"Out of the Mouths of Babes": What Students are Saying about the Impact of COVID

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Abstract

Purpose. *This study was driven by the interest of public health students in learning how COVID-19 has impacted student life. Specifically examined were students' experiences and preferences with modes of education during the pandemic, influence of COVID on students' mental and physical health, impact on employment and future careers, and thoughts on vaccinations and mask mandates.* ***Methods.*** *Both quantitative and qualitative data was collected through survey research. A total of 375 students at a mid-size liberal arts institution on the east coast participated.* ***Results.*** *Data indicates above average attitudes towards mask and vaccination mandates, slightly higher level of agreement of vaccination's efficacy, but a lower-than-average agreement that legal action should be taken for those out of compliance. Politics and social media play a role in people's knowledge and attitudes related to COVID. Data also reveals that majority reported their GPA remained the same and that students took three times the number of courses on-line as face-to-face, but preferred face-to face more than on-line. Descriptive statistics reveal students are more satisfied with their face-to-face courses than on-line, and distractions with on-line courses were fairly high. Students reported a fairly high level when asked if COVID impacted their education negatively. Additionally, students reported COVID impacted their mental health but not necessarily their physical health. For employed students, less than one-fifth had opportunities to work at home, while the majority did not work from home. Participants neither agree nor disagree that COVID impacted future career decisions.* ***Conclusion.*** *Implications, limitations, and future research are addressed at the conclusion of the study.*

Keywords: COVID-19, Health, College Students, Research Methods Course

INTRODUCTION

College students became a population of priority during the COVID-19 pandemic based on the susceptibility of college campuses in spreading communicable diseases (Cohen et al., 2020). It is for this reason that college campuses have been considered "hot zones" for the transmission of infectious diseases that included influenza and now COVID-19 (Aiello et al., 2021;

Cohen et al., 2020). In March 2020 campuses across the United States closed in response to this public health crisis. Face-to-face learning came to an abrupt stop, residential halls closed indefinitely, and both staff and faculty were required to work from home. The response required students to return to their homes where they participated in on-line learning as the 2019-2020 academic year ended (Lederer et al., 2020). By summer, COVID cases continued to rise, and many campuses remained closed for the following academic year.

This abrupt change across academic campuses, left many questioning its impact on students. Thus, the following study was student-driven. Specifically, students were interested in examining peers' perception on how COVID impacted various facets of student life. The purpose of this study was to examine students' experiences and preferences with different modes of education during the pandemic; possible influence of COVID on students' mental and physical health; the impact of COVID on employment and future careers; and lastly students' thoughts on vaccinations and mask mandates.

Review of Literature

Face masks, consistent handwashing, and vaccinations are not uncommon public health recommendations in the fight against infectious diseases. In the fight against COVID-19 stronger measures, in addition to the standard recommendations, were needed for a far reaching effect that would reduce COVID cases. This was urgent for college campuses where students typically practiced consistent hand-washing, and adhered to mandates for face masks and vaccinations, but wrestled with low rates of testing and stay-at-home orders after exposure to COVID when symptoms occurred (Cohen, et al., 2020).

Colleges often provide multiple modes of education that include face-to-face and on-line learning or a blend of both. Students choose what mode of course delivery works based on the following: personal, logistics, teaching and learning, learning support, environment, as well as advice and marketing from the institution they attend (Bailey et al., 2017). It is theorized that a choice of course delivery significantly influences "both the learning and social environments that students will encounter", while providing the flexibility to meet additional demands of student life (Bailey et al., 2017, p. 73). As courses transitioned from in-person to on-line learning during the pandemic, it was a challenge not easily met by all students. As research has demonstrated there are students who benefit from face-to-face instruction (Hagel & Shaw, 2010). Additionally, academic services were challenged with "meeting" students through a virtual forum. These services include instructor office hours, advising, learning access, and tutoring; all of which have a positive impact on academic advancement, student persistence and retention as well as self-efficacy (Bailey et al., 2017; Wibrowski et al., 2016; Bunn, 2004).

Beyond academics, educational settings offer students a stable environment that has been acknowledged from primary schools to institutions of higher education (IHE). Access to shelter, food, wellness services as well as social support have been significant components of college living, and campus closures left numerous students to manage these challenges (Lederer et al., 2020). For many students these necessities went unmet until their college matriculation made it possible for resources to be accessible (Lederer et al., 2021). IHE have implemented initiatives that foster supportive environments for their students. These initiatives have centered on necessities as well as health promotion of the physical, emotional, and social dimensions (American College Health Association [ACHA], 2019). Among the many challenges, less privileged students saw college housing as their place of residence, and now experienced housing transiency. Students also experienced financial hardship as they were once employed with on-campus jobs and found themselves unemployed with little option to work from home (Cohen et al., 2020).

Staff and faculty attempted to create a seamless transition from in-person learning, academic services, and other necessities to a virtual forum. However, the transition found student subgroups, such as first-year students, struggling to adapt to this unexpected change. First year college students experienced a significant rise in symptoms associated with anxiety and depression, a result of social isolation as well as distance learning (Fruehwirth et al., 2021). Additionally, such social determinants as race, gender, and class made the pandemic particularly challenging for student subgroups

impacted not only by social isolation but by structural inequality (Fruehwirth et al., 2021).

Interwoven through challenges were levels of distress as student networks were dismantled and the opportunity to build relationships with faculty and staff went unmet. Also unfulfilled were student milestones like study abroad programs, career internships, and graduation ceremonies (Lederer et al, 2021); all of which are critical to student development (Peltier et al., 2000). There were students who transitioned into primary caregivers as they helped care for younger siblings who were also at home and in need of academic and personal assistance. These set of circumstances were unparalleled as students were already entering college with high levels of anxiety and depression without the challenges presented by the pandemic.

Lastly, researchers found that physical activity, healthy food choices, and daily routines of individuals were impacted by the pandemic. As described by Bertrand et al. (2021), "the COVID-19 pandemic has been generating considerable interest in terms of its impact on food intake, sedentary behaviours, and level of physical activity" (p. 266). In examining COVID's impact on health determinants, it was discovered that the pandemic had significantly increased sedentary behaviors, decreased physical activity, and affected dietary intake specifically among college students who were already considered a vulnerable group for unhealthy habits (Bertrand et al., 2021). After careful consideration of the literature, the undergraduate students who conducted this study as part of their Public Health course looked to examine students' attitudes towards COVID-19 mandates as well as the impact of COVID on students' education, mental and physical, and current and future occupations.

METHODS

This study originated out of a class project by undergraduate students enrolled in a Public Health Research Methods and Statistics class, at a mid-size liberal arts university on the east coast. After learning about the scientific process of conducting research, students chose the pandemic as their topic. Students brainstormed several questions and narrowed their topic to how COVID-19 impacted their education, mental and physical health, current and future employment, and their attitudes about current mandates.

Instrument

After covering course basics, the instructor and students spent class time designing a survey that would yield data to answer their research questions. Students employed as many types of questions and levels of measurements as applicable. The survey consisted of several demographic questions; two systematic differential scales to identify participants level of satisfaction and preference with education during COVID-19; and the number and types of classes they took during the pandemic. Questions using nominal and interval scales were included to ascertain students' employment during COVID and attitudes about future careers since COVID. Several questions measured the impact of COVID on students mental and physical health. Questions were formatted as closed-ended, open-ended, and a 5-point interval scale. Finally, a 5-point Likert Scale was developed using strongly agree to strongly disagree to identify students' beliefs about mandates.

Procedures

Students completed CITI training for Institutional Review Board (IRB) approval, submitted their certificate of completion and were eligible to become co-investigators. The IRB application was submitted and approved. A convenience sample was used, data was collected on campus via pencil-paper surveys, and each student collected 20-25 surveys. Next, the instructor provided an in-class instructional session on setting up SPSS variables and data entry. After, in a computer lab, with students at individual workstations, the instructor led students in statistical analysis. This workshop type of class taught students how to use SPSS and practice executing statistical tests they had already learned and provided the results to answer the research questions that students posed.

Sample

Descriptive statistics of demographics indicates at total of 375 students participated in the study. Participants' age ranged from 18-50 with a mean of 23.22, standard deviation of 7.42; 47.5% (178) males, 46.4% (174) females, 3 students identified as transgender, and 20 participants did not indicate. Race was identified as follows: 51.7% (194) Caucasian; 16.5% (62) African American; 13.6% (51) Hispanic; 4.8% (18) Asian; 3.7% (14) Native American; 1.9% (7)

other; and 29 participants did not identify. Participants class rank breaks down as follows: 11.7% (44) freshman; 31.7% (119) sophomore; 19.7% (74) juniors; 20.3% (76) seniors; and 5.9% (22) graduate students. Also, participants indicated their major with 38 different majors reported: the largest in the health fields, business, and social sciences.

RESULTS

Research question one explores students' attitudes towards current COVID-19 mandates. Data indicates an above average attitudes towards mask and vaccination mandates, a bit higher level of agreement of vaccination's efficacy, but a lower-than-average agreement that legal action should be taken for those out of compliance with mandates. Also, that politics and social media play a role in people's knowledge and attitudes related to COVID. Results from the four 5-point Likert scale provide the following descriptive statistics (See Table 1).

In addition to the above questions, the survey included three nominal level questions regarding vaccinations and mandates. Among the responses, 71.5% (268) of participants indicated they were vaccinated; 9.9% (37) unvaccinated; 11.7% (44) preferred not to say; and 6.9% (26) did not report. Participants were also asked about current vaccination and mask mandates at their place of employment. Results indicate that participants' place of employment have a much higher mandate for masks (58.1%) than vaccinations (9.9%).

Research question two examines the impact of COVID-19 on students' education. Descriptive statistics indicate the majority of students (45.6%) reported that their GPA remained the same, while just over 25% indicated that it increased and 17.6% indicated that it decreased (11.7% did not respond to this question). Data also reveals that students took three times the number of courses on-line as face-to-face during this period but preferred face-to-face classes more ($\overline{x}$ = 3.85), next on-line synchronous (($\overline{x}$ = 3.13), and least hybrid ($\overline{x}$ = 2.86) and on-line asynchronous ($\overline{x}$ = 2.84). Descriptive statistics of the four questions used to ascertain students' perceptions of course during this time, yields the following results. They were more satisfied with their face-to-face course ($\overline{x}$ = 3.57) than on-line (3.26), and level of distraction with on-line courses ($\overline{x}$ = 3.41) was fairly high. Similarly, students reported a fairly high level when asked if COVID-19 impacted their education negatively ($\overline{x}$ = 3.40). On the other hand, when students responded to an open-ended question about any positive impact on education from COVID-19, 204 out of the 375 participants responded, which resulted in over 30 different positive impacts. During class-time, responses were coded into similar themes; these taught students and gave them hands-on experience with coding open-ended responses (See Table 2).

Research question three investigates if COVID-19 impacted students' mental and physical health. Results of descriptive statistics indicate that students reported COVID impacted their mental health ($\overline{x}$ = 3.57); they had high levels of stress the year before ($\overline{x}$ = 3.87) and agreed that their level of stress ($\overline{x}$ = 3.46) and anxiety ($\overline{x}$ = 3.29) increased during COVID-19. Results of frequency distributions from continue to support a negative impact on mental health, but not necessarily on physical health (See Table 3). In addition, only a little over one-third of participants thought these changes were permanent (36.7), while the other two-thirds was either unsure (43.3%) or did not think (19.9%) these changes were permanent.

Lastly, an open-ended question asked participants how they believe they have changed since COVID-19. Responses were coded the same way as the opened-ended question reported above. For this question, 75% of participants responded. The majority of respondents reported a change in outlook. Responses included an appreciation for everything, not taking things for granted, being positive and open minded, planning for the unexpected, among others (See Table 4 for themes and frequencies).

The last research question examines how COVID-19 impacts students' current and future occupations. Results of frequency statistics report that participants worked on average of 4 years at their current job with a range of just starting to 23 years. Participants current work status is as follows: 45.6% (171) part-time; 25.6% (96) no work; 22.1% (83) full-time; 1.3% (5) volunteer; .8 (3) internship; and 4.5% (17) did not answer. Of those that work, only 17% had some opportunity to work at home, while the majority (83%) did not work from home at all. Fortunately, most participants indicate that the number of

hours they worked stayed the same (45.4%) or increased (33.7%) and only 18.7% indicated a decrease in the number of hours they worked during the pandemic. In addition, most participants indicated they had not changed jobs (82.8%) and the majority were making about the same amount of money (42.2%), while 28.9% indicated an increase in pay, and only 23.2% had a decrease in pay. Participants also indicated they are pretty satisfied with their current job ($\overline{x}$ = 3.40), but neither agree nor disagree that COVID impacted future career decisions ($\overline{x}$ = 2.56). Finally, participants were asked if they changed jobs, what was the biggest factor in that decision (See Table 5 for the specific factors, frequencies, and percentages).

DISCUSSION

This article details both an instructional activity on research methodology, along with providing insight on the impact of COVID-19 on college students. The purpose was to give Public Health undergraduate students first-hand experience with the process of conducting research and to get a better understanding of the impact on COVID-19 on students' attitudes towards mandates, education, mental and physical health, and current and future employment. Results on students' attitudes regarding COVID-19 mandates indicate they tended to be in favor of mask and vaccination mandates, agreed with their level of efficacy, but had lower levels of agreement that any legal action for non-compliance should be taken. Also, students were required to be vaccinated (or apply for medical or religious exemption) and wear masks to attend classes; reported vaccination status of participants consisted with policies. Students indicated there are more mask mandates than vaccination mandates in their places of employment. Students believed that social media plays a role in their knowledge and attitudes related to COVID and false information is an issue. These few questions provide some insight into students' thoughts and experiences with mandates. This is similar to other findings from the Mask Adherence Surveillance at Colleges and Universities Project (MASCUP) study that show strong compliance with mask wearing on campus (Crowell et al., 2022). The MASCUP project involves the Center for Disease Control COVID-19 Response Team, Institutions of Higher Education (IHE) and Health Departments. The purpose of MASCUP was to serve as a vehicle to help institutions to identify and encourage mask use on their campus. During the Spring of 2021, a total of 54 colleges and universities across the United States participated in MASCUP. This study provides evidence of strong compliance on campuses that could serve well for combatting future diseases. These findings are also important, given that although vaccinations are now available, there are still many who are unable to or choose not to get vaccinated. According to the Centers for Disease Control and Prevention (CDC), as of the beginning of July 2022 approximately 47.7% of the population have been fully vaccinated. In New Jersey, 5,645,861 people or 63.56% of the population have received at least one dose and 4,976,576 people or 56.03% of New Jersey's population have been fully vaccinated (USA Facts, 2021). In addition, new variants of COVID-19, the Delta and Omicron variants, continue to pose a health risk to both vaccinated and unvaccinated (Radcliffe, 2021), during the 2021-2022 academic year.

Descriptive statistics on how COVID-19 impacted students' education, provides insight into students' GPA and class format during COVID. Specifically, almost half of participants reported that their GPA remained the same (45.6%), while about a quarter indicated that it increased, and less than 20% indicated that it decreased. Data also reveals that students took three times the number of courses on-line as face-to-face during this period, but their preference in order is face-to-face, on-line synchronous, hybrid, and then, on-line asynchronous. Thus, it was no surprise that students indicated that they were more satisfied with their face-to-face courses than on-line, and level of distraction with on-line courses was fairly high. Similarly, students reported a fairly high level when asked if COVID impacted their education negatively and almost 50 students could not think of any positive impacts on their education from COVID. However, many students indicated various positive impacts. The largest number of responses dealt with positive impacts within the class; specifically benefits with professors, their learning and classroom format. While almost 20 different responses were recorded under this theme, the majority of them dealt with students earning better grades, the convenience of on-line classes, more time to study, better time-management/increase organi-zational skills and increase knowledge and level

of comfort with on-line technology. Other positives were an increase in opportunity to spend more time with friends, family, and various non-academic activities. Finally, a handful of students reported that this experience provided insight in their major and future career path.

These findings are in-line with other studies that found that while students indicated that their remote courses were effective, they were disappointed to miss learning activities that take place on campus or in the community (Klein et al., 2022). For example, after campuses were shut down due to COVID-19, students received on-line education, however, they did so mostly as passive listeners. Some instructors tried to encourage interactions by embedding a human assistant in the online virtual lectures, on-line conferences, and office hours (Ait Maalem Lahcen et al., 2020). The premise (based on Albert Bandura's social learning theory), is that learning through modeling, or observational learning, may persuade students to imitate the assistant graduate teaching assistant, who is engaging in the lecture and to also answer questions and write comments (Wulfert, 2014). The results were positive, and students could not only interact during live sessions, but then go back and watch the recording (Ait Maalem Lahcen & Mohapatra, 2020). Thus, future efforts should focus on increasing faculty knowledge and skills regarding remote active learning and the use of technology to facilitate learning for diverse learners. Based on the Spring 2020 experience, institutions should procure technology and offer training resources to help provide a more successful remote learning experience.

Results of both quantitative and qualitative data indicates that COVID impacted students mental and physical health both negatively and positively, but more on mental health. Also, statistics indicate that a little over one-third thought these changes were permanent, while the majority were unsure and about one-fifth of participants thought they were not permanent. Quantitative data indicates that students experienced an increase in stress and anxiety during COVID, but their current stress is less. This was supported by qualitative data that indicate students experienced stress, anxiety, depression, isolation, and other mental health issues. As far as negative physical changes, participants reported being more sedentary, feeling tired / lethargic, gaining weight, an inability to go to the gym, and working too much. On a more encouraging note, students did report more positives than negatives. The most frequently reported change was a difference in outlook; specifically, having a more positive outlook on life. Additional positive changes were that participants indicate having a better work/life balance, greater focus on their mental and physical health, becoming more organized/better time-management skills, and increase level of comfort spending time alone. Overall, data supports changes in students' mental and physical health, as less than 20 reported no change at all.

These findings are similar to other studies that posits that the pandemic has impacted physical (Bertrand et al., 2021) and mental health (Son et al., 2020). Student indicated increased stress and anxiety due to the COVID-19 outbreak; specifically, students experienced higher levels of stress, anxiety, depressive thoughts, worry regarding their health and the health of friends and family, difficulty concentrating, sleeping, and increased isolation. Therefore, learning to cope with stress and anxiety, has become a daily activity for many students. Thus, institutions of higher education should work to provide support and wellness strategies to help students manage new learning requirements and mental health during and after these times; the following are some suggestions:

- Evidence-based information for fears or questions about COVID.
- Opportunities to discuss the changing landscape of healthcare.
- Flexibility and resilience.
- Collaboration – faculty/support services.
- Inclusive/Trauma-Informed Pedagogy (student-centric recognizing underserved populations).
- Identify/implement strategies that explicitly address student social, emotional, and mental health needs.

Results on how COVID-19 impact students' current and future occupations provided insight into their work-life. Specifically, most students working part-time, and that the overwhelming majority were unable to work from home. Also, fortunately, almost half reported being able to work the same amount during COVID, while one-third worked more hours and less than twenty percent experienced a decrease in hours. In

addition, most participants indicated they had not changed jobs and the majority were making about the same amount of money, with more experiencing an increase rather than a decrease in pay. Given these statistics, it may not be surprising that they also reported being fairly satisfied with their job. What may be more surprising is that participants were neutral to the idea that COVID will impact their future career decisions. Finally, for individuals that did change jobs during COVID, they reported the main reasons for this change were financial. These results are promising with regards to long-term impact of COVID; specifically, that negative impacts may be temporary. This is promising news with for students' current and future major and career aspirations. However, further research on possible short and long-term influences is needed to better understand this relationship.

Although this study provided valuable pedagogical practices and insightful results, as with all studies, it is not without limitations. Specifically, participation in this study was a result of a convenience sample and therefore, has lower external validity than true probability sampling. In addition, because one of the purposes of this study was pedagogical in nature, students designed survey questions to learn how to operationalize their variables, instead of the possibility of using already established valid instruments. Nor was any attempt at internal validity was made with measurement of the variables. However, given that the instructor did help create and reviewed all questions, there is some level of face validity with the survey questions. Also, given the use of research questions instead of hypothesis and the absence of any statistical test to determine differences of analysis, issues of validity could be argued to be less imperative. Meaning, data in the current study is simply descriptive rather than attempting to be predictive.

CONCLUSION

The current study provides two valuable contributions to the field. First, as an example of how to provide students with in-class, hands-on experience in the research process. Second, as an important contribution to the body of literature on the impact of COVID-19 on students' experience and preference with different modes of education during the pandemic, possible influence of COVID on students' mental and physical health as well as their employment and future careers and finally students' thoughts on vaccinations and mask mandates. Results of both qualitative and quantitative data from 375 participants indicate that students are more in favor and mandates and vaccines, roles that politics and social media have played in the pandemic, and various impacts to their educational experiences – both positive and negative. Additional results indicate that students reported COVID impacted their mental health negatively, but not necessarily their physical health. Thankfully, many perceived these changes as temporary. Finally, students reported about changes in current and future work, mostly with positive outcomes for both. These findings, along with the process in which they were obtained, contribute to pedagogical practices and better insight into students' experience during the pandemic. Both of these areas are significant additions to the field of education and can be used to help guide future efforts that can increase students' behavioral, cognitive and affective learning.

REFERENCES

Aiello, A. E., Perez, V., Coulborn, R. M., Davis, B. M., Uddin, M., & Monto, A. S. (2012). Facemasks, hand hygiene, and influenza among young adults: A randomized intervention trial. *PloS One, 7*(1), e29744. https://doi.org/10.1371/journal.pone.0029744

Ait Maalem Lahcen, R., & Mohapatra, R. (2020). Promoting proactive behavior through motivation: Required math lab hours case. *International Journal of Research in Education and Science, 6*(1), 110-119. 10.46328/ijres.v6i1.640

Ait Maalem Lahcen, R., Mohapatra, R., Chen, B. (2020). Prioritizing strategies for better transition to remote instruction. *EDUCAUSE Review.* https://er.educause.edu/articles/2020/11/prioritizing-strategies-for-a-better-transition-to-remote-instruction

American College Health Association. (2019). ACHA guidelines: Standards of practice for health promotion in higher education (4th edition). https://www.acha.org/documents/resources/guidelines/ACHA_Standards_of_Practice_for_Health

_Promotion_in_Higher_Education_October2019.pdf

Bailey, M., Gosper, M., Ifenthaler, D., Ware, C., & Kretzschema, M. (2018). On-campus, distance or online? Influences on student decision-making about study modes at university. *Australasian Journal of Educational Technology, 34*(5), 72-85. https://doi.org/10.14742/ajet.3781

Bertrand, L., Shaw, K.A., Ko, J., Deprez, D., Chilibeck, P.D., & Zello, G.A. (2021). The impact of the coronavirus disease 2019 (COVID-19) pandemic on university students' dietary intake, physical activity, and sedentary behaviour. *Applied Physiology, Nutrition, and Metabolism, 46*(3), 265-272. https://doi.org/10.1139/apnm-2020-0990

Bunn, J. (2004). Student persistence in a LIS distance education program. *Australian Academic and Research Libraries, 3*5(3), 253-270. https://doi.org/10.1080/00048623.2004.10755275

Cohen, A.K., Hoyt, L.T., & Dull, B. (2020). A descriptive study of COVID-19–related experiences and perspectives of a national sample of college students in spring 2020. *The Journal of Adolescent Health, 67*(3), 369-375. https://doi.org/10.1016/j.jadohealth.2020.06.009

Crowell, T., Dileo, B., Knoll, M., Mauer, A., Miller, K., & Nguyen, K. (2022). MASCUP! Mask surveillance & adherence project @ Stockton University. *International Journal of Undergraduate Research and Creative Activities, 14*(3), 1–13. http://doi.org/10.7710/2168-0620.0368

Fruehwirth J.C., Biswas, S., & Perreira, K.M. (2021). The COVID-19 pandemic and mental health of first-year college students: Examining the effect of COVID-19 stressors using longitudinal data. *PLoS ONE, 16*(3), e0247999. https://doi.org/10.1371/journal.pone.0247999

Hagel, P., & Shaw, R. (2010). How important is study mode in student university choice? *Higher Education Quarterly, 64*(2), 161-182. https://doi.org/10.1111/j.1468-273.2009.00435.x

Klein, K., Galantino, M., Cavezza, R., & Crowell, T. (Under Review June 2022). The abrupt educational switch: The impact of COVID-19 on health science faculty & students. *Health Education Journal.*

Lederer, A. M., Hoban, M. T., Lipson, S. K., Zhou, S., & Eisenberg, D. (2021). More than inconvenienced: The unique needs of U.S. college students during the COVID-19 pandemic. *Health Education & Behavior*, *48*(1), 14–19. https://doi.org/10.1177/1090198120969372

Peltier, G.L., Laden, R., & Myrna, M. (2000). Student persistence in college: A review of research. *Journal of College Student Retention, 1*(4), 357-375. https://doi.org/10.2190/L4F7-4EF5-G2F1-Y8R3

Radcliffe, S. (2021). Even if you're vaccinated, the delta variant can still impact you. *Healthline.* https://www.healthline.com/health-news/even-if-youre-vaccinated-the-delta-variant-can-still-impact-you

Son, C., Hegde, S., Smith. A., Wang X., & Sasangohar, F. (2020). Effects of COVID-19 on college students' mental health in the United States: Interview survey study. *Journal of Medical Internet, 2*(9), e21279. https://doi.org/10.2196/21279

USA Facts. (2022). New Jersey Coronavirus Vaccination Progress. https://usafacts.org/Visualizations/covid-vaccine-tracker-states/state/new-jersey

Wibrowski, C.R., Matthews, W.K., & Kitsantas, A. (2016). The role of a skills learning support program on first-generation students' self-regulation, motivation, and academic achievement. *Journal of College Student Retention: Research, Theory & Practice, 19*(3), 317-322. https://doi.org/10.1177%2F1521025116629152

Wulfert, E. (2014). Social learning according to Albert Bandura. *Salem Press Encyclopedia of Health.*

Table 1: *Descriptive Statistics COVID-19 Mandates*

Question	N	Range	Mean	Standard Deviation
Mandated vaccination	358	1-5	3.01	1.41
Vaccination reduced spread of COVID-19	359	1-5	3.27	1.25
Legal action for those that refuse to get vaccinated	359	1-5	2.14	1.16
In-door mask mandates	359	1-5	3.14	1.27
Politics is playing a role in the mandate debates	359	1-5	3.98	1.13
Social media is spreading false information about COVID-19	359	1-5	3.66	1.15

Table 2: *Positive Impacts of COVID-19 on Education*

Major/Future Career	Comments about Professor/ Class Format	More Time	No Positives	Miscellaneous
• Change Major (4) • More Confidence in major (2) • Shifted Career Change (2)	• Better Grades (22) • Convenience (can do school from anywhere)/no commuting -saved time and gas (21) • Time to Study (21) • Better time management/organized (16) • Better understanding of on-line software/on-line technology/zoom (12) • Cheat more/use notes during test (12) • Classes easier/professors graded easier/pass-fail (10) • GPA stayed the same/were not impacted (9) • Access to professors/seek help anytime/better communication with professors (8) • More Focus (5) • Keep safe but still let me continue with my degree (5) • Could decide which format to take (on-line vs. face-to-face) (4) • More Motivated (3) • Better note taking/look back on lectures (2) • Not afraid to speak up (1) • Not enough time to take tests (1) • See my mistakes (1) • Better comprehension (1)	• Spend time with friends and family (8) • Work (5) • Exercise (3) • Do projects/ Creative Endeavors (4) • Spend time alone (2) • Be at home (2)	• No positives / None / Nothing (35) • Could not think of any (8) • Everything is the same (3)	• Connect with peers (3) • Focus on physical health (3) • Slept more (2) • Focus on mental health (2) • Real World Experience (1) • Slow down and take my time (1)

Table 3: *COVID-19 Impact on Physical and Mental Health*

Physical Health			
		Frequency	Percent
Valid	Worse	31	8.3
	Somewhat Worse	69	18.4
	Same	209	55.7
	Somewhat Better	37	9.9
	Better	13	3.5
	Total	359	95.7
Missing	99.00	16	4.3
Total		375	100.0

Mental Health			
		Frequency	Percent
Valid	Worse	69	18.4
	Somewhat Worse	173	46.1
	Same	83	22.1
	Somewhat Better	24	6.4
	Better	10	2.7
	Total	359	95.7
Missing	99.00	16	4.3
Total		375	100.0

Table 4: *How COVID-19 Changed Participants*

Most Reported Change was a Change in Outlook (40)	Additional Positive Changes (84)	Negatives Changes (101)	No Change Reported (18)
• Always give it your all • Appreciate everything/Do not take things for granted • Be positive/Happier • Stronger Person • More Focused • Increase self-awareness • Less stressed/More relaxed • Prepare/Plan for the unexpected (adaptable) • Free minded/Spirited • Open-minded • Grateful • Empathic • Passionate	• Better Work/Life Balance (e.g., spending more time with friends & family, doing social things; etc.) (16) • Importance of physical and mental health (12) • Organized/Better Time Management/More Productive (10) • Began to exercise/ More active (9) • More comfortable alone (9) • Stronger Mentally (5) • Research/question more (5) • Need to help others/ Reaching out (4) • More Focus (4) • Increase awareness of Politics (3) • Life Changing Events: Had Children/became a parent; Deciding to have a child (3) • Prepare for Career (2) • Matured (1) • Grades improved (1)	• Increased Stress/ Anxiety (19) • Isolates/Alone (10) • Mental health issues (7) • Lazy/Lethargic/Tired (6) • Gained Weight (6) • Work more/ Need money (5) • Unable to go to gym (5) • Difficulties with school (5) • Germs & increase hand washing (5) • Increased anger (4) • Difficulties focusing (4) • Anxiety with crowds (4) • Ended up working too much (4) • Physical difficulties due to mask (3) • Unable to go to in-person class (3) • Less Focused (2) • Negative Impact on Job (1)	• None • N/A • No change

Table 5: *Factors in Changing Jobs*

Reasons for Job Change	Frequency	Precent
Better Pay / Money	14	33.3
Time (needed more or less hours)	4	9.52
Needs increased	4	9.52
Safety Issues	4	9.52
Fired / Let Go	3	7.14
Got an internship/Internship ended	2	4.76
Issues with Co-workers	2	4.76
Location / Building Change	2	4.76
Did not like job	2	4.76
Work Environment	2	4.76
Finally Getting Hired	1	2.38
Policies regarding COVID mandates	1	2.38
Needed a change	1	2.38
Total	42	100.0