from 18.1% before the pandemic to 25.3% within four months after the pandemic began; and the prevalence of moderate-severe depression increased from 21.5% to 31.7%. White, female and sexual/gender minority (SGM) students were at highest risk of increases in anxiety symptoms. Non-Hispanic (NH) Black, female, and SGM students were at highest risk of increases in depression symptoms. General difficulties associated with distanced learning and social isolation contributed to the increases in both depression and anxiety symptoms. However, work reductions as well as Covid-19 diagnosis and hospitalization of oneself, family members or friends were not associated with increases in depression or anxiety symptoms.</p>
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## Results

### *Demographics*

The COVID-19 pandemic has managed to have an impact on every single person regardless, of age, sex, gender, socioeconomic status, and even location. However, the level of impact remains distinct. A cross-sectional study with about 3,000 participants with a little over half being women and about 1/4 of the participants being minorities, showed that undergraduate students who were female, non-Hispanic Asians, in fair or poor health, had come from a family with below-average income, or knew someone who was infected with COVID-19 had experienced higher levels of a negative psychological impact than those who were non-Hispanic White, came from above-average social class, spent at least a couple hours outside and less on electronics (Browning et al., 2021). This study was taken in the early stages of the pandemic in Spring 2020 with participants from colleges all across the United States while the coronavirus shelter in place was going into effect.

In a self-reporting assessment study conducted on the effect of the COVID-19 pandemic on nontraditional college undergraduate students, they found that despite nontraditional undergraduate students indicating more of an increased amount of life stressors as opposed to the traditional undergraduate college students, they also experienced a higher level of resilience during the pandemic (Babb et al., 2022). Nontraditional undergraduate students were found to be more successful in dealing with the added stressful life events. This is because of their maturity due to age and more experiences that led them to overcome more challenges.

In a time of desperation for bare necessities for protection and care in hospitals, students studying in the healthcare field suffered greater stress as they had to be the front-line workers battling against the unpredictable virus. In a study comparing nursing students to undergraduate

students in non-nursing majors, they found that nursing students had a higher level of life stressors as a student compared to other students, but had less depressive symptoms (Black, 2022). They found that due to being part of the first students to return to in-person learning, because of the in-person required clinical experiences, nursing students were able to connect and gain the direct social support that students who remained in isolation lacked. This allowed them to be able to endure and moderate the stressful academic experience and depressive symptoms more during the pandemic.

In the spring of 2020, in-person classes in colleges came to an abrupt halt as a stay-at-home order was mandated all across the United States. Students were being forced to leave campus and stay at home where they could stay safe, but some were left with the fear of being homeless, and some with the fear of not being able to go back home as countries went on lockdown and flights were restricted. Studies showed that the international college student population had experienced higher levels of challenges psychologically compared to their domestic colleagues as lockdown continued to persist (Whatley, 2021). In a study that included over 50,000 students from more than 30 campuses all across the US, they found that after comparing data collected from 2019 to the end of 2020, specifically, Asian Pacific Islander international students had reported a 12% increase in severe anxiety, as well as a 16% increase in severe depression (Zhou, 2021). International students had to endure all the stressors that other college students had to face and adapt to on top of not having a real home or family to be able to come home to and adapt to a foreign country.

While going through the articles that touched on how the COVID-19 pandemic had impacted students psychologically and physically, a couple of research questions were kept in mind.

*Research Question 1:* Is there a difference in reported impact based on who is polled?

*Research Question 2:* Is there a difference in reported impact based on where the students were?

*Research Question 3:* Is there a difference in reported impact based on when the students were polled?

*Research Question 4:* Were there differences in who seemed to respond to the questionnaire and were there any specific efforts to include a representative sample?

*Research Question 5:* Were university administration policies; state policies; and other jurisdictional bodies' policies, mandates, and safety precautions mentioned in the study?

### *Mental Health*

In a cross-sectional study of a representative sample taken place in April of 2020, consisting of approximately 2,300 students, more than half of the students had experienced anxiety and depression, and almost half of the students had an increased need for mental health support services in order to help cope with the anxiety, depression, and stress caused by the COVID-19 pandemic (Jones et al., 2021). A study that conducted a semistructured interview survey via zoom found that over 70% of the students had reported increased levels of stress and anxiety because of the COVID-19 outbreak, over 90% reported that the pandemic had a negative impact on their lives overall, and 86% were found to have decreased social interaction (Son et al., 2020). When symptoms of anxiety and depression from 419 random-sampled, first-year undergraduate college students were compared from before the pandemic to within four months after the pandemic had begun, the levels of moderate to severe anxiety prevalence had increased

by 40%, and the prevalence of moderate to severe depression rate had increased by 48% (Fruehwirth et al., 2021).

### *Behavior*

In studies that focused on how undergraduate college students managed to cope with their stress and mental health issues during the lockdown, they found that avoidant coping was higher during the COVID-19 pandemic and related to poorer mental health compared to before (Frazier, 2021). In contrast to the negative effects, a small number of students in a study with universities across seven states in the United States had reported positive changes in their lifestyle (Browning, 2021). Because of the COVID-19 pandemic, a couple of students experienced higher levels of optimism, empathy, adaptation, and productivity (Browning, 2021).

A study comparing sex and relationships before and during the COVID-19 pandemic had compared and collected information from roughly 5000 undergraduate students and examined their romantic relationships between January 2020 to May of 2020 (Herbinick et al., 2022). Studies found that the average amount of times students had any form of sexual activity had significantly decreased during the pandemic (Herbinick et al., 2022). About 58% of students reported a decrease in sexual activity (Firkey et al., 2021). This correlated with findings that approximately a third of the students had separated from their significant others due to the pandemic causing school closures and lockdown (Herbinick et al., 2022). Students then were more inclined to seek solace online for companionship during the pandemic.

As college students were sent home back to live under the roof of their parents once again, access to alcohol consumption and college parties were no longer an option. A study was conducted at a large, northeastern university in the United States starting at the beginning of 2019 and ending in 2020 analyzing the amount of alcohol consumption by about 300 students

now that they are living in their family homes (Ryerson, 2021). Studies showed that there was a drastic decrease in alcohol consumption compared to the amount students normally had in past semesters in college before the pandemic, despite being over the legal drinking age (Ryerson, 2021).

### *Sleep*

A study with 1,222 US college student participants using the Pittsburgh Sleep Quality Index and the Insomnia Severity Index found that the bedtime and wake time during the pandemic were significantly later and the sleep duration was drastically longer during lockdown (Benham, 2020). This study also provided proof that there was greater sleep latency along with an increase in sleep medication usage, and worse sleep efficiency during the COVID-19 pandemic (Benham, 2020). Studies taken at the very beginning of the pandemic lockdown found that sleep quality initially had increased due to the flexible schedule of online asynchronous classes, but then decreased over time (Gusman, 2021).

### *Physical Health*

A study using biometric and survey data, where students wore bracelets that kept track of their fitness levels and steps, found that due to the stay-at-home lockdown mandate and online classes, the average student's daily steps had declined by 35% (Barbieri et al., 2021). The impact that fitness had on students during the COVID-19 pandemic showed promising results when a study found that students who practiced sports during the pandemic had a higher level of self-esteem and motivation for learning in school and cognitive achievement (Alshammari, 2021). Due to most college students being restricted to their homes or dormitory housing, there was an increase in the sedentary time during the pandemic as students spent more time using the computer, television, or phone (Kowalsky et al., 2021). This study of almost 200 college students

showed that there was a significant decrease in moderate to vigorous activity and training days (Kowalsky et al., 2021). In a cross-sectional survey study from June 2020 to January 2021, over 70% of students reported that they had more access and binged on unhealthy snacks more often during the pandemic (Prapkree et al., 2021).

## Discussion

At the early stages of the pandemic, when undergraduate students needed access to mental health services the most, accessibility to these services provided by the school was hard to obtain. This is why less than half of the college students in the cross-sectional study indicated that they were able to cope effectively with the stress related to the COVID-19 pandemic (Wang, 2020). Many students went home to living situations where they no longer had the privilege of gaining privacy to even reach out and get online therapy, and some students had technological disadvantages where counseling wasn't possible. Some students who went home to their families weren't able to spend time with their partners and also lost their romantic partners which meant that they no longer had that important source of support which contributed to the decline in their health and wellbeing during the COVID-19 pandemic.

In particular, Non-Hispanic Asian undergraduate students were one of the groups that were indicated to have had an even more negative psychological impact during the pandemic. This may be, because of the stigma surrounding the Asian population as a whole when the COVID-19 virus was announced, because of its place of origin. Many people infuriated by the effects and fear of this virus needed someone or something to blame, and they blamed the Asian community as a whole. During the pandemic, Asians were often targeted and verbally and physically abused. Asian Pacific Islander students had suffered COVID-related discrimination and hostility, which caused an increase in severe anxiety and depression (Zhou et al., 2021). Not only did they have to endure the effects of the pandemic itself like other students, but they also had to face being prepared and staying safe from acts of racism, and international students had to figure out where they were going to quarantine for however long lockdown was going to be in effect.

When in-person classes switched to the online platform many students took this as an advantage in that they had greater flexibility in their days due to some classes being asynchronous. However, once professors started adding a bigger workload, online classes became more overwhelming to students compared to in-person classes, especially while adjusting to a new lifestyle. Many of the students who were unable to keep up with the demands of online school, and had to struggle with personal and financial concerns had to take gap years in between college just to be able to survive. Students living in states where they were mandated to relocate had experienced higher levels of anxiety, loneliness, and depression than those who didn't, because their college plans, social life, and the life that they were accustomed to were disrupted and taken away from them.

With students in the healthcare field being the most in contact with the COVID-19 virus directly, increased levels of anxiety and depression were thought to be the highest in nursing students. Especially, with the possible experiences of observing patients passing away from the virus, being new to the hospital environment during a surge, and the demand for emergency help on top of keeping up with the heavy school workload. Many students had changed majors and career paths due to the COVID-19 pandemic. Although nursing students were found to have higher levels of stress, they were also found to have lower levels of depression. This was due to the fact that nursing students had in-person contact with their peers, leading to the social support needed to reduce the negative impacts on their mental health, and they also experienced posttraumatic growth together. With non-nursing major students experiencing more depressive symptoms than nursing majors, this supports the theory that social isolation correlates with higher levels of mental health issues including anxiety, depression, and in more severe cases suicide.



### *Research Questions Answered*

Nearly all the articles had a majority of female and white participants. The findings indicated higher levels of negative impact on the quality of life for women and those who were minorities. Overall, there was no significant difference in impact based on where the students were located geographically, and information was gathered relatively evenly from different articles with students located all across the U.S. from the east, west, and mid-state universities . Although students experienced higher levels of emotional changes in the beginning stages of the stay-at-home mandate, the findings were consistent that students had a tougher time coping with their emotions and managing their time, habits, anxiety, and depression. Articles varied in sampling methods, such as snowball sampling, stratified sampling, and random sampling. Some articles that specifically wanted to compare certain populations put special effort into obtaining participants from those groups, such as the ones comparing non-nursing majors and nurse majors, international students, DACA students, non-traditional students, as well as others. Some articles had more participation as they were obtained through class credit, however these students were mainly from the psychology department. Many of the articles that gathered data in different time period over quarantine had some discrepancies in their results, because some of the student took one survey, but were not able to do the second or third. The stay-at-home mandate that began in March of 2020 was mentioned in the studies and how loss of social contact, and isolation resulted in higher levels of depression and social anxiety.

### *Limitations*

The limitation in attempting to do accurate studies such as the ones listed here would be that the populations used, despite some being random or stratified, is that the sample is not representative of all undergraduate students within the United States, and only a small sample

was managed to be surveyed out of hundreds of thousands of other students. Also, the data used for pre-covid information was retroactively analyzed. Some of the studies that compiled survey data over different periods of time also had inconsistencies in how many students were able to complete every survey during the different periods of time. The demographics of those who participated in some studies were also not evenly distributed when it came to race, gender, and type of major, or student.

## **Conclusions**

College students have been forced to endure the psychological damage that the COVID-19 pandemic inflicted for the past two years, and were expected to come back to school as if it was a rewarding thing and that nothing had changed. After months of living in fear and social isolation, students may experience an increase in social anxiety that has not yet been dealt with. This study's findings provide some further insight to what the causes and effects of going through the COVID-19 pandemic were for different populations of the undergraduate community. These issues must be addressed and further student mental health evaluations and support should be provided during this time, being the second drastic transition for students, especially for those where it may be their first time setting foot onto the college campus.

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