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COVID-19 & Mental Health: The Impact on the Future of Younger Generations

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COVID-19 & MENTAL HEALTH: THE IMPACT ON THE FUTURE OF YOUNGER
GENERATIONS

By

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Submitted in Partial Fulfillment
of the Requirements for
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Acknowledgments

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Abstract

The aim of this research is to identify any existing correlations between the COVID-19 pandemic and negative mental health outcomes in younger populations. This paper examines the impact of the COVID-19 pandemic on the mental health of those younger than 25 years of age, specifically focusing on students. It will investigate how various factors of the pandemic have affected people and how they have coped with psychological distress induced by the pandemic. Through a review of scientific data and scholarly literature, the impacts of the pandemic on mental health will be assessed. Coping mechanisms and the effects of physical activity on stress will also be analyzed. Hypotheses will be made regarding how living through a pandemic will prepare younger generations for future stressful events. There are several implications of this study including identifying means to improve the mental health of adolescents and young adults during stressful situations as well as identifying common external factors and internal perceptions that cause mental health issues in younger populations.

Introduction

The COVID-19 pandemic has put a spotlight on mental health within the last year. It has caused about half of the global workforce's livelihoods to be at risk, the deaths of hundreds of thousands of people, and the disruption of everyone's normal routine (WHO, 2020b.) The pandemic has affected every aspect of life and has been detrimental to the mental health of college students. Thus it is important that people learn from the experience so we are better equipped to handle future mental health issues. Studying how a life-altering event like a global pandemic affects the mental health of college students is necessary to prepare for and combat mental health issues associated with future life-altering events.

Populations undergo many life-altering events in their lifetimes including wars, terrorist attacks, elections, monumental legislation, technological advancements, etc. Individuals typically experience several monumental events in their lifetimes including marriage, having children, bankruptcy, divorce, death of someone close, etc. Life-altering events like these can be traumatic and impact all aspects of well-being. They can also shape a person's perception of the world and themselves. The stress associated with life-altering events can lead to acute and chronic mental health issues. For many adolescents and young adults, the COVID-19 pandemic is their first or at the very least most significant life-altering event. The brains of people aged 0 to 25 are still developing and the mental trauma caused by this pandemic could have lifelong consequences (CDC, 2020.) Young adults and adolescents have missed many significant life events, had a break in the continuity of education, and been socially isolated during critical stages of cognitive development.

Mental health is important for all ages but especially for younger generations as it immensely affects cognitive development and physical health. The overall mental well-being of

an individual determines how they deal with stress, interact with others, and make important decisions (MentalHealth.gov.) Adolescents and young adults depend greatly on peers for social development and emotional support. The social isolation forced by COVID-19 has inhibited normal peer to peer interaction and thus led to the loss of support systems. Mental health has suffered as a result of this isolation. According to a study in the *Journal of Youth and Adolescence*, adolescents have suffered significant decreases in life satisfaction and increased anxiety and depressed symptoms (Magson et al., 2021.) Younger generations are the future of the world and their mental health now can determine how they deal with events in the future and the important decisions they will have to make.

Stress caused by isolation and the pandemic can cause fear, sadness, suicidal ideation, physical reactions, anxiety, and many other negative health outcomes (CDC, 2021.) Individuals coped with stress and mental health problems induced by COVID-19 in many positive and negative ways. Positive methods range from meditating to exercising and negative methods range from substance abuse to self-harm. Some people have experience coping with life-altering events but many adolescents and young adults had to deal with significant stress for the first time during the pandemic. The coping mechanisms and strategies utilized by younger generations to deal with COVID-19 induced stress will be monumental in shaping how they handle future stress and decision making.

COVID-19 uprooted nearly every aspect of normal life and caused a great deal of stress. Many people faced mental health issues due to the pandemic. During the pandemic, the number of adults suffering from symptoms of anxiety or depression increased from one in ten to four in ten adults (Panchal et al., 2020.) This is a significant increase and it is alarming that the number can quadruple so quickly. The pandemic shocked most people when it reached America and most

people were not mentally prepared to have their lives completely disrupted. College students experienced a lot of stress and mental health issues before the pandemic. One in five college students experienced a mental health disorder before the pandemic (Zhai & Du, 2020.) These statistics have increased due to COVID-19. 44% of college students reported symptoms of depression and anxiety in 2021. 30% reported feeling more depressed in 2021 than previous years (Mayo Clinic, 2021.) The added stress from COVID-19 only exacerbated the mental health issues that college students experience. In a survey conducted at Texas A&M, many students showed increased suicidal thoughts, anxiety, and depression due to lifestyle, academic, and health changes caused by the pandemic (Wang et al., 2020.) College is already a stressful time due to the workload and immense pressure of making life-changing decisions. Adding a pandemic on top of a stressful college student's life has led to increased mental health issues.

Many students have never had to deal with a life-altering event like a pandemic before. Most college students are away from their families and friends for the first time in their lives. Freshmen especially rely on their first-year experience to meet new people and form new support groups. Students expect to socialize with their peers and it is almost necessary in order to succeed in school. Research has shown that adolescents have experienced higher levels of anxiety and depression during the pandemic than before the pandemic. The same study found that adolescents were more concerned about restrictions associated with the pandemic than the virus itself (Magson et al., 2021.). Having peers to relate to and reach out to for support can reduce stress. The pandemic greatly changed the educational experience for students of all ages and made it harder to make connections at school. Elementary school through college is a significant time in many people's lives where they make lifelong connections, learn impactful lessons, and mature into productive members of society. It is imperative that the factors causing

mental health issues in younger generations are understood so intervention strategies can be implemented.

Besides stress caused by fear of contracting the disease, a lot of anguish experienced by students stems from negative news about the pandemic, restrictions that isolate them, increased job and food insecurity, and disruption in the continuity of their education. Educational and government mitigation strategies have had persistent negative effects on the mental wellness of students (Copeland et al., 2021.) At the beginning of the pandemic, governments acted quickly to place restrictions, ban travel, and shut down businesses. In this process they neglected the effects their actions would have on the mental health of the billions of people affected (Amsalem et al., 2019.) The problem with this is the quick changes were conducted without enough preparation for psychological side effects. The pandemic stopped or disrupted the mental services of nearly every country during a time when their services are needed the most (WHO, 2020a.) It is important that people learn about the necessity of mental health services through this experience. It is also necessary for people to destigmatize mental health problems so they are talked about more freely and people can get help easier. Although a population's psychological reaction to a disease outbreak shapes the spread and stress associated with the disease, insufficient resources are provided by governments to manage mental health during this pandemic (Cullen et al., 2020.) The lack of institutional support typically leads people to look for social support however restrictions and isolation mostly prevent this.

It is normal to be stressed during a pandemic but without healthy coping mechanisms, stress can cause substance abuse, suicidal ideation, or mental health issues (CDC, 2021.) Surveys have shown that interventions and prevention strategies are urgently needed to address the mental health issues of students (Son et al., 2020.) Another factor is that difficulty focusing on

academic work has caused high levels of depression in students (Kecojevic et al., 2020.)

COVID-19 also worsened inequalities for students of color and put their academic success at risk (Lederer et al., 2020.) This is a major concern because the pandemic is life-altering for everyone, but students of color have been affected worse. This only further highlights inequalities in our country and systems. Institutional support for equity is needed to reduce inequalities. No one should have their academic success threatened because of something out of their control. Having one's academic success put at risk only adds to the stress of an already stressful pandemic. The literature on mental health issues induced by COVID-19 in younger populations is still developing and more interventions/solutions are needed.

Understanding how COVID-19 has affected the mental health of younger populations will help people prepare for and handle future life-altering events. Research into how younger generations have handled their mental health during the pandemic could be indicative of how they will perceive and interact with the world in the future. Living through the pandemic could better prepare students to deal with future stressors they may face. The social benefit of understanding the relationship between the pandemic and mental health is that more emphasis can be put on good mental health practices. In the long term understanding how life-altering events impact mental health is important because people can be better mentally prepared for the next life-altering event.

The pandemic was hard for everyone and especially students. They were prevented from socializing, forced to learn virtually, and had more stress added to an already stressful time. This begs the question: Are schools doing enough for the mental health of students? Educational institutions had to follow state restrictions and create their own restrictions to physically protect the well-being of students and faculty. All of these restrictions had to be created rapidly to reduce

the spread of the virus. This forced students to social distance, isolate themselves, and wear a mask almost everywhere. These times made people realize how much they value being able to see someone's entire face. Many schools were effective in reducing the transmission of the virus in their student and faculty populations. However, with the reduction of spreading the virus being the primary concern, many did not consider how the restrictions would affect mental health.

Methods

Overview

The two main sources of data for this research are derived from surveys delivered as part of larger projects. The two sources are Connect Through PLAY and the National College Health Assessment. Connect Through PLAY is a 5 year, \$3 million National Institutes of Health funded research project (U.S. Library of Medicine, 2018; Zarrett, PI.) The program is a 16 week cluster-randomized controlled trial that focuses on improving the physical activity of staff and underserved students. Participants were randomized to two levels of intervention, a staff-based social development physical activity program or a generalized after school program health curriculum control, over a 10-month time period (16-week intervention, 6 month followup.) The study builds upon pre-existing after school programs at elementary and middle schools serving underserved youth. The intervention team implements a tailored social and physical activity curriculum to randomly selected after school programs along with delivering surveys to students. The goal of this research is to effectively prevent obesity in underserved youth. The program is delivered in a rural-suburban area of the southeastern United States.

The National College Health Assessment is created by the American College Health Association and collects precise data about college students' holistic health. The survey is

administered to hundreds of colleges across the United States each year and thousands of students participate. The data collected from this survey is intended to be used by academic institutions and their faculty and students to identify common health and behavior risks affecting students (American College Health Association.) I will be looking at data from the “Undergraduate Reference Group Executive Summary, Spring 2021.” I will also highlight any significant differences between this group and data from the “Undergraduate Reference Group Executive Summary, Fall 2019.”

Participants

The data from Connect Through Play was gathered from students enrolled in two existing after school programs serving underserved youth between September 2020 and April 2021. Programs were considered “underserved” if 50% or more of the student body were of minority status and/or received free or reduced school lunches. The two schools were recruited within the network of Boys and Girls Club community partners. The schools are located in a rural-suburban area of the southeastern United States. Students enrolled in the study were between 8 and 14 years of age. This thesis will only look at endpoint data from the larger Connect Through Play project. 53 youth completed the endpoint survey (n = 23 females; 52.8% race/ethnic minority; M age = 10.04 years.)

The data from the National College Health Assessment “Undergraduate Reference Group Executive Summary, Spring 2021” was collected from students enrolled in 137 undergraduate institutions across the United States during Spring 2021. All of these postsecondary institutions self selected to participate in this survey. 70,087 undergraduate student surveys were completed (n = 46,952 females; 40.1% race/ethnic minority; M age = 20.0 years.) The data from the National College Health Assessment “Undergraduate Reference Group Executive Summary, Fall

2019” was collected from students enrolled in 58 undergraduate institutions across the United States during Fall 2019. 30,084 undergraduate student surveys were analyzed in the final data set (n = 18,983 females; 37.5% race/ethnic minority; M age = 20.0 years.) Participation in both studies was voluntary. Age, sex, and race/ethnicity were self-reported by participants in both studies.

Procedures

The Connect Through Play survey was administered in person to participants at existing after school programs. This survey asked questions regarding demographic information, physical activity levels, perceived stress, efficacy, and peer interactions. For the purposes of this thesis only questions regarding stress will be analyzed (See Appendix A.)

The National College Health Assessment was administered to participants via school email. This survey asked questions regarding demographic information, nutrition, healthcare utilization, violence, substance use, sexual behavior, mental health and well-being, acute and chronic conditions, and sleep. For purposes of this thesis only questions regarding mental health and well-being will be analyzed (See Appendix B.)

Measures

Youth Perceived Stress. To measure students’ perceived stress, a series of questions on the Connect Through PLAY survey were asked. Five questions on the survey assessed perceived stress of the participants (See Appendix A.) An example item from the survey includes “During the coronavirus pandemic, do you feel like you are experiencing more stress, less stress, or the same amount of stress as before?” Each item is assessed on a five point Likert scale (ranging from none to very often or much less stress to much more stress), with each response assigned a score (0-4 or 1-5.)

Distress, Loneliness, Psychological Well-being, and Resilience. On the National College Health Assessment non-Specific Psychological Distress was assessed by a Kessler 6 (K6) score (range is 0-24), with the scale being no or low psychological distress (0-4), moderate psychological distress (5-12), and serious psychological distress (13-24.) Specific distress was determined by asking participants if within the past 12 months, they had problems or challenges with a list of common stressors in college. Participants could select none or as many items that applied to themselves. They then reported on if each selected item caused moderate or high distress. Loneliness was assessed on the NCHA by the UCLA Loneliness Scale (ULS3) score (range is 3-9), with the scale being negative for loneliness (3-5) and positive for loneliness (6-9.) Psychological well-being was assessed on the NCHA by the Diener Flourishing Scale – Psychological Well-Being (PWB) score (range is 8-56.) Higher scores on this scale reflect higher levels of psychological well-being. Resilience was assessed on the NCHA by the Connor-Davison Resilience Scale (CD-RISC2) score (range is 0-8.) Higher scores on this scale reflect greater resilience.

Self Injury and Suicide. Using closed questions, participants of the NCHA could indicate if they had or had not intentionally cut, burned, bruised, or otherwise injured themselves as well as indicate if they had or had not attempted suicide within the last 12 months. Suicidal behavior was assessed with a Suicide Behavior Questionnaire-Revised (SBQR), screening score (range is 3-18.) The scale is negative suicidal screening (3-6) and positive suicidal screening (7-18.)

Young Adult Perceived Stress. Stress of undergraduate students was assessed with the question “Within the last 30 days, how would you rate the overall level of stress experienced?” This item was assessed on a four point Likert scale ranging from no stress to high stress. Specific sources of stress were assessed with the question: “Within the last 12 months, have you had

problems or challenges with any of the following,” followed by a list of common stressors in college. Students who reported a problem or challenge in the last 12 months were asked about the level of distress it caused them.

Analytical Procedure

Data from the Connect Through Play survey and the National College Health Assessment will be analyzed to identify any notable results. Connect Through Play data will be assessed for any correlations between variables. Information from secondary scholarly sources will be analyzed along with quantitative data from the surveys to identify any other correlations. Along with this, secondary literature will provide support for hypotheses regarding the impacts of COVID-19 on the mental health of younger generations and how they will respond to future life-altering events.

Results

Table 1 describes the demographics of the Connect Through Play survey which includes 53 participants. 43.4% of participants were female; 52.8% of participants were race/ethnic minorities; M age = 10.04 years. Participants of this survey were 8 to 14 years old. Table 2 describes the demographics of the National College Health Assessment participants. 67% of the participants were female; 40.1% of participants were race/ethnic minorities; M age = 20.0 years.

As seen in Figures 1, participants of the Connect Through Play survey were stressed during the COVID-19 pandemic. 49.05% of students felt nervous, worried or stressed a few times to very often in the past month. 52.9% of students were upset because of something that happened a few times to very often in the past month. 41.51% of students were not able to handle all the things worrying them a few times to very often in the past month. As seen in Figure 2, 49.1% of students felt more to much more stress during the coronavirus pandemic. As seen in

Figure 3, the leading causes of additional stress during the pandemic for participants were missing friends/feeling lonely (49.1%) and stress about schoolwork (47.2%). The lowest causes of additional stress during the pandemic for participants were worrying about food and other needs (17%) and worrying about money or their parents' job (18.9%). Only 15.1% of participants reported that nothing caused them to feel more stress during the pandemic. No significant correlations were found between stress and physical activity. There is a significant relation between screentime and stress in participants ($r = 0.319, p < 0.02$.) Students who spent more time on smartphones, computers, and/or consoles, during the pandemic reported experiencing more stress during the pandemic.

Figure 1. Connect Through Play Stress response by question (Q30-Q32)

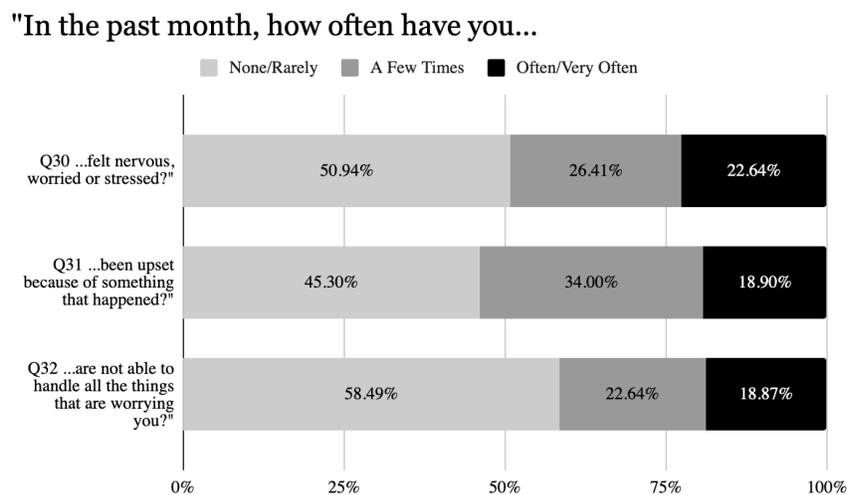


Figure 2. Connect Through Play Stress response by question (Q33)

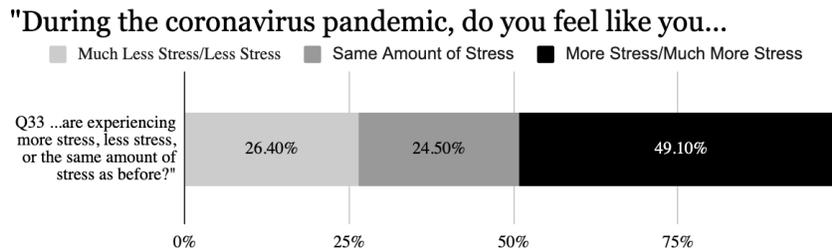
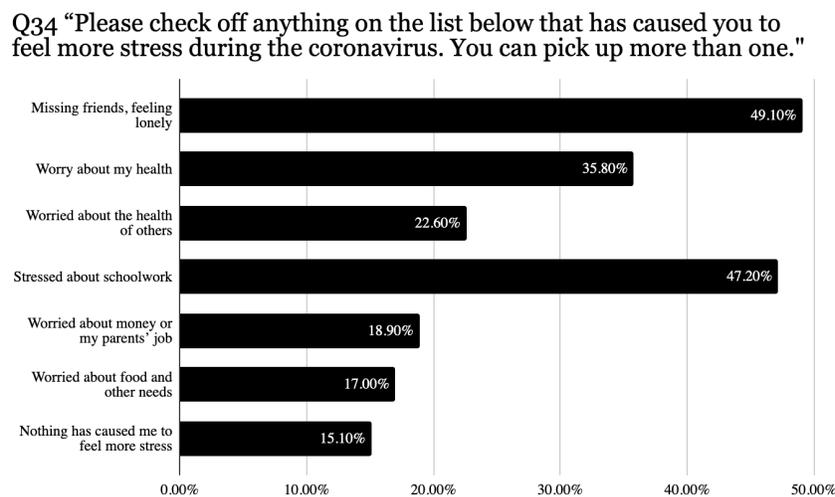


Figure 3. Connect Through Play Stress response by question (Q34)



Results from the National College Health Assessment “Undergraduate Reference Group Executive Summary, Spring 2021” show that 50.7% of undergraduate students experienced moderate psychological distress (range 5-12) and 26.4% of undergraduate students experienced serious psychological distress (range 13-24) according to their Kessler 6 (K6) Non-Specific Psychological Distress scores. The mean score was 9.15 with a standard deviation of 5.54. Only 19.5% of undergraduate students from the Fall 2019 group experienced serious psychological distress (range 13-24.) According to participants’ UCLA Loneliness Scale (ULS3) score 55.3% of undergraduate students tested positive for loneliness (range 6-9.) The mean score was 5.72 with a standard deviation of 1.89. 50.3% of participants from the Fall 2019 NCHA tested

positive for loneliness (range 6-9.) Participants' mean psychological well-being score was 43.89 on the Diener Flourishing Scale – Psychological Well-Being (PWB) score (range is 8-56.) The standard deviation was 8.84. Participants' of the Fall 2019 NCHA mean psychological well-being score was 46.72. Higher scores reflect a higher level of psychological well-being. Participants' mean resilience score was 5.95 on the Connor-Davison Resilience Scale (CD-RISC2) score (range is 0-8.) Higher scores reflect greater resilience. The standard deviation was 1.57. Participants' of the Fall 2019 NCHA had a similar mean resilience score of 5.94.

The self-injury question on the Spring 2021 NCHA found that 10.6% of college students surveyed (6.5% men, 10.8% women, and 30.3% trans/gender non-conforming) indicated they had intentionally cut, burned, bruised, or otherwise injured themselves within the last 12 months. 10.1 % of college students surveyed on the Fall 2019 NCHA (7.0 % male and 10.7 % female) indicated they had intentionally cut, burned, bruised, or otherwise injured themselves within the last 12 months. According to the Suicide Behavior Questionnaire-Revised (SBQR) Screening score (range is 3-18), 28.5% of participants had a positive suicidal screening (range 7-18.) The mean was 5.44 and the standard deviation was 3.16. 25.1% of Fall 2019 NCHA participants had a positive suicidal screening (range 7-18.) The suicide attempt question found that 2.3% of undergraduate students surveyed (2.7% men, 2% women, and 5.6 % trans/gender non-conforming) indicated they had attempted suicide within the last 12 months. 2.7 % of college students surveyed on the Fall 2019 NCHA (3 % male and 2.4 % female) indicated they had attempted suicide within the last 12 months.

The perceived level of stress question on the Spring 2021 NCHA found that 33.6% of participants experienced high stress, 48.2% experienced moderate stress, 17.1% experienced low stress, and 1.2% experienced no stress over the previous 30 days. The perceived level of stress

question on the Fall 2019 NCHA found that 27.9% of participants experienced high stress, 48.6% experienced moderate stress, 21.8% experienced low stress, and 1.7% experienced no stress over the previous 30 days. As seen in Figures 4 and 5, participants of the Spring 2021 National College Health Assessment were stressed by a wide range of issues during the pandemic. Students had the greatest problems with procrastination (78.6%), personal appearance (56.9), and academics (56.1.) Students had the least problems with hazing (1%), cyberbullying (3.9%), and bullying (5.8%.) 6% of students reported no problems with the listed stressors, 6.7% of students reported only one of the listed items as a source of stress, 9.2% of students reported two of the listed items as sources of stress, and 78.1% of students reported three or more of the listed items as sources of stress. Of those reporting a problem or challenge over the past 12 months with one of the listed stressors, 90.3% experienced moderate to high distress due to academics, 78.4% experienced moderate to high distress due to finances, and 77.3% experienced moderate to high distress due to death of a family member, friend, or someone close.

Figure 4. Spring 2021 NCHA Young Adult Causes of Perceived Stress

Within the last 12 months, have you had problems or challenges with any of the following:

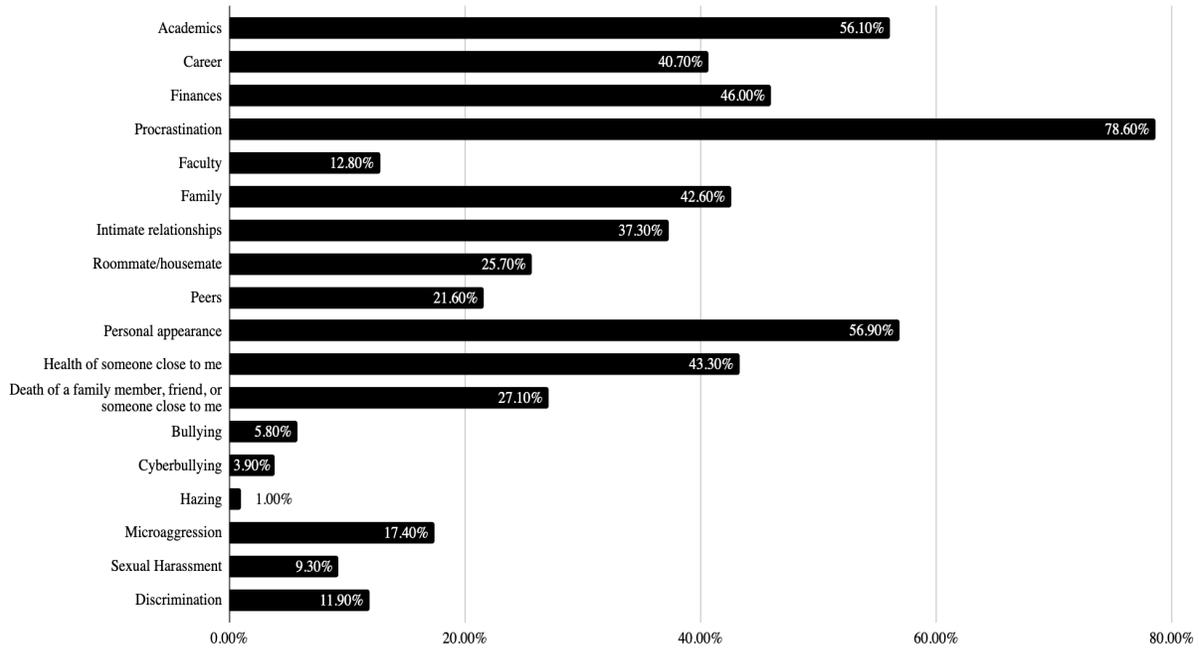
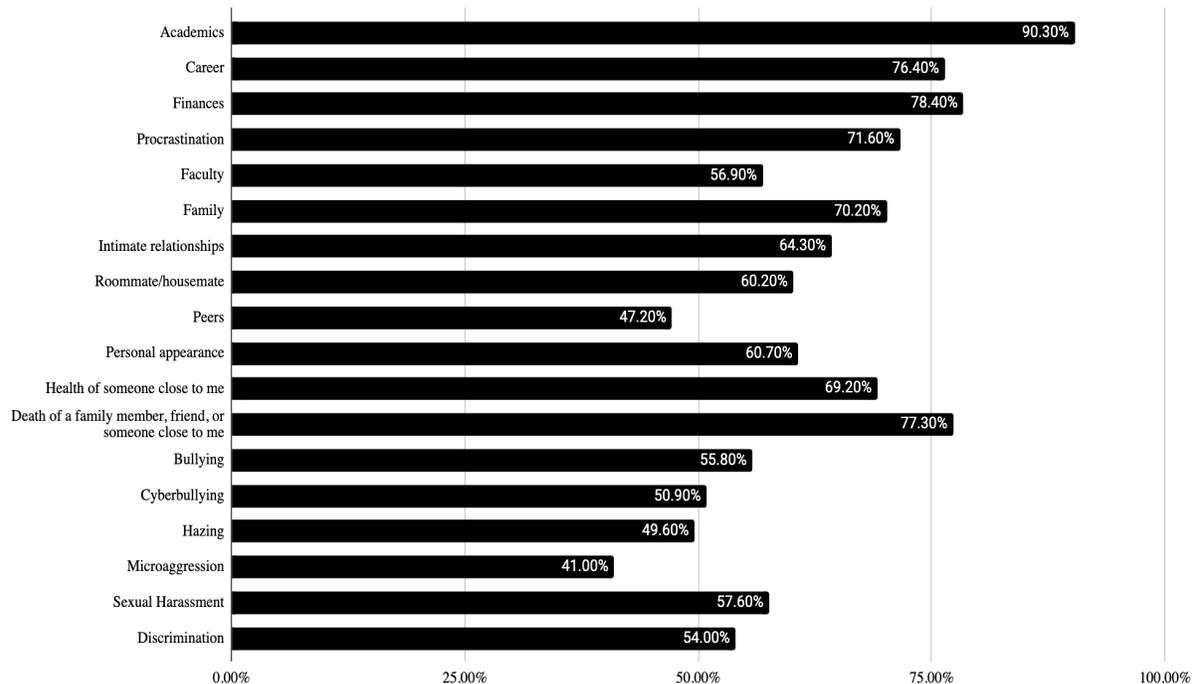


Figure 5. Spring 2021 NCHA Young Adult Perceived Level of Distress by Cause

*Of those reporting this issue, it caused moderate or high distress



*Only students who reported a problem or challenge in the last 12 months were asked about level of distress

Discussion

The primary goal of this thesis is to identify existing correlations between the COVID-19 pandemic and negative mental health outcomes in younger populations. The data shows that the youth surveyed as part of the Connect Through PLAY study were 49.1% more or much more stressed during the pandemic than before the pandemic. The leading causes of additional stress during the pandemic for Connect Through PLAY participants were missing friends/feeling lonely (49.1%), stress about schoolwork (47.2%), and worrying about their own health (35.8%) The perceived level of stress question on the Spring 2021 NCHA found that 81.8% of undergraduate students survey experienced moderate to high stress over the previous 30 days. Participants of the Spring 2021 NCHA reported that over the past 12 months their leading causes of moderate to high distress were academics (90.3%), finances (78.4%), and the death of a family member, friend, or someone close (77.3%.) These findings indicate that a large percentage of younger generations were stressed during the pandemic and many were more stressed during the pandemic than before. Across the younger generations surveyed it appears that academics are the most common factor during the pandemic that induced stress. This may be due to all participants of both surveys being students. Other potential variables that could increase academic related stress are the break in the continuity of education, forced switch to online learning, and reduced social interactions at academic institutions.

There was an increase in several mental health issues analyzed on the NCHA in undergraduate students from before the pandemic (Fall 2019) to during the pandemic (Spring 2021.) The NCHA results showed an increase in serious psychological distress, loneliness, self-harm, suicidal screening scores, perceived high stress, and a decrease in psychological well-being in undergraduate students. This coincides with data from the Connect Through PLAY

survey that found participants were more stressed during the pandemic than before. The NCHA trend of increased mental health issues from 2019 to 2021 aligns with data from secondary sources as well that have found increased mental health problems due to COVID-19 (Kumar et al., 2021.)

The findings of increased mental health problems due to COVID-19 are supported by a meta-analysis of 29 studies which found that across the globe during the pandemic, the prevalence of depression and anxiety symptoms doubled in youth and adolescents (Racine et al., 2021.) Multiple studies and the data in this thesis have found that the mental health and stress of younger generations were negatively impacted by the pandemic. Some common coping mechanisms for stress include seeking social support, avoidance, and planning (Baqutayan, 2015.) Most typical coping mechanisms were hindered by the pandemic and the restrictions associated with it because people were not allowed to have normal social interactions, could not escape the pandemic, or plan for when the pandemic would end. The lack of available positive coping mechanisms could be one reason for increased stress and mental health issues during the pandemic, especially in younger generations who heavily rely on social interactions for development. Studies have shown that adolescents have significantly lower cognitive coping strategies than adults (Garnefski et al., 2002.) This could lead to the pandemic having greater effects on the mental health of younger people compared to adults due to reduced cognitive development.

There was no significant correlation between physical activity and stress in the Connect Through PLAY participants. This was interesting because previous studies have shown that increased physical activity is correlated with a decrease in stress (Kim et al., 2019.) The different results found with the Connect Through PLAY participants could be due to the smaller sample

size. There is a significant relationship between screen time and stress in participants of the Connect Through PLAY study. Students who spent more time on smartphones, computers, and consoles during the pandemic reported experiencing more stress during the pandemic. This is interesting because students were inadvertently required to have more screen time each day due to COVID-19 forcing online learning and limiting in-person interactions. People were forced to work, attend school, interact, and find leisure through virtual means which greatly increased screen time. Previous studies have found that increased screen time is associated with increased stress and that when combined with low physical activity there is an even greater increase in stress (Yinjian et al., 2020.)

The findings in the data from this thesis and secondary scholarly sources indicate that some ways to reduce stress and mental health issues in younger generations are increasing social interaction by returning to in-person school and work, reducing screen time, and increasing physical activity. Excessive screen time is associated with health risks including increased sedentary time, poor sleep, and exacerbation of mental health problems (Nagata et al., 2020.) Increasing physical activity has been shown to improve physical self-perception and self-esteem (Lubans et al., 2016.) Returning to the normal state before the pandemic should naturally reduce some stress by removing most pandemic-related stressors. In order to be better prepared for the psychological side effects of life altering events, it is imperative that government and academic institutions have better mental health infrastructure in place. Mental health problems must be destigmatized in order to increase mental health conversations and reduce feelings of isolation by those impacted. Greater resources for mental health and decreased stigma around the issue will reduce the negative psychological effects of life altering events.

I believe that living through a pandemic will prepare younger generations for future stressful events by giving them wisdom and a framework for how they internally and externally handle stressful times. People who utilized healthy coping mechanisms during the pandemic will have the best experiences to draw from when facing future stressors in life. Those that engaged in unhealthy coping mechanisms will not have good experiences from the pandemic to draw from which could lead them down a negative developmental course. Due to this, it is important that greater access to mental health resources is provided so that individuals who struggled during the pandemic do not get trapped in a downward spiral. Regardless if younger people had positive or negative experiences during the pandemic, it is possible to learn from their own experiences and those of others to be better equipped for future stressful events. I think the pandemic will create a greater sense of unity amongst all individuals because it is not often that the global population endures a life changing pandemic together. I hypothesize that this shared experience will create a common ground for conversations regarding stress and coping mechanisms thus increasing social interaction and destigmatizing mental health issues.

The main limitation of this research is that mental health issues induced by COVID-19 are still being assessed and further research needs to be done into how the pandemic has affected people. In future research, it will be useful to survey individuals to determine if the evaluation of their perceived level of stress during the pandemic changes over time as they gain more experiences. The evaluation of perceived stress during the pandemic may change as people experience other stressors. This information would be useful to determine how the perception of stress changes over time. Other useful future research includes how people feel the pandemic prepared them for stressful events later in life to assess if the life altering experience of living through a pandemic taught them how to cope with stress. This information could provide support

for the value or consequences of experiencing stressful situations early in life. The pandemic may have caused people to mature faster and develop healthy or unhealthy coping mechanisms that they will utilize later in life. I hope more research is done on the pandemic and mental health to destigmatize mental health issues and increase support for greater mental health infrastructure.

Table 1. Demographics of Connect Through Play Survey Sample

Factor	Frequency	Total Sample (%)
Gender		
Male	27	50.9
Female	23	43.4
Missing	3	5.7
Total	53	100
Race		
Black	27	50.9
White	25	47.2
Asian	0	0
Other	1	1.9
Total	53	100
Ethnicity		
Hispanic	6	11.3
Not Hispanic	47	88.7
Total	53	100

Table 2. Demographics of Spring 2021 National College Health Assessment Sample

Factor	Frequency	Total Sample (%)
Gender		
Male	19,450	27.8
Female	46,952	67.0
Transgender/gender non-conforming	3,155	4.5
Missing	530	0.7
Total	70,087	100
Race		
Black	3,364	4.8
White	41,982	59.9
Asian	12,335	17.6
Other	12,406	17.7
Total	70,087	100
Ethnicity		
Hispanic	14,718	21.0
Not Hispanic	55,369	79.0
Total	70,087	100

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Appendix A. Connect Through Play Stress Questions

Q30 In the past month, how often have you felt nervous, worried or stressed?

- 1- none
- 2- rarely
- 3- a few times
- 4- often
- 5- very often

Q31 In the past month, how often have you been upset because of something that happened?

- 1- none
- 2- rarely
- 3- a few times
- 4- often
- 5- very often

Q32 in the past month, how often have you felt that you are not able to handle all the things that are worrying you?

- 1- none
- 2- rarely
- 3- a few times
- 4- often
- 5- very often

Q33 During the coronavirus pandemic, do you feel like you are experiencing more stress, less stress, or the same amount of stress as before?

- 1- much less stress
- 2- less stress
- 3- same amount of stress
- 4- more stress
- 5- much more stress

Q34 Please check off anything on the list below that has caused you to feel more stress during the coronavirus. You can pick up more than one. Please read all the answers or write your own.

- 1- missing friends, feeling lonely
- 2- worry about my health
- 3- worried about the health of others
- 4- stressed about schoolwork
- 5- worried about money or my parents' job
- 6- worried about food and other needs
- 7- nothing has caused me to feel more stress
- 8 something else (write your own)

Appendix B. NCHA Mental Health and Well-being Scales/Questions

Kessler 6 (K6) Non-Specific Psychological Distress Score (Range is 0-24)

- No or low psychological distress (0-4)
- Moderate psychological distress (5-12)
- Serious psychological distress (13-24)

UCLA Loneliness Scale (ULS3) Score (Range is 3-9)

Negative for loneliness (3-5)

Positive for loneliness (6-9)

Diener Flourishing Scale – Psychological Well-Being (PWB) Score (Range is 8-56)

(higher scores reflect a higher level of psychological well-being)

The Connor-Davison Resilience Scale (CD-RISC2) Score (Range is 0-8)

(higher scores reflect greater resilience)

Self injury

Indicate if you have intentionally cut, burned, bruised, or otherwise injured yourself within the last 12 months.

Within the last 12 months, have you had problems or challenges with any of the following:

Academics

Career

Finances

Procrastination

Faculty

Family

Intimate relationships

Roommate/housemate

Peers

Personal appearance

Health of someone close to me

Death of a family member, friend, or someone close to me

Bullying

Cyberbullying

Hazing

Microaggression

Sexual Harassment

Discrimination

Suicide Behavior Questionnaire-Revised (SBQR) Screening Score (Range is 3-18)

Negative suicidal screening (3-6)

Positive suicidal screening (7-18)

Suicide attempt

Indicate if you have attempted suicide within the last 12 months.

Within the last 30 days, how would you rate the overall level of stress experienced:

No stress

Low

Moderate

High