

Effects of COVID-19 on the Mental Health Experiences of Inmates

A Thesis  
Submitted to the Faculty  
of the Psychology Department

of

Washburn University

in partial fulfillment of  
the requirements for

MASTER OF ARTS

Psychology Department

By

Jordan Jennings

Topeka, Kansas

March 29, 2024

Thesis Approval  
Department of Psychology  
Washburn University  
Topeka, Kansas

May 2024

I hereby recommend that the thesis prepared under my supervision by

JORDAN JENNINGS

Entitled

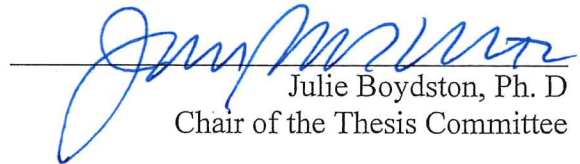
EFFECTS OF COVID-19 ON THE MENTAL HEALTH EXPERIENCES OF INMATES

be accepted in partial fulfillment for the

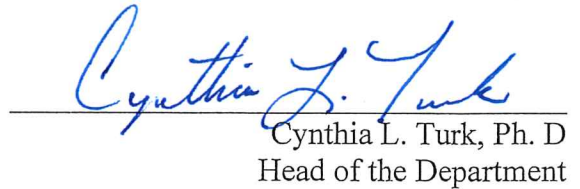
MASTER OF ARTS DEGREE



John Fritch, Ph. D  
Provost and Vice President for Academic Affairs




Julie Boydston, Ph. D  
Chair of the Thesis Committee

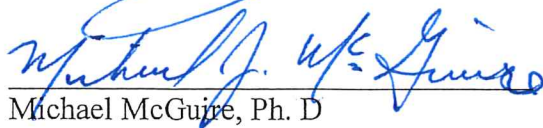


Cynthia L. Turk, Ph. D  
Head of the Department

Recommendation Concurred by



Tucker Jones, Ph. D



Michael McGuire, Ph. D

Committee for the Thesis

## Acknowledgments

I would like to say thank you to all of the people who helped me get to graduation! I would like to first thank my professors for all of the encouragement and guidance that you have given me. I am not only a better student and clinician because of you, but I am also a better person. Special shoutout to Dr. Boydston for sticking by my side throughout a very grueling and time-consuming thesis experience - we did it! Second, I would like to thank my family for lifting me up and supporting me through many difficult times while getting my master's degree. You guys have always been my safe place and home, and I will always be grateful for your love. Third, I would like to thank my husband! I started this journey in 2021 as your fiancé, and am now ending it as your wife. I could not have made it without you by my side as my rock and compass, supporting me every step of the way. Lastly, I would like to thank the program as a whole, for providing me with the courage to become the person I was always meant to be!

"You're off to great places.

Today is your day.

Your mountain is waiting.

Go, get on your way!"

Dr. Seuss

## **Standpoint Statement**

The two things about my study that interest me the most are the population I used and the effects that COVID-19 had on this population. Beginning with my population, I used inmates as my research participants. I am interested in examining this specific population, because I believe people who go to jail need mental health services that they are typically unable to receive. Usually, the help they receive is either never given to them at all or is given to them after they have already committed a crime. My father was a police officer for almost thirty years, and I learned a lot about this specific population through long talks and car rides with him. But one thing that I did not learn until studying psychology is how much this specific population could benefit from professional mental health help. I believe this study could influence the way people view and treat inmates and could also potentially change the narrative surrounding any pre-existing biases one may have about them.

The other interesting factor in my study is the COVID-19 virus. Studies are still being conducted to investigate the effects of the virus, and I am excited to be one of the early studies that investigate the virus's effects within a jail population. Living through the COVID-19 pandemic was hard for everyone, and I can only imagine how it might have been even more difficult for the men and women in correctional facilities. I am hoping this study will enlighten others who work in correctional facilities so they will be better prepared for when (or if) another life-altering pandemic hits our country.

### **Abstract**

The purpose of the current study was to investigate how changes related to the COVID-19 pandemic affected the mental health of inmates. Data utilized for the current study was archival. It was drawn from databases at a jail in the Midwest. Data was drawn from the records of 360 male and female inmates. Multiple Chi-Square Tests of Independence were used to investigate hypotheses of changes of mental illness over time. The study found no increase in diagnoses of mental illness. The number of mental health visits did increase from 2019 to 2020, then slightly decreased from 2020 to 2021. Some racial and gender differences were also found across the years. In addition, some support was found for the number of charges and potential mental illness. The current study adds to the literature, because it gives clinicians a better understanding about the mental health of the people during a rare worldwide pandemic. The study also adds to the literature because it utilizes inmates as participants, which are usually a difficult population to work with during research studies since they are a protected population.

*Keywords:* mental health and criminal behavior, COVID and mental health

### **Effects of COVID-19 on Mental Health Experiences Among Inmates**

There is still much that is unknown about COVID-19. Although the physical effects of the virus are known, studies are ongoing to investigate how COVID-19 has influenced day to day living in the world, which is why the current study is important. First, this study is focused on the correctional system and difficulties with experiencing mental illness in this setting. Criminal offenders are more likely to have a mental illness than people within the general population (Gottfried & Christopher, 2017). In fact, more than half of admitted offenders meet criteria for a mental health diagnosis of some kind (Gottfried & Christopher, 2017).

Second, the study is investigating the effects of the COVID-19 pandemic. Although considerable efforts have been made to study the ongoing effects associated with COVID-19, research on these effects is still ongoing. Before the year 2020 was over, studies had already been published stating that there were specific populations that should be monitored for higher levels of distress, including persons in detention centers/correctional facilities (Talevi et al., 2020). The current study will add to the literature about the influence of the pandemic on the mental health issues of people detained.

### **Effects of COVID-19**

When COVID-19 swept across the country, it created many new types of hardships, including a rise in problems with mental health. The virus, although still relatively new to the world of research, has already been found to be linked to increases in certain disorders (i.e., depression, traumatic stress, and anxiety) among numerous populations, such as Black persons, women, Indigenous People of Color, undocumented persons, older adults, and people from the LGBTQIA+ population (Boden et al., 2021). Researchers also predicted that increases in general distress, burnout, and substance use will be commonly experienced as side effects of the

pandemic (Boden et al., 2021). As mentioned by Saltzman and colleagues (2020), overall well-being was impacted due to the need to social distance to prevent the spread of the virus. Suffering is more likely to occur when socialization and receiving social support from others is withheld (Usher et al., 2020; Saltzman et al., 2020). Although the general population has seen difficulties from all the effects of COVID-19, less is known about the influence of these measures on the corrections population. For instance, because COVID-19 spreads through close contact, the possibility of outbreaks within correctional facilities was very high, unless the implementation of social distancing occurred (Liebrenz et al., 2020). Most correctional facilities were at risk for outbreaks, because of their use of confined spaces, being overcrowded, difficulty getting consistent access to cleaning and disinfecting products (i.e., sanitizer, disinfectants, etc.), and burnt-out health care workers (Burton et al., 2021).

Within correctional systems, isolation, or solitary confinement, has routinely been used as a form of punishment for inmates, even with the knowledge that it can cause psychological problems (Usher et al., 2020). Indeed, experiencing solitary confinement has been linked to inmates' death within five years of their release (Johnson et al., 2021). Before COVID-19, isolation within the correctional system was only used as punishment, but during COVID-19, correctional facilities everywhere were forced to adhere to the new national guidelines by implementing isolation constantly as a means of keeping everyone safe (Usher et al., 2020). This also included restrictions on visitations from families and friends of inmates, deepening their feelings of isolation (Burton et al., 2021). The negative psychological effects of isolation get even worse for those who have a pre-existing mental illness. Unfortunately, social isolation has been shown to exacerbate these individuals' symptoms (Usher, et al., 2020). In one study, Nogueira and colleagues (2022) found that the restraining measures put in place to limit the

spread of COVID-19 in correctional facilities (i.e., quarantine, social distancing, and social isolation) were associated with factors such as decreases in participants' perceived quality of life, increases in loneliness and perceived isolation, and increases in depressive symptoms. Although the research in this area is rapidly growing, it is still limited due to most studies having small samples sizes and a lack of data to use to compare pre-COVID data to post-COVID data (Penninx et al., 2022). As such, the current study has been designed to further investigate both pre- and post-COVID-19 data for incarcerated individuals.

### **Challenges for Inmates**

#### ***General Mental Health Problems***

Before discussing challenges for inmates, general gender-related differences pertaining to mental health should be acknowledged. Females are already 6.5% more likely to give reports of experiencing serious psychological distress than males, and they are also more likely to report having a history of mental health problems (Porter et al., 2021). According to Thibaut and van Wijngaarden-Cremers (2020), women are at a higher risk for specific mental health disorders than men, especially during the COVID-19 pandemic. Also, during the pandemic, most of the health care workers were female, which made their chances of experiencing mental illness even higher (Thibaut & van Wijngaarden-Cremers, 2020). In addition, even in the young adult population, COVID-19 impacted females' mental health in a negative way more than it did males' mental health (Prowse et al., 2021). Alongside gender disparities, racial disparities should also be noted.

There are many racial differences pertaining to mental health that should also be understood prior to investigating how inmates specifically are affected. White people are more likely to receive mental health care, compared to racial minorities (Thomeer et al., 2023). In

addition, there are many barriers within minority racial groups, such as stigma and a lack of support within their cultures, to receive mental health care, compared to their White counterparts (Thomeer et al., 2023; Novacek, et al., 2020). Porter and colleagues (2021) mentioned the concept of “double stigma,” pertaining to Black males with mental health problems, because their skin color and mental health issues sort them into two minority groups, or three minority groups if they are Black women with mental health problems. Being in more than one minority group can be very limiting for a person, and already puts them at a disadvantage. People of Color often experience racial trauma, which has the potential to negatively affect their mental health, compared to White people (Thomeer et al., 2023). According to Thomeer and colleagues (2023), their study found that “Black, Hispanic, and Asian adults exhibited much worse mental health during the pandemic compared to before the pandemic.” The researchers also found that White persons received mental health care during the pandemic more than any other racial group (Thomeer et al., 2023). But this is also true for time periods outside of COVID, because when compared to their White counterparts, Black persons have received lower quality mental health care, but have also utilized mental health care less (Appel et al., 2020).

The pre-existing difficulties within Black communities, prior to the pandemic, were only exacerbated with the onset of the pandemic. Black Americans had more hospitalizations and deaths from the pandemic than other groups of Americans, which can influence their mental health in a negative way (Novacek et al., 2020). People who are arrested bring with them their personal histories pertaining to both racial and gender-related challenges. Even before the more extreme institutional changes needed to address the COVID-19 pandemic, inmates have faced issues in correctional settings. Once incarcerated, it may be difficult to obtain treatment for mental health difficulties. Twenty-six percent of the general population in the United States

experience a diagnosable mental disorder in a year (Substance Abuse and Mental Health Services Administration (SAMHSA), 2022). However, within a corrections population, it has been found that 75% of female inmates and 63% of male inmates at jails have a general mental health problem (Gottfried & Christopher, 2017), which is much higher than the general population.

Although the current study takes place at a jail in the Midwest, it is important to understand the differences between jails and prisons. A jail differs from a prison mainly in the length of time that inmates stay there, meaning that prisons typically hold inmates who have been given a sentence that is for longer than one year and a jail typically houses inmates who have received sentencing for less than or equal to one year (Gottfried & Christopher, 2017). Jails are also often used to house individuals who are waiting for their sentencing, adjudication, and/or trial (Gottfried & Christopher, 2017). Jails are typically controlled by city or county governments. Whereas prisons are controlled by larger governments like the state (Avery et al., 2018). Compared to prisons, jails usually house a significantly smaller number of offenders (Avery et al., 2018). However, there is flexibility in all of these guidelines, depending on the jail or prison, the offender and the offender's case. The present study uses inmates from a jail population.

There may be some distinctions in mental health issues between prison inmates and jail inmates, although the distinctions are not large (Yi, Turney, & Wildeman, 2017). What is known, based on a study completed by Yi and colleagues (2017), is that risk for depression, drug use, and heavy drinking is higher among inmates in jail than it is for inmates in prison. Regardless of their age, the type of facility that they are housed within (i.e., jail versus prison), and/or their

gender, psychiatric disorders are still more common among the incarcerated than they are among the general population (Gottfried & Christopher, 2017; Yi, Turney, & Wildeman, 2017).

Although mental illness is more common among those incarcerated, it is also important to note that mental illness is not always linked to violent behavior among inmates (Gottfried & Christopher, 2017). However, one factor that seems to perpetuate violent crime among inmates is the use of substances (Gottfried & Christopher, 2017). Research shows that drug abuse, especially when combined with alcohol abuse, makes people more likely to become violent (Friedman, 1998; Zhong et al., 2020). Having a substance use disorder is correlated with committing acts of violence, and these violent acts can amplify when also combined with a diagnosis of post-traumatic stress disorder (PTSD; Barrett et al., 2014).

In addition, not all people who experience trauma are violent, however, those with a PTSD diagnosis are more likely to commit violent acts than those who do not have a PTSD diagnosis (Barrett et al., 2014). PTSD is assigned as a diagnosis when someone has witnessed, learned about, or directly experienced a traumatic event and is accompanied by experiencing intrusive symptoms (i.e., recurrent distressing dreams, recurrent distressing memories, flashbacks, etc.) while also avoiding stimuli or settings that remind the person of the trauma(s) (American Psychiatric Association, 2022). However, PTSD is not the only diagnosis that is linked to committing violent acts.

Having antisocial personality disorder (APD) also seems to be related to committing violent acts, especially when combined with substance abuse (Friedman, 1998). APD is assigned as a diagnosis when the person disregards and typically violates others' rights (APA, 2022). The person must display at least three of the following symptoms: deceitfulness, impulsivity/lack of planning, failure to conform to laws (which would be breaking laws), irritability/aggressiveness,

frequent irresponsibility, absence of remorse, and recklessness regarding the safety of themselves and/or others (APA, 2022). Although each correctional facility differs, Black (2015) reports that up to 80% of inmates at any given time may have APD. In a related study, Matejkowski (2017) suggests that approximately 18% of female prisoners and 43% of male prisoners within the U.S. have APD. Although the study completed by Matejkowski (2017) reviewed prisons, rather than jails, the prevalence of APD could be generalized to other types of correctional facilities.

### ***Serious Mental Illness***

In a study conducted by Bronson and Berzofsky (2017), the researchers found that only about 5% of the general population met criteria for serious psychological distress (SPD), which includes Schizophrenia and Major Depressive Disorder. In addition, there is some difference in the number of serious mental illness in the general population for men (7%) and women (4%) (SAMHSA, 2022). In contrast, there is a higher percentage of those in prison who met criteria for serious psychological distress (14%) and those in jail who met criteria for serious psychological distress (26%; Bronson & Berzofsky, 2017). According to Hall and colleagues (2019), each year, over two million people with serious mental illnesses are incarcerated and put into jails (around 15% for males and 30% for females). Gottfried and Christopher (2017) found that a variety of mental illnesses are found in jails and prisons, with mood disorders, bipolar and related disorders, and psychotic disorders being some of the more prevalent disorders. Of these inmates who are diagnosed with a mental illness, at least one out of seven have been found to have a serious mental illness that either falls within the thought disorders category or the mood disorders category which include disorders such as schizophrenia and major depressive disorder (Gottfried & Christopher, 2017). Clinicians may also have some racial bias towards those they are diagnosing and with certain types of diagnoses (Appel et al., 2020). Research has shown that

Black persons are expected, more often than other races, to be diagnosed with schizophrenia diagnoses, rather than other diagnoses that other races may be given with similar symptoms (i.e., example of clinicians having an overpathologizing bias; Appel et al., 2020). Another study reported that longer incarcerations led to less mental health symptoms for White persons, but more mental health symptoms for Black persons, which could be due to White persons easily receiving care for their mental health, as opposed to their Black counterparts (Porter et al., 2021).

### ***Mental Health Resources***

Many correctional facilities do not have adequate mental health resources for their inmates (Liebrenz et al., 2020). Of the inmates who do have mental illnesses, only about 17% of them received adequate treatment (Gottfried & Christopher, 2017). This is concerning and important to address because research has shown, without treatment, such inmates are placed at a higher risk for recidivism upon their release (Gonzalez & Connell, 2014).

When they are released, inmates could still face the challenge of recidivism, or reoffending, especially among inmates with a mental health disorder (Wilson et al., 2011). In a study completed by Wilson and colleagues (2011), when comparing recidivism rates among inmates with no diagnoses, one diagnosis, or more than one diagnosis over the span of four years, 50% of inmates with only one diagnosis still reoffended at least once within the four-year span and 68% of inmates with more than one diagnosis reoffended more than once within the same time frame. However, one thing that was shown to be a protective factor against recidivism was visitations from family and friends (Johnson et al., 2021). Taking away visitation could be extremely problematic for the mental health of inmates (Johnson et al., 2021). This is a relevant idea to consider when understanding the current study because COVID-19 greatly impacted the inmates' abilities to have normal visitations with friends and family members. The regulations

and restrictions pertaining to visitations and social distancing could be a contributing factor to decreases in mental health.

### **Theoretical Foundation**

Several theories have been proposed to explain why incarcerated individuals have increased evidence of mental illness. Two primary theories are the Importation and Deprivation Models. The Importation Model states that the reason why inmates present with psychopathology upon being detained is due to beliefs, behaviors, and attributes that they have developed over time that they bring with them into the jails and prison systems (Baksheev et al., 2012, Irwin & Cressey, 1962; Walters & Crawford, 2013;). Although this theory was developed over sixty years ago, it is still widely supported by, and utilized in, many forms of research (Walters & Crawford, 2013). Most criminals have lived in an environment that has perpetuated and taught them deviant behaviors, implying that when arrested, they bring those deviant behaviors with them when they are put into jails and prisons (Cheeseman, 2003).

According to the Mayo Clinic (2022), depending on the disorder, there are a wide variety of causes of mental illnesses, including primarily genetics/inherited traits, environmental factors, and brain chemistry. These potential causes remain in support of the Importation Model because it suggests that these causes occurred prior to someone's first incarceration. With environmental factors, being raised in urban settings, as opposed to rural settings, is known to heighten one's risk for developing psychiatric disorders (Hoisington et al., 2019). Crime rates are known to be higher within urban settings (Malik, 2016). Poverty within urban settings tends to increase one's risk for developing a mental illness, and in turn, the developed mental illness exacerbates one's risk for poverty, creating a cycle that is very difficult to interrupt (Anakwenze & Zuberi, 2013). Lower socioeconomic status (SES) is already known to affect physical health negatively, and

studies have investigated how it affects mental health as well (Meyer et al., 2014). Studies show that people with lower SES are more likely to have major depression (Meyer et al., 2014). Meyer and colleagues (2014) also found that people living in low SES neighborhoods are more afraid of and had concerns surrounding their neighborhoods, making them less likely to be physically active outside, which negatively affected their mental health.

Another factor that can potentially influence mental health is trauma (Resick, 2014). Types of traumas that are highly related to being incarcerated include “unexpected death of a family member or a close friend, being a victim of assault, and physical abuse,” (Molina-Coloma et al., p. 483, 2022). Although not every person who experiences trauma develops a mental illness, those who do are likely to experience symptoms of anxiety, post-traumatic stress disorder, depression, and others (Resick, 2014). The current study is positing that the trauma inmates experienced due to COVID-19 and other traumatic events outside of jail is what will be the source of mental illness inside of the jail.

Recidivism is also a potential key point to acknowledge when considering the Importation Model. For example, inmates often get arrested due to choices that they make stemming from their mental illnesses. When they are released, if treatment for their mental illness is discontinued, or if they continue to refuse treatment once released, it is only more likely that they will reoffend, leading to another arrest. Also, once they are released, they could return to patterns of behavior that they were already accustomed to prior to their arrest, likely leading to another arrest. The outside environment, mixed with their poor mental health, is very important to consider when trying to understand why they potentially end up being arrested again.

The Importation Model is frequently contrasted to the Deprivation Model, which states that criminal psychopathology is native to the jail itself, meaning that the environment within

detention centers enhance and perpetuate mental illness among inmates (Walters & Crawford, 2013). It is called the Deprivation Model because within correction settings, inmates are deprived of many things, such as certain rights, visitations with families and/or friends, possessions, and more (Baksheev et al., 2012). As mentioned earlier, the social restraints that had to be put in place within correctional facilities because of the potency of COVID-19, could also be considered as a “depriving factor.” Because of the deprivation that inmates experience, this perpetuates the development of psychopathology within the jail (Baksheev et al., 2012). COVID-19 could even be considered as one of the depriving factors that inmates have had to encounter within jails. Although the Deprivation Model is not the main theory that the current study is utilizing, it would support the idea that COVID-19 made mental health problems worse for the inmates who were already in prisons and jails due to isolation procedures that were put into place.

However, the Importation Model is being used as the main theory of the current study because it is consistent with the idea that COVID-19 affected many people outside of jails and prisons and led to an increase in their overall mental health problems, thus leading to more people with mental health problems being brought into jails after committing a crime. Another reason why the Importation Model may be the optimal theory to support the current research project is because of the length of time that inmates are typically incarcerated at jails. Inmates are typically housed at jails for less time, compared to prisons, counteracting the premise of the Deprivation Model. According to the Deprivation Model, in order for pathology to develop within the confines of correctional facilities, inmates must be there long enough to feel as though their freedoms and liberties have been taken from them, which does not always happen if they know that they are only going to be at the jail for a short amount of time. The Importation Model

would suggest that the mental health of people who experienced COVID-19 outside of correctional facilities, were likely affected by the virus in negative ways, and once incarcerated, their mental health problems would only worsen over time.

### **Overview of the Current Study**

There is a gap in the literature regarding how COVID-19 specifically affected the mental health of inmates. Because COVID-19 occurred in the last few years, research is still in the initial stages of investigating the various effects of the virus. Not only is there limited research involving COVID-19, but there is also limited research that includes the use of inmates as research participants. Inmates are a protected population when it comes to utilizing them for research purposes, meaning that it is difficult to use them in studies. Results of the current study could influence many groups of people including clinicians, jail staff, inmates, families of inmates, the general population, and policies and procedures toward future inmates. Also, the results from the current study could be used to help jail staff prepare for future incoming inmates, and devise policies to meet their mental health needs.

There are several hypotheses that were investigated through this research. Three time points were studied to examine the effects that the COVID pandemic had on mental illness rates in a jail system. The time points are 2019 (before COVID-19), 2020 (during COVID-19 shutdowns), and 2021 (when the height of COVID-19 cases was ending). Since 2019 is before the pandemic, it was hypothesized that the rates of mental illness would be similar to what has been found in the research literature. But, to support the Importation model, the rates of mental illness would increase from 2019 to 2021 due to the increase in environmental stressors related to the COVID pandemic. Essentially, if the Importation Model was supported, and the inmates' mental health was impacted by what they brought into the jail with them, then it was expected

that the frequencies of mental health diagnoses would increase from 2019 - 2021 due to COVID-19. However, if the Deprivation Model was supported, then there would be no significant increases in diagnoses from 2019-2021 and any other recorded mental health concerns would be due to institutionalization.

Specific hypotheses are:

- The percentage of inmates diagnosed with a mental illness will be greater than that historically found in the general population (general population at approximately 26%; Bronson & Berzofsky, 2017). In addition, the number of diagnoses will increase from 2019 to 2021, with significantly more diagnoses found in 2021 than in 2019.
- In addition, inmates diagnosed with severe mental illness (e.g., schizophrenia and major depressive disorder) will be greater than the general population (with the general population at approximately 5%; Bronson & Berzofsky, 2017). The diagnoses of severe mental illness will increase from 2019 to 2021, with significantly more diagnoses found in 2021 than in 2019.
- Across all years, Antisocial Personality Disorder (APD) and Post-Traumatic Stress Disorder (PTSD) will be the most commonly diagnosed disorders, and Substance Use Disorder will be the most common co-morbid disorder diagnosed.
- Across all years, rates of mental illness and severe mental illness will be higher for female inmates than male inmates.
- Across all years, it is hypothesized that there will be more Black inmates diagnosed with mental illness and severe mental illness than White inmates.

- The number of criminal offenses will be related to mental illness, with those with more offenses having the most mental illnesses. This will also increase from 2019 to 2021, with a higher rate of offenses related to a higher number of mental illnesses in 2021.

## **Method**

### **Participants**

Participants were inmates from a jail in the Midwest. The current study utilized archival data from the facility. Archival data, otherwise known as secondary data, is an efficient kind of data to use when working with larger facilities because it saves the researchers time in the collection process, since the data has already been collected and stored (Johnston, 2014). Due to the current study being limited in time and resources, and also including data from previous years to investigate when COVID-19 was extremely active, utilization of secondary data analysis was the best option for the researcher.

The jail has seven designated housing pods for male inmates and one designated housing pod for female inmates. Typically, males are more often incarcerated than females (Federal Bureau of Prisons, 2024). Although the jail houses men, women, and juveniles, the current study only included adult male and female inmates. There were no age range exclusion criteria.

The average amount of time that inmates are housed in the jail is approximately 90 days, with a range varying from a few days to a few years. The jail can hold 550 male and female offenders at any given time. This includes a cell block that has 22 beds specifically designated for inmates with the most severe mental health disorders, although more beds are provided when necessary. Typically, the most severe mental health cases include inmates with schizophrenia

and psychosis-related disorders, and occasionally those with an intellectual disorder or autism.

There are three mental health clinicians regularly on staff, available to counsel any of the inmates at any given time, along with a psychiatrist who is there two days a week.

The jail houses anywhere between 5,000 – 14,000 inmates each year. Given the nature of the current study, there was not enough time to assess data from each inmate admitted per year, so random sampling was utilized, selecting participants from each year. The researcher conducted random sampling of inmates from January 2019 – December of 2021. To randomly sample the population, the researcher referenced monthly reports of every inmate who was booked at the jail. The researcher randomly sampled 10 people per month, 120 per year, for 3 total years. Sampling 10 people per month provided a suitable amount of data for the researcher to analyze, while also fitting within reasonable time constraints of the study. At the jail, every month a cumulative report is written, containing each inmate who was arrested and when they were arrested. From the monthly reports, the researcher randomly selected a participant from certain pages in the report. The amount of pages/number of inmates being booked in each month varied, with the largest number of pages in a monthly report being 21 pages (April 2019 and August 2019), and the least number of pages per month was 3 pages (April 2020 and May 2020). When the monthly reports consisted of more than 10 pages, the researcher randomly selected which pages were utilized (while eliminating pages that were randomly selected so that no page was randomly selected twice), and then randomly selected a participant from each of the pages. When monthly reports were less than 10 pages in total length, the researcher randomly selected from the pages that were available, resulting in some pages being randomly selected more than once. If a page was selected more than once, the researcher made sure that each participant that was randomly selected from the page, was not selected more than once.

A power analysis based on the range of inmates who are in and out of the jail per year, suggested utilizing a sample size of 350 participants each year, 1050 participants total. However, this was not possible, given the time constraints of the current study. Data from a sample size of 360 total participants was collected (i.e., 120 participants per year). All races/ethnicities, genders, and ages of the inmates were included. The average numbers across inmates for race/ethnicity, gender, age, are not specifically tracked within the jail, so this information was collected for each randomly selected inmate.

## **Materials**

### ***Chart Diagnoses***

Given the archival nature of the current study, there were no specific materials administered to the participants. Instead, the inmates' information (i.e., diagnoses, demographic info, etc.) was drawn from their individual archived records.

At the jail, if an inmate meets criteria for a mental health diagnosis, they are assigned the diagnosis by the staff psychiatrist, which is recorded in their secure online records via Electronic Records Management Application (ERMA). The staff psychiatrist is the only person from mental health staff who records diagnoses into ERMA. All medical and mental health staff have access to ERMA. Other information about the inmate that was logged in ERMA included both physical and mental health information, for each time that they were incarcerated. For example, ERMA is where all progress notes and intakes written by mental health staff are stored, along with notes written by medical staff. The number of times that inmates meet with mental health staff during their incarceration(s) are logged in ERMA. Because of this, it is easy to identify how many times each inmate has met with mental health staff during each of their incarcerations.

Information about the inmate's race, nationality, charges, length of incarceration, court dates, previous charges, housing, disciplinary tickets, and so on, is securely stored in BluHorse. BluHorse is an inmate management software that is available to medical staff, mental health staff, and guards at the jail. Information from both ERMA and BluHorse was utilized during the current study. Inmates' chart diagnoses were collected at three different times: one-year pre-COVID-19 (2019), during COVID-19 (2020), and one-year post-COVID-19 (2021). It is important to note that the current study did not compare the same participants during each time frame. The current study compares percentages of diagnoses at each time period.

### **Procedure**

The procedure did not involve any active participation from inmates, as their data was already collected by employees at the jail. Participants sign an informed consent upon their booking at the facility, stating that their data may be used for research purposes. The processing of inmates when they are brought to the jail is as follows: Upon arrival, inmates are booked in by security. Within two hours, they see the medical staff for completion of their receiving screening, which is a questionnaire that has both medical and mental health questions on it. They are then referred to relevant staff (e.g., dental staff, medical staff, or mental health staff). After that, each incarcerated person is usually classified as either "routine," "urgent," or "emergent" to help mental health staff understand what level of attention they need at the current time. This largely depends on how the inmate answers questions in their receiving screening. After answering the receiving screening and being "classified," they are then assigned a cell based on their ability to function (i.e., are they able to shower, eat, are they able to be housed with another inmate, etc.). After the inmate has been sorted into their corresponding category, mental health clinicians are able to see the inmate and attempt to administer their mental health initial assessment. Inmates

always have the right to decline to meet with mental health staff. If an inmate indicates that they are struggling with symptoms consistent with a diagnosis, they are referred to see the staff psychiatrist. Diagnoses, if any, are then determined based on the answers given during both assessments (the medical receiving screening and the mental health initial assessment), and brief interviews with the inmates themselves conducted by the psychiatrist.

There were several procedures involved in the current study. First, after approval by the researcher's master's committee, the researcher submitted their proposal to the Institutional Review Board (IRB) to gain approval to conduct research. Upon approval from both the researcher's committee and IRB, the researcher visited the jail and gained appropriate clearance from the jail's staff to access data from the center. The data was then collected and organized. Data was collected from two databases (ERMA and BluHorse) at the jail. The researcher had access to basic demographic information, all booking reports, electronic medical records where health information is stored, previous and current incarcerations, the facility's "special needs" list, that typically includes inmates who are unable to take care of themselves and/or could possibly be a danger to others due to their diagnoses (i.e., schizophrenia, intellectual disabilities, autism, etc.), and more. The data was first organized in a Microsoft Excel sheet on a computer at the jail. It was only initially stored on the facility's computer because the researcher had to track each inmate's ID (i.e. Patient ID), so that no inmate's information was duplicated (due to multiple potential incarcerations). After all the data was gathered and the researcher made sure that there were no duplicate participants in the data, the researcher eliminated the variable of "Patient ID," which allowed for the researcher to transport the data to an off-site computer for analysis since no directly identifying information was in the data set. All these steps were completed with approval of the facility's administration. The data was then transferred to a

secure computer in the Psychology department at Washburn for SPSS analysis. The final step was running statistical analyses and interpreting the findings.

### **Statistical Analyses**

To test the hypothesis that COVID-19 increased the frequencies of diagnoses given to inmates at an institutional level, multiple Chi-Square Tests of Independence were completed. COVID-19, as the predictor variable, was defined as three separate time periods or levels (i.e., 2019, 2020, and 2021). The frequency of assigned mental health diagnoses was the criterion variable. Also, the number of times that inmates saw mental health staff was entered as the criterion variable, with the time periods being listed as the predictor variable. Other variables such as gender, mental health diagnosis (as well as how many current diagnoses they have, and if they were given a diagnosis by MH staff while serving time for a previous incarceration), age, number of days incarcerated, number of charges, the number of times that each inmate saw mental health staff during their incarceration under investigation, and race. The researcher expected to find a significant effect (i.e., the inmates' overall mental health would decrease over time), warranting higher frequencies of assigned diagnoses post-COVID, when compared to pre-COVID frequencies.

### **Results**

To begin, descriptive statistics were completed to examine demographic information. When examining nationality of the participants, most were American with other nationalities represented: American (88.3%), Mexican (7.8%), Honduran (.8%), Cuban (.6%), along with Indian, Barbadian, Nepalese, Omani, Costa Rican, Afghan, Armenian, Guatemalan, and Laotian (.3% for each). When examining race, 56.1% were White, 42.2% were Black, .6% were Asian, .6% were Indian, and .6% were classified as "Unknown."

The number of female participants was less (19.7%) than male participants (80.3%), which was expected to be found, considering that the jail utilized in the current study houses less females than males. There are significantly more male beds available than there are female beds at the jail. The ages of the participants ranged from 20 to 73, with the most common ages being 38 and 40 (each age accounting for 4.4% of the population, totaling 8.8%;  $M = 39.38$ ,  $SD = 11.78$ ).

The first hypothesis tested was that the percentage of inmates diagnosed with a mental illness would be greater than that historically found in the general population (26%); however, this was not supported. Within the data set, there were limited participants who were given a current mental health diagnosis (3.3%), and most participants did not have a current diagnosis (96.7%). When specifically determining how many inmates received diagnoses during each year under investigation, a Chi-Square Test of Independence was run. The results were not significant,  $\chi^2(2, N = 360) = 1.55$ ,  $p = .460$ . An effect size was calculated using Cramer's  $V$ , which was found to be .066. For the year 2019, 115 people did not receive a diagnosis, 4 people received 1 diagnosis, and 1 person received 2 diagnoses, resulting in a total of 6 diagnoses given for the year 2019. For the year 2020, the results were the same: 115 people did not receive a diagnosis, 4 people received 1 diagnosis, and 1 person received 2 diagnoses (6 total diagnoses given). For the year 2021, 118 people did not receive a diagnosis, and 2 people received a single diagnosis.

The second hypothesis tested was that the number of inmates diagnosed with severe mental illness (e.g., schizophrenia and major depressive disorder) would be greater than the number of people in the general population diagnosed with severe mental illness (approximately 5%). This was also not supported. Frequency statistics were utilized to determine

how often specific diagnoses were assigned. When examining the entire sample of participants, people with MDD and schizophrenia accounted for 1.4% of the total population. However, of the 14 total diagnoses that were assigned, 5 of those diagnoses were either MDD or Schizophrenia (35.7% of mental health diagnoses given). Other diagnoses that were assigned, such as Unspecified Psychosis, Other Stimulant Abuse with Other Stimulant Induced Psychosis, and Other Psychoactive Substance Abuse with Psychotic Disorder, Unspecified, included psychotic features as well. The most frequently assigned diagnosis was Adjustment Disorder, being assigned as a diagnosis 4 total times. Following Adjustment Disorder in frequency, was Schizophrenia, being assigned a total of 3 times. Major Depressive Disorder and Unspecified Psychosis were both assigned twice. Alcohol Dependence, Other Stimulant Abuse with Other Stimulant Induced Psychosis, and Other Psychoactive Substance Abuse with Psychotic Disorder, Unspecified, were each assigned one time. However, 8.6% of participants were given a diagnosis during a previous incarceration. Specific previous diagnoses were not tracked because the focus of the study was only on what diagnoses were given during each inmate's current incarceration, respectively to the year of investigation within the study.

The third hypothesis tested was about primary diagnoses. It was hypothesized that Antisocial Personality Disorder (APD) and Post-Traumatic Stress Disorder (PTSD) would be the most commonly diagnosed disorders, and Substance Use Disorder the most commonly comorbid disorder diagnosed. This hypothesis was not supported, as there were no Antisocial Personality Disorder diagnoses or PTSD diagnoses given to inmates. Also, one substance-related diagnosis was tied for the most common comorbid diagnosis assigned: Other Psychoactive Substance Abuse with Psychotic Disorder, Unspecified, assigned to one participant (tied with Unspecified Psychosis, assigned to one participant). However, there were 3 total substance-

related diagnoses given across all 3 years to inmates: Alcohol Dependence, Other Stimulant Abuse with Other Stimulant Induced Psychosis, and Other Psychoactive Substance Abuse with Psychotic Disorder, Unspecified. Alcohol Dependence and Other Stimulant Abuse with Other Stimulant Induced Psychosis were both given as primary diagnoses to 2 separate participants.

It was also hypothesized that the rates of mental illness and severe mental illness would be higher for female inmates than male inmates. A Chi-Square Test of Independence was utilized to compare rates of diagnoses of mental illness among males and females. The results, although approaching significance, were not:  $\chi^2(1, N = 360) = 3.78, p = .052$ . An effect size was calculated using Phi, which was found to be  $-.102$ . There were 71 total female participants, and of those 71 women, across all years under investigation, 5 were given a diagnosis (7% of women had a current diagnosis). Out of the 5 diagnoses given to females, 3 of them fell into the category of severe mental illness (2 were diagnosed with schizophrenia and 1 diagnosed with MDD). Of the 289 men, 7 of them were given a diagnosis across all years of investigation (2.4% of men had a current diagnosis). Out of the 7 diagnoses given to males, only 2 of them fell into the category of severe mental illness (1 was diagnosed with schizophrenia and 1 diagnosed with MDD). Although approaching significance, our hypothesis was not supported. However, the rates of women being diagnosed with mental illness (7%), was higher than the rates of men being diagnosed with mental illness (2.4%). Also, of those diagnosed, women were diagnosed with severe mental illness more often than men were. However, when investigating the specific diagnoses given between both men and women via Chi-Square Tests of Independence, the results were still insignificant:  $\chi^2(6, N = 360) = 10.09, p = .121$  (statistics for first diagnoses given; Cramer's  $V = .167$ ) and  $\chi^2(2, N = 360) = .49, p = .781$  (statistics for second diagnoses given; Cramer's  $V = .037$ ).

The researchers also hypothesized that there would be more Black inmates diagnosed with mental illness and severe mental illness than White inmates. This hypothesis was partially supported. A Chi-Square Test of Independence was used to compare racial disparities among those with and without mental illnesses. Results were significant:  $\chi^2(4, N = 360) = 14.30, p = .006$ . An effect size was calculated using Phi, which was found to be .199. There were 202 White participants (56.1%) and 152 Black participants (42.2%). There was a total of 5 White inmates who were diagnosed with a mental illness, but 6 Black inmates were diagnosed with mental illness. Of the Black inmates diagnosed with mental illness, only 2 were diagnosed with severe mental illness (both schizophrenia). There were also 2 White inmates diagnosed with severe mental illness (1 schizophrenia diagnosis and 1 MDD diagnosis).

Current mental health diagnoses were not predictive, due to the lack of diagnoses given. When attempting to analyze how the number of charges an inmate has is related to the number of diagnoses that they have, a Chi-Square Test of Independence demonstrated that the results were not significant:  $\chi^2(28, N = 360) = 23.84, p = .690$ . An effect size was calculated using Cramer's  $V$ , which was found to be .182. Instead, the variable of "how many times inmates saw MH staff" was used to better describe the rates of mental illness within the jail, due to a lack of diagnoses given. When investigating how many times inmates saw mental health staff during 2019, 2020, and 2021, a frequency analysis was run. For the year 2019, MH services were utilized 179 times. For the year 2020, MH services were utilized 439 times. For the year 2021, MH services were utilized 289 times. It should be noted that for the year 2020, there was an outlier. One participant saw MH staff 183 times. Without this person's data, for the year 2020, MH services would have been utilized 256 total times, which is still an increase from the year 2019. The trend in how

mental health services were utilized partially supports our hypotheses of there being an overall increase in mental health problems.

The researchers then analyzed how mental health visits were related to the number of charges each person had. The total number of days each person was incarcerated ranged from less than 1 day to 1178 total days,  $M = 49.35$  and  $SD = 127.66$ . The most frequently endorsed number of days that inmates were incarcerated for was less than 1 day (38.1% of participants). The second most frequently endorsed number of days that inmates were incarcerated for was 1 day (10% of participants). Adding these two statistics together, accounts for almost half of the participants from the study (48.1%). It was predicted that the more charges an inmate has, the more frequently they would see MH staff and the results were significant in support of this hypothesis:  $\chi^2(294, N = 360) = 507.37, p = <.001$ . An effect size was calculated using Cramer's  $V$ , which was found to be .317.

## **Discussion**

### **Strengths, Limitations, and Future Directions**

This study examined the effects of the COVID pandemic on inmates by examining rates of mental illness in a jail setting from 2019 to 2021. There was mixed support for the hypotheses of this study.

The first hypothesis predicted that the percentage of inmates diagnosed with a mental illness would be greater than that historically found in the general population (general population at approximately 26%; Bronson & Berzofsky, 2017). This hypothesis also predicted that the number of diagnoses would increase from 2019 to 2021, with significantly more diagnoses found in 2021 than in 2019. This hypothesis was not supported. A significant number of participants, 96.7%, were not given a current diagnosis. For the year 2019, only 6 people received a diagnosis.

The same results were found for the year 2020. For the year 2021, only 2 people were given a diagnosis. The results appear to support the Deprivation Model because there is not a diagnostic change. However, there may be other reasons why a change did not occur. The first reason may be pertaining to the way that the jail conceptualizes their patients, giving diagnostic priority to those who are physically unable to take care of themselves. Usually, these patients have the highest psychological needs, a psychosis-related diagnosis, and/or receive a high amount of care from mental health staff. In addition, the on-site psychiatrist is the only one who is able to enter diagnoses into inmates' charts. This may explain why there is a lower number of diagnoses given because the jail's psychiatrist is only on-site twice a week, and when on-site, the psychiatrist is likely giving diagnostic priority to the inmates who are unable to take care of themselves. When conducting a brief literature review, the researcher was not able to find many articles that investigate rates of inmates who have a mental health diagnosis, but are not given a diagnosis within correctional settings. Only one stated "10% to 15% of all inmates may be incorrectly classified in terms of the presence or absence of a mental illness," (Martin et al., 2016). The lack of research exploring this topic should be noted and investigated in future studies. Also, another reason why there are not many diagnoses assigned, may be because almost half of the participants from the current study were not incarcerated for more than a day, which does not leave enough time for mental health staff to diagnose them with a mental health disorder. Finally, patients always have the right to refuse to meet with or receive services from mental health staff. It is possible that an inmate may have a mental health disorder, but refuse care to treat their disorder, which makes it challenging to give those inmates a diagnosis.

The second hypothesis predicted that the number of inmates diagnosed with severe mental illness (e.g., schizophrenia and major depressive disorder) would be greater than the

general population (with the general population at approximately 5%; Bronson & Berzofsky, 2017). Also, it was predicted that the diagnoses of severe mental illness would increase from 2019 to 2021, with significantly more diagnoses found in 2021 than in 2019. This hypothesis was also not supported. People with MDD and schizophrenia diagnoses accounted for 1.4% of the total inmate population, which is not more than 5%, as was hypothesized. It should be noted that 8.6% of participants were given a diagnosis during a previous incarceration, which is more than the 5% that was predicted. However, it was not recorded when the previous diagnoses were given to those specific inmates. It is unknown as to why only 1.4% of the population was given a diagnosis. There could be many explanations, such as the “type of offender” (i.e. someone with a felon, or someone with a misdemeanor) that was brought into jail who may have had lower-level offenses. However, after speaking with mental health staff about regulations in the jail during the COVID pandemic, it should be noted that in May of 2020, half of the jail’s Adult Daily Population (ADP) was released, and a message was sent to the police department that the jail would only be accepting felony cases until further notice. This remained the protocol for the jail for the rest of 2020, but the jail slowly began to return to their “normal procedures”, especially after masking and isolation policies were adhered to and enforced. Therefore, during this time, only the most severe criminal cases were housed in the jail. Because of all the new and stressful COVID-related regulations that had to be enforced, there is a chance that mental health staff at the jail were extremely busy with providing services. Because of this, there is a chance that not as many specific mental health diagnoses were entered into inmates’ medical records during this period. However, the need for mental health services was still clear, especially when comparing the number of times mental health services were used during 2019, 2020, and 2021. The spike in the number of times that patients saw mental health staff from 2019 (179 times) to 2020 (439

times), demonstrates a clear need that the inmates had for mental health services, and although there was a slight drop in 2021 (289 times), it is still an increase from the year 2019. The spike in utilizing mental health services also corresponds with the time that COVID was at its “peak,” the year 2020. One study conducted by Kamat and colleagues (2023) found that stress and suicide attempts increased for inmates during the time of COVID-19, but did not specify what year(s) or time frame they were referencing during the span of COVID-19. This link supports the Importation Model because the reason why the utilization of mental health services increased was likely due to an outside factor that the inmates experienced, prior to their incarceration. Their mental health problems and concerns did not just go away when they became incarcerated.

The third hypothesis predicted that across all years, Antisocial Personality Disorder (APD) and Post-Traumatic Stress Disorder (PTSD) would be the most commonly diagnosed disorders, and Substance Use Disorder would be the most common co-morbid disorder. This hypothesis was not supported, because there were no Antisocial Personality Disorder diagnoses or PTSD diagnoses given to inmates. Also, Substance Use diagnoses were tied as the most commonly comorbid diagnosis assigned. The reasoning for this, again, may be due to the way that the jail conceptualizes its patients, by giving diagnostic priority to those who are unable to take care of themselves. For people with extreme substance use addictions, if they are withdrawing or are anticipated to withdraw during their first few days at the jail, they are put on specific protocols to help them withdraw safely by nursing staff. However, this does not always guarantee that they will receive some sort of mental health diagnosis. Based on anecdotal accounts from mental health staff, when patients are withdrawing from substances, they typically refuse to speak with mental health staff. Mental health staff try to meet with them an additional time if they refuse the first attempt, but the inmates always have the freedom to refuse mental

health services, making it difficult to assign diagnoses. Another reason as to why PTSD may not have been given as a diagnosis is because of time constraints. Some inmates may have PTSD, however, many inmates get released in a short amount of time, or taken to other correctional facilities, prior to diagnostic interviewing and/or treatment starting. Adjustment Disorder was actually the most commonly assigned diagnosis, which, similarly to PTSD, involves a response to stress and/or trauma. Adjustment Disorder occurs within 3 months after someone goes through a stressful life event, and typically results in adverse reactions that exceed what is expected from the experienced event due to difficulty coping with the event (APA, 2022). One study, although conducted over 10 years ago with German prisoners, found that 25% of prisoners qualified for a diagnosis of Adjustment Disorder, which makes sense as to why Adjustment Disorder may be the most commonly assigned diagnosis at the jail (Dettbarn, 2012). When first incarcerated, there are a lot of things that people must adjust to because it is a different way of living. Because Adjustment Disorder was the most frequently diagnosed disorder, it may add support for the Deprivation Model. The Deprivation Model would argue that mental illness develops once in the jail because the freedoms that people once had are stripped from them once incarcerated.

The fourth hypothesis predicted that across all years, rates of mental illness and severe mental illness would be higher for female inmates than male inmates. This hypothesis was not significant. Of the 71 total female participants, 5 were given a diagnosis (7% of women had a current diagnosis). Out of the 5 diagnoses given to females, 3 of them fell into the category of severe mental illness (2 were diagnosed with schizophrenia and 1 diagnosed with MDD). Of the 289 male inmates, 7 were given a diagnosis (2.4% of men had a current diagnosis). Out of the 7 diagnoses given to males, 2 of them fell into the category of severe mental illness (1 was diagnosed with schizophrenia and 1 diagnosed with MDD). The rates of serious mental illness

and general mental illness were both higher in female inmates than male inmates. These findings support previous research indicating that women are at a higher risk to develop specific mental health disorders than men, especially during the COVID-19 pandemic (Thibaut & van Wijngaarden-Cremers, 2020). These findings also support the Importation Model, because women are more likely than men to already have a history of mental health problems, meaning that they likely brought their mental health struggles into the jail with them. However, if the females in the study were mothers, there is a chance that being in jail made their mental health worse, due to missing their children which would be in support of the Deprivation Model. The researcher did not record whether or not the females in the study were pregnant or mothers already. This may be an idea for future research to consider because being pregnant or having children at home while in jail could negatively affect a woman's mental health. A study completed by Hendricks and colleagues (2024) found that "pregnant incarcerated people are at greater risk of mental health disorders due to the deprived conditions of confinement coupled with dehumanizing conditions of being pregnant and birthing while in custody: inadequate prenatal care, trauma from being shackled in pregnancy and labor, isolation during delivery, the stigma of being pregnant while incarcerated, and lack of mental health support." Their findings coincide with the premise of the Deprivation Model, and hence would be important to explore in future research.

The fifth hypothesis predicted that across all years, there would be more Black inmates diagnosed with mental illness and severe mental illness than White inmates. The results were significant, and the hypothesis was partially supported. Of the 202 White participants (56.1% of the total population), 5 were diagnosed with a mental illness. Of the 152 Black participants (42.2% of the total population) 6 were diagnosed with mental illness. Of the 6 Black inmates

diagnosed with mental illness, only 2 were diagnosed with severe mental illness (both were schizophrenia), but there were also 2 White inmates diagnosed with severe mental illness (1 schizophrenia diagnosis and 1 MDD diagnosis). This somewhat supports previous research stating that Black persons, among other racial minorities, struggled the most with their mental health during the pandemic (Thomeer et al., 2023). According to the United States Census Bureau (2023), in the state of Kansas, 85.9% of residents are White, 6.2% of residents are Black, 3.2% of residents are Asian, with 4.7% of the Kansans falling into other racial categories. This statistic alone highlights the disparity between the number of Black persons who are incarcerated (42.2%), and the number of Black persons who live in the state of Kansas (6.2%). This group of people is overrepresented within the correctional system. It is important to note this because in the current study, more Black persons were diagnosed with mental illness than White persons, likely due to their overrepresentation within the correctional setting. One study, conducted by Appel and colleagues (2020), found that although Black persons in the jail population that they were examining accounted for 30% of the total jail population, 41% of them received help for their mental health, supporting their point about Black people being overrepresented within both correctional facilities and mental health units of correctional facilities (Appel, et al., 2020). The idea that Black persons entered the jail with pre-existing mental health problems, in response to experienced racial trauma or trauma related to COVID, mixed with less “nonbiased” and affordable mental health treatment options available outside of the jail, would support the Importation Model.

The sixth hypothesis predicted that the number of criminal offenses would be related to mental illness, meaning that those with more offenses would have the most mental illnesses. The number was also predicted to increase from 2019 to 2021, with the highest rate of offenses

related to the highest number of mental illnesses in 2021. The results were not significant. Since the number of current diagnoses was not a reliable variable to determine rates of mental illness, the researchers decided to use the variable of the number of times each inmate saw mental health staff. The results were significant when this variable was used. The more charges that someone had, the more likely they were to see mental health staff. This may be related to the length of time that offenders were incarcerated for. It may be inferred that the more charges that someone has, the longer that they should anticipate being incarcerated for. The longer that they are incarcerated for, the better chance that they must utilize mental health services. The number of charges that someone is incarcerated for, typically reflects their choices/decisions outside of the jail. These choices outside of the jail setting can potentially be due to mental health problems.

The current study adds to the research literature in several ways. First, the study evaluated the effects of COVID-19, a worldwide pandemic, that impacted everyone in a variety of ways. Many researchers are still investigating the lasting effects from the pandemic, making this study one of the earlier studies about how COVID impacted mental health of inmates. It is important to understand how COVID impacted our society's mental health because worldwide pandemics do not happen often, especially during time periods when technology makes it easy to record and analyze data. It is important to understand these effects so that if a pandemic were to occur again, the world would be better prepared about how to combat and prevent negative outcomes. The current study contributes more knowledge about how COVID-19 impacted peoples' mental health, but particularly among inmates.

Second, the current study is important because it utilizes inmates as participants. Incarcerated persons from any correctional facility, are particularly difficult to recruit as research participants, because they are one of the protected classes of human subjects (i.e. elderly persons,

children, incarcerated persons, and other vulnerable populations). The current study adds to the literature because it represents the lives of those who were incarcerated and how COVID-19 affected their mental health. Being incarcerated is already a challenge, but when COVID is added to that, even greater struggle and hardship occurs. It is important to understand the hardships of others, especially within correctional facilities. All offenders have stories to share, that would help explain how they became who they are. Understanding the hardships of others may help clinicians working in correctional settings prevent future crime from occurring. More studies including incarcerated persons are needed to fully understand their mental health hardships. The findings from the current study may encourage other researchers to investigate the mental health of inmates around the world.

Although many considerable points resulted from the current study, limitations should be noted. First, due to time constraints, the researcher was unable to gather data from the suggested number of participants from the power analysis (i.e., 1050 participants). More participants are necessary to improve the generalizability and reliability of the results.

Second, diagnoses of inmates were not always recorded in the jail's electronic medical records. Some of the hypotheses were not supported due to the way that the jail conceptualizes their patients. However, the lack of diagnostic support in this setting may be understood when investigating how this specific jail functions. After speaking with staff at the jail and drawing from their anecdotal self-reports, it seems as though many inmates may meet criteria for APD, but the main focus within the jail is to identify and provide services to those with serious mental illness. Due to the correctional facility only having one psychiatrist on staff, who is only there two times a week, diagnostic attention is primarily given to those who have serious mental illnesses and are unable to take care of themselves while incarcerated. This most likely explains

why there were no personality disorder diagnoses observed in the electronic medical records, because although personality disorders result in some sort of dysfunction for those diagnosed with them, patients are still usually able to take care of their physical health. Black (2015) explains that up to 80% of inmates would qualify for a diagnosis of APD within any given correctional setting. APD is extremely common in correctional settings (Fonagy et al., 2020). However, in the jail used in the current research study, the inmates usually do not receive a formal APD diagnosis. This also may be due to the lack of treatment options available for this particular diagnosis. There are no “gold standard treatments” for APD (Fonagy et al., 2020).

Third, many inmates are not incarcerated long enough to receive a formal mental health diagnosis, which potentially skewed the results. If the study were to be replicated in the future, excluding participants who were only incarcerated within the facility for a day or less would be advised, because many participants in the current study fall into that category. When exploring the existing literature, most studies the researcher found investigate links between length of incarceration and recidivism rates, or length of incarceration and physical health problems. Although the researcher did not find previous literature that supports the idea of excluding participants who were incarcerated for a day or less, it would be a good way to get a more accurate representation of the current mental illness within the jail. Utilizing participants who are incarcerated for a short amount of time also does not give an accurate depiction of how often mental health services are utilized among the inmates. In the current study, participants who were incarcerated for a day or less likely never had the chance to meet with mental health staff, which does not provide them with an opportunity to receive a diagnosis, medication, or chance to start therapy. There is a chance that they would be able to see mental health staff if they were an immediate danger to themselves or others, if mental health staff was on-site at the time. Mental

health staff at the jail being used in this study, are only on-site 5 days a week, from around 7am – 5pm. They are not on-site on the weekends, so those who are booked in at the jail after 5pm on Fridays, are unable to see mental health staff until the following Monday. There may be offenders who need to see mental health staff but are released prior to mental health staff being available.

A final limitation of the study was that in this correctional facility, the data was stored in multiple databases. There are also different data organization methods utilized within each database that makes collecting and organizing the data difficult. The jail utilizes safe and secure platforms to store each inmate's data, however, the cohesiveness between ERMA and BluHorse is inconsistent, which made collecting the data extremely time consuming.

One way to expand this study is by replicating the study, but in a prison setting. This may give researchers and clinicians a better understanding about how COVID affected jail inmates differently from prison inmates. This may also shine light on how people working in prison settings conceptualize their patients differently than how people working in jail settings conceptualize their patients. It would be fascinating to compare the results from the two settings to see if there are any prominent differences. One study that investigated the mental health of inmates in a Latin American prison during COVID-19 stated that the inmates struggled not only physically, but emotionally as well (Forrester, 2023). The inmates felt “disposable” and were unable to communicate with loved ones, attorneys, and others due to the COVID regulations put in place, negatively affecting their mental health, and sometimes leading to riots (Forrester, 2023). Another study investigated the mental health of inmates in a prison in Portugal during the COVID-19 pandemic and found elevated rates of stress, anxiety, and depression among the inmates (Mendes et al., 2023). The researchers found that the more problems inmates had with

stress, anxiety, and depression, the more fearful the inmates were of COVID-19 (Mendes et al., 2023). However, more research is needed to investigate the differences in mental health problems during COVID between jail and prison populations, particularly in the U.S.

Another way to expand this study is by excluding any participants who were incarcerated for 1 day or less. As was explained in previous paragraphs, excluding these participants would give clinicians and researchers a more accurate idea about how many diagnoses are given to inmates, as well as what types of diagnoses are given. Knowing this information could be helpful for clinicians working in this setting because if they could anticipate what types of diagnoses are more typical at their specific correctional setting, they could tailor their treatments to meet the needs of those specific diagnoses. Ultimately, excluding participants who were incarcerated for a day or less would help portray a more accurate picture of how COVID affected the mental health of inmates.

Finally, one of the last ways that this study could be expanded is by including a larger number of participants. If future researchers have more time to collect data, then it is suggested that they collect data from the calculated power analysis amount (i.e., a sample size of 350 participants each year, 1050 participants total for 3 years) to help the strength and generalizability of the study.

In conclusion, the current study offers insight into how COVID-19 affected the mental health of inmates. The researcher ultimately found significant results between race and mental illness, specifically among White and Black inmates. Black inmates were found to have more general mental health diagnoses than White inmates, but White and Black inmates tied for the amount of serious mental illness diagnoses that were assigned. Also, the researchers found significant results between the number of charges that an inmate has and the number of times

that the inmate meets with mental health staff. It was found that the more charges an inmate has, the more frequently they see MH staff. Because there was a lack in diagnoses assigned to inmates, despite inmates within the jail experiencing mental health problems, it is recommended that future studies be conducted to get a more accurate depiction of rates of mental illness within jails.

### References

- American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.). <https://doi.org/10.1176/appi.books.9780890425787>
- Anakwenze, U., & Zuberi, D. (2013). Mental health and poverty in the inner city. *Health & social work, 38*(3), 147-157. <https://doi.org/10.1093/hsw/hlt013>
- Appel, O., Stephens, D., Shadravan, S. M., Key, J., & Ochoa, K. (2020). Differential incarceration by race-ethnicity and mental health service status in the Los Angeles County Jail System. *Psychiatric services, 71*(8), 843-846. <https://doi.org/10.1176/appi.ps.201900429>
- Avery, J. V., Casey, L. V., Johnston, P. V., & Act, P. L. R. (2018). Jails Compared to Prisons. *American Prisons and Jails: An Encyclopedia of Controversies and Trends [2 volumes]*, 351.
- Baksheev, G. N., Thomas, S. D., & Ogloff, J. R. (2012). Psychopathology in police custody: The role of importation, deprivation and interaction models. *International Journal of Forensic Mental Health, 11*(1), 24-32. <https://doi.org/10.1080/14999013.2012.667512>
- Barrett, E. L., Teesson, M., & Mills, K. L. (2014). Associations between substance use, post-traumatic stress disorder and the perpetration of violence: A longitudinal investigation. *Addictive behaviors, 39*(6), 1075-1080. <http://dx.doi.org/10.1016/j.addbeh.2014.03.003>
- Black, D. W. (2015). The natural history of antisocial personality disorder. *The Canadian Journal of Psychiatry, 60*(7), 309-314. <https://doi.org/pdf/10.1177/070674371506000703>
- Boden, M., Zimmerman, L., Azevedo, K. J., Ruzek, J. I., Gala, S., Magid, H. S. A., ... &

- McLean, C. P. (2021). Addressing the mental health impact of COVID-19 through population health. *Clinical Psychology Review*, 85, 102006.  
<https://doi.org/10.1016/j.cpr.2021.102006>
- Bronson, J., & Berzofsky, M. (2017). Indicators of mental health problems reported by prisoners and jail inmates, 2011–12. *Bureau of Justice Statistics*, (Special Issue), 1-16.
- Burton, P. R., Morris, N. P., & Hirschtritt, M. E. (2021). Mental health services in a US prison during the COVID-19 pandemic. *Psychiatric Services*, 72(4), 458-460.  
<https://doi.org/10.1176/appi.ps.202000476>
- Cheeseman, K. A. (2003). Importing aggression: An examination and application of subculture theories to prison violence. *Southwest Journal of Criminal Justice*, 1(1), 24-38.
- Dettbarn, E. (2012). Effects of long-term incarceration: A statistical comparison of two expert assessments of two experts at the beginning and the end of incarceration. *International Journal of Law and Psychiatry*, 35(3), 236-239.  
<https://doi.org/10.1016/j.ijlp.2012.02.014>
- Federal Bureau of Prisons. (2024). *Inmate Gender*.  
[https://www.bop.gov/about/statistics/statistics\\_inmate\\_gender.jsp](https://www.bop.gov/about/statistics/statistics_inmate_gender.jsp)
- Fonagy, P., Yakeley, J., Gardner, T., Simes, E., McMurrin, M., Moran, P., ... & Bateman, A. (2020). Mentalization for Offending Adult Males (MOAM): study protocol for a randomized controlled trial to evaluate mentalization-based treatment for antisocial personality disorder in male offenders on community probation. *Trials*, 21, 1-17.  
<https://doi.org/10.1186/s13063-020-04896-w>
- Forrester, A., Aboaja, A., Beigel, L., Mundt, A. P., Rivera, G., & Torales, J. (2023). Mental health in prisons in Latin America: The effects of COVID-19. *Medicine, science, and*

the law, 63(2), 89–92. <https://doi.org/10.1177/00258024221149932>

Friedman, A. S. (1998). Substance use/abuse as a predictor to illegal and violent behavior: A review of the relevant literature. *Aggression and Violent Behavior, 3*(4), 339-355.

[https://doi.org/10.1016/S1359-1789\(97\)00012-8](https://doi.org/10.1016/S1359-1789(97)00012-8)

Gottfried, E. D., & Christopher, S. C. (2017). Mental disorders among criminal offenders: A review of the literature. *Journal of Correctional Health Care, 23*(3), 336-346.

<https://doi.org/10.1177/1078345817716180>

Hall, D., Lee, L. W., Manseau, M. W., Pope, L., Watson, A. C., & Compton, M. T. (2019).

Major mental illness as a risk factor for incarceration. *Psychiatric Services, 70*(12), 1088-1093. <https://doi.org/10.1176/appi.ps.201800425>

Hendricks, C. A., Rajagopal, K. M., Sufirin, C. B., Kramer, C., & Jiménez, M. C. (2024). Mental health, chronic and infectious conditions among pregnant persons in US state prisons and local jails 2016–2017. *Women's Health, 20*, 17455057241228748.

<https://doi.org/10.1177/17455057241228748>

Hoisington, A. J., Stearns-Yoder, K. A., Schuldt, S. J., Beemer, C. J., Maestre, J. P., Kinney, K. A., ... & Brenner, L. A. (2019). Ten questions concerning the built environment and mental health. *Building and environment, 155*, 58-69.

<https://doi.org/10.1016/j.buildenv.2019.03.036>

Irwin, J., & Cressey, D. R. (1962). Thieves, Convicts and the Inmate Culture. *Social Problems, 10*(2), 142–155. <https://doi.org/10.2307/799047>

Johnson, L., Gutridge, K., Parkes, J., Roy, A., & Plugge, E. (2021). Scoping review of mental health in prisons through the COVID-19 pandemic. *BMJ Open, 11*(5), e046547.

<https://doi.org/10.1136/bmjopen-2020-046547>

Johnston, M. P. (2014). Secondary data analysis: A method of which the time has come.

*Qualitative and quantitative methods in libraries*, 3(3), 619-626.

Kamat, S. M., Gansa, W., D'Ovidio, T., Patel, S., Bai, H., Akiyama, M. J., & Appel, J. M.

(2023). Clinician Perspectives for Mental Health Delivery Following COVID-19 in Carceral Settings: A Pilot Study. *The Psychiatric quarterly*, 94(2), 233–242.

<https://doi.org/10.1007/s11126-023-10028-9>

Liebreuz, M., Bhugra, D., Buadze, A., & Schleifer, R. (2020). Caring for persons in detention suffering with mental illness during the Covid-19 outbreak. *Forensic Science*

*International. Mind and Law*, 1, 100013. <https://doi.org/10.1016/j.fsimpl.2020.100013>

Malik, A. A. (2016). Urbanization and crime: a relational analysis. *J Human Soc Sci*, 21, 68-9.

<https://doi.org/10.9790/0837-21146874>

Martin, M. S., Hynes, K., Hatcher, S., & Colman, I. (2016). Diagnostic error in correctional mental health: Prevalence, causes, and consequences. *Journal of Correctional Health*

*Care*, 22(2), 109-117. <https://doi.org/10.1177/1078345816634327>

Matejkowski, J. (2017). The moderating effects of antisocial personality disorder on the relationship between serious mental illness and types of prison infractions. *The Prison*

*Journal*, 97(2), 202-223. <https://doi.org/10.1177/0032885517692804>

Mayo Clinic. (2022, December 13). *Mental illness: Symptoms and causes*.

<https://www.mayoclinic.org/diseases-conditions/mental-illness/symptoms-causes/syc-20374968>

Mendes, R., Baccon, W. C., & Laranjeira, C. (2023). Fear of COVID-19, Mental Health and Resilient Coping in Young Adult Male Inmates: A Portuguese Cross-Sectional Study.

*International Journal of Environmental Research and Public Health*, 20(8), 5510.

<https://doi.org/10.3390/ijerph20085510>

Meyer, O. L., Castro-Schilo, L., & Aguilar-Gaxiola, S. (2014). Determinants of mental health and self-rated health: a model of socioeconomic status, neighborhood safety, and physical activity. *American journal of public health*, 104(9), 1734-1741.

<https://doi.org/10.2105/AJPH.2014.302003>

Molina-Coloma, V., Salaberría, K., Pérez, J. I., & Kendall-Tackett, K. (2022). Traumatic events, psychological symptoms, and aggression in male and female prisoners. *Psychological Trauma: Theory, Research, Practice, and Policy*, 14(3), 480–487.

<https://doi.org/10.1037/tra0001039>

Nogueira, J., Gerardo, B., Silva, A. R., Pinto, P., Barbosa, R., Soares, S., ... & Freitas, S. (2021). Effects of restraining measures due to COVID-19: Pre-and post-lockdown cognitive status and mental health. *Current Psychology*, 41, 7383-7392.

-10. <https://doi.org/10.1007/s12144-021-01747-y>

Novacek, D. M., Hampton-Anderson, J. N., Ebor, M. T., Loeb, T. B., & Wyatt, G. E. (2020).

Mental health ramifications of the COVID-19 pandemic for Black Americans: Clinical and research recommendations. *Psychological Trauma: Theory, Research, Practice, and Policy*, 12(5), 449-451.

Penninx, B. W., Benros, M. E., Klein, R. S., & Vinkers, C. H. (2022). How COVID-19 shaped mental health: from infection to pandemic effects. *Nature medicine*, 28(10), 2027-2037.

<https://doi.org/10.1038/s41591-022-02028-2>

Porter, L. C., Kozlowski-Serra, M., & Lee, H. (2021). Proliferation or adaptation? Differences across race and sex in the relationship between time served in prison and mental health symptoms. *Social Science & Medicine*, 276, 113815.

<https://doi.org/10.1016/j.socscimed.2021.113815>

Prowse, R., Sherratt, F., Abizaid, A., Hellemans, K. G., Patterson, Z. R., & McQuaid, R. J.

(2021). Coping with the COVID-19 pandemic: examining gender differences in stress and mental health among university students. *Frontiers in psychiatry*, *12*, 650759.

<https://doi.org/10.3389/fpsyt.2021.650759>

Resick, P. A. (2014). *Stress and trauma*. Psychology Press.

Saltzman, L. Y., Hansel, T. C., & Bordnick, P. S. (2020). Loneliness, isolation, and social support factors in post-COVID-19 mental health. *Psychological Trauma: Theory, Research, Practice, and Policy*, *12*(S1), S55. <http://dx.doi.org/10.1037/tra0000703>

Substance Abuse and Mental Health Services Administration. (2022). Key substance use and mental health indicators in the United States: Results from the 2021 National Survey on Drug Use and Health (HHS Publication No. PEP22-07-01-005, NSDUH Series H-57). Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. Retrieved from,

<https://www.samhsa.gov/data/report/2021-nsduh-annual-national-report>.

Talevi, D., Socci, V., Carai, M., Carnaghi, G., Faleri, S., Trebbi, E., ... & Pacitti, F. (2020).

Mental health outcomes of the CoViD-19 pandemic. *Rivista di psichiatria*, *55*(3),

137-144. <https://doi.org/10.1708/3382.33569>

Thibaut, F., & van Wijngaarden-Cremers, P. J. (2020). Women's mental health in the time of

Covid-19 pandemic. *Frontiers in global women's health*, *1*, 588372.

<https://doi.org/10.3389/fgwh.2020.588372>

Thomeer, M. B., Moody, M. D., & Yahirun, J. (2023). Racial and ethnic disparities in mental health and mental health care during the COVID-19 pandemic. *Journal of racial and*

*ethnic health disparities*, 10(2), 961-976.

United States Census Bureau. (2023). *Quick Facts: Kansas*

<https://www.census.gov/quickfacts/fact/table/KS/PST045223>

Usher, K, Bhullar, N, & Jackson, D. (2020). Life in the pandemic: Social isolation and mental health. <https://doi.org/10.1111/jocn.15290>

Walters, G. D., & Crawford, G. (2013). In and out of prison: Do importation factors predict all forms of misconduct or just the more serious ones? *Journal of Criminal Justice*, 41(6), 407-413. <http://dx.doi.org/10.1016/j.jcrimjus.2013.08.001>

Wilson, A. B., Draine, J., Hadley, T., Metraux, S., & Evans, A. (2011). Examining the impact of mental illness and substance use on recidivism in a county jail. *International Journal of Law and Psychiatry*, 34(4), 264-268. <https://doi.org/10.1016/j.ijlp.2011.07.004>

Yi, Y., Turney, K., & Wildeman, C. (2017). Mental health among jail and prison inmates. *American journal of men's health*, 11(4), 900-909. <https://doi.org/10.1177/1557988316681339>

Zhong, S., Yu, R., & Fazel, S. (2020). Drug use disorders and violence: associations with individual drug categories. *Epidemiologic reviews*, 42(1), 103-116. <https://doi.org/10.1093/epirev/mxaa006>