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Understanding Stress and Coping Among Adults in the United States During the COVID-19 Pandemic

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UNDERSTANDING STRESS AND COPING AMONG ADULTS IN THE UNITED STATES DURING THE COVID-19 PANDEMIC

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Abstract

Since the COVID-19 pandemic started, individuals in the United States (U.S.) and across the globe have experienced unprecedented levels of stress. The purpose of this study is to understand the stress experienced among adults in the U.S. and which coping processes affect their overall emotional well-being. Guided by Lazarus and Folkman's (1987) Transactional Model of Stress and Coping (TMSC), this study conducted a secondary data analysis (n=404) of adults across the U.S who completed an online survey examining their experiences with stress and coping. A Pearson correlation was utilized to explore the relationship between stress and depressive symptoms. Paired samples t-tests were conducted to evaluate stress, resilience, and depressive symptoms before and since COVID-19. Multiple regressions were calculated to understand the impact of cognitive appraisal on the eight types of coping. Participants primarily self-identified as White (40.3%), female (77.6%), with a mean age of 30.61 (13.76%), and Christian (43.1%). Results revealed gender, age, and racial differences in how adults cope with the stress of COVID-19. Male adults primarily utilized planful problem-solving (M = 5.6, SD = 3.5), while female adults primarily employed escape avoidance (M = 4.54, SD = 3.0). Adults aged 36–55 years old (M = 4.3, SD = 2.5) as well as 55 and older (M = 4.0, SD = 3.0) predominantly used planful problem solving compared to younger adults (18–35) who utilized escape avoidance (M = 5.0, SD = 2.9). Whites (M = 4.4, SD = 3.0), American Indians/Alaska Natives (M = 5.9 SD = 3.0), Asians (M = 5.1, SD = 2.9), Other (M = 4.3, SD = 3.4), and Multiracial groups (M = 4.6, SD = 3.1) predominantly used escape avoidance, while Black/African Americans (M = 4.9, SD = 2.5) and Pacific Islanders (M = 5.4, SD = 2.5) primarily used planful problem-solving. A small, positive correlation between COVID-19 stressors and

depression symptoms (r = 0.251, n = 397, p <.001) was found among participants. Primary (stress) and secondary (resilience) appraisal both had a significant impact on confrontive coping, seeking social support, planful problem solving, and positive reappraisal for adults in the U.S. Lastly, COVID-19 had a significant impact on the increase of stress (*MI* = -1.05, *SD* = 12.70) and depressive symptoms (*MI* = -4.11, p <.001) as well as the decrease of resilience (*MI* = 1.15, $p < .001$). These findings contribute to a better understanding of how adults in the U.S. are coping with stress due to the COVID-19 pandemic. With these results, public health and healthcare professionals can create public health responses and interventions to assist people with reducing and managing their stress during future pandemics and public health crises.

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Chapter 1: Introduction

On March 11, 2020, the World Health Organization (WHO) officially declared COVID-19 a global pandemic after 144 countries reported 118,000 cases and 4,291 deaths globally (Centers for Disease Control and Prevention [CDC], 2022). As it is known, COVID-19 is an infectious, respiratory disease caused by SARS-CoV-2, that emerged in December of 2019 in Wuhan, China (World Health Organization [WHO], 2023; John Hopkins Medicine, 2022; CDC, 2022). Current evidence suggests that COVID-19 has several modes of transmission: 1) person-to-person (e.g., close contact, short-range airborne transmission, droplet transmission); 2) poorly ventilated and/or crowded indoor settings (e.g., long-range airborne transmission); and 3) surfaces/objects to person (WHO, 2022). In response, the Centers for Disease Control and Prevention (CDC) established guidelines for COVID-19, which included quarantines, social distancing as well as washing hands, restricting mass gatherings and traveling (CDC, 2022). As things changed so much over time, recent preventative measures consist of staying up-to-date with COVID-19 vaccines and boosters, improving ventilation, spending time outdoors, and moving indoor activities outdoors (CDC, 2023).

Following the declaration, the President of the U.S classified the disease as a national emergency in conjunction with 50 governors who assisted by declaring state emergencies and emphasizing the criticality of social distancing and quarantining (Gostin & Wiley, 2020; Wiley, 2020). General shutdowns or mandated lockdowns ensued, which consisted of closures of schools/universities and employment/businesses, traveling restrictions, restrictions on mass gatherings, and recommendations to shelter at home to prevent the fast-paced spread of COVID-19. Thus, multiple national and state mandates following COVID-19 generated numerous

stressors for residents in the U.S (TheWhiteHouse.gov, 2022). These mandates led to social isolation and loneliness, financial hardships, uncertainty and fear, increased caregiving responsibilities, disruption of routines and lifestyle, as well as information overload and media exposure (TheWhiteHouse.gov, 2022). As such, these mandates have impacted the emotional well-being of adults in the U.S. Currently, COVID-19 is ranked one of the top three causes of death in the U.S (CDC, 2023).

Accordingly, this cross-sectional study proposes to conduct a secondary data analysis to examine stress and coping processes among adults in the U.S during the COVID-19 pandemic. Secondly, this study aims to understand how these processes impact the overall emotional well-being of this population. Thus, this study will investigate the following four research questions:

1. What are the predominate types of coping utilized by adults in the U.S during the COVID-19 pandemic by gender, age, and race/ethnicity?
2. What is the relationship between stressors related to COVID-19 and depressive symptoms for adults in the U.S?
3. What is the impact of primary and secondary appraisal have on coping efforts among adults in the U.S?
4. For adults in the U.S, does the COVID-19 have an impact on stress, resilience, and depressive symptoms?

This quantitative cross-sectional research study will use a secondary data analysis including two dependent variables (coping processes and depressive symptoms) and three independent variables (COVID-19 stressors, stress and fatigue, and resilience to investigate these questions. The data analysis used voluntary sampling to utilize 392 completed surveys out of the 725 initial responses gathered from adults in the U.S between January and December 2022. The survey

instrument will consist of the following six measures to assess stress and coping before and since COVID-19 among adults in the U.S: 1) COVID-19 stressors, 2) the Brief Encounter Psychosocial Instrument (BEPSI) (Frank & Zyzanski, 1988), 3) the Connor-Davidson Resilience Scale (10 items) (Campbell-Sills & Stein, 2007)), 4) the Ways of Coping Questionnaire (WCQ) (Folkman et al., 1988), 5) the Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977) and 6) demographic questions.

Significance

The significance of this study lies in its investigation into the impact of the COVID-19 pandemic on mental health, specifically focusing on stress and coping processes among adults in the U.S. The study aims to understand how these processes affect individuals' overall emotional well-being, utilizing Lazarus and Folkman's Transactional Model of Stress and Coping (TMSC). By conducting a secondary data analysis, the study seeks to identify the predominant coping mechanisms used by adults in the U.S, categorized by gender, age, and race/ethnic groups. This information can provide valuable insights into how different demographic groups are managing the stressors associated with the pandemic. Additionally, the study aims to explore the relationship between COVID-19 stressors and depressive symptoms among the population. Calculating a Pearson correlation coefficient can help quantify the strength and direction of this relationship, shedding light on the mental health consequences of the pandemic.

Furthermore, the study intends to assess the impact of cognitive appraisal on the various types of coping processes. Multiple regressions can reveal how individuals' cognitive evaluations of stressors influence their coping strategies. Understanding this relationship can contribute to

the development of targeted interventions and support systems to help individuals effectively manage their stress. Lastly, the study plans to compare stress levels, resilience, and depressive symptoms before and since the COVID-19 pandemic using paired sample t-tests. This analysis can provide insights into the changes in mental health and resilience in response to the ongoing crisis.

Overall, this study has the potential to enhance the understanding of how adults in the U.S are coping with the stress of the COVID-19 pandemic. The findings can inform the development of strategies and interventions to support this population in reducing and managing their stress more effectively. By shedding light on the various coping mechanisms employed by adults in the U.S. during the COVID-19 pandemic, this study offers valuable insights for healthcare professionals and policymakers in tailoring targeted approaches to improve mental health outcomes in times of crisis.

Chapter 2: Literature Review

Since the COVID-19 pandemic began, the amount of literature on stress and coping in adults has increased, which is a result of the challenging period and the ongoing public health concern in the U.S. Stress is the physiological or psychological response or reaction to internal and external stressors (American Psychological Association [APA], 2023). Coping is the use of cognitive and behavioral strategies to manage the demands of a situation when those demands are appraised as exceeding one's resources or to lessen the conflict and negative emotions brought on by stress (APAb, 2023). Stress and coping have impacted the mental health of adults in the U.S. Mental health refers to a state of well-being that empowers people to cope with the stresses of life (World Health Organization, 2022).

It is possible to understand how adults in the U.S. coped with stress during the COVID-19 pandemic by using the Transactional Model of Stress and Coping developed by Lazarus and Folkman (1984). Examining these findings can provide insight into critical concerns and potential health disparities, which will help to develop feasible strategies for improving mental health and well-being for adults in the U.S. in the face of future pandemics or significant crises. Thus, the purpose of this literature review is to provide insight into the experiences of stress and coping during the COVID-19 pandemic among adults residing in the U.S. Accordingly, the review of the literature will examine stressors among adults during the COVID-19 pandemic, coping with the stress during the COVID-19 pandemic for adults in the U.S, the role of demographics of coping, the Transactional Model of Stress and Coping, and current gaps in the literature.

Stressors Among Adults During the COVID-19 Pandemic in the U.S.

It is essential to understand stress and coping during COVID-19 in order to lessen and prevent current and future mental health issues among adults in the U.S. As stated above, stress is the physiological or psychological response or reaction to internal and external stressors (APA, 2023). Recognizing the potential stressors that surfaced and the types of coping that were used during the COVID-19 pandemic is essential for creating tailored interventions and support systems aimed at reducing mental health challenges for adults in the U.S. With regard to the COVID-19 pandemic, which is the context for this study, adults reported the highest levels of stressors related to fear of contracting COVID-19, social isolation and loneliness, financial security, uncertainty about the future, increased caregiving responsibilities, and disruptions of work (Park et al., 2020; Wakeel et al., 2023; Bounoua & Sadeah, 2021; Jewell., 2020; McGinty et al., 2020). For example, Park et al. (2020) revealed that the most frequent stressors associated with adhering to the CDC recommendations and government mandates were learning about the seriousness and contagiousness of COVID-19 (96.6%), being unsure of the length of quarantine and the need for social isolation (88.3%), changes to social routines (83.7%), and daily personal care (80.1%).

Similarly, another study examining the impact of the COVID-19 pandemic and stress, coping, and quality of life revealed that the top three stressors adults reported were financial status, personal injury or illness, and change in living conditions (Wakeel et al., 2023). In a different study, economy, illness, and death concerns were significantly positively related to overall stress scores. Financial and food access concerns were significantly and positively associated with stress (Jewell., 2020).

Furthermore, Bounoua and Sadeah (2021) examined COVID-19 stress, emotional reactivity, and substance use. They discovered that more than 58.3% of U.S adults reported feeling physically disconnected from family and friends, followed by experiencing major changes in work schedules and/or conditions (53.6%) as well as major changes in finances, such as increased debt or loss of income (36.9%). Additionally, McGinty et al. (2020) revealed that concerns about contracting COVID-19 (65.9%), pandemic effects on employment (65.1%), and finances (60.6%) were the most prevalent stressors reported by U.S. adults in the overall sample with severe distress (n = 132) (McGinty et al., 2020). Lastly, adults who identified as college students and/or parents of school-aged children (n = 52) with severe distress cited educational interruptions as a stressor (69.0%) during the COVID-19 pandemic (McGinty et al., 2020).

These studies emphasized the stressors, difficulties, and challenges that U.S adults had to experience as a result of the COVID-19 pandemic. Adhering to CDC guidelines and legislative requirements, becoming ill or caring for someone who was ill, and uncertainty about the future created multiple stressors involving finances, food, and disruptions in work or personal life. Thus, it is essential to comprehend how U.S adults coped with these various stressors related to COVID-19 and the subsequent pandemic in order to address mental health issues that could arise from future pandemics and natural disasters.

Coping with the Stress of the COVID-19 Pandemic for Adults in the U.S.

In response to dealing with the stressors of the COVID-19 pandemic, previous research identified how adults employed a variety of ways to cope with the stress of COVID-19 (Park et al., 2020; Goins et al., 2022; Finlay et al., 2021; Greenwood-Hickman et al., 2021). Coping refers to the utilization of cognitive and behavioral strategies to manage overwhelming demands

or alleviate the conflict and negative emotions associated with stress (APAc, 2023). By understanding how adults cope with stress, public health, and healthcare professionals can develop targeted interventions and support systems to help individuals effectively manage stress and reduce its impact.

Park et al. (2020) conducted a qualitative study examining stress and coping among college students in the U.S. These authors revealed six meaning-based coping strategies among undergraduate and graduate students: 1) staying motivated or positive; 2) enjoying pastimes; 3) staying in a safe place; 4) avoiding COVID-19 news; 5) using university counseling services; and 6) focusing on schoolwork. In a different study, Goins et al. (2021) found that older adults who were using problem-focused strategies included taking precautions. In contrast, those who were using emotion-focused strategies included establishing new relationships, creating daily routines, engaging in novel or creative activities, and limiting their exposure to the news media (Goins et al., 2021).

Moreover, another qualitative study found that older adults also use other emotional types of coping like physical activity and time outdoors, modifying routines, adhering to public health recommendations, changing attitudes, and maintaining social connections (Finlay et al., 2021). Finally, Greenwood-Hickman et al. (2021) found that engaging in community groups and activities, keeping in touch virtually with friends and family via phone and video, and maintaining a positive outlook as well as perspective gained from past adversity were effective stress-reduction techniques for older adults appealing to their networks for emotional or material support helped them to manage the stress from COVID-19.

These studies explored various ways adults in the U.S. coped with stress during the COVID-19 pandemic. The authors discovered a mixture of coping strategies that ranged from problem-solving, emotional-based, meaning-based approaches, and social support. Understanding the ways U.S adults cope with COVID-19-related stress can contribute to the development of preventive measures and interventions that promote healthier ways of dealing with stress. However, U.S adults are demographically diverse, and it is equally important to investigate how these demographic differences affected stress and coping during the COVID-19 pandemic.

The Role of Demographics in Stress and Coping Among Adults in the U.S During the COVID-19 Pandemic

The stressors caused by the COVID-19 pandemic vary by gender, age, and race or ethnicity among adults in the U.S. Thus, it is crucial to examine whether adult members of various demographic groups experienced health disparities within this context during the pandemic. Examining how COVID-19-related stressors impacted various demographic groups can lead to the development of effective coping resources for populations across the U.S.

Gender

Regarding gender, research has revealed that there are distinct differences in stress and coping during the COVID-19 pandemic (Park et al., 2020; Graves et al., 2021; Stockman, Wood, & Anderson, 2021; Andrews Adlam et al., 2022). For example, Park et al. (2020) found that in a number of domains, such as infection-related risk, changes to daily routines, and resource insecurity, specific challenges were significantly more stressful for women than for men (effect sizes ranging from -0.15 to -0.47). In response, women employed a greater use of multiple

emotion-focused strategies such as distraction, emotional and religious support, and less use of humor compared to men (d's range from 0.22 to − 0.31) (Park et al., 2020).

During the COVID-19 pandemic, Graves et al., 2021 also looked at gender differences in college students in the U.S. in terms of perceived stress and coping. This study found that compared to men, women reported significantly higher total perceived stress scale scores and more moderate levels of stress ($p<.00$). Females were discovered to use the emotion-focused coping dimension more frequently than males. This included self-distraction, emotional support, instrumental support, and venting.

Moreover, Stockman, Wood, & Anderson (2021) looked at women of racial/ethnic differences in COVID-19 outcomes in the U.S. Significant differences in race/ethnicity were observed for select stressors (food insecurity, not enough money, homeschooling children, inability to have a doctor or telemedicine appointment) and prevention behaviors (handwashing with soap, self-isolation if sick, public glove use, not leaving home for any activities). Although this study did not investigate how women coped with managing these stressors, Andrews Adlam et al. (2022) found that women of color in the U.S. primarily used planful problem-solving ($M = 4.58$, $SD = 2.70$), which focuses on finding a solution to the distressing issue (Folkman S. Moskowitz JT., 2004; Lazarus & Folkman, 1984), to cope with the stress of COVID-19. Additionally, escape-avoidance, which consists of wishful thinking and behavioral efforts to avoid the stress of COVID-19 (Folkman S. Moskowitz JT., 2004; Lazarus & Folkman, 1984), was the secondary type of coping used by women of color in the U.S.

These studies highlight gender differences in stress and coping during the COVID-19 pandemic. Women, in comparison to men, experienced more significant stress in specific domains, namely such as infection-related risk, changes to daily routines, and resource

insecurity. Women frequently employed problem-based coping strategies as well as emotionally focused ones, such as finding solutions and emotional as well as religious support. In contrast, men used humor more. These findings suggest the importance of gender factors in determining how adults in the U.S manage stress. It is also critically important to understand how age affects stress and coping during the COVID-19 pandemic.

Age

Regarding age, research revealed that during the COVID-19 pandemic, stressors varied between younger and older adults (Hotez et al., 2021; Hayes et al., 2023; Whitehead & Torossian, 2021; Heid et al., 2020). According to Hotez et al. (2021), emerging adults (18 to 30) reported that they (92.98%) or their families or close friends (94.21%) had trouble managing stressors and challenges from the COVID-19 pandemic. In a different study, stressors were compared between emerging adults (18-29) enrolled in college and those who were not. College students reported stressors like losing loved ones and going through college, according to Hayes et al. (2023), whereas young adults without college enrollment had to deal with issues like maintaining a job, weighing the benefits and drawbacks of getting the vaccine to keep working, and handling the never-ending stream of information.

Contrarily, Whitehead, and Torossian (2021) found by conducting a mixed-methods study that confinement or restrictions, concern for others, and isolation or loneliness were stressors among U.S. adults 60 and older. In another study where the majority of participants (70%) were adults 64 and older, Heid et al. (2020) discovered that participants rated the following eight categories of experiences as the most challenging: social relationships, activity limitations, psychological, health, financial, global environment, death, and home care. The two

most frequently evaluated challenges were limitations on social interaction (42.4%) and limitations on activity (30.9%).

In response to stress, several studies indicated that there are different ways of how older and younger adults cope with stress. For example, exercising and going outdoors, modifying routines, following public health guidelines, adjusting attitudes and staying socially connected (Finlay et al., 2021; Young et al., 2021; Graupensperger et al., 2021; Parks, Fleischer, and Patrick, 2022). Some coping strategies were health-limiting (e.g., overeating), while most strategies encouraged self-improvement, positive adjustment, and wellness were additional types of coping that older adults (aged ≥55) employed during the COVID-19 pandemic (Finlay et al., 2021). Furthermore, another study that examined stress, appraisals of the COVID-19 pandemic, emotions, and the ways they were coping with the pandemic revealed that older adults utilized greater problem-focused types of coping and less avoidant types of coping in response to the pandemic compared to younger adults (Young et al., 2021).

Additionally, the types of coping of younger adults exhibited different ways to cope with the stress during the COVID-19 pandemic, such as increased alcohol consumption and smoking (i.e., marijuana use) as a result of elevated stress levels (Graupensperger et al., 2021; Parks, Fleischer, and Patrick, 2022). Furthermore, in a study that examined intraindividual changes (from pre-COVID to during COVID) in young adults (18-23 years old) substance use, Graupensperger et al. (2021) discovered there was a significant increase in the number of drinking days per week (+12%) and perceived that peers were engaging in heavier marijuana use pre-post the COVID-19 pandemic. Similarly, another study found that young adults (19 years old) who vaped nicotine in the previous year reported a 16.8% increase in vaping (Parks, Fleischer, and Patrick, 2022).

Research on the impact of the COVID-19 pandemic on different age groups has shown that stressors vary between younger and older adults. Emerging adults (18-30 years old) reported difficulties in managing stressors related to COVID-19, either personally or affecting their families and close friends. Adults who were in college faced stressors such as the loss of loved ones and the challenges of studying, while young adults without college enrollment dealt with issues like job security, vaccine decisions, and information overload. In contrast, older adults (60 years and older) experienced stressors like confinement, concern for others, loneliness, social interaction limitations, and activity restrictions. Older adults coped with stress through social support, acceptance, problem-focused, and meaning-focused coping. On the other hand, younger adults responded to stress during the pandemic in different ways, such as increased alcohol consumption and smoking, as well as vaping.

Overall, these findings highlight the unique stressors and coping experiences of different age groups during the COVID-19 pandemic. In addition to understanding stress and coping among various age groups of adults in the U.S., it is also crucial to consider how race and ethnicity influence this experience during the COVID-19 pandemic.

Race/Ethnicity

Research has shown that during the COVID-19 pandemic, racial/ethnic groups were more affected by stressors connected to COVID-19 than their non-Hispanic White counterparts (Jason, Carr, & Chen, 2023; Al-Amin et al., 2023; Burke-Garcia et al. 2022). For example, Jason et al. (2023) found that older Hispanic and non-Hispanic Blacks suffered from more financial difficulties, more COVID-19 stress, and more job loss related to COVID-19 than their non-Hispanic White counterparts. Similarly, Al-Amin et al. (2023) discovered that Black adults (48%) were more likely to experience food insecurity compared to Hispanic (39%) and white

adults (39%). Furthermore, Hispanic adults were also more likely to experience housing instability (20%) and employment stress (69%) compared to black (7% vs. 64%) and white (8% vs. 58%) adults in the U.S. during the COVID-19 pandemic (Al-Amin et al., 2023).

Moreover, Burke-Garcia et al. (2022) examined stressors and racial/ethnic differences during two different time points during the pandemic (May 2020 and May 2021) and discovered that non-Hispanic Black and Hispanic U.S adults reported challenges related to the social determinants of health, such as affording food and housing (26.4% vs. 9.4% in May 2020) and experiencing personal financial loss (46.6% vs 29.2% in May 2020). These disparities persisted over time, with 30.6% of Hispanic respondents reported being unable to meet basic food or housing needs compared to 8.2% of non-Hispanic White respondents, and 51.6% reported personal financial loss compared to 26.5% of non-Hispanic White respondents.

Research has shown that during the COVID-19 pandemic, racial/ethnic groups coped differently to COVID-19 than their non-Hispanic White counterparts (Chen-Sankey et al., 2020; Burton et al., 2020). For example, Chen-Sankey et al. (2020) conducted a study to investigate cigar smoking behaviors among non-Hispanic Black/African American adults during the pandemic. Results revealed that the majority of cigar smoking behaviors increased in higher frequency and quantity to cope with the impact of COVID-19, such as stressors, anxiety, loneliness, and boredom, as well as physical isolation. A different study was conducted that looked at coping among American Indians and Alaska Natives compared to non-Hispanic Whites. Burton et al. (2020) discovered planful problem-solving, which focuses on finding a solution to a distressing issue (Folkman S. Moskowitz JT., 2004; Lazarus & Folkman, 1984), was primarily utilized by American Indians, Alaska Natives, and non-Hispanic whites, followed by escape avoidance, which aims to lessen the unpleasant emotions connected to the problem.

These studies provide insights into the diverse types of coping employed by different racial/ethnic groups and highlight the importance of addressing their unique needs in promoting mental health and well-being.

In sum, these studies revealed that the stress and coping experience varies depending on a person's gender, age, and race or ethnicity. During COVID-19, women were more stressed than men, although they faced similar stressors. Additionally, although older adults worried about loneliness and getting sick, younger adults were more likely to experience increased stress if they had multiple roles, such as parenting or college student status. Compared to their counterparts, Hispanics and Blacks/African Americans were more likely to experience a single or a combination of stressors that resulted in higher levels of stress. As a result of these unique experiences, it is important to examine how the mental health of adults in the U.S. was impacted during the COVID-19 pandemic.

The Impact of the COVID-19 Pandemic on Mental Health for Adults in the U.S

The emergence of the COVID-19 pandemic has taken a toll on the daily lives of adults in the U.S. The COVID-19 mandates and shutdown, which were put in place to stop the disease's spread, have had an effect on the mental health of adults across the nation (Minahan et al., 2021; Coiro et al., 2021; McGinty et al., 2020; MacDonald et al., 2022; Wang et al., 2020). For example, Minahan et al. (2021) examined differences in the relationship between pandemic-related stress and mental health outcomes across ages. This study’s findings revealed that older adults who had higher perceived stress were associated with greater depressive symptoms and poorer mental health concurrently and longitudinally. Additionally, Minahan et al. (2021) found

that avoidant coping was associated with higher levels of depression, anxiety, and loneliness, whereas social support was associated with better psychosocial outcomes.

Furthermore, Coiro et al. (2021) conducted a secondary data analysis using data from two separate datasets between April and July 2020 that gathered information from adults in the U.S (n = 709) to investigate correlations between levels of COVID-19-related stress, coping strategies, and symptoms of anxiety and depression. The results showed that over 25% of the participants reported moderate to severe levels of depression symptoms, and more than 20% reported moderate to severe levels of anxiety symptoms. Those who experienced higher levels of COVID-19-related stress had higher symptom levels.

Furthermore, McGinty et al. (2020) found that adults who were more severely impacted by the pandemic, such as those who lost their jobs or had a family member die from COVID-19, reported higher levels of stress and anxiety. MacDonald et al. (2022) found that having COVID-19 and experiencing stress from COVID-19 restrictions, worry about COVID-19, coping mechanisms, and anxiety were all associated with a higher risk of depressive symptoms and anxiety. Additionally, another study discovered that the majority of adults enrolled in college (71.26%) indicated that their stress and anxiety levels had increased during the pandemic, with 48.14% showing a moderate-to-severe level of depression, 38.48% showing a moderate-to-severe level of anxiety, and 18.04% having suicidal thoughts (Wang et al., 2020).

It has been established that the COVID-19 pandemic and its related mandates as well as shutdowns have negatively impacted the mental health of adults in the U.S. These studies highlight the relationship between stress during COVID-19 and an increase in depressive symptoms, anxiety, and poor mental health outcomes. Additionally, these studies emphasize the

importance of addressing mental health needs and promoting effective coping strategies and social support during times of crisis. However, resilience may have a positive impact on managing the stress of COVID-19 and improving the mental health of adults in the U.S. Thus, it is important to review the literature in this area when discussing the stress and coping experience for this population.

Resilience and Adaptation for Adults in the U.S. During the COVID-19 Pandemic

Despite the unprecedented challenges posed by the COVID-19 pandemic, there is an ongoing opportunity for adults in the U.S. to demonstrate resilience in their ability to adapt and cope with the circumstances (Vannini et al., 2021; Park et al., 2021; Burke-Garcia et al., 2021). Resilience is the process of adapting well in the face of adversity, trauma, tragedy, threats, or significant sources of stress or bouncing back from difficult experiences (APA, 2002). For example, Vannini et al., 2021 conducted a cross-sectional study that included 141 older adults living in Massachusetts, U.S., measuring perceived stress, resilience, and coping behaviors. The results showed that participants experienced moderate levels of stress related to the COVID-19 pandemic but demonstrated high levels of resilience. Higher resilience was associated with more adaptive coping strategies, which are active coping, planning, use of emotional support, use of instrumental support, positive reframing, religion, humor, and acceptance, and fewer maladaptive ones (Vannini et al., 2021; Meyer, 2001). The use of maladaptive coping strategies, which are venting, denial, substance use, self-blame, behavioral disengagement, and self-distraction, correlated with higher stress levels (Vannini et al., 2021; Meyer 2001). Resilience was found to be the strongest predictor of stress, accounting for the observed associations between coping strategies and stress. Additionally, the level of resilience influenced the effects

of two coping strategies (planning and self-blame) on stress levels. Low resilience amplified the stress-inducing effect of planning, while high resilience attenuated the negative impact of self-blame (Vannini et al., 2021).

In a different study, Park et al. (2021) conducted a study to examine how the resilience of adults in the U.S progressed following the COVID-19 pandemic. The findings of this study revealed that older age, higher levels of mindfulness and social support, and meaning-focused coping predicted better adjustment, reflecting resilience, while avoidance coping was particularly unhelpful. Furthermore, Burke-Garcia et al., (2021) conducted a rapid, mixed-methods study on The How Right Now communication initiative (HRN) that was developed to address the impact of the COVID-19 pandemic on various vulnerable populations in the U.S. The results of the research highlighted the diverse perceptions of resilience among HRN's target populations. Common factors contributing to resilience were identified across these populations such as the availability of informal and formal social support, as well as access to services that addressed basic needs such as food and housing resources. The study also found that stress, anxiety, depression, and experiences of stigma and discrimination were interconnected with resilience (Burke-Garcia et al., 2021). Specifically, White respondents (80.7%) were much more likely to report that they “will come through these difficult times with little trouble” than Black (58.7%) and Hispanic (66.4%) respondents. A greater percentage of White respondents (84.5%) than Black respondents (69.8%) reported an ability to “bounce back” (Burke-Garcia et al., 2021).

These findings highlight the importance of resilience in coping with stress during the pandemic. Enhancing resilience could be a valuable intervention for supporting older adults in navigating stressful situations and minimizing negative effects on their mental and cognitive

health in the future. By incorporating the insights gained through this formative research, HRN aimed to develop effective communication strategies and resources to help individuals and communities build resilience and cope with the challenges posed by the COVID-19 pandemic. Engaging with community stakeholders was seen as a crucial aspect of this process. Taken together, there is a need for more research in order to understand resilience among adults dealing with the challenges from COVID-19 in order to develop more targeted interventions, support systems, and services. The Transactional Model of Stress and Coping provides a comprehensive framework for understanding the intricate relationship between various variables, such as resilience, involved in the stress process, thus enhancing our comprehension of this complex phenomenon.

The Transactional Model of Stress and Coping (TMSC)

The Transactional Model of Stress and Coping (TMSC), shown in Figure 1, was selected as this study's framework to examine stress and coping processes during the COVID-19 pandemic (Lazarus & Folkman, 1984). According to Lazarus and Folkman (1984), *stress* is the result of a person's perception of their environment as being overly demanding and poses a threat to their well-being because they lack the resources to meet those demands. This relationship is mediated by the processes of (1) cognitive appraisals and (2) coping. This relationship between the person and the environment is viewed as a robust influence upon stress, and it is dynamic, mutually reciprocal, or bidirectional (Folkman, Lazarus, Gruen, & DeLongis, 1986). As a result, this model is considered transactional (Folkman, Lazarus, Gruen, & DeLongis, 1986).

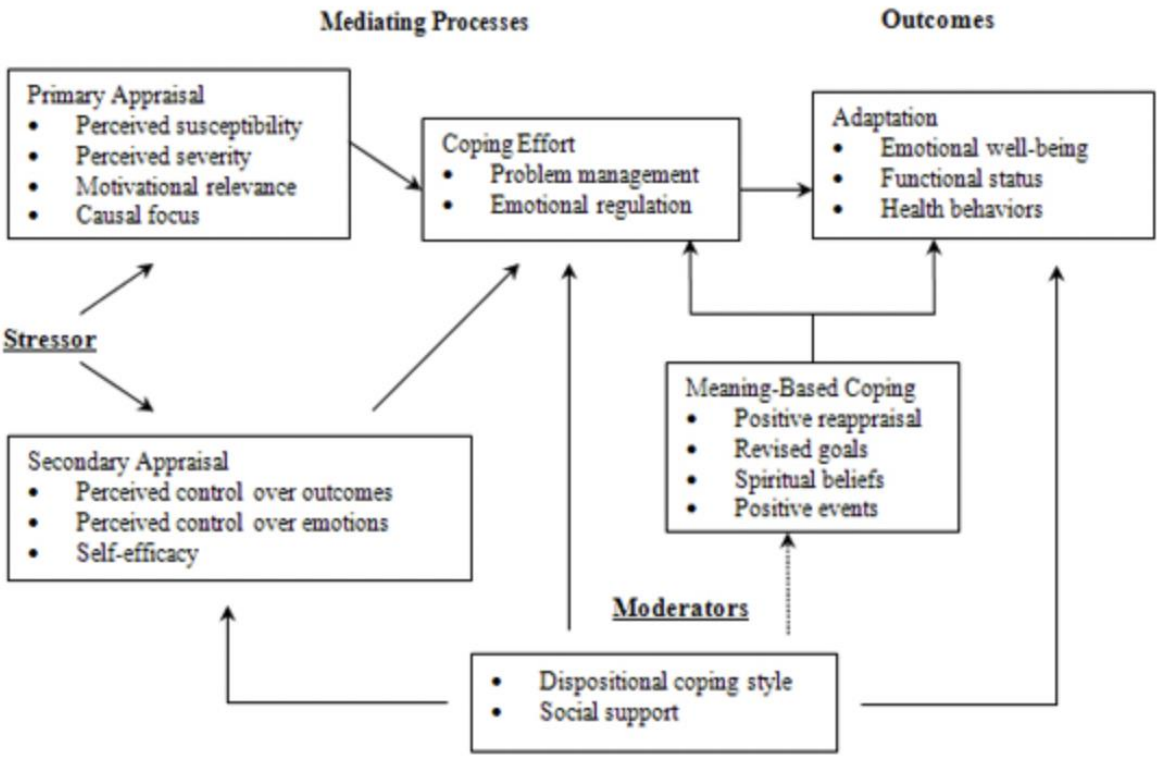

Figure 1. Diagram of the Folkman and Lazarus (1984) Transactional Model of Stress and Coping

The TMSC is appropriate for examining stress and coping for adults in the age of COVID-19 because it takes into account an individual's experiences, perceptions, and interpretations of stressors. The ability to support people during stressful situations like the COVID-19 pandemic is made possible by the recognition of individual differences in stress appraisal and coping. It is easier for professionals and support systems to customize interventions and resources to meet individual needs when they are aware that people perceive and react to stressors in different ways. This understanding can improve the mental health outcomes for a variety of adult populations in the U.S.

TMSC Constructs

The TMSC consists of four key constructs: 1) primary appraisal 2) secondary appraisal; 3) coping and 4) outcomes and adaptation. In *cognitive appraisal*, which consists of primary and secondary appraisal, the person evaluates whether a specific encounter with the environment has any relevance to his or her well-being and in what manner (Folkman, Lazarus, Gruen, et al., 1986). In *primary appraisal*, the person assesses whether he or she has anything at stake in the stressful encounter. In *secondary appraisal*, the person evaluates if anything can be done to address the encounter by overcoming or preventing harm or improving upon the opportunity for benefit (Folkman, Lazarus, Gruen, et al., 1986). *Coping* occurs when an individual is constantly changing cognitive and behavioral efforts to manage and meet external and/or internal demands that are appraised as exceeding their internal and/or external resources (Folkman, Lazarus, Gruen, & DeLongis, 1986; Lazarus & Folkman, 1984b). The immediate *outcome* of an encounter is dependent upon the person's judgment of their ability to resolve the encounter successfully (Folkman, Lazarus, Dunkel-Schetter, et al., 1986).

The complex interaction between stress and coping can be better understood by operationalizing these constructs within the theoretical framework. This framework will provide a foundation to investigate the study variables and contribute to the understanding of how adults coped with the stress of COVID-19. Thus, in order to comprehend the relationship between these study's variables in a meaningful way, it is necessary to review previous literature that used the TMSC within this context as well.

Research Utilizing the TMSC to Examine Stress and Coping for Adults in the U.S During the COVID-19 Pandemic

Recent studies have used the TMSC to examine relationships between stress and coping among adults in the U.S. Reviewing this literature ensures that the proposed study is rigorous and relevant and advances the understanding of the subject (Park et al., 2020; Ersa et al., 2023; Knol & Brantly, 2021; Grzesik et al., 2023; Burton et al., 2020; Andrews Adlam et al., 2022). Several qualitative studies were conducted using the TMSC. For example, Park et al. (2020) conducted a qualitative study on college students examining the way they coped with processes and lifestyle changes during the COVID-19 pandemic. According to the study's findings, primary and secondary appraisal and coping efforts were aligned with coping processes and the TMSC constructs. The secondary appraisal, in which participants maintain contact with their family, friends, classmates, or another support system, is an illustration of how coping resources are in line with this appraisal. However, there was no measurement of outcome or adaptation.

Additionally, Ersa et al. (2022) discovered that women receiving fertility treatment for infertility issues during the COVID-19 pandemic primarily used emotion-based coping mechanisms to deal with the difficulties they encountered. Implementing strategies based on Lazarus and Folkman's model helped women with infertility identify potential stressors and enhance their individual coping processes, ultimately improving support and care in such difficult situations. The results highlight the value of employing qualitative methods to comprehend the particular stressors and coping mechanisms faced by women whose infertility treatment was postponed due to the pandemic.

Furthermore, another qualitative study examined personal resources of hope and proactive personality, two coping styles, and satisfaction with life with U.S. veterans (n=132) during COVID-19 using TMSC. Findings revealed that hope pathways and proactive personality were significant predictors of satisfaction with life. Additionally, adaptive and maladaptive coping did not mediate the relationships among personal resources and satisfaction with life. However, this study did not assess any other variables, such as mental health concerns, that could have informed veterans' proactive personalities and satisfaction with life (Grzesik et al., 2023).

Brantley et al. (2020) conducted a study to operationalize the constructs of TMSC in order to investigate the factors that influence stress-related eating among college students according to weight status. Participants (n = 1070) responded to the following questions on an online survey: Eating and Evaluation Perceived Stress Scale and Due to Emotions and Stress Questionnaire. Compared to their peers who were healthy weight, students who were overweight or obese reported significantly more emotional and stress-related eating ($p<001$). Emotional and stress-related eating scores were not significantly correlated with perceived stress scores. Both the healthy and overweight/obese groups showed a positive correlation between the Appraisal of Ability and Resources to Cope scores and the Emotion and Stress-related Eating Scores ($p<0001$). However, this study did not measure anxiety, depression, or disordered eating behaviors and was not able to address the behaviors and psychological factors that may be linked to stress-related eating.

Andrews Adlam et al. (2022) aimed to understand how women of color in the United States coped with COVID-19 and how it affected their emotional well-being. The authors collected data from 368 women through an online survey between May and July 2020, utilizing

various psychological assessments. The majority of participants experienced depression (59.0%) and physical ailments (69.3%) due to COVID-19-related stress. The primary coping process used by these women was planful problem-solving. The study found a modest but significant correlation between COVID-19 stressors and depressive symptoms. Overall, COVID-19 had a considerable impact on increasing stress and depressive symptoms and reducing resilience among women of color. These findings emphasize the importance of providing tailored, culturally appropriate, and gender-specific mental health care for this demographic during the COVID-19 era, which could benefit from actionable care plans informed by these results.

In a similar study, Burton et al. (2020) delved into the impact of COVID-19 on American Indian/Alaska Natives and non-Hispanic Whites, exploring their levels of depressive symptoms, overall stress, resilience, and coping strategies using the Transactional Model of Stress and Coping. Out of the 207 participants, 109 identified as American Indian/Alaska Native, and 98 as non-Hispanic White. Despite similar demographic characteristics, American Indian/Alaska Natives faced more COVID-19-related stressors and exhibited higher levels of depressive symptoms compared to non-Hispanic Whites. The study also found a stronger positive correlation between COVID-19 stressors and depressive symptoms for American Indian/Alaska Natives compared to non-Hispanic Whites. Among American Indian/Alaska Natives, the primary coping processes identified were planful problem-solving, escape avoidance, and self-controlling. The findings offer valuable data to inform the development of programs and policies aimed at enhancing psychosocial well-being among American Indian/Alaska Natives and reducing COVID-19-related health disparities in this population.

Overall, these aspects of the studies seek to enhance the caliber and efficacy of mental health care for the population under study, ensuring that it is gender-specific, culturally sensitive, and supported by empirical evidence to better support their emotional well-being during the challenging circumstances of the COVID-19 pandemic. Even though these studies have provided insightful information, there are still some notable gaps in the literature. These gaps include the need to measure outcomes and adaptation, examine resilience and specific stressors in different populations, assess mental health concerns, and explore different psychological factors associated with COVID-19. This study will examine these measures in a diverse U.S adult population compared to previous studies. Filling these gaps would enhance our understanding of stress and coping, leading to more comprehensive and effective interventions.

Statement of the Problem

The COVID-19 pandemic has disrupted people's lives and increased stress levels across the globe. As the impact of the COVID-19 pandemic continues to affect adults in the U.S, it is crucial to realize that stress related to the pandemic poses a serious risk to mental health and wellbeing. Additionally, stress and coping appear to be more difficult for adults who are women, belong to racial and ethnic minorities, and older people, which has an effect on mental health and well-being. In order to achieve health equity and lessen the disparities exacerbated by the pandemic, it is imperative to address the negative effects of the stress caused by COVID-19 on the mental health of these populations. To minimize the pandemic's long-term effects and to improve the resilience and recovery of both individuals and societies, it is crucial to comprehend and address this issue.

The purpose of this study is to understand the stress experienced among adults in the U.S. and which coping processes affect their overall emotional well-being. The deeper exploration of the stressors associated with COVID-19, people's perceptions and evaluations of these stressors, their coping processes, and ultimately their impact on emotional wellbeing will be operationalized using the TMSC to contribute to a more thorough and comprehensive understanding of this topic as well as the development of responsive and tailored mental health interventions for this population. Thus, this study will investigate the following four research questions:

1.What are the predominate types of coping utilized by adults in the U.S during the COVID-19 pandemic by gender, age, and race/ethnicity?

2. What is the relationship between stressors related to COVID-19 and depressive symptoms for adults in the U.S?

3. What is the impact of primary and secondary appraisal have on coping efforts among adults in the U.S?

4. For adults in the U.S, does the COVID-19 have an impact on stress, resilience, and depressive symptoms?

Chapter 3: Methods

The literature review revealed that the COVID-19 pandemic brought about a variety of stressors. Previous research has identified a range of factors that have contributed to stress among adults since COVID-19 including the fear of contracting the virus (Park et al., 2020; McGinty et al., 2020; Whitehead and Torossian, 2021), social isolation and loneliness or feeling physically disconnected from family and friends (Park et al., 2020; Bounoua and Sadeah, 2021), changes in finances or financial security (Park et al., 2020; McGinty et al., 2020; Wakeel et al., 2023; Bounoua and Sadeah, 2021), uncertainty about the future (Park et al., 2020; McGint al., 2020; Whitehead and Torossian, 2021), increased caregiving responsibilities (Park et al., 2020; Whitehead and Torossian, 2021), disruptions of work or education (Park et al., 2020; McGinty et al., 2020), learning about the seriousness and contagiousness of the virus (Park et al., 2020), daily personal care (Park et al., 2020), personal injury or illness (Wakeel et al., 2023), and change in living conditions or work schedules (Wakeel et al., 2023; Bounoua and Sadeah, 2021). Adults also had trouble managing the numerous stressors because they lacked the necessary resources to cope. The review of the literature also showed that women experienced higher levels of stress than men, older adults had better-coping mechanisms than younger adults, and racial and ethnic groups required more coping resources. In order to address mental health challenges impacted by the COVID-19 pandemic, the TMSC can be used to understand stress and coping among adults in the U.S The purpose of this study is to understand stress and coping processes among adults in the U.S, as well as to gain a better understanding of how these processes affect their overall emotional well-being. To attain this, this study will conduct a secondary analysis to answer the following four research questions:

1. What types of coping are predominantly utilized by adults in the U.S by gender, age, and race/ethnicity?
2. What is the relationship between stressors related to COVID-19 and depressive symptoms for adults in the U.S?
3. What impact does cognitive appraisal have on coping efforts among adults in the U.S?
4. Does COVID-19 have an impact on stress, resilience, and depressive symptoms for adults in the U.S?

This chapter will include an overview of the steps taken to test the research questions, as well as a discussion of the instrumentation, data analysis, participant selection and data collection methods.

Study Design

This quantitative cross-sectional study will conduct a secondary data analysis to examine stress and coping processes among adults in the U.S during the COVID-19 pandemic. A diverse group of researchers across the U.S virtually worked together to create two cross-sectional online surveys on Qualtrics (2023) using the TMSC to examine stress and coping during the COVID-19 pandemic. The research team included a variety of academics from across the county, including the executive director of a community-based organization and faculty members from the University of Nevada, Las Vegas, the University of Wisconsin, Madison School of Medicine, A.T. Still University and an osteopathic medical school. The first survey was distributed between May and July 2020, and the second of which was distributed between January and December 2022. The first survey evaluated the stress and coping processes that people of color experienced during the initial wave of the pandemic. The second survey, which is the focus of this study, was

amended to include additional demographic information concerning issues during the COVID-19 pandemic at the time and to assess the general population. These questions covered topics like continuing remote education for children, returning to school for their own children (if any), interest in receiving COVID-19 vaccinations and boosters, being aware of people who have been hospitalized or have passed away from COVID-19, and prenatal and postnatal care experience during pregnancy. Both surveys included questions regarding COVID-19 stressors, the Connor-Davidson Resilience Scale (10 items) (Campbell-Sills & Stein, 2007), the Ways of Coping Questionnaire (24 items) (WCQ) (Judge, 1998), the Brief Encounter Psychosocial Instrument (BEPSI) (Frank & Zyzanski, 1988), and the Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977).

The purpose of this cross-sectional study is to examine stress and coping processes among adults in the U.S during the COVID-19 pandemic, as well as to gain a better understanding of how these processes affect their overall emotional well-being. This study will test for null and alternative hypotheses described in Table 1 based on the research questions above. Stressors from COVID-19, the primary appraisal, and the secondary appraisals are the independent variables for this study. Coping processes and emotional well-being are the dependent variables.

Table 1. Hypothesis Testing for Stress and Coping among Adults in the U.S during the COVID-19 pandemic using Transactional Model of Stress and Coping

Research Questions	H_0	H_A
1) What are the predominate types of coping are utilized by adults in the U.S during the COVID-19 pandemic by gender, age, and race/ethnicity?	There will be no significant types of coping that are predominantly utilized by adults by gender, age, racial/ethnic groups.	There will be statistically significant types of coping that are predominantly utilized by adults by gender, age, and racial/ethnic groups/
2) What is the relationship between stressors related COVID-19 and depressive symptoms for adults in the U.S?	There will be no significant relationship between stressors related COVID-19 and depressive symptoms for adults in the U.S	There will be a statistically significant relationship between stressors related COVID-19 and depressive symptoms for adults in the U.S
3) What is the impact of primary and secondary appraisal have on coping efforts among adults in the U.S?	There will be no significant impact does cognitive appraisal have on coping efforts among adults in the U.S	There will be a statistically significant impact does cognitive appraisal have on coping efforts among adults in the U.S
4) For adults in the U.S, does the COVID-19 pandemic have an impact on stress, resilience, and depressive symptoms?	There will be no significant impact on stress, resilience, and depressive symptoms for adults in the U.S	There will be a statistically significant impact on stress, resilience, and depressive symptoms for adults in the U.S

Study Participants

The inclusion criteria for this study include a targeted population of adults at least 18 years of age or older who lived in the U.S during the COVID-19 pandemic. Anyone who was not at least 18 years of age or older, resided outside of the U.S, and did not agree to the informed consent form as well as not did not provide a response for every question, was excluded from this study. The recruitment for this population included a non-probability voluntary sampling method (Remler & Ryzin, 2015). Participants from all over the U.S received an online flyer via email, text message, and social media sites like Facebook, Twitter, and LinkedIn, inviting respondents to participate in the study by volunteering to complete the study. Additionally, a snowball sampling technique was also included, whereas participants were asked to share the survey link with those in their networks (Remler & Ryzin, 2015. The sample size for this study included a minimum of 380 participants to achieve a power calculation of 80% with a moderate effect size of 0.4 (Daniel, W.W., & Cross, C. L. (2019).

Data Collection

The Qualtrics platform served as the host for the online survey. The online flyer included a link that redirects users to the first page of the online survey, where informed consent was needed. Participants were required to read and agree to the informed consent form, which was included on the first page of the online survey on the Qualtrics platform, to be deemed eligible to participate in the study. The survey took approximately 25-35 minutes to complete. Data collection took place in 2022, from January to December.

Ethical Considerations

The study was approved by the University of Nevada, Las Vegas (Protocol Number 1605172) and the University of Wisconsin-Madison Institutional Review Boards (Protocol Number 2020-0789). On the first page of the online survey on the Qualtrics platform, the informed consent form was implemented. Each participant was required to independently read the informed consent form and indicate their agreement or disagreement with the terms of taking the survey. Access to the survey was granted to those who checked the "agreed" box on the informed consent form; those who selected "disagreed" were ineligible for the study and did not receive access to the survey. To protect and maintain the confidentiality of the survey data, no personal information was collected, and no forgery will be made. Additionally, all data information and storage were kept private and confidential from the public and only accessible to researchers using a private hard drive and a password-protected computer. All data results will be accurately repeated.

Instrumentation

A quantitative survey guided by the TMSC was developed to examine stress and coping processes for adults in the U.S. A total of 120 questions were either developed or adapted from four validated questionnaires that investigated stressors associated with COVID-19, psychosocial health, and participants' demographics. For this study, five measurements along with demographics were analyzed to examine stress and coping during COVID-19 school closures for adults in the U.S. The measures are (1) Questions assessing COVID-19 stressors (six items) (2) Brief Encounter Psychosocial Instrument (BEPSI; six items), (2) the 10-item Connor-Davidson

Resilience Scale (CD-RISC-10; 10 items), (3) the Ways of Coping Questionnaire (WCQ; 24 items), and (4) the Center for Epidemiologic Studies Depression Scale (CES-D; 20 items) (Figure 1). Each of the sections and scales that were used for the current study are described below.

Figure 2. Overview of Constructs and Measures

	Construct				
	Stressor	**Primary Appraisal**	**Secondary Appraisal**	**Coping Efforts**	**Outcomes/Adaption**
Measure	Stressor	Stress and Fatigue	Resilience	Coping	Emotional Well-being
Instrument	COVID-19 Stressors	BEPSI	CD-RISC-10	Ways of Coping	CES-D
Types of Assessments/ Scores Produced	6 items measuring the presence of COVID-19-related stressors	10 items to assess subjective stress and fatigue	10 items explored one's resilience to health-related stressors.	24 items questionnaire assessing thoughts and actions used to cope with daily stressful encounters	20 items scale measuring depressive symptomatology

COVID-19 Stressors

Six items that measured the presence of the stressor in the study were included in the questions assessing the stressors related to COVID-19. Among these stressors were anxiety about COVID-19 news reports (one item), food insecurity (three items), lack of social support (one item), and financial strain (one item) (Bickel et al., 2000). These were either created especially for this study or modified from surveys that had already been validated. The sum of the responses—which were coded from three questions with two answer options (0/1) and three questions with three answer options (0/1/2)—was added to determine the final scores. Higher

scores indicated more stress associated with the COVID-19 pandemic. The total score for this measure varied from 0 to 9.

Brief Encounter Psychosocial Instrument (BEPSI)

Subjective stress and fatigue were measured using the BEPSI (Frank & Zyzanski, 1988). As a result, it functioned as the main assessment tool for this research. Six items in all, pertaining to two time periods—before COVID-19 and after the COVID-19 pandemic—were included in this instrument. Respondents' perceptions of the connection between stress and illness were evaluated in the first BEPSI question. However, this question was not counted towards the overall score of the instrument. Further, this question about the instrument required a yes or no response. Furthermore, questions 2–5 required a yes or no response measured on a 10-point Likert scale. The method used to calculate scores involved adding up all five of the questions that had a 10-point Likert scale, then dividing that total by five. The instrument's overall total scores ranged from 0 to 10, meaning that individuals who scored higher overall had gone through more stress since COVID-19 (Lee, Sung, Kim, Lee, Park, & Shim, 2015).

Ten-item Connor-Davidson Resilience Scale (CD-RISC-10)

One's resilience to stressors related to their health was examined by the CD-RISC-10. In the study, secondary appraisal was measured using this instrument. This was an instrument that respondents were asked to complete twice: once before the COVID-19 pandemic and once after it. Ten of the Connor-Davidson Resilience Scale's original twenty-five items comprised the ten items (Campbell-Sills & Stein, 2007). On a 0–4 interval-level scale, where "0" denotes "not true at all" and "4" denotes "true all the time," these items were measured. The total scores varied from 0 to 40 overall. Higher scores demonstrate an individual's capacity to handle pressure (Campbell-Sills & Stein, 2007).

Ways of Coping Questionnaire (WCQ)

The WCQ was used to examine coping behaviors among individuals who endured daily stressful encounters (Folkman et al., 1988). Twenty-four items were selected from the comprehensive questionnaire (Judge, 1998). The WCQ includes eight subscales: 1) confrontive coping, 2) distancing, 3) self-control, 4) seeking social support, 5) accepting responsibility, 6) escape-avoidance, 7) planful problem-solving, and 8) positive reappraisal (Folkman et al., 1988). The total of the participant's answers to the items on each subscale, which included a Likert scale with labels ranging from "0" for "does not apply or not used" to "3" for "used a great deal," indicates how much each coping strategy was employed during this trying situation. Each subscale had a score between 0 and 9.

Center for Epidemiological Studies Depression Scale (CES-D)

The study's goal, emotional well-being, was measured using the CES-D. Furthermore, it is well known that this brief questionnaire measures depressive symptomatology in the general population, with a particular emphasis on depression (Radloff, 1977). Specifically, the symptoms listed on the scale are among those upon which a clinical depression diagnosis is based (Radloff, 1977). The study participants were asked to complete this instrument at two time points: (1) before COVID-19 and (2) since the COVID-19 pandemic. The score for the CES-D is the sum of 20 questions ranging from a possible score of 0 to 60. A score of 16 points or more indicated a person's risk for clinical depression (Radloff, 1977).

Demographics

A total of 54 demographic questions were used in this study to gather data on adults in the U.S, including their age, gender, race or ethnicity, marital status, level of education, zip code, employment status, and size of their household at the time the survey was completed. Of the

total, 14 questions were about COVID-19-related topics, including going back to work or school, continuing remote education for children or sending them back to school, getting tested for COVID-19 and wanting the vaccine and booster, getting hospitalized for COVID-19 or having it cause a death, and receiving prenatal and postnatal care during pregnancy.

Data Analysis

For this study, the data analysis will not include the survey responses from participants who did not complete all of the survey's questions. The total completed surveys collected were 390. The Statistical Package for the Social Sciences (SPSS, Chicago, IL, USA) version 28 will receive the exported data from the Qualtrics platform in order to conduct data analysis. Descriptive statistics and frequencies will be computed in order to characterize the research participants. To determine which three coping styles are most commonly used by adults in the United States, the mean scores of the eight coping scales will be computed. To ascertain the connection between COVID-19 stressors and depressive symptoms, Pearson correlation analysis will be done. To determine how cognitive appraisal affects the eight coping mechanisms, multiple regression analysis will be performed. Paired samples *t*-tests will be conducted to evaluate stress, resilience, and depressive symptoms before and since COVID-19. Table 2 describes the independent and dependent variables of each research question for this study, as well as the statistical analyses to be conducted. P-values below 0.05 will be considered statistically significant.

Table 2. Independent and Dependent Variables as well as Statistical Analysis of Research Questions

Research Questions	Stressor	BEPSI	CD-RISC-10	WCQ	CES-D	Statistical Analysis
What are the predominate types of coping utilized by adults by gender, age, and racial or ethnic groups?				Descriptive		Means Scores
What is the relationship between COVID-19 stressors and depressive symptoms among Adults in the U.S?	X				X	Pearson Correlation
What is the impact of primary and secondary appraisal have on coping efforts among adults in the U.S?		IV	IV	DV		Multiple Regression
For adults in the U.S, does COVID-19 have an impact on stress, resilience, and depressive symptoms?		X	X		X	Paired Samples T-Test

Research Question One

The first research question is, "What are the predominate types of coping are utilized by adults in the U.S during the COVID-19 pandemic by gender, age, race/ethnicity?" In order to determine the three types of coping that adults in the U.S. use most frequently by gender, age,

and race or ethnic group, the mean scores of the eight coping scales will be evaluated for each demographic group.

Research Question Two

The second research question asks, "What is the relationship between stressors related to COVID-19 and depressive symptoms for adults in the U.S?". The independent variable is COVID-19 stressors, and the dependent variable is depressive symptoms. A Pearson correlation coefficient will be calculated in order to understand the relationship between COVID-19 stressors and depressive symptoms in this population.

Research Question Three

The third research question asks, “What is the impact of primary and secondary appraisal have on coping efforts among adults in the U.S?” The independent variable is cognitive appraisal, which includes primary appraisal (stress) and secondary appraisal (resilience). The dependent variable is coping. Multiple regressions will be calculated to understand the impact of cognitive appraisal on the eight types of coping.

Research Question Four

Finally, the last research question is, "For adults in the U.S, does the COVID-19 pandemic have an impact on stress, resilience, and depressive symptoms?" The independent variable is time with two different levels: (1) before COVID-19 and (2) since COVID-19. The dependent variables are stress and fatigue, resilience, and depressive symptoms. Paired sample *t*-

tests will be conducted to evaluate stress, resilience, and depressive symptoms before and since COVID-19.

Summary

Chapters 1, 2, and 3 of this project outline a proposal aimed at comprehending stress and coping among adults in the U.S. throughout the COVID-19 pandemic. In the initial chapter, the importance and relevance of the study are introduced and highlighted. The second chapter discusses existing research on the topic, exploring any gaps in knowledge that need to be addressed. Following this, Chapter 3 outlines the specific steps required to successfully conduct the study. Overall, the project proposal offers a comprehensive framework to investigate stress and coping among adults in the U.S. during the COVID-19 pandemic, encompassing an overview, previous research analysis, and a detailed plan for execution.

Chapter 4: Results

This chapter will address the results of the four research questions for this study. The statistical analyses were conducted using SPSS version 28.0. Demographic and descriptive statistics will be presented, followed by bivariate correlations and multiple regression analyses. Subsequently, the results from the analyses will be discussed.

Descriptive Statistics

Table 3 provides a detailed overview of the demographic characteristics of the research participants in this study. The sample consisted of 402 participants, with a majority female population (77.6%) and an average age of 30.6 years (SD = 13.8). About 27.2% of participants indicated they were of Hispanic, Latino/a, or Spanish origin. Most of the participants were White (40.3%), followed by Black or African American (18.2%), American Indian or Alaska Native (2.0%), Asian (19.0%), Pacific Islander (4.8%), Other (7.8%), and Multiracial (7.8%). Many adults completed some form of college education or technical school (47.0%), were never married (54.4%), and identified as Christians (43.1%).

Table 3. Demographic Characteristics of the Research Participants

Descriptive Characteristics	**n (%)**
Gender	
Male	90 (22.4%)
Female	312 (77.6%)
Missing	2 (.5%)
Total	404 (100.0%)
Age, years, M (SD)	30.61 (13.76%)
Hispanic, Latino/a, or Spanish Origin	110 (27.2%)
Race	
White	159 (40.3%)
Black or African American	72 (18.2%)
American Indian/Alaska Native	8 (2.0%)
Asian	75 (19.0%)
Pacific Islanders	19 (4.8%)
Other	31 (7.8%)
Multiracial (two or more races)	31 (7.8%)
Missing	9 (2.2%)
Total	404 (100%)
Education	
8^{th} – 12th grade	5 (1.2%)
Completed High School/GED	34 (8.5%)
Some College or Technical School	189 (47.0%)
Completed College	68 (16.9%)
Graduate or Professional Degree	106 (26.4%)
Missing	2 (.5%)
Total	404 (100%)
Marital Status	
Married	102 (25.5%)
Divorced	22 (5.5%)
Widowed	6 (1.5%)
Separated	5 (1.3%)
Never Married	218 (54.5%)
Member of an Unmarried Couple	47 (11.8%)
Missing	4 (1.0%)
Total	404 (100.0%)
Religion	
Christian	171 (43.1%)
Catholic	74 (18.6%)
Jewish	1 (.3%)

Islam	4 (1.0%)
Buddhism	12 (3.0%)
Mormon	7 (1.8%)
Agnostic	29 (7.3%)
None	80 (20.2%)
Other	19 (4.8%)
Missing	7 (1.7%)
Total	404 (100.0%)

Table 4 provides the employment and financial characteristics of research participants. Most of the participants were employed full-time (38.2%), and about 62% indicated they were full-time undergraduate students. Most participants earned a monthly income of more than $4,000 (21.3%) before COVID-19. However, since COVID-19, most monthly incomes have decreased to $1,001–$2,000 (25.0%).

Table 4. Employment and Financial Characteristics of Research Participants

Employment and Financial Characteristics	**n (%)**
Employment Status	
Unemployed	102 (25.4%)
Unemployed due to COVID-19	10 (2.5%)
Furloughed due to COVID-19	5 (1.2%)
Employed Full-Time	153 (38.2%)
Employed Part-Time	113 (28.2)
Retired	18 (4.5%)
Missing	3 (.7%)
Total	404 (100.0%)
Current Student Status	
Full-time graduate or professional student	63 (22.6%)
Part-time graduate or professional student	16 (5.7%)
Full-time undergraduate student	173 (62.0%)
Part-time undergraduate student	27 (9.7%)
Missing	1 (.2%)
Total	404 (100.0%)
Monthly Income Before COVID-19*	
Zero	63 (15.6%)
$500 or less	43 (10.6%)
$1,001 - $2,000	85 (21.0%)
$2,001 - $3,000	61 (15.1%)
$3,001 – 4,000	50 (12.4%)
More than $4,000	86 (21.3%)
Missing	13 (3.2%)
Total	404 (100%)
Current Monthly Income	
Zero	57 (14.7%)
$500 or less	56 (14.4%)
$1,001 - $2,000	97 (25.0%)
$2,001 - $3,000	63 (16.2%)
$3,001 – 4,000	28 (7.2%)
More than $4,000	87 (22.4%)
Missing	13 (3.2%)
Total	404 (100%)

Note. GED = General Educational Development

Table 5 shows the household characteristics of research participants. During the COVID-19 pandemic, most adults were renting (37.9%) and living with more than four people in the home (18.9%), and about 18% of households had an elderly family member living with them. About 32% of adults had children under the age of 18 residing in their household, with 76.4% participating in remote school instruction. The most frequently reported food assistance program (13.1%) used by households was the Supplemental Nutrition Assistance Program (SNAP).

Table 5. Household Characteristics of Research Participants

Household Characteristics	**n (%)**
Current Living Situation	
Own	107 (27.4%)
Rent	148 (37.9%)
Temporary housing	7 (1.8%)
Staying with friends or family	122 (31.3%)
Homeless	1 (.3%)
Other	5 (1.3%)
Missing	13 (3.2%)
Total	404 (100%)
Household Size	
1 person	44 (11.1%)
2 people	93 (23.5%)
3 people	84 (21.2%)
4 people	75 (18.9%)
More than 4 people	100 (25.3%)
Missing	13 (3.2%)
Total	404 (100%)
Children Under Age 18 in Household	129 (32.2%)
Child Participation in Remote School Instruction	97 (76.4%)
Elderly Family Members living in Household	71 (17.6%)
Current Food Assistance Programs Used*	
SNAP/Food Stamps	59 (13.14%)
WIC	22 (4.90%)
Soups kitchens	13 (2.90%)
Food pantries	38 (8.46%)
Meal programs delivered to home	11 (2.45%)
Other	3 (0.67%)
None	286 (63.62%)
Missing	13 (3.2%)
Total	404 (100%)

Note. WIC = Special Supplemental Nutrition Program for Women, Infants, and Children; SNAP = Supplemental Nutrition Assistance Program; *More than one options could been selected

Table 6 shows COVID-19 and the health characteristics of research participants. A quarter (75%) of adults felt comfortable returning back to school or work. The majority of participants were tested for COVID-19 (87.5%), fully vaccinated (87.%), and interested in receiving a booster COVID-19 vaccine when available (68.7%). Additionally, the majority of participants knew someone who tested positive for COVID-19 (93.8%), was hospitalized (69.7%), or passed away from the disease (60.0%). Only 15.1% of adults were worried about keeping their elderly family members safe from the COVID-19 disease. Most participants rated their health as good (36.8%) and indicated being overweight (24.3%) as a chronic condition. Most participants (54.2%) had private insurance as their primary health insurance coverage. Although most adults did not have access to primary care during this period (10.9%), the most frequently reported primary care services were emergency rooms (9.7%), followed by local community health centers/federally qualified health centers (5.9%).

Table 6. COVID-19 and Health Characteristics of Research Participants

COVID-19 Health Characteristics	**n (%)**
Tested for COVID-19	349 (87.5%)
Knowing someone who has tested positive for COVID-19	376 (93.8%)
Knowing someone who has been hospitalized due to COVID-19	280 (69.7%)
Knowing someone who has passed from COVID-19	244 (61.0%)
Worrying about keeping Elderly members safe from COVID-19	61 (15.1%)
COVID-19 Vaccine Interest	
Yes, I am fully vaccinated	349 (87.3%)
Yes, I have currently received one shot of Pfizer	15 (3.8%)
Yes, I have scheduled an appointment to get the Vaccine	1 (.3%)
Yes, I am interested in receiving the vaccine, but I Haven't figured out where to get it	1 (.3%)
No, I am not thinking about getting the vaccine	34 (8.5%)
Missing	4 (1.0%)
Total	404 (100.0%)
Interested in getting a booster COVID-19 vaccine shot, when it becomes available	270 (68.7%)
Felt comfortable returning back to work/school	303 (75.4%)
Self-rated health	
Excellent	53 (13.6%)
Very good	107 (27.4%)
Good	144 (36.8%)
Fair	77 (19.7%)
Poor	10 (2.6%)
Missing	13 (3.2%)
Total	404 (100%)
Chronic conditions	
Heart disease	2 (0.5%)
Heart failure	2 (0.5%)
Diabetes	22 (5.4%)
Asthma	48 (11.9%)
Depression	95 (23.5%)
Overweight	98 (24.3%)
Obesity	59 (14.6%)
Hypertension	47 (11.6%)
COPD	1 (0.2%)
Other diseases or conditions	35 (8.7%)

None	165 (40.8%)
Missing	13 (3.2%)
Total	404 (100%)
Health insurance	
Medicare	45 (11.1%)
Medicaid	59 (14.6%)
Private Insurance	219 (54.2%)
Not insured	29 (7.2%)
Other	48 (11.9%)
Missing	13 (3.2%)
Total	404 (100%)
Primary health care services	
Emergency room/urgent care	39 (9.7%)
Local community health center/federally qualified health center	24 (5.9%)
Tribal clinic/Indian health service	3 (0.7%)
VA	9 (2.2%)
Telemedicine	14 (3.5%)
Other	10 (2.5%)
None	44 (10.9%)
Missing	13 (3.2%)
Total	404 (100%)

Note. COPD = Chronic obstructive pulmonary disease; VA = Veteran health care Administration

Characteristics of Study Measures

The characteristics of the five study measures are included in Table 7. Out of a possible range of 1 to 9, the mean score for the assessment of COVID-19 stressors was 4.3 (SD = 1.5). Out of a possible range of 0 to 10, the BEPSI, which measured stress, produced a mean score of 4.4 (SD = 2.5) before the COVID-19 pandemic and an increased mean score of 5.5 (SD = 2.9) since the COVID-19 pandemic. Out of a possible range of 0 to 40, the CD-RISC-10, which measures resilience, produced a mean score of 26.6 (SD = 6.8) prior to the COVID-19 pandemic

and a decreased mean score of 25.4 (SD = 7.8) since COVID-19. Prior to the COVID-19 pandemic, the mean score on the CES-D, which measures depressive symptoms, was 20.1 (SD = 6.8) out of a possible score of 60. The mean score increased to 24.1 (SD =13.5) after the COVID-19 pandemic, indicating the presence of depressive symptoms. Before the COVID-19 pandemic, 56% of adults were depressed, compared to 71% since the emergence of COVID-19.

Table 7. Characteristics of Study Measures

Measure	Items	Potential Range	*N*	*M*	*SD*	Observed Range
Stress related to COVID-19	6	0-9	404	4.3	1.8	0-9
BEPSI: Before COVID-19	6	0 – 10	343	4.4	2.5	0.2 – 10
BEPSI: Since COVID-19	6	0 – 10	356	5.5	2.9	0.2 – 10
CD-RISC-10: Before COVID-19	10	0 – 40	404	26.6	6.8	0 – 40
CD-RISC-10: Since COVID-19	10	0 – 40	403	25.4	7.8	0 – 40
CES-D: Before COVID-19	20	0 – 60	404	20.1	12.8	0 – 60
CES-D: Since COVID-19	20	0 – 60	397	24.1	13.5	0 – 53
WCQ Subscales						
Confrontive Coping	3	0 – 9	402	3.2	2.5	0 – 9
Distancing	3	0 – 9	402	3.7	2.9	0 – 9
Self-Controlling	3	0 – 9	402	4.4	2.5	0 – 9
Seeking Social Support	3	0 – 9	402	3.6	2.6	0 – 9
Accepting Responsibility	3	0 – 9	402	3.9	2.7	0 – 9
Escape-Avoidance	3	0 – 9	402	4.7	3.0	0 – 9
Planful Problem Solving	3	0 – 9	402	4.4	2.5	0 – 9
Positive Reappraisal	3	0 – 9	402	4.0	2.7	0 – 9

Note. BEPSI = Brief Encounter Psychosocial Instrument; CD-RISC-10 = 10-item Connor-Davidson Resilience Scale; CES-D = Center for Epidemiologic Studies Depression Scale, WCQ = Ways of Coping Questionnaire

In order to assess the normality for the distribution of scores among the study measures, histograms (normality plots) were conducted for each scale before and since the COVID-19

pandemic (Appendix A). The only score that demonstrated a non-normal distribution was the Center for Epidemiologic Studies Depression Scale (CES-D) before the COVID-19 pandemic (Figure 1). According to the central limit theorem, the sampling distribution of the mean will be normally distributed with a large sample size for frequently tested statistics (PennState Eberly College of Science, 2023). Therefore, based on a sample size of 404, transformations will not be required in the regression analysis.

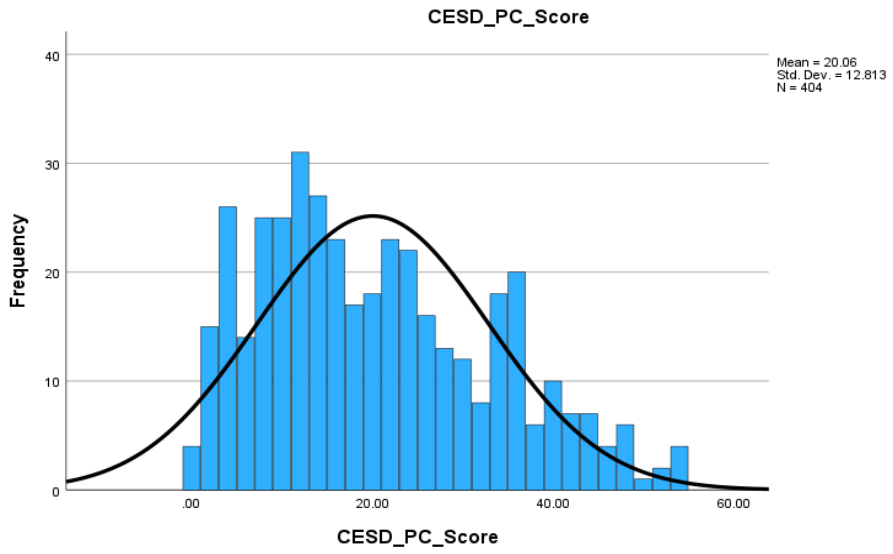

Figure 3. Normality plot for Center for Epidemiologic Studies Depression Scale (CES-D) Before the COVID-19 pandemic

Examination of the Research Questions

This study was composed of four research questions that aimed to (1) examine stress and coping processes among adults in the U.S. during the COVID-19 pandemic and (2) understand how these processes impact the overall emotional well-being of this population. The theoretical

framework for this study, which is the Transactional Model of Stress and Coping, guided these questions.

Research Question One: Coping with Stress of COVID-19

For this study, the first research question asks, "What types of coping are predominantly utilized by adults in the U.S. by gender, age, and race?" Table 8 provides an overview of the types of coping predominantly utilized by adults in the U.S. by gender, race, and age. The table displays the eight coping scales as well as their corresponding mean (M) and standard deviation (SD) scores, allowing for a detailed analysis of the data among the different demographic groups. Observing Table 8, the two types of coping that adults predominantly utilized in the U.S. were escape avoidance and planful problem-solving in response to the stressors that emerged since the COVID-19 pandemic.

Table 8. Primary Types of Coping Utilized by Adults in the U.S by Gender, Age, and Race

	Confrontive Coping *M(SD)*	***Distancing*** *M(SD)*	***Self Controlling*** *M(SD)*	***Seeking Social Support*** *M(SD)*	***Accepting Responsibility*** *M(SD)*	***Escape Avoidance*** *M(SD)*	***Planful Problem Solving*** *M(SD)*	***Positive Reappraisal*** *M(SD)*
Gender								
Male	4.07 (2.34)	4.57 (2.75)	4.83 (2.58)	4.25(2.61)	4.88 (2.56)	5.07 (2.93)	**5.17 (2.46)**	4.67 (2.48)
Female	2.93 (2.45)	3.50 (2.35)	4.24 (2.53)	3.46 (2.61)	3.59 (2.70)	**4.54 (3.04)**	4.21 (2.50)	3.81 (2.77)
Age								
18-35 years old	3.30 (2.53)	3.85 (2.45)	4.60 (2.55)	3.72 (2.64)	4.21 (2.67)	**5.01 (2.95)**	4.49 (2.45)	4.07 (2.70)
36-55 years old	3.00 (2.19)	3.69 (2.49)	3.89 (2.50)	3.74 (2.44)	3.50 (2.71)	3.90 (2.98)	**4.28 (2.49)**	3.91 (2.89)
56 & older	2.75 (2.55)	2.75 (2.55)	3.44 (2.34)	2.91 (2.84)	1.59 (2.06)	3.03 (2.99)	**3.97 (3.04)**	3.47 (2.78)
Race								
White	3.19 (2.51)	3.71 (2.53)	4.39 (2.59)	3.38 (2.54)	3.62 (2.81)	**4.44 (3.05)**	4.16 (2.63)	3.50(2.76)
Black/African American	3.52 (2.36)	3.29 (2.55)	4.18 (2.46)	4.30 (2.63)	3.49 (2.71)	4.44 (3.02)	**4.90 (2.55)**	4.51 (2.53**)**
American Indian/Native Alaska	4.25 (2.66)	4.25 (2.25)	4.12 (2.23)	3.75 (2.66)	5.75 (2.49)	**5.87 (2.99)**	5.25 (1.49)	5.37 (2.06)
Asian	3.27 (2.35)	4.08 (2.28)	4.61 (2.42)	3.93 (2.86)	4.43 (2.69)	**5.07 (2.88)**	4.58 (2.24)	4.30 (2.61)
Pacific Islander	3.16 (2.71)	4.37 (2.61)	4.84 (3.04)	4.63 (2.54)	4.05 (2.17)	5.10 (2.56)	**5.37 (2.48)**	5.10 (2.88)
Other	2.74 (2.59)	3.74 (2.22)	3.93 (2.69)	2.71 (2.31)	3.55 (2.64)	**4.26 (3.36)**	3.61 (2.22)	3.74 (2.70)
Multiracial	2.50 (2.31)	3.37 (2.70)	4.43 (2.58)	3.57 (2.32)	4.00 (2.58)	**4.60 (3.07)**	4.27 (2.83**)**	4.10 (3.11)

***Note*.** Bolded values represent the most commonly utilized coping strategy for each subgroup by gender, age, and race

Regarding gender differences, male adults predominantly utilized planful problem solving (*M* = 5.6, *SD* = 3.5), compared to female adults who primarily employed escape avoidance (*M* = 4.54, *SD* = 3.0). Regarding age, older adults in the age groups of 36–55 years old (*M* = 4.3, *SD* = 2.5) as well as 55 and older (*M* = 4.0, *SD* = 3.0) predominantly used planful problem solving as a way to cope with the stress of COVID-19 compared to younger adults (18–35) who utilized escape avoidance (*M* = 5.0, *SD* = 2.9). Lastly, regarding race, escape avoidance was predominantly used by Whites (*M* = 4.4, *SD* = 3.0), American Indians/Alaska Natives (*M* = 5.9 *SD* = 3.0), Asians (*M* = 5.1, *SD* = 2.9), Other (*M* = 4.3, *SD* = 3.4), and Multiracial groups (*M*

= 4.6, *SD* = 3.1). Planful problem-solving was primarily prevalent among Black/African Americans (*M* = 4.9, *SD* = 2.5) and Pacific Islanders (*M* = 5.4, *SD* = 2.5).

Research Question Two: Relationship Between Stress Related to COVID-19 and Depressive Symptoms During COVID-19

The second research question of this study asks, "What is the relationship between stressors related to COVID-19 and depressive symptoms?" A Pearson correlation was performed to examine the relationship between stressors related to COVID-19 and depressive symptoms for adults during the COVID-19 pandemic in the United States. As indicated in the Characteristics of Study Measures, a preliminary analysis was performed to ensure no violations of normality for COVID-19 stressors and the Center for Epidemiologic Studies Depression Scale (CES-D) since the COVID-19 pandemic**.** A small, positive, significant correlation existed between COVID-19 stressors and depressive symptoms ($r = 0.251$, $n = 397$, $p < .001$). This score indicates that as the stressors related to the COVID-19 pandemic increased, depressive symptoms also increased. COVID-19 stressors help to explain X of the variance in depressive symptoms for adults in the U.S.

Research Question Three: The Impact of COVID-19 on Stress, Resilience, and Depressive Symptoms

For the third research question: "What is the impact of cognitive appraisal on coping efforts among adults in the U.S?" Multiple linear regressions were conducted to investigate the impact of cognitive appraisal on the eight types of coping measured by the Ways of Coping Questionnaire (WCQ). Primary appraisal, assessed using stress, and secondary appraisal, assessed using resilience, were the two components of cognitive appraisal. The analyses are presented in unadjusted (Table 9) and adjusted (Table 8) models, where the adjusted model

included gender, age, and race as covariates. Collinearity diagnostics were performed, and no collinearity was present in any of the models, as indicated by a VIF value of less than 3.0 (Field, 2009).

First, the unadjusted multiple regression models were conducted for the eight coping scales (Table 7). Primary appraisal had a significant and direct impact on confrontive coping, *B* =.168, *t* (3.46), *p* <.001; self-controlling, *B* =.224, *t* (4.51), *p* <.001; seeking social support, *B* =.164, *t* (3.25), *p* <.001; accepting responsibility, *B* =.230, *t* (4.33), *p* <.001; escape-avoidance, *B* =.237, *t* (4.00), *p* <.001; planful-problem solving, *B* =.133, *t* (2.83), *p* <.005, and positive reappraisal. Secondary appraisal had a significant impact on confrontive coping (*B* =.088, *t* (4.78), *p* <.001), distancing (*B* =.037, *t* (1.97), *p* <.001), seeking social support (*B* =.098, *t* (5.10), *p* <.001), planful problem solving (*B* =.124, *t* (6.93), *p* <.001), and positive reappraisal (*B* =.157, *t* (8.24), *p* <.001). The total variability accounted for in coping ranged from as low as 4.6% (distancing, escape avoidance) to as high as 16.9% (positive appraisal). Given that gender, age, and race may be important factors that could also impact coping, adjusted models were subsequently conducted.

Table 9. Unadjusted Multiple Regression Analyses Exploring the Impact of Cognitive Appraisal on the Eight Types of Coping

Independent Variables	*B*	SE_B	*t*	*p*	95.0% CI for B		R^2
					LL	UL	
WCQ: Confrontive Coping							.067
Stress	.168	.049	3.46	**< .001**	.073	.264	
Resilience	.088	.018	4.77	**<.001**	.052	.125	
WCQ: Distancing							.046
Stress	.035	.048	.737	.462	-.059	.129	
Resilience	.072	.018	3.96	**<.001**	.036	.108	
WCQ: Self-Controlling							.055
Stress	.224	.050	4.51	**< .001**	.126	.321	
Resilience	.037	.019	1.97	.050	.000	.074	
WCQ: Seeking Social Support							.072
Stress	.164	.050	3.25	**<.001**	.064	.263	
Resilience	.098	.019	5.10	**<.001**	.060	.136	
WCQ: Accepting Responsibility							.052
Stress	.230	.053	4.33	**<.001**	.126	.335	
Resilience	.028	.020	1.41	.161	-.011	.068	
WCQ: Escape Avoidance							.046
Stress	.237	.059	4.00	**< .001**	.121	.354	
Resilience	.021	.023	.915	.361	-.024	.065	
WCQ: Planful Problem Solving							.121
Stress	.133	.047	2.83	**.005**	.041	.226	
Resilience	.124	.018	6.93	**<.001**	.089	.160	
WCQ: Positive Appraisal							.169
Stress	.100	.050	1.99	.047	.001	.199	
Resilience	.157	.019	8.24	**< .001**	.120	.195	

Note: Model =”Enter” method in SPSS Statistics; B = unstandardized regression coefficient; CI= confidence interval; LL = lower limit; UL = upper limit; t = t statistic; p = p-value; R2 = adjusted coefficient of determination

Table 9 shows the results from the adjusted multiple regression model conducted for the eight coping scales, which includes the influence of demographic factors. Significant gender differences were shown, where females exhibited higher scores in confrontive coping (*B* =1.18, *t* (3.75), *p*<.001), distancing (*B* =1.23, *t* (4.06), *p*<.001), self-controlling (*B* =.697, *t* (2.13), *p*=.034), seeking social support (*B* =.828, *t* (2.50), *p*=.013), accepting responsibility (*B* =1.65, *t* (4.95), *p*<.001), planful problem solving (*B* =1.01, *t* (3.29), *p*<.001), and positive appraisal (*B* =.842, *t* (2.59), *p*=.010) compared to the reference group (males).

In regards to age, the direction of the association varied by coping strategy. As age increased, confrontive coping (*B* =-.023, *t* (-2.27), *p*=.024), distancing (*B* =-0.25, *t* (-2.52), *p*=.012) , and accepting responsibility (*B* =-.053, *t* (-4.87), *p*=<.001) decreased. Additionally there were slight decreases in planful problem solving (*B* =-.014, *t* (-4.87), *p*=<.001) and positive appraisal (*B* =-.023, *t* (-2.18), *p*=.03).

Finally, race did not significantly impact coping, as there were no statistically significant differences observed by racial groups in comparison to the reference category (Multiracial) across all coping strategies measured by the WCQ (p>0.05). However, since race has been documented to impact coping in the literature, this variable was retained in the model.

In the adjusted models, the significance of some stress and resilience values attenuated compared to the unadjusted models. For most coping strategies, both stress and resilience remained significant in the adjusted models, indicating a robust relationship even when accounting for gender, age, and race. However, resilience in "WCQ: Escape Avoidance" changed from significant in the unadjusted model (*B* =.237, *t* (4.00), *p*=<.001) to insignificant in the adjusted model (*B* =.023, *t* (1.41), *p*= .161). The variables associated with "WCQ: Accepting Responsibility": stress remaining significant (*B* =.208, *t* (4.04), *p*=<.001) and resilience (*B* =.037, *t* (1.88), *p*= .061) becoming marginally significant in the adjusted model. The total amount of variability accounted for in coping style in the adjusted models ranged as low as 7.6% (escape avoidance) to as high as 23.6% (positive appraisal) (Table 10).

Table 10. Adjusted Multiple Regression Analyses Exploring the Impact of Cognitive Appraisal on the Eight Types of Coping with Age, Race and Gender as Covariates

Independent Variables	*B*	*SE*$_B$	*t*	*p*	95.0% CI for B		aR^2
					LL	UL	
WCQ: Confrontive Coping							.109
Stress	.150	.049	3.07	**.002**	.054	.245	
Resilience	.091	.019	4.90	**<.001**	.055	1.28	
Gender							
Female	1.18	.315	3.75	**<.001**	.562	1.80	
Male	*						
Age	-.023	.010	-2.27	**.024**	-.044	-.003	
Race							
White	.568	.429	1.16	.249	-.399	1.53	
Black/African American	.995	.551	1.80	.072	-.090	2.08	
Asian American	.339	.539	.628	.531	-.722	1.40	
NI/AN & Pacific Islander	.579	.655	.884	.377	-.709	1.87	
Other	.295	.634	.466	.642	-.952	1.54	
Multi-race	*						
WCQ: Distancing							.114
Stress	.037	.047	.792	.429	-.055	.130	
Resilience	.089	.018	4.92	**<.001**	.053	.124	
Gender							
Female	1.23	.304	4.06	**<.001**	.637	1.83	
Male	*						
Age	-0.25	0.10	-2.52	**.012**	-.045	-.005	
Race							
White	.121	.475	.255	.799	-.814	1.05	
Black/African American	-.245	.533	-.459	.647	-1.29	.804	
Asian American	.447	.521	.858	.391	-.578	1.47	
NI/AN & Pacific Islanders	.833	.633	1.32	.189	-.412	2.08	
Other	.365	.612	.595	.552	-.840	1.57	
Multi-race	*						
WCQ: Self-Controlling							.069
Stress	.221	.051	4.37	**< .001**	.122	.321	
Resilience	.051	.019	2.65	**.008**	.013	.089	
Gender							
Female	.697	.327	2.13	**.034**	.053	1.34	
Male	*						
Age	-..028	.011	-2.60	**.010**	-.049	-.007	
Race							
White	-.030	.511	-.059	.953	-1.04	.975	
Black/African American	-.119	.573	-.208	.835	-1.25	1.01	
Asian American	-.220	.560	-.392	.695	-1.32	.883	
NI/AN & Pacific Islanders	-.143	.680	-.210	.834	-1.48	1.19	
Other	-.389	.658	-.591	.555	-1.68	.906	
Multi-race	*						

WCQ: Seeking Social Support							.095
Stress	.148	.051	2.88	**.004**	.047	.249	
Resilience	.095	.020	4.84	**<.001**	.056	.134	
Gender							
Female	.828	.331	2.50	**.013**	.176	1.48	
Male	*						
Age	-.011	.011	-1.024	**.307**	-.032	.010	
Race							
White	-.207	.517	-.400	**.689**	-1.22	.810	
Black/African American	.644	.580	1.11	**.268**	-.497	1.79	
Asian American	.285	.568	.503	**.615**	-.831	1.40	
NI/AN & Pacific Islanders	.757	.689	1.10	**.273**	-.599	2.11	
Other	-.812	.667	-1.22	**.224**	-2.12	.499	
Multi-race	*						
WCQ: Accepting Responsibility							.169
Stress	.208	.051	4.04	**<.001**	.107	.309	
Resilience	.037	.020	1.88	.061	-.002	.076	
Gender							
Female	1.65	.332	4.95	**<.001**	.992	2.30	
Male	*						
Age	-.053	.011	-4.87	**<.001**	-.074	-.032	
Race							
White	-.250	.519	-.483	.630	-1.27	.770	
Black/African American	.047	.582	.080	.936	-1.10	1.19	
Asian American	.265	.569	.465	.642	-.856	1.38	
NI/AN & Pacific Islanders	.688	.691	.995	.320	-.672	2.05	
Other	-.483	.669	-.722	.471	-1.80	.833	
Multi-race	*						
WCQ: Escape Avoidance							.076
Stress	.227	.060	3.79	**<.001**	.109	.345	
Resilience	.032	.023	1.41	.161	-.013	.078	
Gender							
Female	.666	.388	1.71	.087	-.097	1.43	
Male	*						
Age	-.044	.013	-3.50	**<.001**	-.069	-.020	
Race							
White	.127	.606	.210	.834	-1.06	1.32	
Black/African American	.503	.679	.741	.460	-.833	1.84	
Asian American	.282	.665	.425	.671	-1.02	1.59	
NI/AN & Pacific Islanders	1.02	.807	1.27	.207	-.566	2.61	
Other	-.309	.781	-.396	.692	-1.84	1.23	
Multi-race	*						
WCQ: Planful Problem Solving							.150
Stress	.127	.047	2.67	**.008**	.033	.220	
Resilience	.125	.018	6.87	**<.001**	.089	.161	
Gender							
Female	1.01	.307	3.29	**.001**	.407	1.61	
Male	*						
Age	-.014	.010	-1.40	.163	-.034	.006	
Race							

White	-.247	.479	-.515	.607	-1.19	.695	
Black/African American	.207	.537	.386	.700	-.849	1.26	
Asian American	-.015	.525	-.029	.977	-1.05	1.02	
NI/AN & Pacific Islanders	.889	.638	1.39	.164	-.365	2.14	
Other	-.688	.617	-1.12	.265	-1.90	.526	
Multi-race	*						
WCQ: Positive Appraisal							.215
Stress	.088	.050	1.53	.081	-.011	.187	
Resilience	.164	.019	8.53	**<.001**	.126	.202	
Gender							
Female	.842	.325	2.59	**.010**	.203	1.48	
Male	*						
Age	-.023	.011	-2.18	**.030**	-.044	-.002	
Race							
White	-.906	.507	-1.79	**.075**	-1.90	.091	
Black/African American	-.069	.569	-.121	.904	-1.19	1.05	
Asian American	-.354	.556	-.637	.524	-1.44	.740	
NI/AN & Pacific Islanders	1.08	.675	1.60	.110	-.247	2.41	
Other	-.564	.653	-.863	.388	-1.85	.721	
Multi-race	*						

Research Question Four: The Impact of COVID-19 on Stress, Resilience, and Depressive Symptoms

For the last research question, "What was the impact of the COVID-19 pandemic on stress, resilience, and depressive symptoms among adults in the U.S?", a paired-sample t-test was utilized to assess changes before and since the pandemic. Stress was measured using the BEPSI scale, and resilience was evaluated using the CD-RISC-10 scale, and depressive symptoms were assessed using the CES-D scale.

The BEPSI mean score increased statistically significantly from before the COVID-19 pandemic (M = 4.56, SD = 2.44) to after the pandemic (M = 5.60, SD = 2.93), according to a paired two-tailed t-test (t (312) = -6.102, p <.001). The BEPSI score increase was -1.05 on average, with a 95% confidence interval that covered the range of -1.38 to -.710. As a result, stress levels rose during the COVID-19 pandemic.

Furthermore, a statistically significant decline in the CD-RISC-10 mean score was observed between before and after the COVID-19 pandemic (M = 26.58, SD = 6.84 vs. M = 25.43, SD = 7.77; t (402) = 3.68, p <.001). With a 95% confidence interval that stretched from.537 to 1.77, the difference in CD-RISC-10 mean scores was 1.15. As a result, resilience declined during the COVID-19 pandemic.

There was a statistically significant increase in CES-D mean score from before the COVID-19 pandemic (*M* = 20.01, *SD* = 12.70) to since the COVID-19 pandemic (*M* = 24.12, *SD* = 13.54), t (396) = -6.61, p <.001). The mean difference in CES-D scores was -4.11, with a 95% confidence interval ranging from -5.33 to -2.87. Thus, there was an increase in depressive symptoms amidst the COVID-19 pandemic.

Chapter 5: Discussion

The purpose of this study is to understand the stress experienced among adults in the U.S. and which coping processes affect their overall emotional well-being. The four research questions that were developed to examine this phenomenon were guided by the Transactional Model of Stress and Coping, which serves as the theoretical framework for this study. The important study findings and their relation to previous research, the study's implications, its limitations, and suggestions for further research will all be covered in this chapter. The chapter will then come to a close with a summary of the main implications of the research findings.

Examination of Significant Findings

Research Question 1

The first research question asked, "What types of coping are predominantly utilized by adults in the U.S. by gender, age, and race? This study found that adults in the United States predominantly utilized escape avoidance and planful problem-solving as a way to cope with the stress of the COVID-19 pandemic. Escape avoidance is classified as an emotion-focused coping effort in which individuals manage their emotional stress by altering the situation or interpreting the stressful event in a different light (Lazarus, 1993). Planful problem-solving is a problem-focused effort to directly manage or alter the elements of stressful life events (Folkman S. Moskowitz JT., 2004; Lazarus & Folkman, 1984). Based on previous literature, the Transactional Model of Stress and Coping involves resorting to both problem or emotional efforts to manage the internal and external stressors (Folkman, 2013; Lazarus & Folkman, 1987)

which is captured here in this study. Adults in this study employed both emotional coping (e.g., wishful thinking and behavioral efforts to escape or avoid the stress of the COVID-19 pandemic), and intentional problem-focused coping (e.g., manage the stress and difficulties that emerged after the COVID-19 pandemic). The types of coping predominantly utilized by adults by gender, age, and race will be discussed in the following paragraphs.

Gender

In terms of gender differences, this study revealed that male adults tend to use planful problem-solving more frequently, while female adults are more inclined to utilize escape avoidance. This result suggests that male adults are more inclined to confront and address the stress related to the problem directly in their environment, which in this case is the COVID-19 pandemic (Folkman, Lazarus, Gruen, et al., 1986; Lazarus & Folkman, 1984). In contrast, female adults exhibited a greater tendency to resort to escape avoidance, which may indicate a preference for wishful thinking and behavioral efforts to escape or avoid the stress related to the COVID-19 pandemic. The result was consistent with Sinha (2018) who found that men commonly used problem-based coping and females utilized emotion-focused coping in responding to the same stressors. In another study, Park et al. (2020) also found that women employed a greater use of multiple emotion-focused strategies such as distraction, emotional and religious support, and less use of humor compared to men (Park et al., 2020). However, this finding was different from Andrews Adlam et al. (2022), where women of color in the U.S. primarily used planful problem-solving ($M = 4.58$, $SD = 2.70$) to cope with stress at the onset of the COVID-19 pandemic. Conversely, escape-avoidance was the second type of coping primarily used by women of color in this study.

Age

This study also highlights age-related differences in coping. Older adults predominantly use planful problem-solving in both age groups of 36–55 and 55 and older. This finding suggests that individuals may draw upon their life experiences and problem-solving skills as they age to navigate the challenges proactively presented by the pandemic. This finding was consistent with Young et al. (2021), who revealed that older adults utilized greater problem-focused coping and less avoidant coping in response to the pandemic compared to younger adults (Young et al., 2021).

In contrast, younger adults (18–35) are more likely to use escape avoidance to cope with the stress of the COVID-19 pandemic. Depending on the nature of the stressful situation, employing escape avoidance can be beneficial when adults engage in avoidance activities, such as exercise or meditation, that divert them from potentially harmful behaviors like excessive alcohol or substance use that may exacerbate stress (Melodia, 2015; Warma, 2015; Wiebe, 2013). Based on the nature of the survey questions, this study is not able to determine if the coping behaviors were either negative or positive. Previous research found that the types of coping of younger adults exhibited different ways to cope with stress during the COVID-19 pandemic, such as increased alcohol consumption and smoking (i.e., marijuana use) as a result of elevated stress levels as ways to escape and avoid dealing with their challenges (Graupensperger et al., 2021; Parks, Fleischer, and Patrick, 2022). This finding suggests that coping could reflect a generational difference in how individuals from different age groups approach and manage stress and adversity during a pandemic.

Race

This study revealed racial differences existed among adults in the U.S cope with the stress of COVID-19. Escape avoidance was predominantly used by Whites, American Indians/Alaska Natives, Asians, Other, and other Multiracial groups. Planful problem-solving was primarily used among Black/African Americans and Pacific Islanders. Similarly, Burton et al. (2020) discovered that non-Hispanic Whites primarily used escape avoidance, which aims to lessen the unpleasant emotions connected to the problem. In contrast, planful problem-solving, which focuses on finding a solution to directly deal with the stress endured by the COVID-19 pandemic (Folkman S. Moskowitz JT., 2004; Lazarus & Folkman, 1984), was primarily utilized by American Indians and Alaska Natives. Thus, it suggests that various factors, including the duration of the pandemic and changing circumstances, influence stress from the COVID-19 pandemic and the way adults cope with stress.

Research Question 2

The second research question examined the relationship between stressors related to COVID-19 and depressive symptoms for adults in the U.S. This study found a small but significant relationship between COVID-19 stressors and depressive symptoms. Although the relationship is small, it is still noteworthy because it demonstrates that as stress increases for adults as a result of the COVID-19 pandemic, depressive symptoms increase as well. COVID-19 stressors measured in this study included financial strain, food insecurity, lack of social support, and anxiety regarding COVID-19 news reports. The majority of adults that were observed from these stressors were predominantly female (77.2%), white (39.4%) sample who had some college

or trade attainment (46.8%) and were employed full-time (37.9%), which limits our ability to generalize to other demographic categories.

Similar findings were found in studies that utilized the same measures for COVID-19 stressors and depressive symptoms were conducted among other populations in the U.S. For instance, Andrews Adlam et al. (2022) also found a small but significant correlation between COVID-19 stressors and depressive symptoms among women of color at the beginning of the COVID-19 pandemic. Additionally, Burson et al., 2020 found a moderate, positive correlation between stressors related to COVID-19 and depressive symptoms among American Indian/Alaska Natives, followed by a small, positive correlation with stressors associated with COVID-19 and depressive symptoms for non-Hispanic whites ($r = 0.271$, $n = 99$, $p < .001$).

A different study that utilized different measures also discovered that adults from other racial/ethnic backgrounds in the U.S and the correlations between the levels of COVID-19-related stress and depressive symptoms revealed that over 25% of the participants reported moderate to severe levels of depression symptoms. Thus, there is a relationship between stressors associated with COVID-19 and depressive symptoms in adults from a range of demographic backgrounds, including gender and diverse racial groups in the U.S.

Research Question 3

In alignment with the Transactional Model of Stress and Coping (TMSC), this study examined the impact of cognitive appraisal on coping efforts among adults in the U.S. Cognitive appraisal consists of primary and secondary appraisal. Primary appraisal evaluates the significance of the COVID-19 pandemic for adults in the U.S. Secondary appraisal assesses the resources and options available for adults in the U.S. to manage the stress of the COVID-19

pandemic. The findings of this study revealed that primary and secondary appraisal had a significant impact on confrontive coping, seeking social support, planful problem-solving, and positive reappraisal.

In this study, secondary appraisal was measured with resilience to determine the ability of the participant to overcome adversity during the COVID-19 pandemic. Similarly, Park et al., (2020) revealed that primary and secondary appraisal, and coping efforts were aligned with coping processes and the TMSC constructs. The secondary appraisal, in which participants maintain contact with their family, friends, classmates, or other support system, is an illustration of how coping resources are in line with this appraisal.

Research Question 4

Finally, the last research question of this study examined the impact of the COVID-19 pandemic on stress, resilience, and depressive symptoms among adults in the U.S. This study revealed that before and since the COVID-19 pandemic, there was a statistically significant increase in stress and depressive symptoms as well as a significant decrease in resilience. These findings were consistent with the literature that were conducted during the COVID-19 and other public health crises. In terms of stress, Wang et al., (2020) discovered that the majority of adults enrolled in college (71.26%) indicated that their stress and anxiety levels had increased during the pandemic, with 48.14% showing a moderate-to-severe level of depression. Also, in response to increased depressive symptoms, adults in the U.S (32.8%) experienced elevated depressive symptoms (Ettman et al., 2021). A comparison was made in the early months of the pandemic in 2020 of 27.8% of adults, and 8.5% before the pandemic. Finally, Andrews Adlam et al., (2022) revealed that during the initial start of the COVID-19 pandemic, between the months of May and

July 2020, women of color in the U.S had decreased resilience (MD = 2.17, $p < .001$). These findings suggest that stress experienced from the COVID-19 pandemic adversely impacted the mental health of adults and provided important insights into the impact of the COVID-19 pandemic on adults' resilience, which refers to their ability to confront adversity and recover from stress.

Study Implications

The results of the study have several implications for clinicians and public health professionals. First, the findings of this study have provided further insight into the impact of the COVID-19 pandemic among adults in the U.S. and their experiences with stress, their ability to cope, and their well-being during the COVID-19 pandemic. Thus, it is important for clinicians and public health professionals to address the substantial psychological impact of the pandemic on this population through intervention and policy. In doing so, there are several areas to consider to guide the development of tailoring public health responses and effective interventions to the specific needs of adults in the U.S.

Furthermore, this study highlighted the diverse demographics, such as gender, age, and race, of the participants. This diversity is crucial to the need for strategic approaches to the impact of the COVID-19 pandemic and related stressors and coping across different demographic groups of adults in the U.S. For example, support programs for younger adults might emphasize strategies for managing escape avoidance, while programs for older adults might focus on enhancing planful problem-solving skills. Officials can use this information to

better allocate resources and support services, taking into account the coping preferences of different demographic groups.

Moreover, this study also found that the COVID-19 pandemic-related stressors were correlated with an increase in depressive symptoms. This implies that pandemics and other public health emergencies should be taken seriously and prepared for with a feasible plan in order to minimize the impact on mental health. Healthcare providers and policymakers should take this result into account when planning and providing mental health support services during and after the pandemic. Given the positive correlation, there might be a rise in the need for mental health services, which include increasing the capacity of mental health facilities, providing telehealth options, and training healthcare professionals to address mental health needs.

Recommendations for Further Research

To build on the findings of this study, future research can be conducted in several areas. The aftermath of the impact of the COVID-19 pandemic and health effects is still an ongoing investigation. A conduction of a longitudinal study could provide an insight of how the impact of COVID-19 pandemic on stress, resilience and emotional well-being evolved over time. This long term follow up could reveal the efforts of recovery of mental health outcomes. Following this, future research should also explore the effectiveness of different mental health interventions in improving resilience, reducing stress and informing effective ways to alleviate mental health outcomes such as depressive symptoms. This study informs evidence-based intervention strategies tailored to diverse populations such as adults in the U.S.

Further investigation into cultural and socioeconomic factors can help influence coping strategies and mental health outcomes for further public health crises such as the pandemic, which could lead to inclusive and effective interventions. Exploring socioeconomic factors and access to healthcare also influence mental health care which could help close the gap between health inequalities and disparities. Given the increase in stress and its impact on emotional-well being, it is important to explore the effectiveness and accessibility of community and social support to develop community level interventions. Additionally, the use of telehealth and virtual mental health services in providing support during and after public health crises should be explored.

By considering these future research efforts in these areas, it can contribute to the road of recovery to understanding long-term effects of the COVID-19 pandemic and development of tailored interventions for vulnerable populations in the U.S. Furthermore, comparative studies from different timeframes in the U.S and other global regions can offer insight into the impact of different pandemic responses and healthcare systems regarding emotional well-being and mental health crisis in diverse populations.

Strengths and Limitations

Several strengths exist for this study. The first strength is its relevance. This study addresses the ongoing public concern about the COVID-19 pandemic's impact on mental health. By focusing on stress and coping processes, this study provides insight to understand and manage the mental health impact of COVID-19 across populations in the U.S. Additionally, this study examines different demographic factors like gender, age, and racial groups to identify any

potential disparities or distinctive patterns that may help inform targeted interventions. The Transactional Model of Stress and Coping (TMSC), a theoretical foundation that has long been recognized in the field of stress and coping research, is also used in this study. By using this model, the study has the theoretical foundation for analyzing and interpreting the survey data. It provided a way to gain insights into the cognitive and behavioral processes involved in managing and coping with such challenging situations. In addition, this study builds upon previous research in this field (Park et al., 2020; Ersa et al., 2023; Knol and Brantly, 2021; Grzesik et al., 2023; Burton et al., 2020; Adlam et al., 2022).

Limitations also exist in this study. The study utilized a non-probability voluntary sampling method, which introduced various sampling biases, such as selection bias, coverage bias, nonresponse bias, and voluntary or volunteer bias (Riley, 2015). For selection bias, the survey was sent out on multiple platforms, however, it was completely voluntary for participants to decide if they wanted to complete the survey. Those who had internet access to a computer, smartphone or tablet device and the time to complete the survey could do so. This also caused coverage bias; those who were more likely to volunteer because they were more open to express their experiences compared to others (Riley, 2015). Add Furthermore, nonresponse bias, and voluntary or volunteer bias is introduced; volunteers may differ from a more representative sample of the population in ways that influence the findings of the study (Riley, 2015).

Further, the study variables examined participant's experiences retrospectively and currently, which does not provide sufficient information to determine any causality between the selected variables and outcomes of interests. Additionally, this causes recall bias, when participants are unable to remember events or experiences or omit details from a certain point of

time (Spencer, Brassey, & Mahtani, 2017). The study's final focus is on the stress, resilience, and depressive symptoms that adults in the U.S experienced before and after COVID-19. This strategy may not fully capture the complexity and long-term effects of the pandemic on mental health, even though it can offer insights into changes over time. Furthermore, this study primarily focuses on adults in the U.S. and is not generalizable to other countries. Furthermore, as the pandemic continues to develop, the study's conclusions might not take into account potential changes or adaptations in coping processes.

Conclusion

Guided by the Transactional Model of Stress and Coping, this study provided an overview of the coping processes employed by adults in the United States in response to the challenges posed by COVID-19, shedding light on their impact on emotional well-being. Amidst the timeframe of the COVID-19 pandemic, there has been a significant surge in stress and depressive symptoms among this population, accompanied by a noteworthy decrease in resilience. Moreover, the study unveiled a small correlation between stressors specifically associated with COVID-19 and depressive symptoms in this group. Thus, during this time frame, January and December 2022, people were still stressed, depressed, and less resilient, which makes it crucial to illuminate specific actionable and emergency responses.

Shedding light on specific plans and emergency responses is crucial for rebuilding resilience and fostering preparedness. As we navigate future disasters, public health and healthcare professionals must enhance emergency preparedness and response strategies, focusing on tailored stress management and mental health interventions and allocating resources to populations in need. Culturally sensitive approaches must be employed to address lingering

stress and persistently low resilience even after the immediate issues are addressed, as evidenced by initiatives such as FEMA's food drive. Communities are presently in the process of coping, highlighting the significance of collaboration and communication among entities such as the CDC, public health agencies, and government bodies. Through a comprehensive understanding and implementation of practical measures, we can recover from disaster-induced devastation, resume normal activities, and reconstruct communities.

Appendix A. Survey Instrument

Understanding Stress and Coping among Persons of Color in the U.S. in the Age of COVID-19 - 2nd Wave

Start of Block: Informed Consent Form

ICF

Exempt Research Study Information Sheet

Title of Study: Understanding Stress and Coping among Persons of Color in the U.S. in the Age of COVID-19
Investigator(s) and Contact Phone Number:
Dr. Melva Thompson-Robinson at 702-895-1127.

The purpose of this study is to examine the differences in stress and coping activities among persons of color in the United States in comparison to whites. You are being asked to participate in the study because you meet the following criteria: 1) age 18 years or older and 2) currently reside in the United States or the U.S. territories. If you volunteer to participate in this study, you will be asked to do the following: complete an online survey. This study includes only minimal risks. Some questions may make you feel a little uncomfortable. The study will take 20 minutes of your time. You will not be compensated for your time.

If you feel uncomfortable with any of the questions or the survey, please use any of the following numbers: Emergency--please call "911." Other phone numbers for mental health services for severe depressive symptoms and/or suicidal thoughts are listed below:

- **National Suicide Prevention Lifeline (24 hours) 1-800-273-8255**
- **Crisis Text Line (24 hours) Text CONNECT or HOME to 741741**

For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted you may contact the UNLV Office of Research Integrity – Human Subjects at 702-895-0020 via email at IRB@unlv.edu.

Your participation in this study is voluntary. You may withdraw at any time. You are encouraged to ask questions about this study at the beginning or any time during the research study.

<u>Participant Consent:</u> I have read the above information and agree to participate in this study. I am at least 18 years of age. I saved a copy of this form.

ICF_Consent Do you provide consent to participate in this study?

O Yes, I consent (1)

O No, I do not consent (2)

Skip To: End of Survey If ICF_Consent = No, I do not consent

End of Block: Informed Consent Form

Start of Block: Stressors Related to COVID-19

Please answer the following questions regarding the stress that you may feel related to the COVID-19 pandemic.

When we say COVID-19, we mean Coronavirus, COVID, or "the virus".

St_1 Did your monthly income decrease (get smaller) as a result of COVID-19?

O Yes (1)

O No (2)

St_2 Since the COVID-19 outbreak, how often did you worry about whether your food would run out before you got money to buy more?

O Often (1)

O Sometimes (3)

O Never (4)

St_3 Since the COVID-19 outbreak, how often did you worry that there would not be enough food available to purchase?

O Often (1)

O Sometimes (3)

O Never (4)

St_4 Since the COVID-19 outbreak, did you ever cut the size of your meals or skip meals because there wasn't enough money for food?

O Yes (1)

O No (2)

St_5 Do you get chances to talk to someone you trust about personal or family problems related to COVID-19?

O As much as you would like (1)

O Some, but would like more (2)

O Much less than you would like (3)

St_6 Does the current news reports related to COVID-19 make you feel anxious?

O Yes (1)

O No, they make me feel more comfortable (2)

End of Block: Stressors Related to COVID-19

Start of Block: PRE-COVID BEPSI

BEFORE COVID-19, please answer the following questions about the ways you may have felt.
When we say COVID-19, we mean Coronavirus, COVID, or "the virus".

BEP_PC_1 Stress can allow us to become more ill (mental health, physical health, lack of sleep). Do you think anything like that was going on for you before COVID-19?

O Yes (6)

O No (7)

BEP_PC_2 Before COVID-19, did you ever feel as if there were more demands in your life, emotionally and physically, than you could handle comfortably?

O Yes (1)

O No (2)

Skip To: BEP_PC_4 If BEP_PC_2 = No

BEP_PC_3

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	10 (10)
On a scale of 1-10 how much did these feelings bother or preoccupy you? 1 means not at all, 10 means totally (1)	0	0	0	0	0	0	0	0	0	0

Page Break

BEP_PC_4 Before COVID-19, did you ever feel frustrated trying to live up to your own expectations or standards?

0 **Yes (1)**

O **No (2)**

Skip To: BEP_PC_6 If BEP_PC_4 = No

BEP_PC_5

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	10 (10)
On a scale of 1-10, how much did these feelings bother or preoccupy you? 1 means not at all, 10 means totally (1)	O	O	O	O	O	O	O	O	O	O

Page Break

BEP_PC_6 Before COVID-19, did you ever feel that your needs as a person were being left unmet?

○ **Yes (1)**

○ **No (2)**

Skip To: BEP_PC_8 If BEP_PC_6 = No

BEP_PC_7

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	10 (10)
On a scale of 1-10 how much did these feelings bother or preoccupy you? 1 means not at all, 10 means totally (1)	○	○	○	○	○	○	○	○	○	○

Page Break

BEP_PC_8 Before COVID-19, did you feel uncertain or apprehensive about the future?

○ **Yes (1)**

○ **No (2)**

Skip To: BEP_PC_10 If BEP_PC_8 = No

BEP_PC_9

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	10 (10)
On a scale of 1-10 how much did these feelings bother or preoccupy you? 1 means not at all, 10 means totally (1)	○	○	○	○	○	○	○	○	○	○

Page Break

BEP_PC_10 Before COVID-19, did you ever feel that there were so many everyday hassles and crises that you lost track of the things that are really important to you?

- **Yes (1)**
- **No (2)**

Skip To: End of Block If BEP_PC_10 = No

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	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	10 (10)
On a scale of 1-10 how much did these feelings bother or preoccupy you? 1 means not at all, 10 means totally (1)	0	0	0	0	0	0	0	0	0	0

Page Break

End of Block: PRE-COVID BEPSI

Start of Block: POST-COVID BEPSI

BECAUSE OF COVID-19, please answer the following questions about the ways you may have felt.

BEP_DC_1 Stress can allow us to become more ill (mental health, physical health, lack of sleep). Do you think anything like that has been going on for you since COVID-19?

- **Yes (1)**
- **No (2)**

BEP_DC_2 Because of COVID-19, have you ever felt as if there are more demands in your life, emotionally and physically, than you can handle comfortably?

- **Yes (1)**
- **No (2)**

Skip To: BEP_DC_4 If BEP_DC_2 = No

BEP_DC_3

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	10 (10)

On a scale of 1-10 how much do these feelings bother or preoccupy you? 1 means not at all, 10 means totally (1)	0	0	0	0	0	0	0	0	0	0

Page Break

BEP_DC_4 Because of COVID-19, have you ever felt frustrated trying to live up to your own expectations or standards?

0 **Yes (1)**

0 **No (2)**

Skip To: BEP_DC_6 If BEP_DC_4 = No

BEP_DC_5

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	10 (10)
On a scale of 1-10, how much do these feelings bother or preoccupy you? 1 means not at all, 10 means totally (1)	0	0	0	0	0	0	0	0	0	0

Page Break

BEP_DC_6 Because of COVID-19, have you ever felt that your needs as a person are being left unmet?

0 **Yes (1)**

0 **No (2)**

Skip To: BEP_DC_8 If BEP_DC_6 = No

BEP_DC_7

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	10 (10)
On a scale of 1-10 how much do these feelings bother or preoccupy you? 1 means not at all, 10 means totally (1)	0	0	0	0	0	0	0	0	0	0

Page Break

BEP_DC_8 Because of COVID-19, have you felt uncertain or apprehensive about the future?

0 **Yes (1)**

0 **No (2)**

Skip To: BEP_DC_11 If BEP_DC_8 = No

BEP_DC_10

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	10 (10)
On a scale of 1-10 how much do these feelings bother or preoccupy you? 1 means not at all, 10 means totally (1)	0	0	0	0	0	0	0	0	0	0

Page Break

BEP_DC_11 Because of COVID-19, have you ever felt that there are so many everyday hassles and crises that you lose track of the things that are really important to you?

0 **Yes (1)**

0 **No (2)**

Skip To: End of Block If BEP_DC_11 = No

BEP_DC_12

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	10 (10)
On a scale of 1-10 how much do these feelings bother or preoccupy you? 1 means not at all, 10 means totally (1)	0	0	0	0	0	0	0	0	0	0

Page Break

End of Block: POST-COVID BEPSI

Start of Block: PRE-COVID RESILIENCE

RES_PC_1 BEFORE COVID-19, please answer the following questions regarding the ways you dealt with difficulties in your life .

When we say COVID-19, we mean Coronavirus, COVID, or "the virus".

	Not true at all (1)	Rarely true (2)	Sometimes true (3)	Often true (4)	True nearly all the time (9)
I was able to adapt when changes occurred. (1)	0	0	0	0	0
I could deal with whatever came my way. (2)	0	0	0	0	0
I tried to see the humorous side of things when I was faced with problems. (3)	0	0	0	0	0
Having to cope with stress could make me stronger. (4)	0	0	0	0	0
I tended to bounce back after illness, injury or other hardships. (5)	0	0	0	0	0
I believed I could achieve my goals, even if there were obstacles. (6)	0	0	0	0	0

Under pressure, I stayed focused and thought clearly. (7)	0	0	0	0	0
I was not easily discouraged by failure. (8)	0	0	0	0	0
I thought of myself as a strong person when dealing with life's challenges and difficulties. (9)	0	0	0	0	0
I was able to handle unpleasant or painful feelings like sadness, fear, and anger. (10)	0	0	0	0	0

End of Block: PRE-COVID RESILIENCE

Start of Block: POST-COVID RESILIENCE

RES_DC_1 BECAUSE OF COVID-19, please answer the following questions regarding the ways you currently deal with difficulties in your life.

	Not true at all (1)	Rarely true (2)	Sometimes true (3)	Often true (4)	True nearly all

					the time (9)
I am able to adapt when changes occur. (1)	0	0	0	0	0
I can deal with whatever comes my way. (2)	0	0	0	0	0
I try to see the humorous side of things when I am faced with problems. (3)	0	0	0	0	0
Having to cope with stress can make me stronger. (4)	0	0	0	0	0
I tend to bounce back after illness, injury or other hardships. (5)	0	0	0	0	0
I believe I can achieve my goals, even if there are obstacles. (6)	0	0	0	0	0

Under pressure, I stay focused and think clearly. (7)	0	0	0	0	0
I am not easily discouraged by failure. (8)	0	0	0	0	0
I think of myself as a strong person when dealing with life's challenges and difficulties. (9)	0	0	0	0	0
I am able to handle unpleasant or painful feelings like sadness, fear, and anger. (10)	0	0	0	0	0

End of Block: POST-COVID RESILIENCE

Start of Block: WCQ

WCQ Before responding to the following statements, please take a moment to think about how stressful (difficult or troubling) it was dealing with the COVID-19 pandemic in the past 7 days. You may still be experiencing this difficulty, or it could have already happened, but think about the MOST STRESSFUL SITUATION that you had during the past 7 days when you did not have enough money to pay your bills or buy food, had to follow a stay-at-home order, felt isolated from your friends or family, had to care for or lost a loved one, or felt sick because of COVID-19. As you respond to each of the statements, please keep this stressful situation in mind. Place a check next to

the box that states how often it happened during the PAST 7 DAYS.

When we say COVID-19, we mean Coronavirus, COVID, or "the virus".

	Does not apply or not used (1)	Used somewhat (2)	Used quite a bit (3)	Used a great deal (4)
Stood my ground and fought for what I wanted. (1)	0	0	0	0
Tried to get the person responsible to change his or her mind. (2)	0	0	0	0
I expressed anger to the person(s) who caused the problem. (3)	0	0	0	0
Made light of the situation; refused to get too serious about it. (10)	0	0	0	0
Went on as if nothing had happened. (9)	0	0	0	0
Didn’t let it get to me; refused to think about it too much. (4)	0	0	0	0
I tried to keep my feelings to myself. (5)	0	0	0	0

Kept others from knowing how bad things were. (6)	0	0	0	0
Tried not to burn my bridges, but leave things open somewhat. (7)	0	0	0	0
Talked to someone to find out more about the situation. (8)	0	0	0	0
Talked to someone who could do something concrete about the problem. (11)	0	0	0	0
I asked a relative or friend I respected for advice. (12)	0	0	0	0
Criticized or lectured myself. (13)	0	0	0	0
Realized I brought the problem on myself. (14)	0	0	0	0
I made a promise to myself that things would be different next time. (15)	0	0	0	0

Wished that the situation would go away or somehow be over with. (16)	0	0	0	0
Hoped a miracle would happen. (17)	0	0	0	0
Had fantasies or wishes about how things might turn out. (18)	0	0	0	0
I knew what had to be done, so I doubled my efforts to make things work. (19)	0	0	0	0
I made a plan of action and followed it. (20)	0	0	0	0
Just concentrated on what I had to do next – the next step. (21)	0	0	0	0
Changed or grew as a person in a good way. (22)	0	0	0	0
I came out of the experience better than when I went in. (23)	0	0	0	0

Found new faith. (24)	0	0	0	0

End of Block: WCQ

Start of Block: PRE-COVID CES-D

CESD_PC_1 BEFORE COVID-19, below is a list of some ways you may have felt or behaved during a typical week. Please indicate how often you felt this way during a typical week BEFORE the COVID-19 pandemic by checking the appropriate box. Please only provide one answer to each statement.

When we say COVID-19, we mean Coronavirus, COVID, or "the virus".

	Rarely or none of the time (less than 1 day) (1)	**Some or a little of the time (1-2 days) (2)**	**Occasionally or a moderate amount of the time (3-4 days) (3)**	**Most or all of the time (5-7 days) (4)**
I was bothered by things that usually don't bother me. (1)	0	0	0	0
I did not feel like eating: my appetite was poor. (2)	0	0	0	0
I felt that I could not shake off the blues even with the help from my family or friends. (3)	0	0	0	0

I felt I was just as good as other people. (4)	0	0	0	0
I had trouble keeping my mind on what I was doing. (5)	0	0	0	0
I felt depressed. (6)	0	0	0	0
I felt that everything I did was an effort. (7)	0	0	0	0
I felt hopeful about the future. (8)	0	0	0	0
I thought my life had been a failure. (9)	0	0	0	0
I felt fearful. (10)	0	0	0	0
My sleep was restless. (11)	0	0	0	0
I was happy. (12)	0	0	0	0
I talked less than usual. (13)	0	0	0	0
I felt lonely. (17)	0	0	0	0

People were unfriendly. (18)	0	0	0	0
I enjoyed life. (19)	0	0	0	0
I had crying spells. (20)	0	0	0	0
I felt sad. (21)	0	0	0	0
I felt that people disliked me. (22)	0	0	0	0
I could not get going. (23)	0	0	0	0

End of Block: PRE-COVID CES-D

Start of Block: POST-COVID CES-D

CESD_DC_1 BECAUSE OF COVID-19, below is a list of some ways you may have felt or behaved. Please indicate how often you felt this way during the last week by checking the appropriate box. Please only provide one answer to each statement.

	Rarely or none of the time (less than 1 day) (1)	Some or a little of the time (1-2 days) (2)	Occasionally or a moderate amount of the time (3-4 days) (3)	Most or all of the time (5-7 days) (4)
I was bothered by things that usually don't bother me. (1)	0	0	0	0

I did not feel like eating: my appetite was poor. (2)	0	0	0	0
I felt that I could not shake off the blues even with the help from my family or friends. (3)	0	0	0	0
I felt I was just as good as other people. (4)	0	0	0	0
I had trouble keeping my mind on what I was doing. (5)	0	0	0	0
I felt depressed. (6)	0	0	0	0
I felt that everything I did was an effort. (7)	0	0	0	0
I felt hopeful about the future. (8)	0	0	0	0
I thought my life had been a failure. (9)	0	0	0	0
I felt fearful. (10)	0	0	0	0

My sleep was restless. (11)	0	0	0	0
I was happy. (12)	0	0	0	0
I talked less than usual. (13)	0	0	0	0
I felt lonely. (17)	0	0	0	0
People were unfriendly. (18)	0	0	0	0
I enjoyed life. (19)	0	0	0	0
I had crying spells. (20)	0	0	0	0
I felt sad. (21)	0	0	0	0
I felt that people disliked me. (22)	0	0	0	0
I could not get going. (23)	0	0	0	0

End of Block: POST-COVID CES-D

Start of Block: Demographic Questions

Please answer the following questions about yourself.

Sex What is your gender?

- **Male (1)**
- **Female (2)**

Age What is your age?

_____

Ethnicity Are you of Hispanic, Latino/a, or Spanish origin?

- **Yes (1)**
- **No (2)**

Skip To: Race If Ethnicity = No

Hisp_Eth How do you identify?

- **Mexican (1)**

O **Cuban (2)**

O **Puerto Rican (3)**

O **Other (4)** _____

Race With which race do you most identify?

O **White (1)**

O **Black or African American (2)**

O **American Indian/Alaska Native (3)**

O **Asian (4)**

O **Pacific Islander (5)**

O **Multiracial (7)**

O **Other (6)** _____

Skip To: Tribal_Aff If Race = American Indian/Alaska Native

Skip To: Asian_ID If Race = Asian

Skip To: PI_ID If Race = Pacific Islander

Display This Question:

If Race = American Indian/Alaska Native

Tribal_Aff What is your tribal affiliation?

_____

Display This Question:

If Race = Asian

Asian_ID How do you identify?

- **Chinese (1)**
- **Japanese (2)**
- **Cambodian (3)**
- **Vietnamese (4)**
- **Korean (5)**
- **Indonesian (6)**
- **Filipino (7)**
- **Other (8) _____**

Display This Question:

If Race = Pacific Islander

PI_ID How do you identify?

- O **Native Hawaiian (1)**
- O **Polynesian (2)**
- O **Tongan (3)**
- O **Samoan (4)**
- O **Micronesian (5)**
- O **Guamanian (6)**
- O **Marshallese (7)**
- O **Chamorro (8)**
- O **Palauan (9)**
- O **Other (10) _____**

Education What is your education level?

- O **Less than 8th grade (1)**
- O **8th - 12th grade (4)**
- O **Completed high school/GED (5)**

- **Some college or technical school (6)**
- **Completed college (7)**
- **Graduate or professional degree (8)**

Mar_Status What is your marital status?

- **Married (1)**
- **Divorced (4)**
- **Widowed (5)**
- **Separated (6)**
- **Never married (7)**
- **Member of an unmarried couple (8)**

Emp_Status What is your employment status?

- **Unemployed (1)**
- **Unemployed due to COVID-19 (4)**
- **Employed full-time (3)**

○ **Employed part-time (5)**

○ **Furloughed due to COVID-19 (laid off from work with intent to return to same workplace) (8)**

○ **Retired (16)**

Skip To: Student If Emp_Status = Unemployed

Skip To: Student If Emp_Status = Employed full-time

Skip To: Student If Emp_Status = Employed part-time

Skip To: Student If Emp_Status =

Skip To: Student If Emp_Status =

Skip To: Student If Emp_Status = Retired

File_Unemp Have you filed or are planning to file for unemployment?

○ **Yes (1)**

○ **No (2)**

Student Are you a student?

○ **Yes (1)**

○ **No (2)**

Skip To: Com_Ret_Work If Student = No

Stu_Stat What is your student status?

- **Full-time graduate or professional student (1)**
- **Part-time graduate or professional student (2)**
- **Full-time undergraduate student (3)**
- **Part-time undergraduate student (4)**

Stu_Fin How do you support yourself financially? Please check all that apply.

- **Parents (1)**
- **Financial Aid (2)**
- **Work full-time off campus (3)**
- **Work full-time on campus (4)**
- **Work part-time off campus (5)**
- **Work part-time on campus (6)**
- **Spouse/Significant Other (7)**
- **Unemployed due to COVID-19 (8)**

Com_Ret_Work Do you feel comfortable returning to work or school?

- **Yes (1)**
- **No (2)**
- **Not currently employed, furloughed, or a student (4)**

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COV_Test Have you been tested for COVID-19 (Coronavirus, COVID, or "the virus")?

- **Yes (1)**
- **No (2)**

COV_Vax Are you interested in getting the Covid-19 vaccine?

- **Yes, I am fully vaccinated. (Received 2 shots of Pfizer or Moderna or 1 shot of Johnson and Johnson). (2)**
- **Yes, I have currently received one shot of Pfizer or Moderna. (3)**
- **Yes, I have scheduled an appointment to get the vaccine. (4)**

O Yes, I am interested in receiving the vaccine but I haven't figured out where to get it. (5)

O No, I am not thinking about getting the vaccine. (6)

COV_VaxInterest Why are you not interested in getting the COVID-19 vaccine?

O It is not FDA approved. (1)

O It is too new. (2)

O I am concerned about side effects. (3)

O It does not work. (4)

O My religion/spiritual beliefs. (5)

O I am not educated enough to make a decision. (6)

O Someone I know had complications/reaction since receiving the Covid-19 vaccine (7)

O COVID-19 is not a serious illness that I can die from. (8)

COV_Booster Would you be interested in getting a booster COVID-19 vaccine shot, when it becomes available?

O Yes (1)

O No (2)

COV_BoosterInterest Why are you not interested in getting a booster COVID-19 vaccine shot?

- **I don't want anymore shots. (1)**
- **I don't trust any of the COVID-19 vaccines. (2)**
- **I had a bad experience with the Covid vaccine shot itself (3)**

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

- **Yes (1)**
- **No (2)**

Skip To: Covid_Hos If Covid_Pos = Yes

Covid_Hos Do you know someone who has been hospitalized due to COVID-19?

- **Yes (1)**
- **No (2)**

Skip To: Q85 If Covid_Hos = Yes

Q85 Do you know someone who has died from COVID-19?

O **Yes (1)**

O **No (2)**

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Religion What is your religious affiliation?

O **Christian (1)**

O **Catholic (2)**

O **Jewish (3)**

O **Islam (4)**

O **Buddhism (5)**

O **Mormon (6)**

O **Agnostic (7)**

O **None (8)**

O **Other: (9) _____**

Chil_Un18 Do you have children under the age of 18 living in your home?

- **Yes (1)**
- **No (2)**

Skip To: House_Size If Chil_Un18 = No

Num_Chil How many children?

_____

Chil_Online Did your child(ren) participate in online learning for school at any point since March 2020?

- **Yes (1)**
- **No (2)**

Skip To: Chil_Online If Chil_Online = Yes

Chil_Online Did your child(ren) have the resources (e.g. desktop, laptop, wifi/internet) to complete his/her learning online?

- **Yes (1)**
- **No (2)**

Chil_Inperson Are your children returning to school in person for the 2021-2022 school year?

- **Yes (1)**
- **No (2)**

House_Size What is your household size?

- **1 person (1)**
- **2 people (4)**
- **3 people (5)**
- **4 people (6)**
- **More than 4 people (7)**

Covid_Preg Are you currently pregnant or have you had a baby since March 2020?

- **Yes (1)**
- **No (2)**

Skip To: Covid_PrenatalCare If Covid_Preg = Yes

Skip To: Eld_Fam If Covid_Preg = No

Covid_PrenatalCare Are you receiving or have you received prenatal care?

- **Yes (1)**
- **No (2)**

Skip To: Covid_Telehealth If Covid_PrenatalCare = Yes

Covid_Telehealth Are you receiving or have you had prenatal care in person or via Telehealth (remote) ?

- **Yes (1)**
- **No (2)**
- **Both (3)**
- **Other: (Please write response below) (4)**

_____

Skip To: Covid_Appt If Covid_Telehealth = Yes

Covid_Appt How many prenatal appointments did you attend?

- **1-3 (1)**
- **3-7 (2)**
- **7+ (3)**

Covid_Barriers What were the barriers in receiving prenatal care during your pregnancy during Covid-19?

- O **I was afraid of being contracted with Covid-19 (1)**
- O **I was afraid of contracting others with Covid-19 (2)**
- O **I had/have no health insurance (3)**
- O **I did/do not have transportation (4)**
- O **Other: (please write response below) (5)**

_____

Covid_Breastfeed Are you breastfeeding or have you breastfed since March 2020?

- O **Yes (1)**
- O **No (2)**

Covid_Postpartum Have you or planning to be screened for postpartum depression?

- O **No (1)**
- O **Yes (2)**

Covid_preterm Did you have preterm labor (baby was born before 37 weeks) as a part of your pregnancy?

○ **Yes (1)**

○ **No (2)**

Covid_preterm Were you at risk for preterm labor?

○ **Yes (1)**

○ **No (2)**

Eld_Fam Do you have elderly family members living in your household?

○ **Yes (1)**

○ **No (2)**

Skip To: Inc_PreCOV If Eld_Fam = No

Num_Eld_Fam How many elderly family members are living in your household?

_____

Worry_Eld Do you worry about keeping them safe from COVID-19?

○ **Yes (1)**

O **No (2)**

Inc_PreCOV What was your monthly income BEFORE COVID-19?

O **Zero (1)**

O **$500 or less (2)**

O **$1,001 - $2,000 (3)**

O **$2,001 - $3,000 (4)**

O **$3,001 - $4,000 (5)**

O **More than $4,000 (6)**

Curr_Inc What is your CURRENT monthly income?

O **Zero (1)**

O **$500 or less (2)**

O **$1,001 - $2,000 (3)**

O **$2,001 - $3,000 (4)**

O **$3,001 - $4,000 (5)**

○ **More than $4,000 (6)**

Food_Ass What food assistance programs are you currently using? Please check all that apply.

☐ **SNAP/Food Stamps (1)**

☐ **WIC (7)**

☐ **Soup Kitchens (8)**

☐ **Food Pantries (9)**

☐ **Meal Programs delivered to home (10)**

☐ **None (12)**

☐ **Other: (11) _____**

Skip To: Rate_Health If Food_Ass = None

Food_Freq How often do you visit a food pantry, soup kitchen or any other meal program?

○ **Less than once a week (1)**

○ **Once a week (4)**

○ **More than once a week (5)**

Rate_Health How do you rate your health on most days?

- ○ **Excellent (1)**
- ○ **Very good (4)**
- ○ **Good (5)**
- ○ **Fair (6)**
- ○ **Poor (7)**

ZIP_Code What is the ZIP Code where you currently live?

_____

Chron_Cond Has a doctor, nurse, or other health professional ever told you that you had any of the following conditions? Please check all that apply.

- ☐ **Heart disease (1)**
- ☐ **Heart failure (12)**
- ☐ **Diabetes (13)**
- ☐ **Asthma (14)**

☐ **Depression (15)**

☐ **Overweight (16)**

☐ **Obesity (17)**

☐ **Hypertension (18)**

☐ **Chronic Obstructive Pulmonary Disease (COPD) (19)**

☐ **No (20)**

☐ **Other disease(s) or condition(s): (21)**

_____

Health_Ins Which health insurance plan(s) are you currently enrolled in? Please check all that apply.

☐ **Medicare (1)**

☐ **Medicaid (4)**

☐ **Private insurance (5)**

☐ **I am not currently insured (7)**

☐ **Other: (8) _____**

Prim_Health Where do you receive primary healthcare services?

- **Emergency Room/Urgent Care (1)**
- **Local Community Health Center/Federally Qualified Health Center (2)**
- **Tribal Clinic/Indian Health Service (3)**
- **Veteran Healthcare Administration (VA) (4)**
- **Telemedicine (5)**
- **Doctor's office/private physician (8)**
- **None (7)**
- **Other (Please write response below) (9)**

_____

Liv_Sit Which option best describes your current living situation?

- **Own (1)**
- **Rent (7)**
- **Temporary housing (8)**
- **Staying with friends or family (9)**

O **Homeless (10)**

O **Other: (11) _____**

Dom_Vio Does your partner or any of your family members make you feel unsafe in your home?

O **Yes (1)**

O **No (4)**

Page Break

MHR If desired, please copy the below information in case it is needed in the future. Thank you.
Please click the next arrow to submit your responses and complete the survey. Mental Health Referral Resources
Emergency--please call "911." Other phone numbers for mental health services for severe depressive symptoms and/or suicidal thoughts are listed below: · National Suicide Prevention Lifeline (24 hours)
1-800-273-8255 · Crisis Text Line (24 hours)
Text CONNECT or HOME to 741741

End of Block: Demographic Questions

Appendix B. Normality Plots

Figure 4. Normality plot for Stress

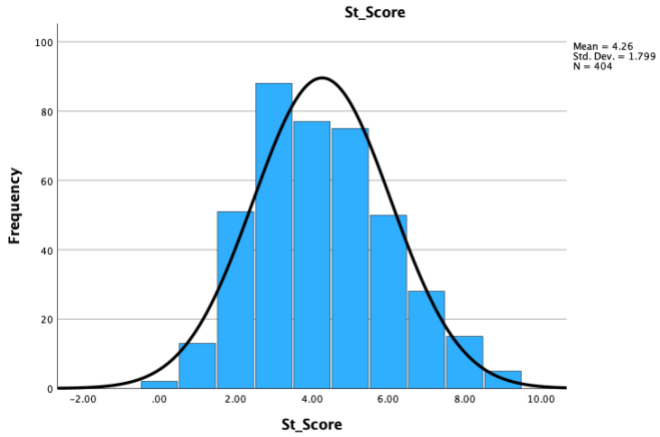


Figure 5. Normality plot for (BEPSI) Stress Before the COVID-19 pandemic

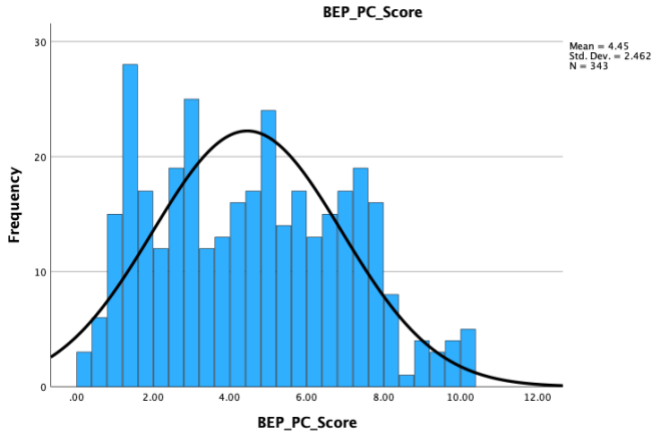


Figure 6. Normality plot for (BEPSI) Stress During the COVID-19 pandemic

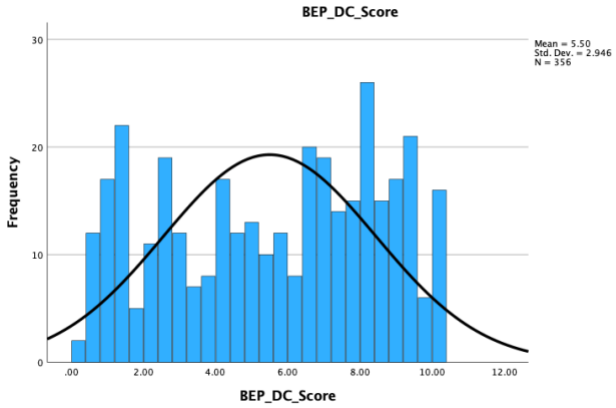


Figure 7. Histogram of (CD-RISC-10) Resilience Before the COVID-19 pandemic

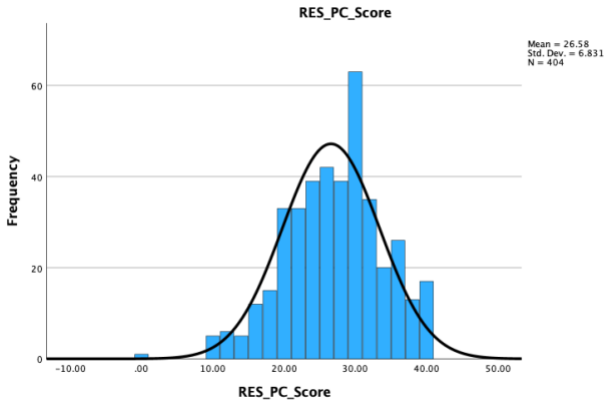


Figure 8. Normality plot for (CD-RISC-10) Resilience During the COVID-19 pandemic

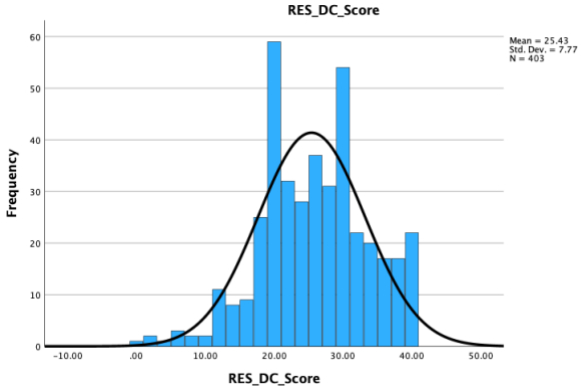


Figure 9. Normality plot for (CES-D) Depressive Symptoms Before the COVID-19 pandemic

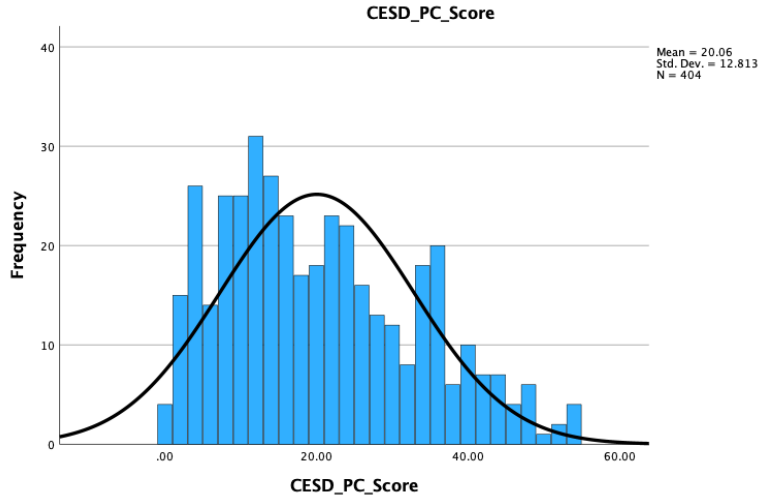
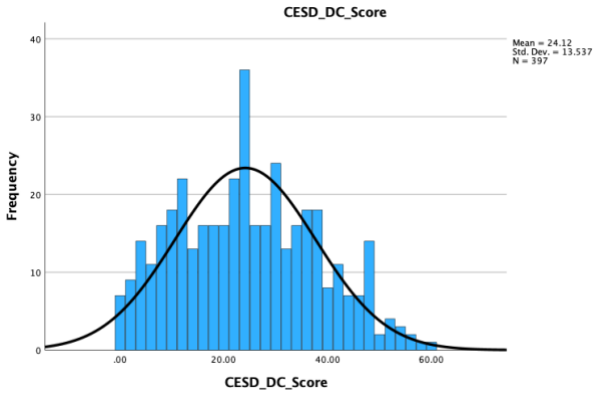


Figure 10. Normality plot for (CES-D) Depressive Symptoms During the COVID-19 pandemic


CESD_DC_Score
Mean = 24.12
Std. Dev. = 13.537
N = 397
Frequency
40
30
20
10
0
.00
20.00
40.00
60.00
CESD_DC_Score

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Curriculum Vitae

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Education

Ph.D.
Department of Social and Behavioral Health
School of Public Health University of Nevada, Las Vegas
Present

Master of Public Health
Discipline - Health Care Administration and Policy
School of Public Health
University of Nevada, Las Vegas
2019

Bachelor of Science
Health Care Administration and Policy
School of Community Health Sciences
University of Nevada, Las Vegas
2017

Academic Appointments 2020 - 2023

Part-time Instructor
Health Care Administration and Policy
University of Nevada, Las Vegas
PBH 205 – Introduction to Public Health

Professional Positions and Experience

Supervisor III, School of Public Health May 2022 - Dec 2023
University of Nevada, Las Vegas
Las Vegas, Nevada Aug 2020 – Aug 2023
Graduate Research Assistant
School of Public Health
Department of Epidemiology and Biostatistics
University of Nevada, Las Vegas Aug 2017 – May 2019

Graduate Research Assistant
School of Public Health
University of Nevada, Las Vegas Aug 2012 – Dec 2016

Human Resource Representative
Division of Human Resources
University of Nevada, Las Vegas

Certification and Licensure

CITI Program Nov 2023 – Present
Human Research – Group. 2 Social/Behavioral IRB
University of Nevada, Las Vegas

CITI Program Nov 2017 – Nov 2023
Human Research – Social/Behavioral IRB
University of Nevada, Las Vegas

Professional Memberships and Activities

Gates Millennium Scholars Alumni Association	2017 – Present
American Public Health Association	2022 – 2023
Nevada Minority Health and Equity Coalition	2021 – 2022
Nevada Public health Association	2018 – 2019
Health Care Administration Student Association, Treasurer	2016 – 2017
American College of Healthcare Executives	2016 – 2017
Ewalu Club	2012 – 2017
Student Government, Vice President 2011 - 2012	2011 – 2012
National Honor Society, Historian	2011 - 2012

Educational Activities

A. Teaching Activities – University of Nevada, Las Vegas, School of Public Health

PBH 205 – Intro to Public Health	FA 2020; FA 2021; FA 2022; SP&FA 2023; SP 2024
EAB 715 – Chronic Disease Epidemiology	SP 2021; SP 2022
EAB 763 – Linear Statistical Models in Public Health	FA 2020; FA 2021
HCA 203 – Multicultural Diversity and US Healthcare	SP 2021
HCA 175 – U.S Health System	FA 2020; SP 2021
HCA 719 – Operations and Quality Management of Health Service	SU 2020
HCA 404 – Human Resources Management	SP 2019; SU 2020; SP 2021

B. Formal Mentoring

Mentor — Summer 2021

National Institutes of Health/NIDDK Step-Up Program

School of Human Ecology

University of Wisconsin, Madison

C. Internships

Health Equity Quality Improvement Task Force — Summer 2018

Department of Administration

Southern Nevada Health District

Clinical Quality – Health Effectiveness Data and Information Set (HEDIS) 2017

Department of Quality Improvement

UnitedHealthcare

Honors and Awards

Health Resources & Services Administration (HRSA) Scholarship Award	2023-2024
Joan Essex Roman Endowed Scholarship Award	2018
Outstanding Undergraduate Award	2017
Bill and Melinda Gates Millennium Scholarship Award	2012
Valedictorian – Waianae High School	2012
Governor Mufi Hannemann State of Hawaii Student Award	2012

Scholastic Performances

A. Publications

Chevalier J., Cross C., Scherr R., & Moonie S. (2022). The impact of pediatric obesity in Southern Nevada. Journal of Childhood Obesity. ISSN: 2572-5394 2022

Kahane E. D., Chein, L. Labus, B. Bhammar D. M., **Chevalier J**., & Moonie S. (2022). Depression and factors impacting quality of life among adults with asthma presence in 2022

Nevada. International Journal of Community Medicine and Public Health, 9(4), 1654. https://doi.org/10.18203/2394-6040.ijcmph20220835

B. Oral Presentations

Chevalier J., & Valentino L. Organizational self-assessment to assess health equity capacity at the Southern Nevada Health District. Nevada Public Health Association. Local Conference. 2022

C. Poster Presentations

Chevalier J., Cross C., Scherr R., & Moonie S. (2022). The impact of pediatric obesity in Southern Nevada. Graduate & Professional Student Association. Research Forum. Local Conference. 2022

Chevalier J., et al., (2022). Stress and coping with remote schooling for parents in the United States during the COVID-19 pandemic. American Public Health Association. National Conference, 2022

D. Academic

Dissertation 2024

Stress and coping among adults in the U.S during the COVID-19 pandemic

Professional Paper 2017

Perceived Barriers Among Employees in Health Equity Training

Social Media

LinkedIn Present