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Comparison of Self-Reported Depression and Anxiety Scores Between U.S. Households with and Without Children at Early and Later Stages of the Covid-19 Pandemic

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COMPARISON OF SELF-REPORTED DEPRESSION AND ANXIETY SCORES BETWEEN U.S. HOUSEHOLDS WITH AND WITHOUT CHILDREN AT EARLY AND LATER STAGES OF THE COVID-19 PANDEMIC

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This dissertation is approved as a creditable and independent investigation by a candidate for the Doctor of Philosophy degree and is acceptable for meeting the dissertation requirements for this degree. Acceptance of this does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

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Parents in particular, are disproportionately affected by the 2019 coronavirus pandemic and the lockdowns that followed. Parents had to find a way to balance work, teaching, and taking care of their kids when schools were forced to close for safety reasons. While changes in parents' mental health have been the subject of a number of studies, there have been no studies comparing the level of depression and anxiety experienced by parents with and without children below the age of 18 years in the United States. Data for this study came from Households Pulse Survey (HPS) (week 2 N = 41,996; week 38 N = 59833), an online survey assessing health-related behavioral outcomes as well as self-reported changes caused by COVID-19 that was completed by adults in the U.S. In the first analysis, the study found no statistically significant difference in self-reported scores for both anxiety and depression between parents/guardians with and without children below 18 years old in the household both at the early and later phases of the pandemic. However, a greater percentage of households with children reported experiencing anxiety, depression, taking mental health prescription medication, receiving professional mental health services, or seeking mental health services and not getting any during the pandemic. Using the same sample of respondents, the study determined in the second assessment that both anxiety and depression scores decreased over time. The study found a correlation between higher mean scores of depression and anxiety and the presence of children

and adolescents below 18 years old in the household. However, shared stress factors affected this association. During and after the pandemic, parents/guardians living with children should receive assistance, as findings demonstrate.

CHAPETR ONE: INTRODUCTION

Background

The 2019 coronavirus (COVID-19) is the most recent and unexpected health crisis which has affected the ordinary lives of people in nearly all the nations of the world (Goggin and Ellis 2020). There have been other pandemics, but they did not spread to affect larger geographical areas like COVID 19 (Fang et al. 2021). Many countries restricted the movement of people in an attempt to contain the spread of the disease. This had far-reaching consequences on the mental health of many people in society (Suppawittaya et al. 2020; Hibel et al. 2021; Goggin and Ellis 2020).

Previous research has pointed to the immense and profound psychosocial impacts that pandemics can inflict on households and individuals (Rudolph et al. 2021). The constant dread of an incoming disease can trigger new psychiatric symptoms in individuals previously showing no mental health problems while aggravating the mental health conditions of people with pre-existing mental health conditions (Rudolph et al. 2021). Individuals may report anxiety related to the fear of falling sick, helplessness in the initial Phases of the pandemic, and fear of dying (Ward 2020). It is not uncommon for people in a pandemic to start blaming those who are ill, consequently creating acts of discrimination and further mental health breakdowns. For instance, in the context of COVID-19, media reports on people from affected countries being denied entry and households having to shun their infected relatives were common (Roy and Liu 2020). It has to be understood that the news of a pandemic like COVID-19, which had no known cure or vaccine then, is in itself news of death and the automatic natural reactions center around stress, depression, loneliness and other negative mental ruminations.

Travel restrictions and closure of public spaces can adversely affect individuals' mental health. According to Hibel et al. (2021) social isolation, especially for older persons and children, can increase the likelihood of maladaptive behaviors due to changes in familiar day to day routines. The closure of public spaces by governments to mitigate the spread of COVID-19 in the early stages of the pandemic caused significant disruptions in medical health service provision including mental health care services. Lack of provision of these services might have had devastating impacts on the mental health of households with individuals requiring specialized attention or those with individuals with chronic conditions, contributing to overall household stress, depression, and anxiety (Ward 2020; Yavorsky et al. 2021; Gadermann et al. 2021). Added to the economic hardships, hospitalization and death of household members during due to COVID-19, adverse mental health consequences were unavoidable for many households; this might be mediated by having/not having children due to the extra feeling of being responsible for the minors (Appendix 1 shows how COVID-19 pandemic caused human mental health issues among them depression and anxiety).

Definitions of Depression and Anxiety

Depression goes beyond simply feeling down or experiencing an alleged bad-day. According to the American Psychiatric Association (APA) one is considered to be depressed when they experience a prolonged sad mood that interferes with the normal everyday functioning (APA 2013). Depression manifests itself in a number of ways, including the following: feeling sad often or always; not wanting to do fun activities; restlessness and feeling frustrated; staying asleep or having trouble sleeping; unusual appetite loss or gain; poor concentration; unusual exhaustion; feeling of guilt or helplessness; feeling suicidal (APA 2013).

Although the exact cause of depression is unknown, studies have shown that its cause might be different combination of the following metrics: psychological, biological genetic and, environmental (Kessler et al. 2005). Moreover, The Substance Abuse and Mental Health Services Administration (SAMHSA) asserts that depression may be increased in individuals by: being related to people who have been depressed; exposure to traumatic events; transitioning into a significant change in life; health problems; prescription medication; drugs and alcohol abuse (SAMHSA 2014).

In general, about 1 out of every 6 adults will have depression at some time in their life (Kessler et al. 2005). The SAMHSA (2014) reported that depression affects about 16 million American adults every year. Anyone can get depressed, and depression can happen at any age and in any person.

According to the APA (2013) and Kessler et al. (2010), many people who experience depression also have other mental health conditions such as anxiety (APA, 2013; Kessler et al. 2010). Anxiety disorders and depression often occur simultaneously. The APA (2013) states that individuals with anxiety disorders often struggle with intense anxiety, worry, panic and fear. These feelings can interfere with daily activities and may last long.

Statement of the Problem

Unpredicted events happen in human lives, and they go on to adversely affect the lives of individuals in terms of economic problems, health challenges or cause mental problems. Sociologists and psychologists have expressed concern that the disruption in services and routines on the backdrop of increased domestic violence, social isolation, and general household stressors during the COVID-19 pandemic have created ideal conditions that posed significant threats to the mental health of children

on an unprecedented scale, with minors from socioeconomically disadvantaged and marginalized households set to be disproportionately and adversely impacted (Cowie and Myers 2020; Dlamini 2021; Hart and Han 2021). Despite concerted measures from all social networks and government interventions, households cannot guarantee to always be prepared to overcome these challenges (Cowie and Myers 2020). Mitigation and control mechanisms can only be implemented when the problem has already been identified (Hart and Han 2021). This is exactly the state that households found themselves during the COVID-19 pandemic. While children openly appear to be shielded from the physical effects of the COVID-19 pandemic, a significant number of households are battling challenges that stem from the socio-economic effects of COVID-19 (Giannotti et al. 2021). Thus, it is imperative to determine whether households with children below 18 years were the most affected as the parents had to parent and take up teaching roles previously filled by teachers. Also, families with children under 18 years might have had more financial needs that could not easily be met compared to families without children due to lockdowns and restrictions to social interactions.

Significance of The Study

Identifying whether households with children below the age of 18 experienced greater changes in self-reported depression and anxiety than households without children might help counselors and other health professionals to structure services to meet the differential needs. For governments, child Services, health authorities, and mental health providers, this study will shed light on the gap between households with children and households without children that could be used to structure programs and resources that accurately identify mental health services' needs.

Research Objectives

1. To determine the statistical difference in anxiety/depression scores between U.S. households with children under 18 years old and U.S. households without children during COVID-19 pandemic at Week 2 and Week 38.
2. To assess the statistical difference in frequencies between taking prescription medication for any emotion, concentration, behavior or mental health/ seeking professional mental health counseling services and not getting it/receiving professional mental health counseling or therapy and U.S. households with children under 18 years old or U.S. households without children during COVID-19 pandemic at Week 2 and Week 38.
3. To assess the statistical difference in anxiety scores/depression scores at Week 2 and Week 38.

Research Questions

1. What is the difference in average of anxiety scores/depression scores between U.S. households with children under 18 years old and U.S. households without children during COVID-19 Pandemic at Week 2 and Week 38?
2. How does taking prescription medication for any emotion, concentration, behavior or mental health/ seeking professional mental health counseling services and not getting it/receiving professional mental health counseling or therapy frequencies differ between U.S. households with children under 18 years old and U.S. households without children during COVID-19 at Week 2 and Week 38?
3. What is the statistical difference in anxiety scores/depression scores at Week 2 and Week 38?

LITERATURE REVIEW

The COVID-19 global pandemic has resulted in unprecedented worldwide mortality and morbidity, with family mental health well-being impacts acknowledged as a critical emerging concern and specific risks pointed out within the household context (Garcini et al. 2021; Gadermann et al. 2021). Specifically, COVID-19 has brought about unforeseen threats to households thanks to childcare/school closures, social distancing mandates, housing instability, employment and financial vulnerabilities, and sweeping upending to social care and health accessibility (Cowie and Myers 2020). In a December 2020 U.S. survey by Hart and Han (2021), a majority of household heads noted that in the middle of the pandemic, their worries about social isolation, experiences of loneliness and sadness, concerns regarding finances, and criticism from others had significantly increased and that these were negatively shaping their parental emotional capability.

In the U.S., state and federal lockdowns started going into effect in March 2020. This included restrictions on interstate travel, closure of borders, childcare/school shutdowns, restrictions on group assemblies, suspension of select public and non-essential services, and working from home orders. The mortality rates spiked up to nearly 2,300 cases confirmed daily in May 2020. By late December 2020, when most states were debating lifting lockdowns and reopening business activities, the fatality rate averaged 3,700 cases per day (CDC 2021a). However, reports were already pointing to the pandemic negatively affecting the children and households' mental health. For instance, by April 2020, when New York, California, and other predominantly cosmopolitan states were starting to be overwhelmed by the pandemic, Gadderman et al. (2021) reported that there was a surge in the calls made to the National Child Help Abuse Hotline--the U.S. hotline for minors. Calls related to physical abuse

saw a 35% spike, with calls related to stress and anxiety, and social isolation seeing a 45% and 43% spike respectively.

Childcare and school closures have been a concern for households' mental health not only due to the disruption of normal classroom learning, but significantly because of the loss of safeguards at the systems-level including loss or limitation of school mental health counseling services, after-school care, nutrition programs, and even vaccination clinics meant to alleviate some of the social and mental health inequities experienced by children from structurally vulnerable households. It thus comes as no surprise that parents have expressed worse mental health due to COVID-19 associated economic hardship, anxiety, loneliness, stigma and increased alcohol and substance use (Hart and Han 2021). Even when there were deliberate governmental efforts to address some of these challenges, Gadermann et al. (2021) report that 44.3% of households with minors (below 18 years) reported deteriorating mental health wellbeing attributed to the pandemic when compared to 35.6% households without children who reported deteriorating mental health due to stress and anxiety at $p<0.001$. The present study will go further to compare self-reported depression and anxiety between households with and without children at the beginning (Week 2) and at the later stages of the COVID-19 pandemic (Week 38).

The opioid crisis had become the defining mental health consequence of uncontrolled pain-relief prescriptions in the U.S., with about 8.7 million children living in homes where at least one parent/caregiver suffered from a substance abuse disorder in the past. Approximately 623,000 households are led by parents with an opioid use disorder, and when the COVID-19 pandemic broke, households had to deal with the mental health consequences of initial limited access to mental health services and substances to decrease craving for opioid addiction (Waite et al. 2018). Provision of

MOUD (medication for opioid use disorder) is a critical component of mental healthcare provision as far as overdosing prevention goes, and the Washington Healthcare Authority (2021) says that the COVID-19 pandemic illuminated and even exacerbated (in some households) some of the unmet needs in this area.

According to Hughes et al. (2021), COVID-19's impact in mental health was twofold. The first impact was that COVID-19's measurements (lockdown, restriction of movement, and shutting down/limitation of the operations of most service providers) increased the demand for MOUD. Households that could not get these services within reach had to contend with the deteriorating mental wellbeing of their family members while simultaneously being strained by the stress that came from knowing they could not get mental health services for their kin who could overdose or suffer withdrawal symptoms anytime (Washington Healthcare Authority 2021). Second, the isolation and economic devastation brought about by the pandemic increased substance use disorders and vulnerability to mental health disorders among households (Washington Healthcare Authority 2021).

On the basis of projections that showed an increase in demand for MOUD (medication for opioid use disorder) and other mental health-related services amidst a global COVID-19 outbreak, the US CDC made policy changes that increased the uptake telemedicine. Research by Mold et al. (2021) shows that telemedicine use for MOUD increased in rural and remote areas to 7.7% during COVID as compared to 3.0% pre-COVID ($p<0.001$) despite the network connectivity challenges in rural America. In a retrospect open-cohort study by Hughes et al. (2021) aimed at tracking telemedicine utilization for households in metropolitan and rural settings, the researchers found that total telemedicine utilization during the COVID-19 pandemic increased (581 households vs. 436 households before, $p<0.001$) even as new patient visits/enrolment

to telemedicine plans remained nearly constant (29 post and 33 before COVID-19, $p < 0.755$). The same study also found that the clinic offering the telemedicine services had an increase in the mental health domain, leading to the conclusion that telemedicine had proven effective during the COVID-19 pandemic (Hughes et al. 2021). As such, the current study also assesses the impact of COVID-19 on access and the use of prescription drugs for mental health, mental health counseling, and the challenges encountered in getting these products and services.

Incidence of the COVID-19 Pandemic

The World Health Organization (WHO) declared a pandemic on March 11, 2020, citing the spread of COVID-19 also known as SARS-CoV-2. A number of cases of severe pneumonia were reported a few months prior to this announcement in Wuhan, China. At the time of this review September 30, 2022), WHO had reported a total of "614,385,693" coronavirus infection cases the world over and 6,522,600 deaths (WHO 2022).

In the hope of reducing the impact on the local community, the wholesale seafood market in Wuhan was closed. By January 3, 2020, China developed a system known as the "Viral Pneumonia of Unknown Etiology System," and travel within and outside the region was restricted by January 23rd, 2020 (Worobey 2021). Around similar times, patients with side effects of the infection were approached to isolation. In order to stop the virus from spreading, individuals were required to remain isolated for 2 weeks.

Thailand received a report of a SARS-CoV-2 infection on January 13, 2020. This was the first case outside of China to be reported. Since there was no known cure

or vaccine, more stringent measures were taken, including quarantining suspected patients, lockdowns on entire cities and extension of holidays (Lin et al. 2020).

One month later, the 20th day of February, a young patient tested positive at the Codogno hospital in Lombardy, Italy. This patient had no known risk factors for COVID-19 infection. In Italy's northern parts, the number of COVID-19 cases increased rapidly by February 21, 2020. According to Grasselli, Pesenti, and Cecconi (2020), patients arrived at hospitals with severe COVID-19 forcing intensive care units (ICUs) to increase their pre-pandemic capacity to more than 50% in approximately one month. Despite the fact that the government of Italy placed the entire country under lockdown on 9th March 2020, there were 31,506 positive cases by March 17, 2020 (Marca et al. 2020). Numerous nations also implemented lockdowns. About thirty-three percent of the all countries in the world were on lockdown as of March 25, 2020.

At this point, the virus's spread was unabated. On March 26, 2020, Thailand issued a State of Emergency Decree. Stay-at-home policies, school closures, and the suspension of international flights were some additional measures. COVID-19, on the other hand, continued to spread (Rajatanavin et al. 2021).

Non-Pharmacological COVID-19 Pandemic Control Measures

To lessen the burden on the healthcare system and reduce COVID-19-related morbidity and mortality, its spread had to be contained. Quarantines, restrictions on mobility, restrictions on socioeconomic activities, physical distance, wearing face masks, and hand-hygiene measures are examples of non-pharmacological transmission mitigation measures that were institute and reinforced by governments to contain the prevalence of the virus. Throughout the pandemic, numerous nations imposed varying degrees of travel restrictions, ranging from total isolation, as implemented by New

Zealand and Australian governments, to temporary closure of national borders, as France, UK and U.S. did. According to a study model (Bruinen de Bruin 2020), the virus's ability to be transmitted in an airborne channel by individuals that are oligosymptomatic and asymptomatic and individuals meant that China's partial restriction on traveling to and from mainland China was modestly effective. According to Preiser, Engelbrecht, and Maponga (2022), travel restrictions that were applied in response to nations that were reporting variants and ignored nations that had a no reported or little surveillance data exacerbated the disparity in global responses.

It is now clear from the data that has been collected on the transmissibility of COVID-19 that travel restrictions did not stop the pandemic from spreading on their own. Instead, it appears that measures that are more reasonable yet to not compromise unreasonably on travel mobility include requiring the use of a mask while traveling; requiring COVID-19 test certificates a proof of a good health shortly before boarding an airline, and more recently, requiring that one be fully vaccinated.

Contact Tracing

Another method used by some countries to determine whether a case was confirmed or not was contact tracing, with varying degrees of strictness. The instruction to quarantine was given to anyone who came into contact with people who had been exposed to or diagnosed with COVID-19. The success of contact tracing depended on testing being available to everyone and having rapid turnaround times, yet both proved challenging. Countries who were committed to contact tracing struggled for months to put it into practice. The known biases in global health were brought to light by the disparity in testing availability (Praharaj et al., 2020).

Facemasks

Facemasks had a big impact on how the pandemic developed. People eventually came to understand the importance of universal face masks, which resulted in several international mask regulations (Mitze et al. 2020). The WHO put off advising people in general to wear masks at the start of the epidemic due to uncertainty about the channel of transmission (whether by air or contact), as well as worries about the paucity of masks for medical personnel. In April 2020, the CDC advised covering one's face to prevent the spread of the illness throughout the neighborhood (Mitze et al. 2020). In response to this advice, the WHO issued a similar recommendation on April 6, 2020. These original guidelines, however, advocated the use of hand-made masks, even cut pieces of cotton cloths, and that could be fastened with elastics, but they did not address the question of adjustability or the degree of filtering effectiveness. The WHO updated their manual on June 5, 2020, and it came with a table indicating the filtration rates of several fabric masks, ranging from 0.7 to 26%.

The textile sector is anticipated to create more fabric masks in 2020, mostly in developing countries. While cloth masks were not highly successful at preventing COVID-19, Sharma et al. (2020) noted in a meta-analysis and systematic review that they might be utilized to reduce the risk of transmissions in outdoor public spaces. However, those with more purchasing power preferred to use professional N95/ FFP2 masks or surgical masks. The particle size with the highest penetration rate for surgical masks is between 200 and 500 nm, whereas it is between 30 and 100 nm for N95s. Cloth masks and surgical masks both have comparable MPPS values. However, a variety of factors, such as the mask's kind, condition, and fit, affect how well different masks filter particles. A study by Leung et al. (2020) on seasonal coronavirus patients found that surgical facemasks were effective in reducing the prevalence of the virus in

aerosols and respiratory droplets. The rate of aerosol detection was determined to be 40% in those who did not wear masks and 0% in people who did (Leung et al. 2020).

Since the pandemic, a lot of studies have looked at how well masks work. In experiments that sought to determine the stimulation of coughing or sneezing in various facemasks, Konda et al. (2020) found that the filtration efficiencies of N95/FFP2 masks were significantly higher (upto 98%) than surgical masks (about 70 %) or cotton cloth masks (upto 30). Asadi et al. (2020) claim that these research contributed to the conclusion by other scientific researchers' that N95/FFP2 respirators, which were only utilized by medical personnel before the pandemic, are the most reliable form of defense against an airborne illness like COVID-19. The effectiveness of using surgical mask in minimizing COVID-19 transmission was established by Asadi and colleagues in a randomized clinical study for influenza that compared surgical masks with N95 in healthcare personnel and was published in 2020. This study examined the use of surgical and cotton masks in more than 340,000 individuals. Importantly, masks should not be considered one-size-fits-all solutions or 100% effective.

The suitability of the mask is determined by its effectiveness in protecting its user from infectious sources of the predominant viral variant as reported by Asadi et al. (2020). Because different combinations of the aforementioned factors have varied dangers, determining the "percentage" of protection in general can be challenging. Even though there are a lot of infected sources, well-aerated outdoor environments pose a lower risk of transmission, making it possible to use masks that are less effective but still relatively safe. However, masks that are more effective are needed in indoor settings like medical facilities that treat COVID-19 patients and public transportation. Last but not least, given that COVID-19 is highly transmissible via air droplets, the greater the filtration efficiency of the mask, the better the protection (Asadi et al. 2020).

Physical Distancing

Physical distancing, or social distancing, is a way to control how far apart people are from each other and how many people live in a given area per square meter. Studies published at the time of the outbreak of SARS reported that six feet was potentially effective in reducing the chances of transmitting the virus from person to person (CDC 2021a). Reducing large gatherings, closing businesses, and isolating cities, towns and households with high COVID-19 cases received significant attention. According to Anderson et al. (2020), a combination of these measures can reduce transmission by nearly 60%. In a similar vein, measures to improve personal hygiene were put into place with the intention of reducing other means of transmitting COVID-19 such as fomites. These precautions included hand cleaning, avoiding contact surfaces that are contaminated, using personal protective equipment (PPE) properly, such as face shields and conducting temperature checks at the door (Anderson et al. 2020).

Restriction on Mobility

The spread of the virus is influenced by a number of variables, one of which is mobility. Mobility restrictions included restrictions on using public transportation, flying, and engaging in activities both indoors and outdoors (Caruso et al. 2022). The COVID-19 was detected in the U.S. at least since January 20, 2020, despite the fact that these procedures initially seemed to be successful in minimizing the incidences outside the region of Wuhan (Hu and Qian 2021). The pandemic had a significant global impact on movement, which was generally regulated by federal governments or the local authorities based on the perceived level of risk.

When the country reported its first official death in the country in March 2020, Brazil, for instance, experienced a natural decline in mobility (Caruso et al. 2022).

During the country's first wave of the pandemic, when vaccines were unavailable, this directly slowed the rise in the number of cases.

Additionally, the United Kingdom's mobility was significantly affected; However, at each lockdown, the population altered its behavior. On March 26, 2020, the first lockdown went into effect; On June 1 of that year, a gradual reopening began. On May 5, 2021, and August 3, 2021, respectively, the country effected its second and third national lockdown during which movements were recorded to be 47% higher compared to it was during the initial lockdown, when it was 73% lower than it was before the pandemic (Shevlin et al. 2020).

Another illustration was the surge in the COVID-19 Delta variant discovered in India, where exponential rise in positive cases started on week two of March 2021. Consequently, the first week of April recorded an increase in deaths leading to a significant decline in movement of people in the subsequent weeks of April 2021(Caruso et al. 2022).

The reduction of mobility has clearly reduced the transmission of COVID-19. Mobility restriction proved to be an effective mechanism in controlling the prevalence of the coronavirus disease especially in the early stages of the pandemic before mass vaccination as it was preferred by health professionals and governments.

Restrictions on Socioeconomics

Limitations on community gatherings like schools, places of work, senior homes, beaches and swimming pools, grocery shops and banks are all examples of socioeconomic restrictions. Complete lockdowns significantly reduced community transmission of COVID-19, but these measures also had significant effects on the

populations' economy and mental wellness, particularly in regions that are resource-poor (Atalan 2020). In 2020, community transmission control was successful with restrictions that were less severe than a complete lockdown (Denis et al. 2021). According to Reuters data, retail and leisure travel decreased by 94% in Italy and Spain during the pandemic. Physical presence in workplaces was observed to have decreased by more than 60%. According to Bruinen de Bruin et al. (2020), COVID-9 related restriction measures reduced transmission although the socioeconomic implications were high, prompting varying degrees of implementation in different nations.

Surveillance

In order to improve risk management and gain a deeper understanding of the pandemic and provide people with early warnings, surveillance was essential. Among the surveillance tools initiated by research institutions was the COVID-19 Trends and Impacts Survey (CTIS), that was designed and launched by the University of Maryland in collaboration Facebook Health (Nguyen 2021). Facebook users were asked if they had COVID-like symptoms in this survey. A combination of fever, cough, and shortness of breath were symptoms similar to COVID. Official data was 15 days ahead of schedule for an increase in COVID-like symptoms. The CTIS also assessed the impact of mask-wearing on the incidence of the symptoms of COVID-19 by asking questions about mask-wearing (Nguyen 2021). The prevalence of symptoms was demonstrated by the data from the United States (Nguyen 2021).

COVID-19 pandemic has given the health professionals and governments lessons have been learnt regarding the significant outcomes of surveillance, contact tracking, movement and socioeconomic limitations, social distance, and wearing of face masks. These national pandemic mitigation for disease transmission prevention

posed obstacles, including perceived and actual constraints on human freedom. Social isolation's impacts on national and local economies, behavior, and mental health also led to public discontent (Hanna et al. 2022). The best long-term techniques for minimizing transmission while protecting long-term social, economic, and mental wellness are still being debated.

COVID-19 Stressors and Mental Wellness

The more COVID-19-related stressors there are, the higher the risk of anxiety and depression. From April to June of 2020, Donnelly and Farina (2021) performed a research and discovered that depression rates were connected to larger income shocks caused by the epidemic. Furthermore, Shadrina et al. (2018) shown that stressful life events have an impact on the beginning and advancement of mental health problems. Caspi et al. (2003) also established that a person's genetic make-up shields them against this association. Individual sensitivity or susceptibility and high stress levels, according to the diathesis-stress paradigm, combine to raise the probability of developing depression and anxiety (Bebbington 1987).

Impact of COVID-9 Control Measures on Mental Health

The COVID-19 pandemic spread quickly throughout the majority of nations, causing unexpected health, financial, social, educational, and psychological effects (Pfefferbaum and North 2020). During times of an emergency, the public's health, safety, and well-being can be negatively impacted, as can communities (resulting in school closures, loss of employment, food insecurity, reduced access to necessities, and insufficient medical-response resources) (Rehman et al. 2021).

Because of the terror and stress of being infected with the disease, people are more prone to feel sadness, stress, and anxiety during a health crisis (Rehman et al. 2021). People who are afflicted with illnesses for which there are no vaccines or treatments will experience panic, which will cause them to feel stressed, depressed, and anxious. As a consequence of the outbreak of COVID-19, individuals have experienced mental health issues and psychological distress (Kang et al. 2020). Consequently, the psychological well-being of individuals ought to be made an into thought and ideal move to keep up with wellbeing during the pandemics. The World Health Organization (WHO 2020a) has issued important guidelines for dealing with mental health issues, including those that can lead to suicide. In Wang et al.'s (2020) research, they mentioned that during the COVID-19 era, the Chinese were exposed to unusually high levels of mental anxiety. During this crisis, participants in the majority of international studies experienced high levels of psychological distress (Salari et al. 2020).

At the time of the COVID pandemic, the mental condition of school-going children was firmly impacted because of the end of schools and other instructive outcomes coming about because of this unexpected conclusion. Zhang et al. (2020) states that the COVID-19 pandemic had a significant impact on the mental health of more than 20% of high school students both at junior and senior levels. Thakur (2020) also observed anxiety, concern, and melancholy among pupils and demonstrated how the COVID-19 epidemic had a negative psychological impact on them. Shepherd et al. (2020) discovered that most children an adolescents displayed concern, fear, stress, and terror as a result of the COVID-19 constraints, which offered more evidence that the pandemic and the containment practices that followed had negative outcomes on students' mental health. A convenience sample by Bignardi, et al. (2021) of children in the U.K. aged 7.6 to 11.6 years who were attending schools revealed a significant

increase in symptoms of depression during the first phase of the kingdom's lockdown, between April to June 2020, compared to the initial evaluation done one and a half years before the lockdown (Bignardi et al. 2021).

To stop the spread of COVID-19, preventative and control measures have been implemented. Even though these procedures are important, they have short and long-term effects on people's mental health and well-being (Spoorthy, Pratapa and Mahant 2020). These negative effects may result in unhealthy behaviors (such as excessive substance use) and emotional responses (such as depression, distress, anxiety, and fear, among other things), and the population's failure to comply with public health instructions like in-home confinement and vaccination (Gao et al. 2020).

The COVID-19 epidemic was first identified on March 5, 2020, in Palestine's West Bank. In Gaza, 73 cases had been documented as of July 13, 2020, with 63 individuals having recovered (MOH 2020). All schools in the Gaza Strip were required to close by the Ministry of Education and Higher Education (MOEHE) in order to stop the spread of COVID-19 and stop widespread infection among youngsters (Eqbal et al. 2022). Many educational institutions around the world, including those in the United States, advised students to finish their coursework online while schools were closed and to take preventative measures like staying home, donning gloves and face masks, washing their hands frequently, and keeping off crowds and public locations.

Family Health and Mental Wellness in the Pandemic

The pandemic negatively affected family health and mental wellness. Health resources for families were significantly reduced one year into the pandemic compared to an example chosen one month into the epidemic, according to a study by Crandall et al. (2022). There was just one exception to this rule: neither sample

differed when it came to the subject of having appropriate housing. The fact that there existed regulations that kept individuals from evictions from their houses during year 2020 (the pandemic's first year) is one reason why the epidemic did not impair families' housing resources (CDC 2021b).

According to Joshi et al. (2017) despite a large decrease in the chances of both depression and GAD, stronger family health resources were not linked to a reported increase in symptoms of depression and GAD symptoms in comparison the pre-pandemic era. Family health resources may be internal resources like the capacity to seek help as well as external resources like having a decent place to live and money left over after paying expenses. In accordance with other studies, socioeconomic factors and the success of help-seeking have an effect on mental health (Joshi et al. 2017); however, the directionality of the relationship can be difficult to understand because the data is cross-sectional in nature. Depression and GAD symptoms have similarly been linked to increased difficulty in obtaining and expanding family resources, despite the fact that decreased resources may result in increased strain and anxiety and depression (Zbozinek et al.2012).

The current sample's overall family health was a little worse than the previous sample's, especially when it came to supporting family members who are seeking medical attention and family social and emotional health processes. Wilton et al. (2020) show that people were less likely to use healthcare services during the pandemic, which may explain why families were less likely to help family members who needed healthcare. Family members who did not live together may have been less inclined to help one another in obtaining services as a result of the social distance restrictions. Despite lower scores on numerous measures, the overall family health had very little impact on GAD and depression (Wilton et al. 2020). be that as it may,

Crandall et al. (2022) still found the pandemic had worsened the symptoms of GAD and depression of families considered to have better health resources even after adjusting demographic variables, COVID-19 stressors and family variables of the survey respondents. This may be the case because those who experience greater anxiety may also require greater family assistance. Accordingly, Crandall and his colleagues suggested that longitudinal data might allow for a more accurate evaluation of the anxiety and depression changes in relation to the pandemic (Crandall et al. 2022).

An intriguing finding from a study by Crandall et al. (2022) revealed that average subjective family meaning ratings for the later sample were greater for both positive and negative family meaning when assessed against the sample at one month. These findings suggest that negative and positive meanings of family did not always coexist during COVID-19. When families were quarantined, individuals seemed to value and feel closer to their families, but they also had more chances to become frustrated by them since family members had more time to spend together at the home environment (Crandall et al. 2022). Positive family relevance during Coronavirus was not related with current degrees of tension and discouragement, yet it was defensive against member impression of deteriorating of misery/uneasiness starting from the beginning of the pandemic (Crandall et al. 2022). Psychosocial morbidity can be influenced by helping families cope with stressful life events through social support. Mellon and Northouse (2001) found a correlation between higher levels of both positive family meaning and social support for families under stress due to illness. The provision of such assistance to families in partnership with them instead of to or for families is an important aspect of family-cantered positive mental health (Sheridan and Burt 2009).

Low family meaning during Coronavirus, on the other hand, was strongly connected with an increased risk of moderate-to-severe dissatisfaction and anxiety, as well as a higher likelihood of noticing that their anxiety/doom had deteriorated (Crandall et al. 2022). These findings agree with the ABC-X framework, which holds that family meaning (perceptions) influence whether a stressor like COVID-19 becomes a true family crisis. Roseno (2016) claims that families are more prone to interpret COVID-19 as a crisis since family meaning might operate as a self-fulfilling prophecy. Earlier study by Areia et al. (2019) discovered a relationship between family issues and psychiatric comorbidities such as anxiety and depression (Kavanaugh et al. 2018).

Mental Health of Households in a Pandemic

Family structures can be affected by stress. The health of individual members of a family and their functioning abilities have been shown to be significantly impacted by family stressors (Sullivan et al. 2021). Emerging evidence on mental health conditions such as post-traumatic stress disorder (PTSD), depression and anxiety related to COVID-19 is leading to a conclusion that COVID-19 is a traumatic stressor (Bridgland et al. 2021). According to the CDC (2021b), there were more than 46.6 million confirmed COVID-19 cases resulting in more than 755,000 deaths in the U.S. alone as of November 2021. The number of COVID-19 cases in the U.S. peaked in January of 2021, however, the daily tally started to fall with increase in relative temperatures and increase in the number of people getting vaccinated. However, the Delta variant first discovered in India cause the daily incidences of the virus to rise once more if the effects of the pandemic on day-to-day life are receiving more attention in the hope that the spread of COVID-19 will be slowed down (CDC 2021b).

Although many of the pandemic's statistics are presented at the individual level, COVID-19 has had a significant impact on families (Crandall 2022). Because of job losses and reduced incomes, many families struggled to pay for basic necessities (Karpman et al.2020). Parents found themselves taking on new and distinct roles in addition to providing care, such as making sure that school-aged children continued to receive an education since being sent home from school to participate in remote learning (Bornstein 2020). Family members were found to be closer to one another for longer periods of time than they were used to in households (Crandall 2022). Due to rising family pressures including unemployment and living in small areas, domestic violence complaints surged in several places, and the traumatized victims had nowhere to go (Buttell and Ferreira 2020). Despite all of these negative consequences on families, anecdotal research reveals that many families valued more chances to reunite.

Coronavirus as a horrendous stressor has prompted financial and business difficulties and movement for families. When federal governments implemented COVID-19 mitigation measures such as face-covering, social distancing, and quarantine requirements in March 2020, the unemployment rate was significantly and immediately reduced. Before the pandemic in fulltime employment rate in April 2020 was 4.4%, which was the highest since the Great Depression (Falk et al. 2021). Falk et al. (2021) notes that unemployment rate for women reached 36.6%, its highest point, while minorities recorded new high peak rates compared to their White majority counterparts. Seasonal employment increased to 24.5% as full-time employment decreased. One in twenty adults in the United States relocated during the pandemic, either permanently or temporarily (Cohn 2021). One-third of those who relocated did so for financial reasons related to COVID-19, and 17% did so because

they were laid off from their jobs (Cohn 2021). Due to college campuses disappearing and the implementation of remote learning, young adults were more inclined to migrate and commonly moved in with their families (Cohn 2021).

Earlier research conducted on pandemics of infectious diseases such as COVID-19 has demonstrated that economic difficulties, both sudden and prolonged, can increase feelings of anxiety and depression. As with the SARS outbreak in Hong Kong as well as the Ebola outbreak in West Africa, earlier epidemics have exacerbated the mental health problems of survivors (Crandall et al. 2022). Early COVID-19 study shows that anxiety and despair are on the rise, especially among survivors. In a study of hour hundred COVID-19 survivors, 56% had some mental health condition, 42% reported anxiety, 40% experienced sleeplessness, 31% expressed depression, and 28% indicated having PTSD. The prevalence of anxiety and depression was higher in women (Mazza et al. 2020).

Not only did COVID-19 survivors experience mental health issues, but so did the general population. 59% of 1653 participants in a global study had clinically significant anxiety indicated by a score above 40 measured on a State-Trait Anxiety Inventory, while 39% reported moderate symptoms of depression indicated by a score of 10 or more on the PHQ (Varma et al. 2021). Meta-analyses of dysfunctional behavior during the early phases of the Coronavirus pandemic found that between 25% and 34% of individuals experienced sadness, with tension predominating at around 32% (Bueno-Notivol et al.2021). A recent study (Ettman et al. 2020) examined several COVID-19-related stressors, such as job loss, the death of a close friend or family member, and financial difficulties. It discovered that those who had experienced significant changes in their life as a result of COVID-19 were more than three times more likely to suffer from mild to severe depression than they were prior

to pandemic. Depression was more frequent among persons with fewer socioeconomic means (Ettman et al. 2020).

Prevalence of Mental Health Among Children and Adolescents in The Pandemic

In large youth cohorts, rates of clinically significant generalized anxiety and depressive symptoms were approximately 11% and 13%, respectively, prior to the COVID-19 pandemic (Tiirikainen et al. 2018; Lu 2019). Youth all over the world have been severely disrupted in their daily lives ever since COVID-19 was declared an international public health emergency (Lee 2020). Youth are getting through unavoidable social detachment and missed achievements, alongside school terminations, quarantine orders, expanded family stress, and diminished peer cooperation, all likely precipitants of mental pain and emotional well-being hardships in youth (Creeks, Webster and Smith 2020; Loades et al. 2020). In point of fact, in both cross-sectional (Racine et al., 2020) as well as follow-up studies (Hafstad et al. 2021). The prevalence of youth mental illness appear to have increased during the COVID-19 pandemic, according to data collected up to this point (Lee 2020). However, the collected data vary significantly (Lee 2020). More specifically, clinically elevated depression and anxiety symptoms range from 1.8% to 49.5% and 2.2% to 63.8%, respectively (Yue et al. 2020). In order to guide the provision of services and the allocation of resources, accurate estimates of the prevalence of mental conditions among adolescents are urgently required as recovery plans are implemented by governments and policymakers.

Two of the most common mental health issues among young people are generalized anxiety and depression. During the pandemic, social isolation due to school closures and physical distance requirements may increase depressive

symptoms, which include feelings of sadness, loss of interest and pleasure in activities, and disruptions to regulatory functions like sleep and appetite (Loades et al. 2020). Uncontrollable worry, fear, and hyperarousal are manifestations of generalized anxiety in youth (American Psychiatric Association 2013). During the COVID-19 pandemic, youth are likely to experience an increase in generalized anxiety due to uncertainty, disruptions to daily routines, and concerns about the health and well-being of the family and loved ones (Courtney et al. 2020).

When there is heterogeneity among studies, as was the case with youth mental illness during COVID-19, it often indicates that demographic, geographic, and methodological moderators need to be investigated. Moderator analyses are able to identify who and when prevalence is higher or lower. According to Zhou, Zhang, Zhang and Wang et al. (2020) prevalence rates of mental illness differ across child ages and sex prior to and during the COVID-19 pandemic. Girls and older children are more likely to have internalizing disorders (Magson et al. 2021). Additionally, Lu et al. (2019) found that youth in urban and disease-prone regions were more likely to suffer from mental illness. The estimated prevalence rates may also be influenced by the studies' methodological characteristics. Poor methodological quality studies, for instance, could be highly likely to give overestimates of the prevalence rates (Pierce et al. 2020). The child versus parent symptom reporter may also be a factor in the varying prevalence of mental conditions in studies. In fact, prior studies had indicated that parent and child ratings of internalizing symptoms differed, with children/adolescents reporting more than parents (Klein 1991; Edelbrock and others 1986). Finally, it is critical to evaluate the role of information collection time on the likelihood of prevalence rates. While the early months of the pandemic may have

been more stressful and exhausting than the later months, persistent social isolation and school closures may have had an impact on mental health (Hawes et al. 2020).

The research done by Recine et al. (2021) gives a convenient gauge of clinically raised despondency and sums up tension side effects universally among youth during the Coronavirus pandemic. The total prevalence of clinically significant symptoms of depression and anxiety was approximately 25% and 20%, accordingly, across 29 samples and 80 879 youth (Recine et al. 2021). As a result, one in four young people worldwide have clinically elevated symptoms of depression, and one in five young people have clinically elevated symptoms of anxiety. A comparison of these results to estimates from before the pandemic (Tiirikainen et al. 2018) and 11.6% for anxiety (Lu 2019) indicate that youth mental health issues have likely doubled during the coronavirus pandemic.

The COVID-19 epidemic, as well as the prohibitions and sanctions that came with it, appears to have had a substantial influence on the mental health of youngsters. These increases might be attributed to decreased contact with peers, social isolation, and buffering services such as teachers and coaches (Lee 2020). Furthermore, 80 percent of children rely on school-based mental health treatments to meet their needs (Lu 2019), and school closures made these programs inaccessible to many children. Psychological treatments are routinely provided in schools.

Depression and anxiety rates increased in tandem with the month of data collection. One chance is that continuous social segregation, family monetary challenges, missed achievements, and school interruptions are intensifying over the long run for youth having a combined affiliation (Lee 2020; Loades et al. 2020). Nonetheless, longitudinal exploration supporting this chance is right now scant and

desperately required. Early-stage pandemic studies, those conducted between February and March 2020, were more likely to be done in East Asia, where the self-reported incidence of mental health symptoms is lower (Yue et al. 2020).

The prevalence rates of anxiety were impacted by the quality of the investigations, with lower-quality studies resulting in greater prevalence rates. It's worth noting that even after eliminating lower-quality studies from sensitivity analyses, other major modifiers like child gender and data collecting duration remained significant. Research on teenage mental health has developed swiftly during the COVID-19 epidemic; nevertheless, the propensity for certain studies to compromise methodological rigor and quality has led to criticism of these studies' hasty execution (Pierce et al. 2020). Additionally, nonprobability or convenience samples have been used in several studies estimating mental illness prevalence rates during the pandemic, which increases the likelihood of reporting bias (Pierce et al. 2020). Future research should emphasize assessing representative samples and carrying out longitudinal follow-up studies that can show the differences in symptoms of mental health illness both before, during, and after the pandemic.

The female sex was shown to be connected with both heightened levels of anxiety and depressive symptoms, which is consistent with earlier studies on childhood and adolescent mental illness. According to Riecher-Rössler (2017), biological predisposition, lower baseline self-esteem, a higher likelihood of having experienced interpersonal violence, and exposure to stress related to gender inequality may all be factors (Riecher-Rössler 2017). Aside from the additional effects of social alienation and physical distance on school-aged children, who rely largely on peer socialization, higher incidences of depression have been documented (Loades et al. 2020). In contrast, age had no influence on anxiety prevalence rates. Younger children

may be able to identify changes in their routine that cause equal amounts of anxiety with separate underlying mechanisms, while school-aged children may be more keenly aware of their parents' stress and the implications of the current global epidemic.

The family doctor's or pediatrician's office is a common point of contact for many young people, which has practical implications. In this setting, it's important to assess or test for mental health issues in young people. According to Glynn et al.'s recent findings, families with more routines during COVID-19 tend to have fewer issues with child conduct and depression (Glynn et al. 2021). Therefore, collaborating with children and their families to establish routines that are consistent and predictable in terms of schoolwork, sleep, screen time, and physical engagement is a concrete way to help assist with the reduction of some of the negative impacts of the pandemic on youths. Extra assets ought to be made accessible, and clinical references ought to be put in when youngsters experience clinically raised mental misery. Policy-wise, research suggests that mental health issues may be exacerbated by social isolation (Brooks et al. 2021). Therefore, it should be considered a last resort to shut down schools and recreational activities (Chirstakis et al. 2020). Additionally, scalability and equitable access across diverse populations must be prioritized in methods of distributing resources for mental health to youths, for instance, using individual and group tele-mental-health services (Madigan et al. 2021).

Global estimates of mental illness among children and adolescents in the first year of the COVID-19 pandemic suggest that the incidence has greatly increased and remains high, prompting concern for mental health recovery planning. A meta-analysis of 29 studies, including 80 879 children from around the world, discovered that the pooled prevalence estimates of clinically elevated child and adolescent

depression and anxiety were considerably high, accounting for 25% and 20% of the population, respectively (Recine et al. 2021). The prevalence of melancholy and anxiousness side effects during the Coronavirus has increased, compared to and before the pandemic, and mediator investigations revealed that predominance rates were higher when gathered later in the pandemic, in teens, and in young ladies (Recine et al. 2021).

Mental Health Related Stigma in the Pandemic among Children and Adolescents

Since the COVID-19 pandemic began in March 2020, numerous countries have moved fast to halt the virus's spread. Children and adolescents had to spend more time at home due to initiatives to minimize social distance and isolation. Education is now given online, schools have closed, out-of-home leisure and physical activities have declined, and peer connections have suffered (Fegert et al. 2020). In response to the COVID-19 epidemic, the Turkish government created remote learning systems for pupils, forbade isolation procedures, and made provisions for governmental institutions and organizations to operate from home. The psychological impacts of the COVID-19 pandemic on children and adolescents may be related to long-term house confinement, a higher risk of infection, inadequate information, a lack of social interaction, a loss of personal space at home, and financial difficulties in the family (Wang et al. 2020). According to early research, the COVID-19 epidemic has altered sleep patterns and decreased physical activity in children and adolescents trying to adjust to their new lifestyles (Bates et al. 2020).

Youthfulness is a crucial time when the limbic and cortical regions of the brain are still developing. People under pressure both immediately and over the long term may experience significant changes in their mental health during this time, and

stress-related anxiety and depressing side effects may manifest (Eiland and Romeo 2013). A study of young individuals between the ages of 12 and 18 indicated that in the early stages of the COVID-19 pandemic, 43.7% of them had depressed symptoms, nearly 34% had anxiety symptoms, and 31% had both sadness and anxiety symptoms (Zhou et al. 2020). Separation anxiety, fears of physical injury, social phobia, panic disorder, and generalized anxiety were found to be higher during this time period than they had been before the COVID-19 outbreak (Duan et al., 2020). Norredam et al. (2018) posit that mental and behavioral issues arise when children are removed from their caregivers. Studies have thus demonstrated that children who are kept in quarantine are 30 percent more likely to develop posttraumatic stress disorder, adjustment disorder, and acute stress disorder. Situations like being separated from caregivers and losing parents during childhood raises the risk of mental health disorders, mood disorders, and suicidal thoughts (Wilcox and team 2010; Santavirta et al. 2015).

Social labeling that prevents individuals from being accepted by society is known as stigma, and the COVID-19 pandemic has brought it back to the forefront. It is a characteristic that transforms a person from a normal, whole person into a tainted, discounted one, reducing them to an undesirable stereotype (Baldassarre et al. 2020). In spite of the fact that executing quarantine measures are viewed as defensive in irresistible illnesses, it might bring about criticism which is affected by attributes, for example, information, training level, and financial status (Samuel et al. 2018; Li et al. 2018). Individual mental health differences are also caused by stigma. It can also cause symptoms of depression and post-traumatic stress disorder (Rabelo et al. 2016). Violence and interpersonal discrimination can result from people being referred to as dangerous or irresponsible (Tomczyk et al. 2020).

Quarantined persons are more likely to report feeling stigmatized and socially rejected because of their avoidance, withdrawal from social activities, and the possibility of critical remarks from those in their local vicinity. Patients and healthcare workers who experienced stigma while confined to quarantine described how others treated them with suspicion and fear, how their social interactions were ruined, and how some of the healthcare workers encountered challenges ranging from domestic conflict to being unable to return to work (Brooks et al.2020).

According to research, many of the healthcare professionals who were employed during the COVID-19 epidemic had signs of sadness, anxiety, sleeplessness, and discomfort. Front-line healthcare personnel, in particular, were particularly susceptible to these symptoms (Lai et al. 2020). It has been shown that during this epidemic, healthcare professionals who had trouble caring for their children due to the pandemic showed greater levels of despondency and anxiety (Hacimusalar et al. 2020). There isn't much research on child stigmatization in the literature, and none was conducted during the COVID-19 pandemic (Kaushik et al. 2016). The high transmission rate of COVID-19 increases the risk of stigma and unfavorable experiences for patients and their loved ones.

Parenting in a Pandemic

The day-to-day lives of millions of parents and families were severely changed by the COVID-19 pandemic when it struck the world in 2020. Parental expectations and obligations increased as a result of the pandemic's quick start, and many formerly stable components of family life and function underwent profound change. Medical professionals and government institutions addressed serious concerns over the possible detrimental consequences of these increasing family

expectations and pressures on parents' mental health during the first wave of the COVID-19 pandemic (Phelps and Sperry 2020; Wang et al. 2020).

Parental melancholy and time constraints are well-studied topics (Deater-Deckard and Panneton 2017). According to Deater-Deckard and Panneton (2017), many parents struggle to manage the obligations of parenthood and are unable to obtain the resources they require, even under normal circumstances. According to the literature, relatively little is known about parenting-related stress, the risk factors that may impair parents' mental health, and the protective variables that may minimize these mental health consequences in the event of a worldwide pandemic. Little was known about the enormous impact that vigorous disease containment efforts may have on parenting and family life during a global health crisis.

The influence of these pandemic-related pressures on parents' mental health outcomes is studied using the theoretical lens of family stress theory. According to family stress theory, the significant risk exposure caused by pervasive, rapidly evolving, and unpredictable stressors, such as those prevalent during the COVID-19 pandemic and dramatically disrupting many otherwise stable aspects of family life, is especially likely to jeopardize family harmony (Malia 2006). According to the ideas of family stress theory, the breadth and scope of the COVID-19 pandemic resulted in pressures that affected every part of the family ecosystem. According to Patterson (2004), these levels have been exposed to a wide array of risk factors affecting each family member individually and may then have an effect on the family unit in terms of the results of the family system and the context of the community. The emergence of risk factors, which will be covered in more detail in the parts that follow, is noted by Patterson (2004), but Patterson also points out that equivalent levels of the family's environment may also create protective factors and skills in addition to these.

Risk Factors for the Mental Health of Parents during the Pandemic

The government's stay-at-home instructions released in the initial phase of the COVID-19 epidemic resulted in rapid and significant changes in parental obligations. The unexpected closure of schools, the loss of domestic aid, and the absence of childcare facilities in the majority of countries forced parents to adjust to new daily routines (Petts et al. 2020). These parents had to deal with the difficulties of home-schooling their children full-time while also working from home (Petts et al., 2020). According to Yamamura and Tsutsui (2021), parents appeared to have found it especially difficult to transition to working from home since it was impossible for them to differentiate between their employment and family commitments. Mothers are more likely to be affected by the pandemic because of their disproportionate caregiving obligations and have been particularly impacted by these significant changes in work and family life (Petts et al. 2020; Collins et al. 2020).

People who are parents are more likely to experience psychological discomfort as a result of being exposed to substantial and unpredictable stressful life events (Malia 2006). The responsibilities that parents face during significant disease-containment efforts, as evidenced by a rapidly developing body of research following the COVID-19 pandemic and preceding pandemics, impose a wide range of risk factors that harm their mental health and well-being. Anxiety, alertness, excessive concern, and dread have all been linked to greater mental health burdens for parents during previous pandemics like SARS and the H1N1 virus (King et al. 2018; Fong and Iarocci 2020). Parents frequently experienced increased levels of family-related stress, worries about their children's health, and avoidance of interaction with people who have the condition (King et al. 2018).

Recent examinations on Coronavirus related stressors repeat these earlier exploration discoveries and affirm the hindering impacts of the pandemic on guardians' psychological wellness and prosperity. Nearly half of the parents (46%) claimed that their stress levels during the COVID-19 crisis were as high as those of non-parents, according to a national study done by the APA in 2020. Additionally, research on the pandemic's effects has lately revealed alarmingly high levels of parental stress as well as a high prevalence of severe anxiety and despair (Marchetti et al. 2020; Calvano et al. 2021; Lee et al. 2021). The negative psychological implications of quarantine, which are frequently described as extensive and associated with a high frequency of psychiatric symptoms and distress (King et al. 2018), have also been found among guardians/parents during the Coronavirus pandemic (Ebrahimi et al. 2021; Brooks et al. 2020). Longitudinal studies, such as Adams et al. (2021), also show that the pandemic had an immediate impact on parents' mental health and that even after the quarantine was lifted, it did not return to pre-pandemic levels, indicating that the pandemic's enormous burden and stress may have long-term effects on mental health.

Several studies, notably Crugnola et al. (2016) and Russell et al. (2020) have broadly corroborated the well-established link between perceived stress and signs of depression and anxiety. Furthermore, it has been observed that stressed-out parents are more likely to develop COVID-19-related stress as well as feelings of worry and despair (Brown et al. 2020). A variety of demographic factors, such as households' number of children, as well as psychological stressors, such as previous mental health vulnerability and the ability to adjust to acute stressors, may have an impact on parents' susceptibility to COVID-19 stressors. Regardless of the fact that studies of self-reported anxiety typically reveal that stress tends to decline with age

and that youths appear to be more affected by stressors than older people, few researchers have examined the connection between the age of the parent and anxiety levels during strict social distancing regulations (Archer et al. 2015). According to Wang et al. (2020), young people are more negatively impacted mentally by social distance assessments, according to a recent study from the early stages of the COVID-19 pandemic, and younger people experience more stress than older people.

According to recent research by Kowal et al. (2020), among others, mothers reported much greater levels of stress, more parental burnout, and worse well-being than their male counterparts. Perceived stress levels tend to increase under stay-at-home orders, along with the increasing number of children living at home (Kowal et al. 2020). Individuals in close relationships, however, have reported lower levels of stress than single people during the 19 pandemics owing to dyadic coping (Kowal et al. 2020).

A background of susceptibility, such as mental disorder, has been identified as an additional risk factor for long-term depressive disorders during confinement (Brooks et al. 2020), which may enhance the risk associated with the overall COVID-19 stress load. People suffering from mental illnesses may be more vulnerable while confined at home because of their social exclusion and a lack of access to professional mental healthcare care professionals (Holmes et al. 2020). The lockdown's exposure to swift transitions and heightened parental grief and burdens may have an impact on how parents manage pandemic-related stresses. Some coping methods may operate as defence mechanisms by controlling stress-related negative emotions and decreasing the damaging consequences of stressors, whereas dysfunctional coping activities may exacerbate the effects of stress. For example, COVID-19-induced stress in both parents and children has been linked to maladaptive

coping methods (Achterberg et al. 2021). Positive metacognitive attitudes toward worrying, such as "Worrying helps me deal," according to Capobianco et al. (2020), are significant in the genesis of anxiety and can raise the risk of managing depression and GAD.

Mental Health of Households with Children in The Pandemic

The coronavirus (COVID-19), which was labelled a pandemic on March 11, 2020 (WHO, 2020d), has impacted almost every country in the world. The people most affected by the mitigation actions anticipated to slow the spread of the virus are guardians or parents with children under the age of 18 in the home. 42 states in the U.S. have passed laws requiring the shutdown of all public schools for the 2019–2020 academic year. The other states likewise suggested closing or offered different closure options per school district. Despite the fact that many schools made an effort to compensate for the loss of formal classroom instruction by offering take-home tasks, online lesson plans, and virtual classrooms, access disparities meant that some families received greater remote learning support than others (Carpenter and Dunn 2020).

Davis et al. (2020) found that parents whose kids performed well with distant learning had lower rates of anxiety and sadness than parents whose kids struggled with it. Parents of young children have experienced a reduction in the availability of childcare services, which has worsened mental health. This has been caused by the temporary closing of childcare providers and decreased contact with people that are not part of their households and who might otherwise be providing childcare support (Sevilla and Smith 2020; Patrick et al. 2020). Particularly women who work from home have said they struggle to strike a balance between working remotely, caring for

children, and supervising those who are learning from home. Parental burnout resulted from parents' increased demands and decreased resources during the COVID-19 epidemic (Griffith 2020).

Research on how parenting affects mental wellness has indicated mixed results. Generally, parents have described higher degrees of difficulty than those who are not parents, with mothers experiencing higher scores of GAD and costly side effects than men (Will and Petrakis 2019). Nomaguchi, Milkie, and Bianchi (2017) claim that finding childcare is a major cause of stress for parents and has a detrimental effect on their mental health, especially for working moms. In other research, having children has been associated with improved mental health results. For instance, it was shown that motherhood was linked to improved psychological health in a sample of Australian moms between the ages of 30 and 34 (Holton Fischer and Rowe 2010).

Racine and colleagues (2019) found that moms who had a support system, such as a spouse, family, or other mothers, experienced less stress and anxiety. The advantages of motherhood vary depending on one's gender, marital status, and social integration, claim Nomaguchi and Milkie (2003) (time spent with others). The nature of the parent-child interaction was thought to have an influence on happiness levels. Additionally, parents who had a deep bond with their kid were more likely to say that their wellbeing had improved. But both parents and non-parents had comparable levels of despair, showing that parenting was not linked to better mental health (Evenson and Simon 2005).

Increased pressures brought on by traumatic events or natural catastrophes may lead parents to become less available for their kids. These incidents could also affect their ability to maintain consistent, wholesome connections with their kids

(Kerns et al. 2014). Following a severe flood in St. Louis, Missouri, in the last months of 1982, parents with young children expressed more stress than non-parents (Solomon et al.1993). Parents from the US, Canada, and Mexico who were placed in isolation or quarantine during the H1N1 pandemic in 2009 either had post-traumatic stress disorder (PTSD) or were at risk of acquiring it (Sprang and Silman 2013).

According to current research, the COVID-19 pandemic has had a negative impact on the mental health of parents. Mentally unstable households were more likely to experience difficulty in adjusting the education of children throughout the period of school closures, according to Benassi and his colleagues (2020), those with children were likewise more anxious than women without children. A month after COVID-19 was proclaimed a pandemic, a sample of pregnant and postpartum women, largely from Canada, indicated an increase in self-reported anxiety and despair (Davenport et al. 2020). Moms with young children reported higher levels of worry than mothers of older children, which was validated by a second sample of largely Canadian women (Cameron et al. 2020).

Children living at home were connected to greater levels of anxiety among adults in the United Kingdom, according to Shelvin et al. (2020). The connection between a parent and their partner and the academic achievement of their kid or children are two COVID-19-related stressors that have been connected to an increase in felt anxiety among US parents with children below the age of 18. (Shelvin et al. 2020). When COVID-19 was first detected in the US, a different study of adults living in the United States found that the number of children in the household had little effect on depression; Tang, Avery, and Duncan (2002) reported that households with more children had slightly higher levels of self-reported depression than those with fewer under 18 years old children.

At the time of this literature review, there were no accessible studies that had compared the levels of stress and depression experienced by households with and without children below 18 years who lived primarily in the US during the Coronavirus. There may be non-random selection, a causal relationship, or both behind the association between depression and GAD levels and the number of kids living in the home. The current study wants to achieve two goals. Finding out if adults in homes with children below 18 years suffer higher stress and anxiety levels than adults without children was the study's primary goal. Second, the review tended to determine whether the connection between kids in the family and anxiety interceded by natural depressors increased simultaneously. The discoveries add to a developing group of writing showing the effect of the Coronavirus lockdown on emotional wellness, explicitly on families.

Avery, Tsang, Seto, and Duncan (2021) conducted a similar study on “women with and without children in the household during the early months of the COVID-19 pandemic.” Contrary to their premise, reported stress levels were similar for women with and without children in the home. Women who had different numbers of children in the home reported similar average levels of stress. Previous studies found that older adults experienced less stress than younger adults, regardless of the number of children per household (Thomas et al. 2016; Matuska, Bass, and Schmitt 2013). The study by Fancourt and Steptoe (2021) hypothesized that women living with under 18 years old children experienced average anxiety levels that were greater than those of women without children. Avery et al. (2021) found that women of varying ages had different levels of anxiety when there were children in the home. As children in the household increase, the level of anxiety experienced by younger women decreases, whereas the level of anxiety experienced by older women rises (Avery et al. 2021).

Mental Health Services and Resources

Because of the pandemic's global temporal variability, some locations noticed an increase in incidence months or weeks before the others did (such as China, Europe, and the Americas). An increase in incidences led to an increase in emergency department visits, which were then accompanied by hospital admissions, including usage of the critical care unit. Countries correctly used swift and freely communicated information during the "surges" to prepare certain regions for these acute healthcare loads. The distribution of finite resources like oxygen and ventilators caused catastrophic system failure in certain densely populated countries, including Iran (Fassihi 2021). Countries experiencing periods of increasingly high transmission and case incidence struggled to meet the demands of the patients as the pandemic continued to spread and the medical systems were overwhelmed on a broader scale.

During the initial wave, a major obstacle was the lack of PPEs and medical equipment like ventilators. In following waves, the shortage of qualified employees outweighs the dearth of resources more subtly. According to Schaller and his colleagues (2022), it was necessary to redeploy professionals from non-critical care sectors on a regional and greater scale. These redeployments exacerbated the financial, emotional, physical, and mental stress on healthcare employees while also raising the risk of burnout. These challenges indicated the significance of proactive people management in the case of future pandemics (Schaller et al. 2022).

It was very clear that there were no strategies for allocating resources based on evidence or the best models for sharing resources at the local, regional, national, and international levels (Hempel et al. 2021). Revisions were made to the shaky existing guidelines for allocating resources. The disparity in guidelines between states, as well

as within a single nation, stood out (Piscitello et al. 2020). There is a lot of evidence that COVID-19 is overburdening the health system. The lack of proper public health resources to restrict transmission of pathogens and the ICU bed occupation in Brazil demonstrated that, despite the additional ICU beds, there was a sharp increase in new mortality as the ICU bed occupancy approached 100%. They were unable to offer high-quality ICU treatment since there were no critical care health specialists available to staff these recently opened ICU beds.

During successive waves of the pandemic, a significant amount of depression and negative physical, psychological, and socioeconomic effects on all healthcare workers contributed to this shortage of workers (Falatah 2021). According to Falatah (2021), the intention to leave one's position as a nurse has significantly increased, as have the intentions of the other healthcare professionals. According to Mauder et al.(2021), by the spring of 2020, the prevalence of severe burnout among Canadian healthcare workers exceeded 30 percent. Because of the widespread nature of the pandemic in the US, half of healthcare workers said they would be less likely to stay in their current job, and Hendricks et al. (2022) found that just about 5% of nurses at an Egyptian health facility said they would not be leaving their current job. Workforce satisfaction and well-being should be a leading priority at all levels of medical policymaking as institutions recover from the pandemic. At the same time, providing high-quality care to the community and retaining employees will be challenging (Hendricks et al. 2022).

Outpatient clinics shifted to offering telehealth services outside of hospitals to facilitate social distancing rules and regulations that limited face-to-face health care. Doraiswamy et al. (2020) observed a fourfold increase in telehealth resources and an 80 percent decrease in utilization of resources for outpatient as compared to the pre-

pandemic years. A staggering 84.9% of countries that implemented telehealth during the pandemic expressed optimism about its future use. Doraiswamy et al. (2020) reviewed data from wealthy nations and found that about 43% of the reviewed articles were written in the United States. However, the reliability of telehealth in resource-poor as well as low-income and middle-income nations may remain a challenge (Doraiswamy et al. 2020).

To deal with the lack of resources, governments took unprecedented measures. The Defense Production Act was used in the United States to speed up the development and testing of therapeutics, ventilators, and vaccines as well as the timely release of funds for those endeavors. Businesses in the UK produced over 10,000 ventilators in three months as part of the "Ventilator Challenge," one of the government's three approaches to quickly expand the production of ventilators (Kaul et al. 2022).

The global supply chain for healthcare is a multi-level, complex process. All parties engaged include producers, distributors, purchasers, vendors, and storage facilities. The pandemic had worldwide effects because the supply chain requires continuous flow without interruption, and because of the multifaceted impact it had on each stage in different countries. Lack of personal protection equipment at the start of the pandemic was a sign of resource depletion due to a sharp rise in use and scarce worldwide sources. China was the pandemic's epicenter and the country that produced the majority of the supply, thus international efforts switched to recovering, recycling, and repurposing the current supply. To fill the gaps and increase supply, manufacturing infrastructure was repurposed (Kaul et al.2022). According to Iyengar et al. (2020), for instance, India stopped exporting 26 active pharmaceutical ingredients out of concern for domestic shortages.

Professional Mental Health Service during the Pandemic

Notably, the coronavirus struck the majority of countries during the first quarter of 2020. Many aspects of daily life were altered when nations decided on measures to prevent the virus from spreading to the population and healthcare systems from collapsing as a result of an excessive number of patients requiring intensive care. Roudini et al. (2017) claim that, particularly among those who already have psychological vulnerabilities, public health crises are disproportionately linked to an increase in the population's burden of mental distress and mental health (MH) issues. According to recent studies, the psychological impacts of the COVID-19 epidemic and its restrictive measures have a significant impact on the general population, medical professionals, and those with mental health difficulties (Frank et al. 2020). Protocols, such as those of the WHO (2005) and the IASC (2015), recommend placing an increased emphasis on psychological support during humanitarian crises and public emergencies. The majority of governments' reactions to the COVID-19 pandemic, on the other hand, appear to have been fragmented medical responses, as opposed to a cohesive response from across all healthcare organisations that handled the crisis in a manner that encompassed its possible psychological impacts (Fasshauer et al. 2021a). According to Fasshauer et al. (2021), those who had MH concerns in the past were not given adequate attention in legislation enacted to safeguard the public, and their interests were rarely considered, at least in Germany's COVID-19 limitation rules. Many doctors, however, predict an increase in mental health disorders as a result of the pandemic (Bäuerle et al. 2020).

The phrase "mental health services" refers to any intervention or therapy that is offered in medical facilities whether public or private for the preservation or improvement of mental health (MH) or the management of psychological illnesses

(MHS). MHS can be structured as peer services or as mental care facility treatment, depending on the nation (Thornicroft et al. 2016). Additional information on MHS across the world is retrievable from the Mental Health Atlas, which was released by WHO and offers current data on mental health policy, services and systems from a global perspective since 2001. Prior to the COVID-19 pandemic, WHO found a substantial service gap between the population of people with psychiatric illnesses and the percentage accessing care (Alonso et al. 2018).

The COVID-19 epidemic is posing unprecedented challenges to the healthcare industry. But studies on other significant crises, like the Ebola virus, have shown that these emergency events frequently compromise the delivery of healthcare, including mental healthcare, while simultaneously raising the need for proper MHS response (Roudini et al. 2017). Furthermore, crises are typically seen as agents of change having the power to influence public organizations (Roudini et al. 2017).

Even though COVID-19 is a respiratory disease, it has had an impact on global services that meet the needs of people with mental health issues. In the first phase of the pandemic, for instance, psychiatric clinics in Germany saw a 40 percent reduction in their capacity for inpatient treatment compared to the time before the pandemic began. In addition, the length of inpatient stay and outpatient clinical admissions significantly declined (Adorjan et al. 2021). Subsequently, mental health services tried to ensure continuity of care worldwide by introducing telepsychiatry, which may be a historical shift brought on by the crisis (Reay et al. 2020). In this context, MHS, which include psychosocial care and psychotherapy, are referred to as telepsychiatry (TP) when they are delivered via telephone or digital means, such as video calls.

Mental health services were more in demand as a result of the pandemic. Mental health issues like anxiety, depression, insomnia, and drug and alcohol abuse are being exacerbated or exacerbated by grief, fear, isolation, and financial hardship. In the meantime, COVID-19 can cause neurological and mental complications like delirium, agitation, stroke, and long-term COVID. A global survey of psychological health, neurological, and substance use treatment services conducted by the WHO in the second half of 2020 included 130 countries in six WHO regions (WHO 2020c). The survey showed that people who already suffer from mental, neurological, or substance use disorders are more likely to contract SARS-CoV-2. As shown in figure 1, the survey provided information on the percentage of nations that reported experiencing service disruptions.

Figure 1. WHO COVID-19 survey on the disruption of mental health services due to the pandemic.

• Over 60% reported disruptions to mental health services for vulnerable people – child and adolescents (72%), older adults (70%), antenatal/postnatal services for women (61%)
• 67% disruption to counselling and psychotherapy
• 65% disruption to critical harm reduction services
• 30% reported disruptions to access for medications for mental, neurological and substance use disorders
• 35% reported disruptions to emergency interventions, e.g., for people with prolonged seizures, severe substance use withdrawal, delirium, (all serious medical conditions)
• 45% disruption to opioid agonist maintenance treatment for opioid dependence
• 78% and 75% reported disruption to school and workplace mental health services, respectively

Source: Adopted from Byrne, Barber and Lim, 2021.

The widespread use of telepsychiatry, or the provision of remote psychiatric care through technology, is another significant service change. The 1956 University of Nebraska two-way television closed-circuit system used for medical and educational reasons is the first instance of telepsychiatry documented (Chakrabarti 2015). In psychiatry, the utilization of technological consultation has undergone relatively little change since then. The use of telepsychiatry, on the other hand, has skyrocketed in response to the COVID pandemic in order to maintain care continuity and lessen the likelihood of virus transmission. According to Pereira-Sanchez et al. (2020) popular teleconferencing applications include Microsoft Teams and Zoom.

In order to make it simpler for people to book appointments from home, online video consultations were immediately made accessible in mental health organizations throughout the United States (Bhaskar et al. 2020). To safeguard patient privacy and stop data breaches, a system of secure connections was availed to both patients and caregivers for outpatient and other examinations. Online video conference virtual meetings quickly replaced multidisciplinary team and management meetings. This practice, which quickly became the norm, helped alleviate the challenges posed by pandemic-related guidelines, such as limiting the number of people in a room. As a result, patient continuity was better maintained than would have been otherwise possible (Bhaskar et al. 2020). Nonetheless, vulnerable and underserved populations may be excluded from telepsychiatry. Some elderly patients might not be familiar with the processes that permit videoconferencing and are thus more likely to find it difficult to use them correctly, claim Pereira-Sanchez et al. (2020). Additionally, patients from poorer socioeconomic backgrounds might not have consistent internet connection, which makes it challenging to use telepsychiatry efficiently.

As mentioned previously, the COVID-19 pandemic has necessitated the creation of waiting lists for mental health services, with some of these waiting lists still in place. As a result of the pandemic's impact, there has also been a noticeable increase in transfers to secondary care facilities. In order to lessen this, primary care physicians can get guidance on how to manage mental health issues like anxiety and depression from primary care physicians who collaborate closely with psychiatrists and other mental health experts. This might improve source-based prevention and therapy, say Turkozer and Ongur (2020). It is also possible to employ initiatives for waiting lists. Furthermore, it is crucial that the pandemic not have a negative impact on mental health treatment, such as employees being switched to other specialties.

In terms of addressing mental health consequences and moral injury, a tier-based strategy for preventing, identifying, and treating mental disease and moral harm has been proposed. Moral damage is linked to mental illnesses like depression, post-traumatic stress disorder (PTSD), and, in some cases, suicidality (Tracy et al. 2020).

Use of Prescription Medication for Mental Health during the Pandemic

As psychiatric symptoms increased, a large portion of outpatient mental health care shifted from face-to-face to telehealth (by phone or video) modalities. According to Hirschtritt et al. (2021), over 92% of behavioral and mental health doctors reported seeing 0 to 5 patients per week via telehealth before March 11, 2020. At the time of the survey, over 60% of respondents claimed to use telehealth to visit more than 20 patients weekly (Hirschtritt et al. 2021). This considerable modification in the provision of outpatient mental health treatment may have an impact on the prescription of psychotropic medications. Early findings (Vaduganathan et al. 2020) suggested very minor adjustments in the prescribing of psychiatric medications soon.

Antidepressants and benzodiazepines were often prescribed in North York, Ontario, according to a study of psychotropic prescribing trends (Yu et al. 2020). Antidepressant and anxiolytic prescription rates were consistently prescribed during the first 5 months of 2020 compared to the same period in 2019. (Yu et al. 2020). The 2020 period, however, was connected to greater rates of prescription and dosage modifications, as well as higher rates of benzodiazepine dispensing, comparing to 2019 (Yu et al. 2021). It is unknown if these trends persisted until the summer of 2020 across all pharmaceutical groups or patient demographic categories.

Telehealth treatment may discourage clinicians from administering restricted drug classes like benzodiazepines and hypnotics. It may also make it challenging to initiate new prescriptions with patients who are seen virtually due to the considerable risk of abuse or overdose. During the pandemic, elderly and non-White individuals would have had limited access to psychiatric drugs and telemedicine services due to different prescribing patterns (Lam et al. 2020). Longer-term and more detailed data would assist in describing changes brought on by the COVID-19 disaster to facilitate preventative preparation for next pandemics.

Positive Factors and Resource

Despite a growing amount of data proving the severely harmful consequences of COVID-19 on mental health and socioeconomic outcomes, other parents have claimed positive pandemic effects on their individual or family lives, such as more time spent with family and a slower pace of life (Calvano et al. 2021).

To balance family demands with family capacities, families engage in dynamic cycles. As a last resort, families work together with guiding values to manifest at a level of household change or reform (Patterson 2004). Consequently,

managing the responsibilities of a family might make it simpler to adapt to and manage stress (Patterson 2004). Effective coping skills may be utilized to minimize the negative impacts of parental stress, fatigue, and neuropsychiatric symptoms, which may influence how emotional discomfort and concern are managed.

Parental resilience and coping are thought to be greatly aided by protective variables including self-efficacy and social support (Ren et al. 2020). Recent studies have looked at parents' coping mechanisms and protective variables during the pandemic. According to Crnic and Ross (2017), the independence of households and perceived social support may be effective protective factors against households GAD and depression and the ability of parents to deliver quality parenting—in the face of major problems. According to current study, self-efficacy and social support, for instance, may have masked the detrimental effects of depression and excessive worry on parents during the COVID-19 epidemic (Ren et al. 2020).

The research that is currently available on the COVID-19 pandemic and previous pandemics point to the most significant demands and stressors that the pandemic has placed on parents, in addition to the increased parental distress risk factors and the resilience factors that can sooth parents' capacity to adapt to acute stressors (Ren et al. 2020).

Outcomes on the Family System

Mental health outcomes related to the pandemic that represent a danger to parents' mental state can eventually manifest at different stages of family life. A myriad of hazards, in which one risk at the end initiates a chain reaction of additional risks, is typically associated with a lack of resources to satisfy demands (Patterson 2004). According to Patterson (2004), family stress theory postulates that a

cumulative risk can lead to a buildup of mental health outcomes that endanger the security and structure of the family. A significant societal concern was raised in the early stages of the COVID-19 pandemic over the possibility that extended social isolation, elevated parental depression, or psychopathy symptoms would impact parenting style and family interaction (Wang et al. 2020). Parental fatigue and stress have often been connected to increased levels of rage expression (Johnson et al. 2021). Additionally connected to abusive parenting and the potential for child abuse are stress and rage expression in parents (Johnson et al. 2021).

Studies examining the danger of violent and aggressive parenting due to anxiety and depression found that parents who had previously harmed their children mentally were more likely to do so again during the COVID-19 epidemic (Lawson et al. 2020). Domestic violence and child abuse rose during the pandemic in households with higher degrees of parental anxiety and loss of employment (Calvano et al. 2021). Additionally, harsh parenting has been linked to higher levels of parental stress (Chung et al. 2020). As a result of the pandemic, parents have similarly reported experiencing increased conflicting and hostile relations with their children (Achterberg et al. 2021). The public health response to COVID-19 promoted prolonged stays at home, which resulted in overall reductions in child maltreatment reports, and researchers such as Bullinger his colleagues (2021) reported that adolescents in regions that implemented in-house quarantine were more likely to report and confirm incidences of maltreatment and more often, neglect.

Intervention Implications

The responses of the federal, state, and municipal governments to the COVID-19 outbreak and recovery have mostly focused on the consequences for policy (such as checks for stimulus, mobility and migration, reopening the economy, migration, closing public locations and borders partially or totally, and redirecting sources of social funds). Policy responses also cover a wide range of other industries, such as educational institutions, business, and medical settings (Han et al., 2020). Responses to mitigation policies varied because while some were politically motivated, others were voluntary (Gollwitzer et al., 2020). This study generally addresses the impact of the COVID-19 social restrictions and economic downturn on mental health and mental healthcare in the pandemic.

The mental health effects of COVID-19 are likely to last longer than the physical health effects of the pandemic, as evidenced by previous disasters and pandemics (Fong and Iarocci, 2020). For instance, there are still unmet service needs in substance abuse and mental health, domestic violence, senior and veteran care, and peer mental health interventions in schools. Prior to the pandemic, these were equally areas of concern, but they were frequently exacerbated by partisanship, isolation, underemployment, unemployment, and uninsured or underinsured groups (Scheffer et al. 2020).

Government and market decision-makers, on the other hand, while looking to implement public policies at the same time, also seek to appeal to public emotions in efforts to influence and legitimize public responses, whether positive or negative, despite the fact that the challenges of mental health, with regard to government responses, are likely more widespread and whose impacts are only partially

understood. Policy drivers, for instance, may contribute to the destigmatization and sensitization of pressing issues, the creation of trust or fear in response to uncertainty, or both. Policy responses must be evaluated and modified over time in order to be effective (Greer et al. 2020). Family and individual requirements or intents on self-care, home-schooling, and access to online consultation services in response to extended isolation may be important factors to consider during the implementation of policy interventions (Greer et al. 2020). As such, the present study demonstrates that while family-level concerns continue to receive attention, individual-level policy requirements are still crucial.

With the possible long-term implications of the pandemic on psychological wellbeing, effective clinical measures at the household level will become increasingly vital going in the future. Sheridan and Burt (2009) assert that positive family-centered in psychology is a valuable paradigm for therapists to employ in supporting communities, families, and individuals in distress to discover positive meaning and establish or access services for household health. Further, Sheridan and his colleague note that family-focused behavioural psychology research emphasizes the identification, enhancement, and improvement of traits and constraints in households and in particular people within the family setting. The guiding principles of this framework include mobilization of resources based on household needs as identified by families rather than mental health practitioners and policymakers or other outsiders, encouraging households to acquire new abilities on the basis of strengthening their preparedness to support family dynamics (Sheridan et al. 2004).

CHAPTER 3: THEORETICAL FRAMEWORK

The family remains a primary and critical source for coping with stress, socialization, nurturing, and attachment for most individuals. As such, in the COVID-19 pandemic context, the pandemic's impact on mental health can be best understood at the household level. Each household and each household member are uniquely impacted by the emotional stressors of COVID-19 as determined by, among other factors, economic hardships, changed attachment patterns, changed roles in the household, and excessive emotional distress stemming from the uncertainty of the pandemic. For households, addressing the mental health impacts of COVID-19 can never be complete without analyzing the deleterious effects on children present as social and sociological literature has long recognized that children's well-being is better assessed in the context of their formative household environments (Loades et al. 2020; Ward 2020; Suppawittaya et al. 2020). As such, the specific theories and concept to be tested relate to how depression, anxiety and seeking/receiving mental health treatment are experienced within the household unit.

Theory

The household environment shapes the individual's mental well-being just as much as the individual shapes the mental well-being of their household, with external factors like COVID-19 mediating the extent of the impact. As such, the impact of the COVID-19 pandemic on self-assessed depression and anxiety scores is best understood through theories of stress management and theories of interpersonal relationships in the household. Additionally, theories about peoples' reaction to uncertainty and the possibility of death can help explain the impact of COVID-19 on self-assessed depression and anxiety scores. Thus, theories help to understand the differences in the

mental health impacts of COVID-19 on US households with children and those without children.

Family Stress Theory

Developed by Hill (1949), family stress theory identifies a roller-coaster pattern of coping with stressors involving initial disarray, recovery, and then reorganization. The COVID-19 pandemic has presented such a pattern as demonstrated by job losses, loss of household members, and separation of families. The family stress theory is based on the ABC-X model developed by Hill (1949) (Appendix 2). This model was further enhanced by McCubbin and Patterson in 1983 to explain how families are affected by traumatic stressors.

According to family stress theory, it may be possible to accurately predict symptoms of depression and anxiety based on family resources and significance attach to a traumatic stressor like the coronavirus pandemic. The 'A' in the ABC-X model represents the stressors faced by families while 'B' represents the resources the family uses to handle the pressure and 'C' represents the family's emotional reaction to the emergency. Further the individual or family outcome (X) is the result of A, B, and C working together.

For the purposes of the present study, factor 'A' represents the stressor (the 2019 coronavirus pandemic and interventions instituted to mitigate its spread such as lockdowns, social restriction and vaccination) that is causing a loss of equilibrium in the household's well-being. Factor B refers to the strength and resources of the family (Such as family health and for the purposes of the current study, children) that can help cope with the stressor. Family resource enable families to function effectively to meet household demands and responsibilities (Crandall et al., 2022). Factor 'C' stands for

how household members perceive the causal stressor. Thus, Factor ‘C’ encompasses both negative and positive effects that COVID-19 and its mitigation interventions have on families including having more time to spend with loved ones or becoming enraged with them as a result of living in close quarters. Factor ‘X’ represents the outcome of the crisis or stress after delaying the coping strategies.

As a stressor under the ABC-X model, COVID-19 resulted in additional stress factors for households (that is, long-term demands for parenting, change in schedules, having to depend on food stamps, etc.), and this led to a crisis point where individuals could no longer handle the stress using their own strategies and skills. The stress then morphed into a challenge for the whole household, and to minimize the stress contagion (Candall 2021), adults in the household must possess enough resources and internal coping techniques to hold the stress at a level that is manageable. Most importantly, Price and McKenry (2016) say that stressors (factor A) only intensify tension in the household dynamics by altering the parent-child relationships. In the context of COVID-19, households with children may report higher self-reported scores of depression and anxiety than households without children.

According to the family stress theory, resources are used to mitigate the effects of the stressor. Successful mitigation of a stressor depends on the resources at the disposal of the household (Patterson 2002). When resources are insufficient to cope with the stressor, parents may interpret the situation as a crisis, and at the emotional level, they may feel depressed. At the behavioral level, Rodriguez (2010) says that parents experiencing high levels of stress are more likely to vent their maladaptive emotions through bad behavior, such as verbal abuse, physical abuse, and even unhealthy alcohol consumption. Personal resources that add to the overall household coping with stressors include education, self-esteem, health, and psychological well-

being, which, in turn, may affect parenting styles and shape the mental health impact of the stressor. For instance, Usher et al. (2020) reported that households with a history of child maltreatment or domestic violence may experience worse negative mental health impacts during the COVID-19 pandemic.

One month into the social distancing guidelines, a study in the United States found that families with more financial resources had lower depression and anxiety rates compared to families with fewer material resources. However, higher depression and anxiety rates were associated with the negative perceptions of the meaning of family caused by the pandemic (such as feeling irritated with household members as a result of spending more time with them) (Crandall et al. 2022). However, as weeks turned into months in the pandemic, families may have become better or worse with possible changes on household's management of family resources and mental. As such, the present study analyzes how COVID-19 and the mitigation strategies enforced by the US government impacted self-assessed depression and anxiety scores between households with children and households without children at week 2 and week 38 of the pandemic. Given that the family stress theory details the working mechanisms of households, the present study applies it to understand better the difference in self-reported depression and anxiety scores between US households with children and households without children below the age of 18 years old during the COVID-19 pandemic.

Stress Process Theory

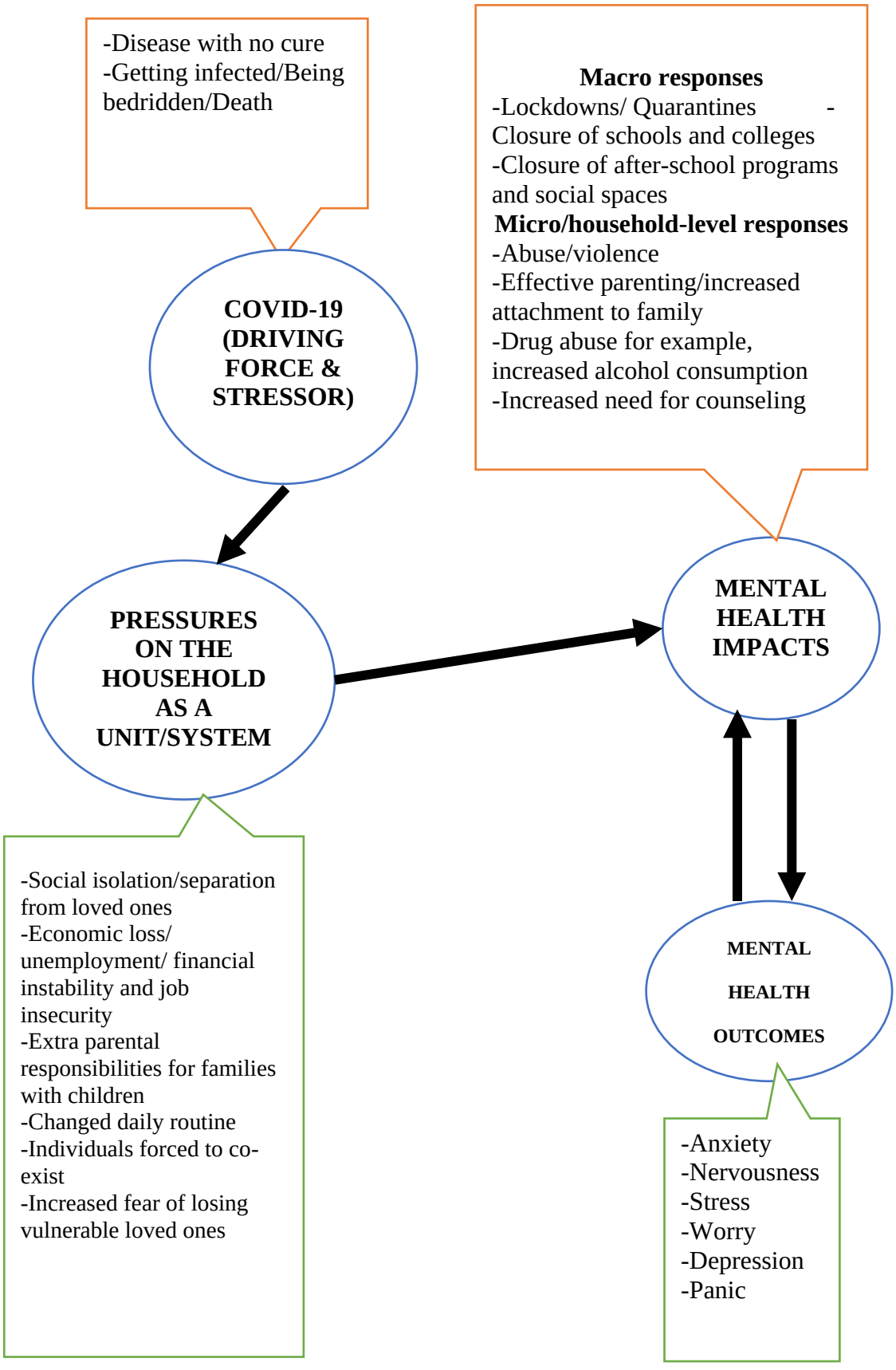
Developed by Leonard Irving Pearlin (1981) as a sociological approach to explaining stress and mental illness, stress process theory argues that familial stress undermines mental health with social support acting as a potential protective factor. According to the stress process theory, households' positionality within the social setup

predicts the amount of stress the individuals in that household will experience, and this, in turn, shapes their mental well-being. Households with disadvantaged social statuses will generally be exposed to harsher stressors, possess fewer resources to cope, and have less tolerance to stress proliferation in their lives. The core components of the stress process theory are social support and stressors. The quality of household relationships, encompassing strain (for example, making too many demands, being critical, and too many arguments) and social support (giving advice, care, and love) significantly determine mental health well-being through physiological, psychosocial, and behavioral pathways. With COVID-19 lumping most households together, it is inevitable that interpersonal relationships change as stressors (being out of jobs, having to take on extra responsibilities, etc.) spiked.

Having good relationships within households might reduce anxiety in parents and caregivers and lead to a greater sense of self-esteem and capability of combating COVID-19. This elevated self-esteem acts as a psychological resource, entrenching positive affect, facilitating optimistic views of the pandemic, and ultimately, better mental health (Goggin and Ellis 2020). Children may also give hope and optimism to parents, but strained relationships between household members or between parents and children (for example, as a result of children being nagging due to play and movement restrictions during the pandemic) may have led to maladaptive stress coping strategies to deal with the pandemic-related stress. Positive relationships between children and parents in households are associated with less allostatic loads, significantly reducing the risk of depression during the pandemic. As Thomas et al. (2017) note, parenthood significantly increases time constraints, diminishing well-being and producing stress, especially in households with younger children and fewer resources, but the same parenthood can enhance social integration, leading to a sense of meaning and belonging

alongside greater emotional support to result in positive mental health impacts in times of distress. As such, it would be true to imply that during the COVID-19 pandemic households with children would have lower self-reported depression and anxiety scores than households without children under 18 years old.

Figure 2. Conceptual framework: impact of COVID-19 on self-assessed anxiety and depression scores in US households (Combination of stress process theory and family stress theory*)*



CHAPTER FOUR: METHODOLOGY

Data Source

Data for this study was drawn from the United States Census Bureau Household Pulse Survey (HPS) microdata/individual dataset. The United States Census Bureau, while collaborating with 5 federal agencies, initiated the HPS with the aim of producing data on the socioeconomic implication of Coronavirus disease pandemic on US households. Data from the HPS gauges the impact of the pandemic on households on several fronts including food security, employment status, housing, consumer spending, education disruptions, mental and physical wellness.

Data for this study is the Public Use Files (PUF) Phase one Week 2 which was conducted between May 7, 2020, and May 12, 2020, and PUF Phase 3.2 Week 38, which began on September 15, 2021, and ended on September 27, 2021. The HPS data was collected using a twenty-minute online survey. The survey collected data on the impact of the COVID-19 pandemic on US households from a social and economic perspective. The survey was designed to be accurate and timely. The data collection was done on Weekly basis and was released every two Weeks. All data collection was done virtually through an internet questionnaire. The participants were randomly selected from housing units linked to at least one phone number or email address, and only one representative from each unit was invited by text message or email or both.

The HPS is longitudinal but in this study, individual data from Week 2 and Week 38 on health and demographic information were used. The HPS "used a rapid deployment internet and telephone interview system" (Fields et al., 2020, p.3). Between May 7 and May 12, 2020, a total of 41,996 interviews were collected from a total of 1,048,950 households indicating approximately 1.3% weighted response rate (Field et

al., 2020, p.4) The US Census Bureau sent over one million (1,044,148) survey invitations for Week 38. However, there is no way of determining how many of the respondents participated in both surveys. However, only 59,833 responses were received. This indicates a response rate of 5.6% (HPS Census 2021). The low response rates indicate potential non-response bias in the HPS estimates.

This study focuses on the HPS data on anxiety, depression and treatment with regard to US households with or without children below the age of 18 years old as per the research objective. Data on anxiety scores was collected using the Generalized Anxiety Disorder-2 (GAD-2) scale while data on depression scores was collected using Patient Health Questionnaire-2 (PHQ-2) scale. The GAD-2 scale also adopted two questions: First, "over the last 7 days, how often have you been bothered by the following problems: feeling nervous, anxious, or on edge? Would you say not at all, several days, more than half the days, or nearly every day? *Select only one answer*." Second, "over the last 7 days, how often have you been bothered by the following problems: Not being able to stop or control worrying? Would you say not at all, several days, more than half the days, or nearly every day? *Select only one answer"* (Census2021).

The PHQ-2 scale adopted two questions: First, "over the last 7 days, how often have you been bothered by: having little interest or pleasure in doing things? Would you say not at all, several days, more than half the days, or nearly every day? *Select only one answer*." Second, "Over the last 7 days, how often have you been bothered by: feeling down, depressed, or hopeless? Would you say not at all, several days, more than half the days, or nearly every day? *Select only one answer*" (Census2021).

The scoring for both scales assigned the answers a numerical value as follows: "not at all = 0, several days = 1, more than half the days = 2, and nearly every day = 3." For each scale, the pair of responses provided are summed together. For the PHQ-2 scale, a sum equal to or greater than three (3 ≥) is an indication of a presence of a major depressive disorder. Similarly, on the GAD-2, a sum of three and above is (3 ≥) indicates the presence of a generalized anxiety disorder. Generally, it is recommended that an adult with a score of 3 or higher should be subjected to further evaluation by a health professional (Bisby et al. 2022). In the present study, these composite scores are the basis of estimate. Scores for the PHQ-2 and GAD-2 scales are calculated from the answers to these questions (Census2021).

Self-reported data on seeking counseling services, receiving counseling services, and taking prescription medication was collected using nominal scales. Also, self-reported data on households with children under 18 years and households without children was measured on a nominal scale (Census 2021). In addition, demographic variables such as age, gender, race, income, and education level of the individual respondents were also collected. Further details on the collection of data for these variables are provided in table 1 below.

Justification for Weeks 2 and 38 data

To infer the aggravating effect of the COVID-19 pandemic on mental health, it is pertinent to understand the progression of the pandemic over time and especially the household mental health effects that can directly be discerned as a result of the pandemic being entrenched in US households. This is why Weeks 2 and 38's data were chosen for analysis. Weeks 2 data was collected in Phase 1 of the US Census Bureau Household Pulse Survey carried out between May 7 and May 12, 2020, while Week 38

data was collected in Phase 3.2 of the US Census Bureau Household Pulse Survey carried out between September 15 and September 27 in 2021.

At Week 2 of the survey, there was no known vaccine but at Week 38, data from CDC (2021a) shows that more than 70% of adult Americans had been vaccinated, meaning that the mental health impact observed in the data collected in Week 38 could directly be tied to COVID-19 unlike in Week 2. At Week 2 social services and amenities were closed down through social restrictions to curb the spread of the pandemic but at Week 38, social services and amenities, including schools and businesses, had begun opening up and people could perform normal activities (work, school life, etc.) but within the sociological constraints of the passing pandemic (for example the need to be vaccinated in order to access workplaces for federal employees or the knowledge that there could be further isolation based on new COVID-19 variants). What this means is that mental health indicators in households (depression, anxiety, nervousness, worry and seeking mental health service) could be assessed more precisely through comparison of these times given that the reports directly assessed impacts of COVID-19 (for example, how households social-economic conditions had been affected by the pandemic to result in household anxiety and depression).

Data Analysis

Data from Phase 1, Week 2 and Phase 3.2, Week 38 will be analyzed using SPSS, and the results are presented in graphs and tables. The independent variable will the presence of children below the age of 18 years in a household. Dependent variables are self-reported anxiety scores, depression scores, whether or not individuals took prescription medication for any emotion, concentration, behavior or mental health, whether or not individuals sought professional mental health counseling services and not getting it, and whether or not individuals received professional mental health

counseling or therapy. The COVID-19 pandemic is the defining environment for the study.

Table 1. Description of research variables, measurement and expected results.

VARIABLE	**MEASUREMENT**
Age	This is a continuous variable. All participants are above the age of 18 years and born between 1932 and 2003.
Income	This is a continuous variable and will be used to described the income distribution of the participants.
Gender	This is a dichotomous variable . At Week 2, gender was measured only as either male or female but at Week 38 gender identity was expanded to include transgender and other.
Education	This is a ordinal variable that is measured on a scale of 1-7 where; 1= <high school 2= some high school 3= high school graduate or equivalent 4= some college but degree not received or is in progress 5= Associates degree 6= Bachelor's degree 7= Graduate degree

VARIABLE	MEASUREMENT
Race	This is a nominal variable that includes the following categories: 1=White 2= Black 3= Asian 4= Any other race or race in combination.
Presence of Children under 18 years old	This is an independent variable that is dichotomous. It has two response categories: 'Households with children below 18 years' and 'households without children below 18 years'. Participants who had no children below 18 years in their households responded by indicating zero (0). Participants who had children under 18 years in their households responded by indicating a value between 1 and 5 to show the number of children; In the research analysis all responses are coded as '1' to represent 'households with children'.
Anxiety Score	This is a dependent variable and is measured using the generalized anxiety disorder 2-item (GAD-2). Two questions are asked under this variable: "Over the last two weeks how often have you been bothered by the following problems: (i) Feeling nervous, anxious or on edge; and (ii) not being able to stop or control worrying?" Participants in the survey were required to select only one answer on a scale of 1 to 4 where;

VARIABLE	MEASUREMENT
	1 = ‘not at all’ 2 = ‘several days’ 3 = ‘more than half the days’ 4 = ‘nearly every day’ However, since there are two questions, the sum of the scale is 8. In the literature scholars usually convert the scores from 1-4 to 0-3 and therefore the sum of the score ranges from 0-6. The total points for the GAD-2 score will be obtained by adding the score for each question. A cut-off score of 3 points will be used to identify possible cases of anxiety disorder.
Depression Score	This is a dependent variable and is measured using a patient health questionnaire-2 (PHQ-2) that collected on self-assessed depression over the last two weeks. Two questions are asked for this measurement: (1) “Over the last two weeks how often have you been bothered by feeling down, depressed or hopeless?” (2) “Over the last two weeks how often have you been bothered by having little interest or pleasure in doing things?” Participants in the survey were required to select only one answer on a scale of 1 to 4 where; 1 = ‘not at all’

VARIABLE	MEASUREMENT
	2 = ‘several days’ 3 = ‘more than half the days’ 4 = ‘nearly every day’ However, since there are two questions, the sum of the scale is 8. In the literature scholars usually convert the scores from 1-4 to 0-3 and therefore the sum of the score ranges from 0-6. The total points for the PHQ-2 score will be obtained by adding the score for each question. A cut-off score of 3 is considered optimal and indicative of a likelihood of major depressive disorder.
Receiving professional counseling or therapy	This is a dependent variable that is dichotomous. The variable is derived from the survey question that asked: “At any time in the last 4 weeks, did you receive counseling or therapy from a mental health professional such as a psychiatrist, psychologist, psychiatric nurse, or clinical social worker? Include counseling or therapy online or by phone”, where; 0 = ‘No’ 1 = ‘Yes’ The percentage for the self-reported receiving professional mental health counseling or therapy services online, by phone or in

VARIABLE	MEASUREMENT
	person is expected to be higher in Week 2 than Week 38 and among households with children than households without children under the age of 18 years old.
Taking prescription medication for any emotion, concentration, behavior or mental health	This is a dependent variable that is dichotomous that required participants to select only one answer between 0 and 1 when asked whether: "At any time in the last 4 weeks, did you take prescription medication to help you with any emotions or with your concentration, behavior or mental health?" where; 0 = 'No' 1 = 'Yes' The percentage for the self-reported taking prescription medication for any emotions, behaviors, or mental health is expected to be higher at Week 2 than Week 38 and among households without children than households with children under the age of 18 years old.
Seeking professional mental health counseling or therapy	This is a dependent variable that is dichotomous that required participants to select only one answer between 1 and 2 when asked whether: "At any time in the last 4 weeks, did you need counseling or therapy from a mental health professional, but DID NOT GET IT for any reason?" where; 0 = 'No'

VARIABLE	MEASUREMENT
services and not getting it	1 = 'Yes' The percentage for self-reported seeking professional counseling or therapy for mental health disorder but failing to get it for any reason is expected to be higher in Week 2 than Week 38 and among households without children than households with children below 18 years old.

The PHQ-2 consists of the first 2 items of the PHQ-9, which are considered the two core criteria for depressive disorders. These items are: 1) feeling down, depressed or hopeless (2) little interest or pleasure in doing things. Total score range from 0-6. Cut-off scores of ≥ 3 are indicative of depression on the PHQ-2. On the other hand, GAD-2 consists of the first two items of GAD-7, which are considered professional criteria for diagnosis of anxiety disorder. These items are: 1) feeling nervous, anxious, or on the edge (2) not being able to stop or control worrying. Total scores range from 0-6, with a score of ≥3 is indicative of a clinically relevant anxiety disorder.

Bisby et al. (2022) conducted a study to examine the psychometric properties of brief screening measures of depression and anxiety in chronic pain: PHQ-2 and GAD-2. While evaluating the reliability, validity, diagnostic accuracy, and responsiveness of PHQ-2 and GAD-2 instruments delivered over the internet as screening tools, the study observed that PHQ-2 had a Cronbach Alpha of α, 0.79 while the GAD-2 had a Cronbach Alpha of α, 0.84 at 95% confidence level indicating good internal consistencies. The results of the study indicated that the PHQ-2 and GAD-2 are

robust psychometric tools when administered over the internet for measuring depression and anxiety disorders within the context of chronic pain. On the other hand, Staples et al. (2019) examined the utility of PHQ-2 and GAD-2 as screening instruments and measures of treatment response where validity was found to be excellent at α, 0.80 and α, 0.72 respectively.

The analysis will start with descriptive statistics of (age, income levels, gender, level of education, and race) with the aim of describing the characteristic of each variable. Chi-Square tests will be performed to establish whether there is a scientifically significant difference in frequencies between US households with children/US households without children and the three dependent variables, that is, taking prescription medication for any emotion, concentration, behavior or mental health/seeking professional mental health counseling services and not getting it/receiving professional mental health counseling or therapy at Week 2 and Week 38 of the COVID-19 pandemic. Findings will be presented in tables and graphs.

Table 2. Research questions, list variables and statistical test.

No	**Research Question**	**Variables**	**Statistical Test**
1.	What is the difference in average anxiety score and depression score between US households with children under 18 years old and US households without children during COVID-19	- Anxiety Score (Dependent Variable, DV) - Depression scores (DV)	For these two DVs, ANOVA test will be conducted to determine whether there is a statistically significant difference between average depression score/anxiety score and households with children or households without children at

No	Research Question	Variables	Statistical Test
	Pandemic at Week 2 and Week 38, respectively?	- Households with or without children under 18 (IV).	95% confidence interval. The analysis will compare anxiety/depression scores for US households at Week 2 and Week 38. In this test, the X variable will be households with and without children from Week 2 and Week 38. On the other hand, the Y variable will be Anxiety/depression scores from Week 2 and Week 38 data. The test will be used to show whether there is a statistically significant difference in the scores for Week 2 and Week 38. This will tell the study whether the impact of COVID-19 on anxiety and depression scores was stronger for households with children than households without children. Moreover, the analysis will

No	Research Question	Variables	Statistical Test
			show whether the COVID-19 mitigation measures placed by Week 38, including social restriction and vaccination, had a significant impact on the anxiety scores among US households. Reason: Depression scores and anxiety scores will be treated independently. Since each of the DVs has more than two levels (0-6), ANOVA will be more appropriate as compared to the t-test. Moreover, the data contains four groups being assessed, that is, households with children and households without children at Week 2 and Week 38.

No	Research Question	Variables	Statistical Test
2.	How does taking prescription medication for any emotion, concentration, behavior or mental health/seeking professional mental health counseling services and not getting it/receiving professional mental health counseling or therapy compare among US households with children under 18 years old and US households without children during COVID-19 at Week 2 and Week 38, respectively?	- taking prescription medication for any emotion, concentration, behavior or mental health (DV) - seeking professional mental health counseling services and not getting it (DV) - receiving professional mental health counseling or therapy (DV)	For these three DVs, Chi-Square tests will be conducted to determine whether there is a statistically significant difference between US households with children/US households without children and taking prescription medication for any emotion, concentration, behavior or mental health/seeking professional mental health counseling services and not getting it/receiving professional mental health counseling or therapy during the COVID-19 pandemic. The analysis will be conducted at 95% confidence level. In this test, the rows will be the independent variable (IV) while the columns will be the dependent variables (DV).

No	Research Question	Variables	Statistical Test
		- Households with or without children below 18 years old (IV)	These tests will tell the study whether there is a statistical difference in frequencies between presence or lack of children within the household and taking prescription medication for any emotion, concentration, behavior or mental health/ seeking professional mental health counseling services and not getting it/receiving professional mental health counseling or therapy during the earlier (Week 2) and later (Week 38) periods of the COVID-19 pandemic. Reason: the Chi-square test will be used instead of Pearson's *r* because the research data is categorical while Pearson's *r* is suitable for analyzing continuous data.

No	Research Question	Variables	Statistical Test
3	What is the statistical difference in anxiety scores/depression scores at Week 2 and Week 38?	Anxiety score (DV) Depression Score (DV) Week 2 (IV) Week 38 (IV)	Paired sample t-test will be conducted to determine whether there is a statistically significant difference in the anxiety and depression scores between week 2 and week 38 at 95% confidence interval. The analysis will compare the means of depression scores and anxiety scores at week 2 and week 38. Depression and anxiety scores will be treated as dependent variables. Paired sample t-test will be used to allow for comparison between two population means of two correlated samples. In this case, the means of anxiety and depression scores of week 2 and week 38 participants.

Ethical Consideration

Survey participants were born between 1932 and 2003 and were thus aged 18 years and above. The participants were required to indicate whether their households had children below the age of 18 years or not. The participants also gave written consent that they agreed to participate in the study voluntarily.

Expected Results

The study expects that the analysis will show variations in the impacts of COVID -19 on the self-reported scores of US households' depression/anxiety during Week 2 and Week 38. The analysis is expected to show lower levels of self-reported depression/anxiety scores at Week 38 as compared to Week 2 because of increased confidence in COVID-19 mitigation measures including vaccination. The demographic characteristics are also expected to differ because of the temporal variations and improvements made in the survey over time. Moreover, households with children are expected to show lower scores of self-assessed depression and anxiety than households without children.

CHAPTER FIVE: FINDINGS

Descriptive Analysis

Table 3. Demographic Profile

		Week 2		Week 38	
		Mean or Frequency	**S.E or %**	**Mean or Frequency**	**S.E or %**
Age		53	0.08	54	0.07
INCOME	**Less than $25,000**	4235	11.2%	5003	10.7%
	$25,000-$34,999	3316	8.7%	3982	8.5%

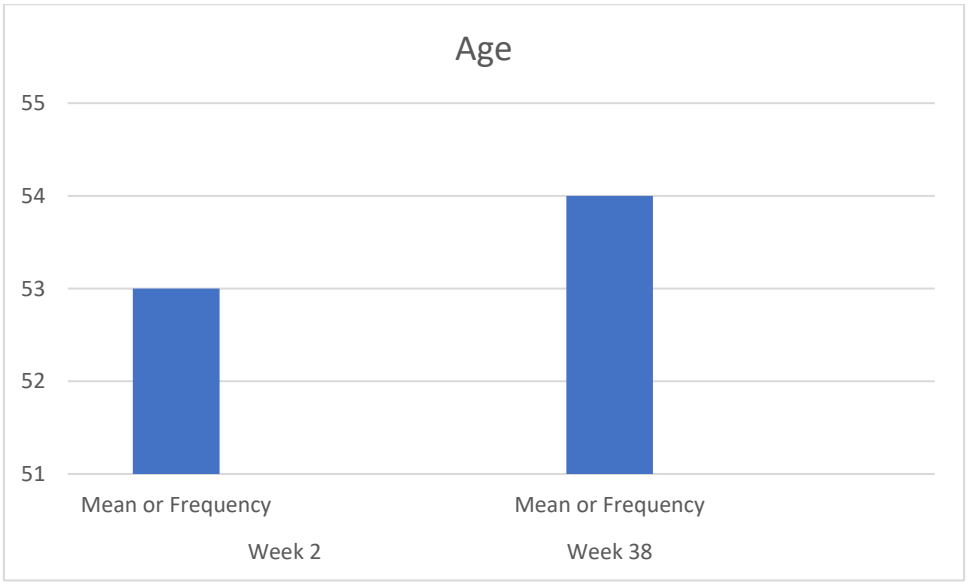
	$35,000-$49,999	4132	10.9%	5009	10.7%
	$50,000-$74,999	6636	17.5%	8014	17.2%
	$75,000-$99,999	5479	14.5%	6790	14.5%
	$100,000-$149,999	6784	17.9%	8534	18.3%
	$150,000-$199,999	3422	9.0%	4261	9.1%
	$200,000 and above	3897	10.3%	5086	10.9%
GENDER	**Male**	15701	41.4%	18967	40.6%
	Female	22200	58.6%	27122	58.1%
	Transgender	0	0%	150	0.3%
	Other	0	0%	440	0.9%
EDUCATION	**<high school**	144	0.4%	218	0.5%
	some high school	461	1.2%	463	1.0%
	high school graduate or equivalent	4278	11.3%	4821	10.3%
	some college but degree not received or is in progress	7998	21.1%	9770	20.9%
	Associates degree	3839	10.1%	5011	10.7%
	Bachelor's degree	11104	29.3%	13672	29.3%
	Graduate degree	10077	26.6%	12724	27.3%
RACE	**White**	31929	84.2%	38795	83.1%
	Black	2637	7.0%	3508	7.5%
	Asian	1795	4.7%	2276	4.9%
	Any other race or race in combination	1540	4.1%	2100	4.5%

Age

In week 2, the average age the participant is 54, while the maximum age is 88 and minimum age is 19. This means the average age of participants is 54 years as the survey was conducted in 2021. The distribution of the variable is fairly symmetrical as the skewness is -0.086.

In week 38, the average year the participant born is 1967, while the minimum year is 1933 and maximum year is 2003. This means the average age of participants is 54 years as the survey was conducted in 2021. The distribution of the variable is fairly symmetrical as the skewness is 0.129.

Figure 3. Average age of participants.



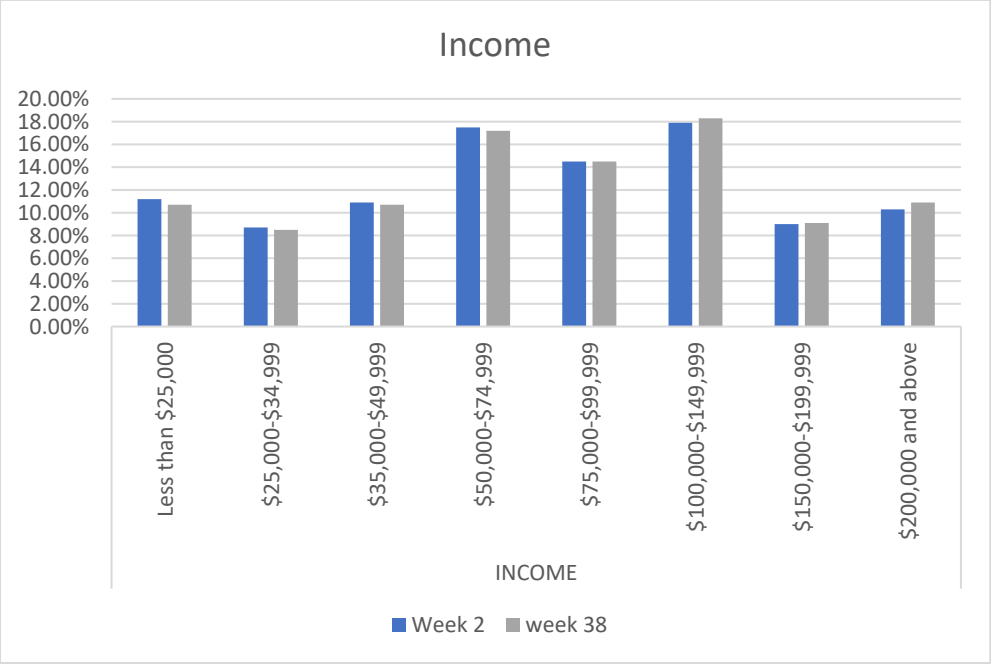
Income

This variable has minimum value 1 and maximum value 8. The value from 1 to 8 is a coded number, where 1 is for 'Less than $25000' and 8 is for '$200,000 and above'.

In week 2, the highest percentage was for $100,000-$149,999 and $50,000-$74,999 which then followed by $75,000-$99,999 and the lowest percentage for income of participants was $150,000-$199,999.

In week 38 same as week 2, the highest percentage was for $100,000-$149,999 and $50,000-$74,999 which then followed by $75,000-$99,999 and the lowest percentage for income of participants was $150,000-$199,999.

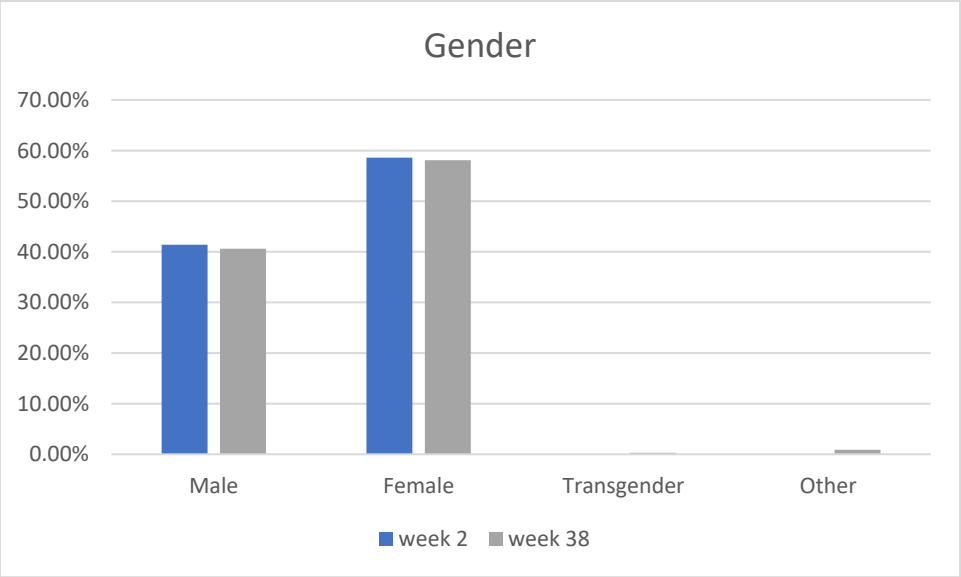
Figure 4. Income distribution of participants.



Gender

There were 15773 (41.4%) participants were male and 22281 (58.6%) participants were female in Week 2. While, In Week 38 male participants were 19048 (40.6%), Female participants were 27234 (58.1%), Transgender were 150 (0.3%) and other genders were 440 (0.9%). The highest number of participants are female.

Figure 5. Gender distribution of participants.

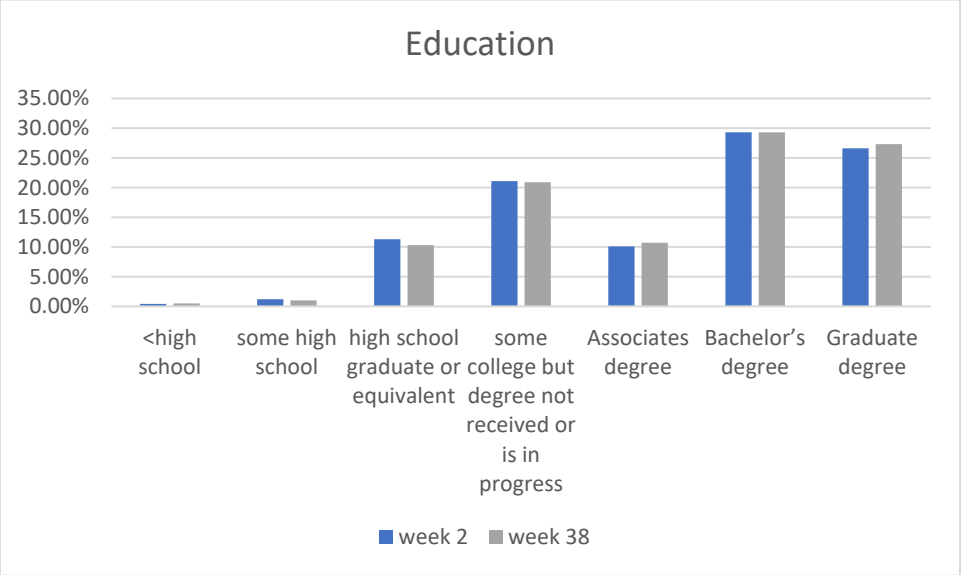


Education

In week 2, the highest percentage of participant's education was for Bachelor's degree which then followed by Graduate degree and the lowest counts for participants were for less than high school.

In week 38 same as week 2, the highest percentage of participant's education was for Bachelor's degree which then followed by Graduate degree and the lowest counts for participants were for less than high school.

Figure 6. Education level of participants.

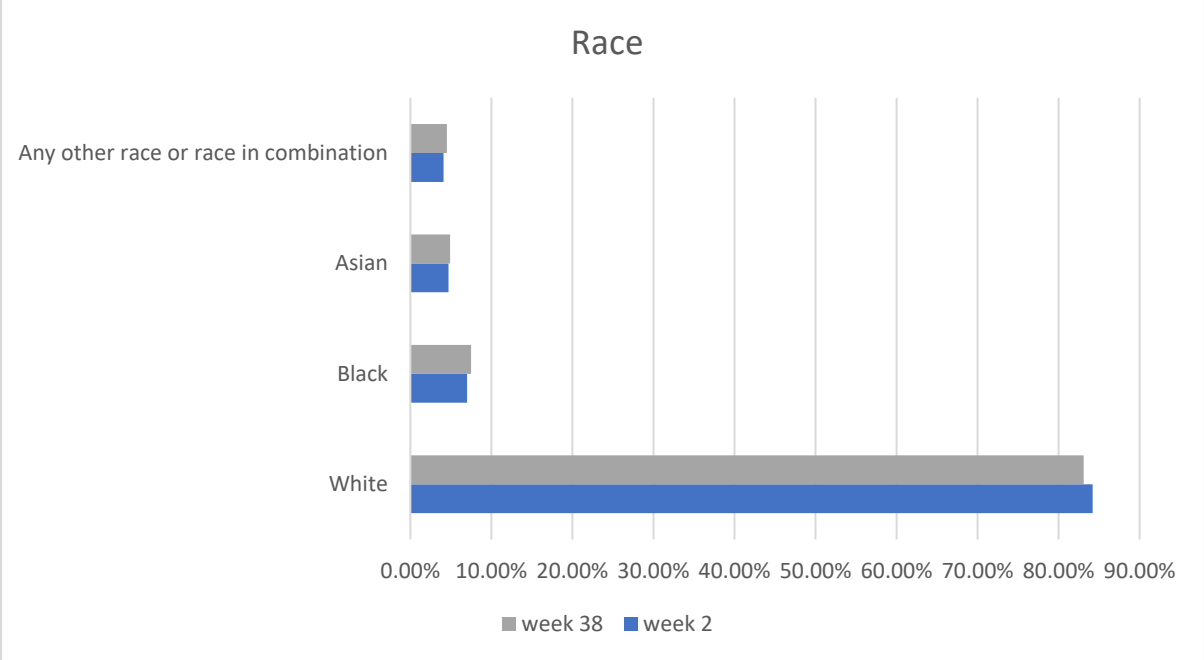


Race

This variable has minimum value 1 and maximum value 4. The value from 1 to 7 is a coded number, where 1 is for ‘White’ and 4 is for ‘Any other race or race in combination’.

In week 2 and week 38, more than 80% of the participants were White.

Figure 7. Race distribution of participants.



Household With and Without Children Below 18 Years:

In week 2, 66% of households had no children below 18 years while 33.9% of households had children below 18 years.

In week 38, 69.5% of households had no children below 18 years while 30.5% of households had children below 18 years.

Inferential Analysis

RQ1) What is the difference in average anxiety score and depression score between US households with children under 18 years old and US households without children during COVID-19 Pandemic at Week 2 and Week 38?

Week 2:

To test which household has more anxiety and depression, the ANOVA was applied.

Anxiety: There is statistically significant difference between Household with children below 18 years and Household without children below 18 years with respect to anxiety score as the F-statistic is 294.55 with p-value= 0.000, this p-value <0.05 thus this shows significant result. The descriptive table shows average value, standard deviation value and 95% CI as well. As the mean for household with children below 18 year is 2.086 and the mean for household without children below 18 year is 1.73. This shows that household with children below 18 years has higher anxiety score than without children below 18 years.

Depression: There is statistically significant difference between household with children below 18 years and household without children below 18 years with respect to depression as the F-statistic is 40.58 with p-value= 0.000, this p-value <0.05 thus this shows significant result. The descriptive table shows average value, standard deviation value and 95% CI as well. As the mean for household with children below 18 year is 1.556 and the mean for household without children below 18 year is 1.436. This shows that household with children below 18 years has higher depression score than without children below 18 years.

Table 4. ANOVA test to determine the difference in average anxiety scores and depression scores at week 2.

Measure	**Without Children**		**With Children**		***F*(1, 37901)**	**η^2**
	M	*SD*	*M*	*SD*		
Anxiety Score	1.73	1.89	2.08	1.93	294.54*	.00
Depression Score	1.43	1.73	1.55	1.75	40.57*	.00

Week 38:

To test which household has more anxiety and depression, the ANOVA was applied.

Anxiety: From the results it is indicated that there is statistically significant difference between Household with children below 18 years and Household without children below 18 years with respect to anxiety score as the F-statistic is 578.25 with p-value= 0.000, this p-value <0.05 thus this shows significant result. The descriptive table shows average value, standard deviation value and 95% CI as well. As the mean for Household with children below 18 year is 2.003 and the mean for household without children below 18 year is 1.541. This shows that household with children below 18 years has higher anxiety score than without children below 18 years.

Depression: From the results it is indicated that there is statistically significant difference between Household with children below 18 years and Household without children below 18 years with respect to depression as the F-statistic is 88.343 with p-value= 0.000, this p-value is lower than 0.05 thus this shows significant result. The descriptive table shows average value, standard deviation value and 95% CI as well. As the mean for Household with children below 18 year is 1.463 and the mean for Household without children below 18 year is 1.299. This shows that Household with children below 18 years has higher depression score than without children below 18 years.

Table 5. ANOVA test to determine the difference in average anxiety scores and depression scores at week 38.

Measure	**Without Children**		**With Children**		***F*(1, 46679)**	**η^2**
	M	*SD*	*M*	*SD*		
Anxiety Score	1.54	1.86	2.00	2.00	578.25*	.00
Depression Score	1.29	1.71	1.46	1.79	88.34*	.00

RQ2) How does taking prescription medication for any emotion, concentration, behavior or mental health/seeking professional mental health counseling services and not getting it/receiving professional mental health counseling or therapy compare among US households with children under 18 years old and US households without children during COVID-19 at Week 2 and Week 38?

Week 2

The HPS survey didn't have data at week2 on taking prescription medication for any emotion, concentration, behavior, or mental health/seeking professional mental health counseling services and not getting it/receiving professional mental health counseling or therapy among US households with children under 18 years old and US households without children during COVID-19.

Week 38

(i) Prescription and Household with and without children below 18:

To check if taking prescription has significant difference between Household with and without children below 18, the test was applied as both variables were categorical in nature. From results it can be seen that the chi-square statistics is 3.750 with p-value 0.053, this p-value is greater than 0.05 thus it is concluded that there is no statistically significant association between taking prescription and household with and without children below 18 years. And both variables are independent of each other.

From the cross-tabulation it is evident that on taking mental health prescription medication during the pandemic: 24.6% of households without children took prescription medication compared with 25.5% of households with children.

Table 6. Chi square test analysis showing the statistical difference in taking prescription medication between households.

Taking mental health prescription medication	**YES**		**No**		**Totals**
	n	**%**	**n**	**%**	
Without Children below 18 years	7973	75.4%	24388	24.6%	32361
With Children below 18 years	3619	25.5%	10584	74.5%	14203
Total	11592	24.9%	34972	75.1%	46564

(ii) Receiving professional mental health counseling and Household with and without children below 18:

To check if receiving counseling or therapy has significant difference between Household with and without children below 18, the chi-square test was applied as both variables were categorical in nature.

From results it can be seen that the chi-square statistics is 103.42 with p-value 0.00, this p-value is lower than 0.05 thus this indicates that there is significant association between variables. From the cross tabulation, 10.6% of households without children below 18 years received professional mental health counseling or therapy compared with 13.9% of households with children below 18 years.

Table 7. Chi square test showing the analysis showing the statistical difference Receiving professional mental health counseling between households.

Receiving Counseling or Therapy	YES		No		Totals
	n	%	n	%	
Without Children below 18 years	3424	10.6%	28948	89.4%	32372
With Children below 18 years	1968	13.9%	12240	86.1%	14208
Total	5392	11.6%	41188	88.4%	46580

(iii) Seeking professional counseling services but not getting due to COVID-19 control measures and Household with and without children below 18:

To check if seeking counseling or therapy but not getting it has significant difference between Household with and without children below 18, the chi-square test was applied as both variables were categorical in nature.

From results it can be seen that the chi-square statistics is 150.727 with p-value 0.00, this p-value is lesser than 0.05 thus this indicates that there is significant association between variables. From the cross tabulation, 9.8% of Households without children below 18 years sought professional counseling or therapy and did not get it compared with 13.6% of households with children below 18 years.

Table 8. Chi square test analysis showing the difference in seeking professional counseling services but not getting between households.

Seeking professional counseling or therapy but not getting	YES		No		Totals
	n	%	n	%	
Without Children below 18 years	3173	9.8%	29235	90.2%	32408
With Children below 18 years	1941	13.6%	12279	86.4%	14220
Total	5114	11.0%	41514	89.0%	46628

RQ3) What is the statistical difference in anxiety scores/depression scores at week 2 and week 38?

Comparison between Week 2 and Week 38

i. The anxiety of participants decreases over time:

To check if the anxiety of participants changes from week 2 to week 38, the paired t-test was applied between anxiety scores.

Results show that there is a significant difference between week 2 and week 38 anxiety scores as the t-statistic is 12.004 with p-value= 0.000, as this p-value <0.05 thus significant difference is found.

The mean value of anxiety score for week 2 (M= 1.85) is higher than week 38 (M= 1.68), this indicates that anxiety of participants on week 2 was higher and it reduces over time.

Table 9. Paired sample t-test analysis showing the difference in anxiety scores over time.

Logistic parameter	**Week 2**		***Week 38***		***t*(37901)**	***p***
	M	***SD***	***M***	***SD***		
Anxiety Score	1.8518	1.91290	1.6843	1.91898	12.004	.000

ii. The depression of participants decreases over time:

To check if the depression of participants changes from week 2 to week 38, the paired t-test was applied between depression scores.

Results show that there is a significant difference between week 2 and week 38 depression scores as the t-statistic is 9.552 with p-value= 0.000, as this p-value is lower than 0.05 thus significant difference is found.

The mean value of depression score for week 2 (M= 1.477) is higher than week 38 (M= 1.36), this indicates that depression of participants on week 2 is higher and it reduces over time.

Table 10. Paired sample t-test statistics showing the difference in depression scores over time.

Logistic parameter	**Week 2**		***Week 38***		***t*(37901)**	***p***
	M	***SD***	***M***	***SD***		
Depression Score	1.4771	1.73843	1.3565	1.74545	9.552	.000

CHAPTER SIX: DISCUSSION, LIMITATIONS, CONCLUSION AND RECOMMENDATIONS

Discussion

This research makes an important addition to research on households' mental health challenges with data collected from randomly selected parents across the US in both the early stages of the COVID-19 pandemic. The study answers important questions on the mental health impacts of the pandemic on households particularly, depression and anxiety caused by severe mitigation measures during the second week of the pandemic; and later stages when vaccines were introduced as part of the mitigation interventions. Overall, findings from the present study are in line with some of the research conducted recently (Marchetti et al. 2020; Calvano et al. 2021) reporting that the mental outcomes of many parents were affected negatively as a result of fear of the pandemic and the mitigation interventions. Crugnola and his coleagues (2016) recommended the need for increased research on the connection between parental pressure and increased anxiety. The current study addresses this gap by evaluating the connection between households with children below 18 years old and self reported anxiety scores and depression scores. Studies that are comparable to this one have found a significant connection between stressors related to COVID-19, depression and generalized anxiety disorders (Russell et al. 2020; Brown et al. 2020).

In addition, recent findings showing significant association between quarantine and increased cases of mental distress are in support of the assumption that social distancing affected the mental health of households especially among those whose family member was infected by the coronavirus (Brooks et al. 2020; Ebrahimi et al. 2021; Calvano et al. 2021).

Marchetti et al. (2020) indicate that parental responsibility is related to parental stress, despite the fact the mental wellness of women seemed to be affected by the social distancing regulation more than their male counterparts (Russell et al. 2020). Existing literature also states that women compared to men, are more susceptible to depression and anxiety in stressful situations of life that are associated with high parental psychological pressure when trying to balance between work and providing domestic care (Powell and Craig 2015). Accordingly, findings from the literature review indicate that gender differences and roles are reflected on the impact of COVID-19 on the metal health of households.

During the lockdown, parents may have lost access to daycare centers, schools, and other important social support resources. Social support, which is regarded as a crucial "resource for parental coping and resilience regardless of marital status," (Moreno et al. 2020); might be used to explain the disparity in households' depression and GAD scores in the current study. Finding of this study on the effects of social support on household resources for adapting to GAD and depression are consistent with Moreno et al. (2020). Ren et al. (2020) also reports that social support protected parents from experiencing too much distress during the COVID-19 pandemic. Living with children and adolescents was found to be a significant predictor of higher household depression and GAD scores, contrary to research suggesting that self-efficacy may act as a potential safety cushion against perceived anxiety and the capacity to give high-quality parenting, even in the face of significant hurdles (Crnic and Ross 2017).

COVID-19 stressors could enhance pre-existing mental health conditions, as evidenced by Johnson et al. findings "that parents with a pre-existing psychiatric diagnosis reported significantly higher parental stress and the tendency that pre-

existing psychiatric diagnoses explained much of the variation in parental stress, anxiety, and depression symptomatology" (2021). This tendency is consistent with the findings that people who already suffer from mental health issues may be more susceptible to being isolated and losing access to mental health support during the COVID-19 lockdown (Holmes et al. 2020; Moreno et al. 2020). This study agrees with the findings reported by other researchers (Crugnola et al. 2016) that have found that individuals with pre-existing psychiatric diagnoses (for example postnatal depression), are more likely to experience increased worrying and stress, which under lockdown conditions may subsequently lead to higher GAD and depression scores.

Presence of children below 18 years of age in the household is a significant predictor of higher depression and GAD scores. Nearly half of the people who took part in the current study said that they were taking prescription medication during the lockdown. According to the principles of the family stress theory, the current findings might suggest that the pandemic's accumulated stressors may have precipitated several stressful conditions with significant implications on households' sense of security and general functioning of the household (Patterson 2004). Due to home confinement, parents may have been put under more pressure, which could have increased anxiety and depression being expressed and a sense of burnout. Parental stress is strongly linked to symptoms of GAD and depression. These results are based on a large body of research that shows the significant relationship between parental stress and anger and how burnout is linked to anger expression more often (De la Rubia et al. 2013).

Experts have been deeply worried about children's welfare due to the vivid knowledge of households increased baggage as a result of the restrictions instituted to mitigate the pandemic (Liu et al. 2020). According to Brock et al. (2002) children

frequently ask their parents and other important people for guidance on how to manage their anxieties after a tragedy. Due to the harmful impact of these illnesses on children, this may be a reason for concern and has to be thoroughly examined inside the period immediately after the pandemic.

Johnson et al. (2021) shows that concerns about household mental wellbeing may worsen because of the coronavirus disease pandemic. Lockdowns, the work-related pressure, and the stress that could come from losing a job and income have all been linked to higher scores of households' mental health issues. However, in addition to the effects that were observed in the short term, further research is urgently required to monitor the long-term aversive mental health outcomes of households.

Stress affects households and has been demonstrated to have a major negative influence on the health and functioning of individual household members (Sullivan et al. 2021). Previous studies have similarly concluded that the pandemic is a traumatic stressor due to accumulating evidence associated with PTSD outcomes and other psychological health issues such as GAD and depression in individuals (Bridgland et al. 2021). According to CDC (2021b), approximately 46.6 million reported coronavirus cases resulted in about 755,000 as of November 2021 in US alone. The number of COVID-19 incidences in the US peaked at the beginning of 2021, before the daily count started to decline with increase in relative temperatures and as the number of those vaccinated increased. However, the COVID-19 delta variant caused a surge in the incidence of the daily reported cases. Be that as it may, the effects of the pandemic on day-to-day life are receiving more attention in the hope that the spread of COVID-19 will be slowed down.

Although many of the pandemic's statistics were collected and presented at the individual level, COVID-19 has significantly impacted families and households (Ones 2020). Because of the COVID related job losses and reduction in family incomes, many families struggled to pay for primary necessities (Karpman et al. 2020). In addition to providing care, parents took up new roles such as teaching and educating to compensate for the lost school hours since the closure of schools forced learners to study remotely (Bornstein 2020).

Further, restricted moved during the pandemic forced families to spend more time together in closed spaces than they were used to previously (Ones 2020). Consequently, domestic violence incidences have risen to new highs in some cities due to increased stressors like unprecedented job losses, restricted mobility, and closure of public amenities (Buttell and Ferreira 2020). Notwithstanding these various adverse consequences on households, numerous individuals valued removal of social restrictions to reconnect with one another.

COVID-19 and related mitigation measures put many US households in difficult socioeconomic situation and resulted in increased GAD and depression symptoms. When federal and local governments implemented social distancing, frequent handwashing, face-masking, and quarantine requirements in March 2020, the unemployment rate was significantly and immediately reduced. According to Falk and other researchers (2021), the fulltime employment rate in April 2020 was 4.4%, the highest ever recorded following the Great Depression. The unemployment rate for women reached its highest point at approximately 37%, with minority races being affected more than their white counterparts (Falk et al. 2021). On one hand, part-time jobs increased to 24.5%, while on the other, full-time employment decreased (Falk et al. 2021).

The high scores of depression and GAD recorded in the present study might have resulted from other extreme COVID-19 related stressors that were not captured in the HPS survey and analysis such as forced or unplanned relocation. For instance, Cohn, (2021) noted that one in twenty adults in the US relocated during the pandemic, either permanently or temporarily. One-third of those who relocated did so for COVID-19 related socioeconomic reasons, while 17% did so because they were laid off from their jobs (Cohn 2021). Those most likely to relocate were young adults who moved in with their families due to academic institutions closing indefinitely and instituting remote learning (Cohn 2021). With constrained resources such as remote learning material which may have needed to be shared especially with adolescents below 18 years in the households, households with children may have experienced higher scores of GAD and depression that households without children.

The current study agrees with reports from Avery et al. (2021), which found that having children below 18 years at home is linked to higher scores of depression and GAD. However, when shared environmental factors are considered, statistical significance is lost (Avery et al. 2021). Suggesting that the impact of children in households on depression and GAD might have been confused by shared environmental factors. According to the results of the first research question, there is a connection between children below 18 years old in households and scores of depression and GAD that is mediated by COVID-19 stressors and that are shared with households without children below 18 years.

In this study adults living with children below the age of 18 years reported significantly higher scores of anxiety and depression on average as compared to adults in households without children below 18 years old. The presence of children below the age of 18 years old in households was the most significant predictor of parental

depression and anxiety, accounting for average of 0.1 and 1.3, respectively, of the variations in parental mental health. The respondents that live in households with children below the age of 18 years old had the highest mean scores of anxiety and depression symptoms, with 2.1 in week 2 and 2.0 in week 38, on average, reporting symptoms that were above the cut-off points for anxiety compared to 1.7 and 1.5 for households without children in week 2 and week 38; and 1.6 in week 2 and 1.5 in week 38 for depression compared to 1.4 and 1.3 in week 2 and week 38. These findings are an indication of the general vulnerability of households with children below 18 years due to the additional burden of caring for children which could have been worsened by the reduction in access to socioeconomic resources during the pandemic.

The study reported significant statistical differences between households with children and households without children with respect to self reported depression and anxiety scores, $p<0.05$ at 95% confidence level. Households with young children and adolescents were at greater risk of anxiety and depression because of additional responsibility of taking care of children. This finding is indicative of the cognitive health issues that parents in general, and especially women, might face as a result of parental roles, limited access to socioeconomic resources brought on by the ongoing pandemic. This finding regarding households is also supported by research indicating that mothers are at higher risk of postnatal depression when social support is limited (Leigh and Milgrom 2008).

This report contributes significantly to the increasing list of studies demonstrating how the coronavirus pandemic affects households' mental wellness, particularly adults with children that are below the age of 18 years. In the first research question, it was demonstrated that households with children/adolescents

below 18 years old had higher anxiety sores than households without children below 18 years old. Findings of the current study agree with Benassi et al. (2020) on Italian women that found mothers to experience more anxiety than women without children. However, this study disagrees with Tsang et al. (2021) that households with children/adolescents had little effect on depression at the earlier stages of the pandemic. Nonetheless, Tsang et al. (2021) also found that households with more children had slightly higher self-reported depression scores than those with fewer children. Subsequently, in the context of COVID-19, findings agree that having children or adolescents below 18 years old in the household increases the self-reported scores for GAD and depression.

By examining the impact of having children below 18 years in household affected GAD and depression scores, it immerged that, on average, more households with children experienced higher self-reported scores of anxiety and depression compared to households without children. Given that they are more capable of adhering to social distance rules and minimize social interaction, people who do not have children in their houses may be the only ones who exhibit the tendency of being more psychologically resilient at this time. On the other side, due to their limited capacity for emotional distance or the added caregiving responsibilities at this period, households with children/adolescents below 18 years may suffer higher anxiety scores. Despite having less opportunities for in-person social interaction, adults in households without children/adolescents below 18 years may have more opportunity to communicate electronically for support, which might lead to lower anxiety levels.

The second research question sought to understand how taking prescription medication for emotion, concentration, behaviour or mental health/ seeking professional mental health services and not getting it/ receiving professional mental

health counselling services or therapy compare among US households with children below 18 years and US households without children below 18 years. By examining how having children/adolescents affected how often households received professional mental health services or sought professional mental health counselling and did not get, it immerged that there was a statistically significant association. In the analysis, the Chi-square test results (*p value* 0.00<0.05) revealed that there is a statistically significant association between households with and without children below 18 years in receiving professional mental health counselling or therapy during the pandemic. Further analysis revealed that households without children below 18 years were more likely than households with children below 18 years to receive professional mental health counselling or therapy services.

Moreover, this study was equally interested in determining whether there were any disparities between households with and without children below 18 years in terms of access to mental health counselling or therapy during the pandemic. Accordingly, the Chi-Square test results (*p value* 0.00<0.05) revealed that there is a statistically significant association between households with or without children below 18 years and seeking professional mental health counselling but not getting it due to COVID-19 control measures. Further analysis showed that households with children below 18 years are more likely to seek professional counselling services or therapy and not get it as compared to households without children which are less likely not to get professional mental health counselling when they seek one.

However, on assessing whether there was a statistically significant association between taking mental health prescription medication and presence or absence of children below 18 years in US household, the Chi-square test results revealed that (*p value* 0.053>0.05) there was no statistically significant association. This shows that

although both variables are independent both households with and without children depended on prescription medication for mental health illness during the pandemic. As such, it is evident that regardless of their differences in self-reported scores on GAD and depression, both households with and without children needed professional mental health intervention.

The present study also demonstrated that environmental factors affected the mental health outcomes of households. Findings from this study showed that there were significant differences in GAD and depression scores between week 2 and week 38 of the pandemic. According to findings, early environmental factors shared during the pandemic mediated the depression/anxiety scores of households with and without of children below 18 years old.

In light of the coronavirus pandemic, it is crucial to acknowledge that households with children below 18 years might have had higher self-reported scores on depression and GAD tests than households without children because it was difficult for them to access professional mental health services. This research adds existing knowledge indicating the coronavirus pandemic has a detrimental impact on mental health, particularly to those who have children below 18 years (Avery et al. 2021). Income loss, a shortage of nutrient-dense dietary options, mental health issues, inability to access professional health services, substance abuse, and a higher likelihood of violence are all pandemic-related stressors (Avery et al. 2021). If ignored, these stressors may eventually lead to more detrimental psychological health problems. Therefore, as society gradually returns to normal, resources should be allocated to support households especially those with children to access professional mental health or therapy services.

For instance, COVID-19 assistance and associated medical aid programs must modify their application specifications to make sure that households, especially those who with children below 18 years, can seek and receive professional mental health services. Moreover, community support groups ought to be accessible to assist parents of children under the age of 18 in general and female caregivers in particular in re-establishing relationships with relatives and friends, offering childcare support services, making psychological support accessible, among others.

Public incidents have created significant problems in a variety of areas, particularly in the medical field. These include the significant physical medical disorders that are linked to them, as well as the psychological well-being consequences with associated risks and decreased personal pleasure. The brief effects of the coronavirus have been widely characterized by clinical, collaborative, and mainstream researchers. However, the associated long-term physical and mental problems are still being discovered. Reinfection has happened, leaving some people feeling vulnerable to the original Coronavirus strain. In 2021, other dangerous novel variant strains were also illustrated, with reinfection symptoms described. Examples of the cognitive health effects of coronavirus include depression, anxiousness, post-awful pressure issue, and mental deficiencies. The entire extent of the neuropsychiatric effects caused by the coronavirus is still not well understood. In addition to increased frequency of the aforementioned mental introductions, research reports disseminated following earlier flu pandemics also revealed more serious mental health disorders, such as psychosis.

Because of the coronavirus, both those who already have psychological well-being concerns and those who don't run the risk of aggravating their problems. It's also important to remember that anyone working in the field of emotional health care,

especially those on the cutting edge and in close proximity to pandemic survivors, run a higher risk of developing emotional health problems. This may be due to a variety of factors, including pressure and anxiety from work, the eccentricity of the epidemic, and the rules that go along with it (Moreno et al. 2020).

This study has also found an increase in the need for family/household mental help. According to a recent WHO (2020) report, the Coronavirus epidemic has disrupted or suspended fundamental mental health programs in 93% of all countries, despite growing public interest in mental health (WHO 2022). This has been closely followed by a considerable change in the way that mental health treatment is organized, such as a greater use of telepsychiatry and remote work (Fisk et al. 2020). The WHO (2020) has also determined that major change is needed in psychological health care to accommodate this paradigm shift.

Limitations of the Study

The most significant benchmark surveys for the US are thought to come from government statistical agencies such as the Census Bureau and NCHS. A majority of the benchmark surveys have been conducted for decades and are sources of valuable data for trends on social, economic, and health issues. Nonetheless, personal interviews (via telephone or face-to-face) and benchmark data production both require additional time. While COVID-19-related questions are being added to these surveys, it may take months or even years for data to be available for subsequent analyses (Censes 2023).

HPS differs from others; the survey was designed for quick deployment in the field, administered online, and disseminated data in close to real-time, giving data analytics information they can use right away to improve the conditions of American

households and speed up recovery after the pandemic. The HPS is being used as a benchmark project by the Census Bureau, and the data is available as part of the "Experimental Statistical Products Series" (Censes 2023).

Strengths and Other Limitations

The survey's promptness was one of this paper's main strengths. The HPS survey was completed by participants in week 2 after the WHO on March 11, 2020 declared COVID-19 a pandemic (WHO2020). As a result, it was able to determine the extent to which households' depression and GAD scores were influenced by having under 18 year old children as they dealt with the effects of the pandemic and socioeconomic restrictions implemented to reduce the spread of the virus (Kutsar and Kurvet-Kaosaar2021). Second, the study did not investigate whether the association between the presence or absence of children below the age of 18 years in a household and mental health as the result of causal mechanisms. As a result, the study was unable to adjust for between-family confounds, which are shared environmental and genetic variables that are ordinarily uncontrolled in correlation studies. Because of this, the study is unable to show how non-random confounds shared by the phenotypic connection between having children and higher anxiety/depression ratings in the home influenced the study's findings.

There are several restrictions on the current study that should be made clear. The individuals' connections with their children were not examined. Because survey broadly considered on the presence of children (0 to 17 years) in the household, it is conceivable that some survey participants reside with their own kids while others may be living with other relatives aged below 18 years (nephews, nieces and

grandchildren). Due to job loss brought on by COVID-19, many Americans, including young adults have been forced to relocate back with their parents (Preeetz et al. 2022).

These transient movements might cause distress and worry in addition to the COVID-19 pandemic's unpredictability. The analysis did not ascertain whether age impacted on the self-reported scores of depression and anxiety of the respondents since the ages of the respondents was not measured the investigations. According to Nomaguchi and Milkie's research from 2003, households with young children are more distressed than households with adults or those who are childless. Future studies could examine if households with children report a drop in stress and anxiety once schools resume and social boundaries are loosened. The study did also determine whether the relationship with other demographic variables such as marital status, family income or education affect the correlation between households in the study.

Stressors relating to COVID-19; such, as restriction on mobility, and socioeconomic restrictions, were associated with perceived depression and anxiety according to a study of mothers' perceptions of stress during COVID-19 (Brown et al. 2020). According to Tsang et al. (2021), adults who were married or cohabiting had lower scores of depression than single adults or adults living alone. However, the current study does not evaluate the statistical differences in self-reported GAD and depression by marital status. It has also been demonstrated that parents who receive support from their spouse, family, and friends have lower scores of anxiety and stress (Racine et al. 2019). To better comprehend the intricate relationship between households’ mental health and children, additional research is required.

Furthermore, it's probable that children's perceptions of their parents' stress are not necessarily mirrored in their own. Different levels of parenting- and COVID-19-

related pressure may be felt by parents. During this study, the researcher aware that depending on where a person lives, their stress and anxiety levels might differ. This study did not inquire about geography in this investigation; however, given the differences in prevalence of COVID-19 cases and disparities in mitigation measures and availability and access to professional mental health facilities and services, future research should investigate whether stress and anxiety scores varied by location. Last but not least, this study did not assess the association of the number of children and households GAD and depression scores, but it is feasible to look at whether variations in depression and anxiety scores are connected to variations in the number of kids living in the home or other environmental factors.

Conclusion and Recommendations

The present study assessed the impact of the coronavirus disease pandemic on depression and GAD among US households with and without children during the early stages (week 2) and later stages (week 38) of the pandemic by analyzing data from the PHS. When the study assessed the depression and anxiety scores of households with reference to the presence or absence of children below the age of 18 years, it was discovered that households without children under the age of 18 years old had lower scores of perceived depression than house with children; whereas, households with children had, on average, higher scores of self-reported anxiety scores than households without children. However, the study also demonstrated that the presence or lack of children under the age of 18 years in a household and perceived depression and anxiety scores were influenced by environmental factors; this is illustrated by the general reduction in depression and anxiety scores of both households with and without children below 18 years old in week 38 as compared to week 2. Notably, the relationship between having children in the home and anxiety

scores varied between households; When there were children in the household, participants felt more anxious and more depressed, whereas participants felt less anxious or less depressed when there were no children in the households. In addition, households with children below the age of 18 years are more likely to seek and receive or fail to get professional mental health services as compared to households without children. Therefore, during the COVID-19 pandemic, the current study's findings emphasize the importance of providing supportive resources to households with children below the age of 18 years old.

The COVID-19 pandemic offered excellent chances to examine how different demographic segments, especially parents, responded to traumatic events in terms of their mental health. Additionally, these possibilities offer opportunities to improve service and medication for mental health targeted mainly at the mental wellbeing of households. Studies like this one support possible objectives of clinical and public health treatments and give timely information on parental anxiety and depression resulting from the socioeconomic restrictions put in place during the early stages of the corona epidemic (Marzilli et al. 2021). They also have a number of valuable implications for macro- and micro-level legislation (Lavalle et al. 2021). In order for policymakers to evaluate the impact of the socio-economic restrictions and other mitigation strategies of the pandemic on households' depression and GAD scores and, consequently, make evidence-based decisions to reduce viral transmission, protect vulnerable groups, and shield households from severe mental health implication, accurate research on the mental health implications of those strategies is urgently necessary. Accurate research on how government strategies affected mental health of households depending on presence or absence of households is essential in order for policymakers to understand the effect of the governments' mitigation strategies on

different households and, as a result, make informed decisions intended to reduce viral transmission, protect the vulnerable, and shield households from unfavorable mental health impacts.

Based on the findings from the currently study, public health professionals involved in assessing the mental health outcomes of individuals in the aftermath of the pandemic should take into account data on the mental health problems of households with children and adolescent below 18 years of age. This recommendation is especially in light of the results of other recent studies that have identified depression associated with raising children and adolescents during the COVID pandemic. Further, recent studies have also suggested that the mitigation measures such as lockdown have resulted in high self-reported GAD and depression among isolated parents. An assessment of parental stress and psychopathology levels could help to inform the development of strategies meant to intervene and lessen the incidence and prevalence of the negative parental mental health responses. Such future assessments could also provide fundamental understanding of the coping mechanisms adopted by parents to deal with socioeconomic restrictions and the associated mental outcomes.

Additionally, the literature-supported connection between parental anxiety and hostility and the likelihood of violent behavior towards children during restricted movement and neglect emphasizes the necessity for healthcare professionals to take children's welfare into account while reducing risks and getting ready while assisting parents and families. Because pandemics are a singular societal disaster and do not entail centralized places for continuous support and recovery, their response techniques should be specialize and designed to satisfy the mental health needs of households. As a result, the best prevention and intervention strategies help parents

develop their coping skills and lessen the burden of parenting. When face-to-face services are scarce, virtual support options like text support, online support groups, and online counselling can be developed.

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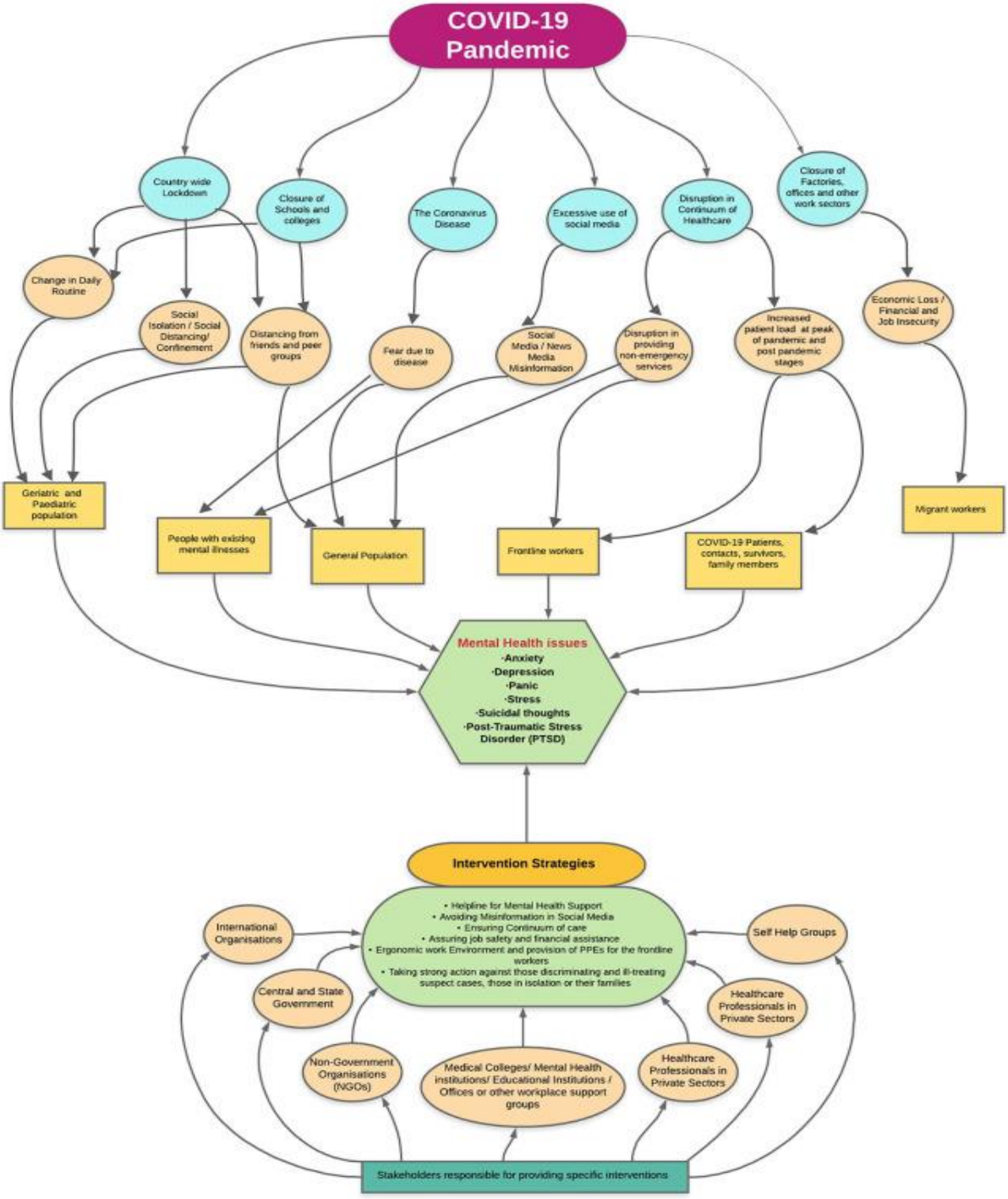
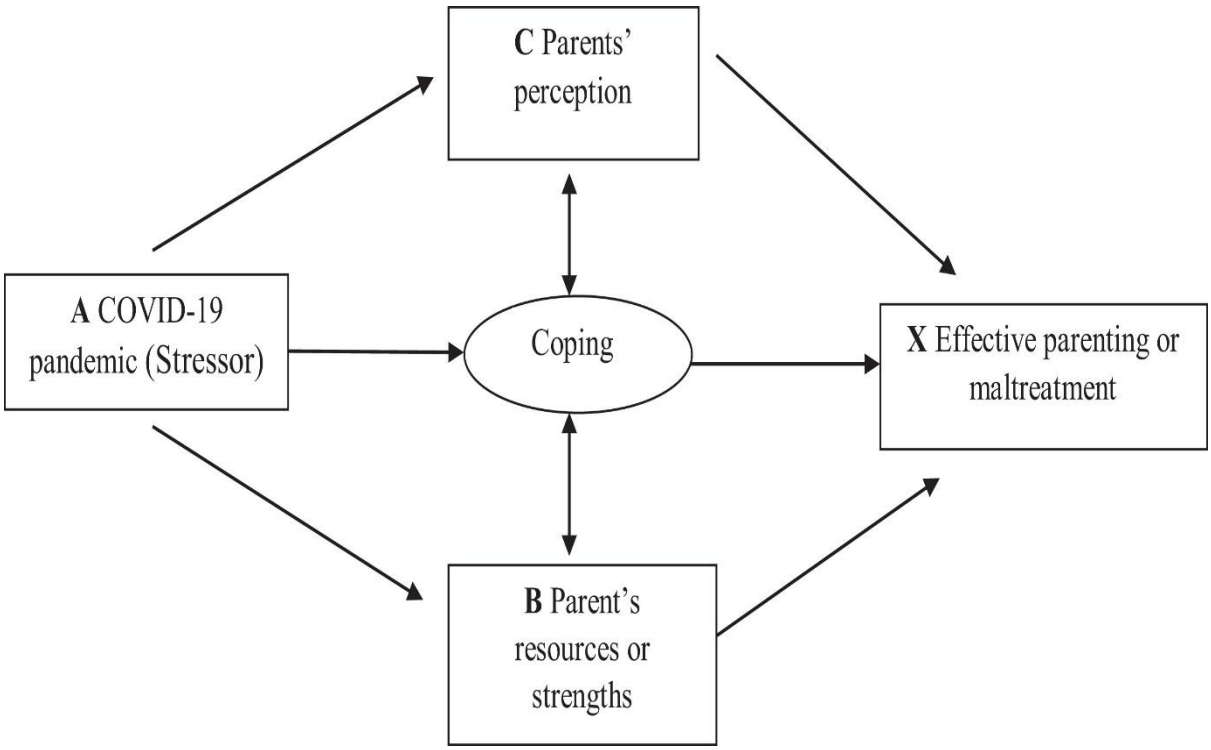
APPENDIX

Figure 8:Appendix 1, COVID-19 Pandemic and mental health issues: A conceptual framework



(Adapted from Roy et al. 2021)

Figure 9: Appendix 2, Hill's ABC-X model of family stress theory



(Adapted from Hill 1949)