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YOGA IN CRIMINAL JUSTICE FACILITIES:
A DESCRIPTIVE STUDY

A Thesis
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
Parks, Recreation, and Tourism Management

by
Rachel Broome
August 2022

Accepted by:
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ABSTRACT

Being incarcerated or in confinement in a criminal justice facility can affect many domains of an individuals' life. Since the emergence of COVID-19, the incarcerated population is at an even greater risk of being diagnosed with a physical or mental health disorder. The implementation of yoga programs as a recreational opportunity is increasingly being discussed as a way to assist in improving the physical and mental health of those who are incarcerated within the United States criminal justice system. There is limited knowledge in what the targeted outcomes and the structure are regarding these yoga programs. Results provide knowledge in how some yoga instructors are implementing yoga programs in criminal justice facilities, including session duration, frequency and setting, as well as targeted outcomes. Research was obtained, and four themes emerged from this study, including the descriptions of yoga programs, TIY and TSY approaches, barriers implementing yoga programs, and the effects COVID-19 has had on yoga programs in facilities. Using a multi-method research design, the purpose of this study was to explore the structure of yoga programs within criminal justice facilities and how COVID-19 has affected the programs. Research findings support that yoga instructors are targeting outcomes that yoga programs are known to improve inside criminal justice facilities. Future research recommendations regarding yoga programs implemented in criminal justice facilities are discussed.

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Chapter One

Introduction

Five percent of the world's population lives in the United States, yet the United States has 20% of the world's incarcerated population (Travis et al., 2014). This substantial inmate population is typically described as mass incarceration (Travis et al., 2014), and in fact, the rate of incarceration is five to 12 times higher in the United States than in other countries, resulting in one in 100 Americans currently in jail or prison (Petersilia, 2011). The United States currently has over 7 million individuals under the supervision of the criminal justice system (Freudenberg & Heller, 2016). There are various subcategories under the criminal justice system including police, courts, and corrections (Lynch, 2014; Neubauer & Fradella, 2018). A criminal justice facility can be defined as any facility under the control of the criminal justice system (Lynch, 2014). Importantly, there are various terms used to describe facilities within the criminal justice system. See *Definition of Terms* for a full description of terms used throughout this research study. The criminal justice system has seen an unprecedented number of minorities being incarcerated or in confinement (Hinton, 2016).

African Americans are six times more likely and Hispanics are three times more likely to be in confinement than non-Hispanic whites (Travis et al., 2014). The high proportions of imprisoned minorities started in the 1960's when President Johnson called for the War on Poverty and War on Crime (Hinton, 2016). Legislation passed that was mainly enforced in poverty and minority communities during this time set a precedent for the racial inequality and the disproportionate number of racial minorities in criminal justice facilities in America today (Hinton, 2016). This huge demographic divide in the United States criminal justice system has been described as "the new Jim Crow" due to similar denials of basic freedoms that were

experienced by previous generations and disproportionately effect people of color (Petersilia, 2011). For example, African Americans were denied basic freedoms until 1964 and 1965 when the Civil Rights Act and the Voting Rights Acts were signed (Hinton, 2016), and today, people of color still experience a sense of loss of personal safety, humiliation, punishment, and a need to suppress their emotions (Bowman, 2014; DeVeaux, 2013; Petersilia, 2011).

The impact of incarceration and confinement effects all domains of an individual's life, including having detrimental consequences on physical and mental health (Massoglia & Pridemore, 2015). Individuals who are in confinement tend to have a higher amount of physical health conditions than those of the general population (Semenza & Grosholz, 2019). Research has shown that physical health conditions such as Human Immunodeficiency Virus (HIV), Hepatitis B, and Hepatitis C could be attributed to intravenous drug use and/or alcohol use, smoking, unprotected sexual activity, tattooing and piercing while in confinement (Massoglia & Pridemore, 2015; Moazen et al., 2018; Semenza & Grosholz, 2019).

Not only is the physical health of those incarcerated at risk, but mental health is as well. Research has shown that higher levels of stress, anxiety, depression, aggression, antisocial behavior and substance abuse are more prominent in individuals who are incarcerated or confinement than the general population (Bilderbeck et al., 2013; Picken, 2012). While in confinement in a facility, the majority of individuals live in fear or threat of victimization, which can lead to hypervigilance and trauma (DeVeaux, 2013; Picken, 2012). Other factors that could contribute to a decline in individuals' mental health is the fear of the unknown, a lack of control within the facility, and separation from family and friends (DeVeaux, 2013; Picken, 2012). Criminal justice facilities are often overcrowded, understaffed, and low funded, resulting in rehabilitative treatment being provided only to inmates considered to be at the highest risk or

reoffending (Muirhead & Fortune, 2016; DeVeaux, 2013; Picken, 2012). With these common environmental features in criminal justice facilities, the spread of coronavirus (COVID-19) created hotspots throughout many facilities, leaving this population at an even greater risk of being diagnosed with a physical or mental health disorder (Novisky et al., 2020).

Historically, policymakers' views were that criminal justice facilities should be utilized for punishment only (Delaney, 2016). This perspective discouraged the provision of anything that perceived as a luxury, including recreation programs, from being implemented within facilities (Delaney, 2016). Policymakers have now started to allow individuals in facilities to participate in recreational activities while incarcerated in an attempt to decrease aggressive outbursts and increase their mental health (Delaney, 2016). Since every facility operates differently, it is likely that access to recreational activities varies across facilities. Recreation occurs when an individual actively participates in an activity during a specific time that encourages personal and social values (Tribe, 2015). Research has shown that participating in recreation reduces the negative impact that stress and trauma can have on an individual (Nimrod et al., 2012).

One modality that could be used as an intervention within criminal justice facilities is yoga, as it is cost-effective, can be provided to many individuals at once, and is feasible to implement in a restrictive environment (Bilderbeck et al., 2013; Muirhead & Fortune, 2016). Yoga may improve the physical and mental health of individuals by creating a mind-body connection through the use of *asanas* (postures), *pranayama* (breathing), and *dhyana* (meditation) (Muirhead & Fortune, 2016). Participation in yoga as a form of recreation may decrease stress and serve as a positive coping skill to assist with future stressors or triggers (Crowe et al., 2016).

Spending time in a criminal justice facility may profoundly change the way an individual thinks, feels, and behaves (Haney, 2012). Males that are confined within a facility have reported trauma while incarcerated due to witnessing physical assault or experiencing emotional and/or sexual abuse (DeVeaux, 2013). Utilizing an approach that is sensitive to past trauma experiences within criminal justice programs could possibly reduce triggers, deescalate situations, and avoid restraints, seclusions, and other practices that share characteristics of past abuse (Miller & Najavits, 2012). Research shows that trauma-informed yoga (TIY) could be beneficial for those who are incarcerated (Horton, 2017). TIY is an approach to provide yoga that acknowledges that everybody encounters trauma at some point in their lives and uses specific parameters designed not to initiate any triggers or stressors that could be harmful to individuals (Justice et al., 2018).

There is a lack of research describing the structure of yoga programs in criminal justice facilities; for example, who is implementing the yoga program, what are the participant goals, what styles of yoga (i.e. Hatha, Iyengar) are being utilized, and whether a TIY approach is used. The purpose of this descriptive study was to describe the structure of yoga programs in criminal justice facilities in the United States, and if COVID-19 has had an effect on the programs.

Definition of Terms

The following terms are defined to clarify their use in this research study:

1. *Bureau of Prisons*: the governing entity of all federal correctional facilities in the United States (Haney, 2012).
2. *Criminal justice system*: the overarching network of government and private agencies focused on protecting, preventing, and punishing including the police, the courts, and corrections (Lynch, 2014; Neubauer & Fradella, 2018).
3. *Federal correctional facility*: consist of minimum, low, medium, high, and administrative secured facilities (Vasquez & Bussert, 2016).
4. *Forensic hospital*: “a healthcare institution into which patients have been diverted from either correctional service, typically due to criminal irresponsibility issues or enduring post-sentencing mental illness, or general psychiatric services, typically due to serious risk of inter- or intrapersonal violence” (Seppänen et al., 2018, p. 2).
5. *Jail*: operated by local cities and used for short-term incarceration, typically less than a year (Jones, 2013).
6. *Juvenile detention facility*: a short-term facility that provides temporary care for juveniles awaiting court hearings, placement or transfer to a facility (Hockenberry & Puzzanchera, 2018).
7. *Juvenile long-term secure facility*: a secured facility for juveniles, including training schools, and juvenile correctional facilities (Hockenberry & Puzzanchera, 2018).
8. *Institutional correctional facility*: any facility, such as jails, prisons, or detention facilities used to house individuals who have been arrested, detained, held, or convicted, also known as correctional facilities (Cole & DeJong, 2021).

9. *Isolation*: a criminal justice facility action in where an individual is isolated from others due to infection or safety control purposes (Johnson et al., 2021).
10. *Physical activity*: “any physical movement, including structured, supervised exercise programmers, and unstructured physical activity obtained through occupational or domestic activities, leisure physical activity, active commuting, and sport participation” (Rebar & Taylor, 2017).
11. *Recreation*: any activity that an individual engages in during their free time that results in personal enjoyment (Tribe, 2015).
12. *Solitary confinement*: a criminal justice facility disciplinary action in where an individual does not have “meaningful human contact for a minimum of 22 hours per day” (Johnson et al., 2021, p. 3).
13. *State correctional facility*: under the individual control of the state government, with the security levels of minimum, medium, and maximum-security correctional facilities (Haney, 2012).
14. *Trauma-informed yoga (TIY)*: a yoga approach that recognizes that the majority of individuals experience trauma during their lifetime and provides opportunities to “overcome trauma and learn how to respond, rather than react, to symptoms and circumstances” (Justice et al., 2018, p. 39).
15. *Trauma-sensitive yoga (TSY)*: a yoga approach that is a subcategory under TIY that is specifically for individuals who have experienced a known trauma
16. *Unstructured recreation*: engaging in an activity that is initiated by oneself out of pursuing personal enjoyment (Garner, 2020).

Chapter Two

Literature Review

To provide further context for the proposed study, this literature review will summarize literature regarding yoga programs being implemented in United States criminal justice facilities, including research related to: the formation of the United States criminal justice system; policies that have effected minorities within the system; the culture of facilities; the impact of incarceration or confinement on individuals' physical and mental health; recreation opportunities within criminal justice facilities; the outcomes of yoga participation and the TIY approach; and how COVID-19 could have effected yoga programs within criminal justice facilities.

United States Criminal Justice Facilities

The United States currently incarcerates more individuals than any other country (Travis et al., 2014). Since the 1970's, the number of inmates has risen from 200,000 to over two million, resulting in the United States housing over 25% of the world's inmate population (Travis et al., 2014). Of those incarcerated, 90% are male (Minton & Zeng, 2016). The United States has more than seven million individuals in various facilities under the supervision of the criminal justice system (Thompson, 2010). Jails are used as a gateway into institutional correctional facilities, in which they are meant to hold individuals right after being arrested (Subramanian et al., 2015). These inmates are typically awaiting their court date and are deemed a risk to others or themselves, or they are unable to make bail (Subramanian et al., 2015). Federal facilities are operated under the BOP and hold inmates who have been convicted mostly of white-collar crimes, such as fraud and embezzlement (Miller, 2014). All 50 states have a State Department of Corrections that is in charge of all of state facilities that mostly hold inmates convicted of violent crimes, such as murder and assault (Miller 2014). The juvenile justice

system consists of various facilities, including juvenile detention centers and juvenile long-term facilities to detain individuals under the age of 18 that are awaiting hearings or placements (Hockenberry & Puzanchera, 2018). Forensic hospitals are to detain individuals “found not guilty by reason of insanity; are considered too unwell at the time of conviction to receive a penal sentence or stand trial; are detained for assessment; or have been designated too risky for general psychiatric settings” (Tomlin et al., 2018, p. 32).

Demographic Divide

Mass incarceration within the United States dates back to events that started in 1963 during President Lyndon Johnson’s presidency (Hinton, 2016). During this time, racial inequality was a rising issue that gained national attention with the March on Washington, led by Dr. Martin Luther King Jr. in August of 1963 (Haveman et al., 2015). In 1964, President Johnson stated that he wanted to make the United States a “Great Society,” thus implementing various programs that addressed education, medical care and poverty issues (Hinton, 2015). Monumental laws, including the Civil Rights Act of 1964, were signed by President Johnson that prohibited the discrimination of an individual based on their race, religion, sex, or color from public accommodations or federal funded programs (Hinton, 2015). Despite the antipoverty and anti-discrimination programs in place, unrest and rioting became common due to racial inequality and police brutality towards minorities, such as the Watts riots in 1965, that resulted in the death of 34 people, with 23 people killed by the Los Angeles police department (Hinton, 2015). That same year, President Johnson called for a national War on Poverty and War on Crime, which led to the Law Enforcement Assistance Act (LEAA) of 1965 being passed for the purpose of improving the Department of Justice and creating a crime control program (Hinton 2016). Legislations, such as the Safe Streets Act, passed under the LEAA in 1968, gave authority for

state and local governments to control firearms, and provide federal funds to manage riots and organized crime (Hinton 2016). These criminal justice system policies that focused significantly on minorities and poverty neighborhoods contributed to the significantly high incarceration (Hinton, 2016).

In the 1970's and 1980's, crime control, specifically drug crime, became a major focus within the political and social world of the United States. In 1982, President Reagan declared a "War on Drugs" in hopes for a shutdown of drug dealers and drug abusers (Schoenfeld, 2012). The Drug Free America Act of 1986 and the Anti-Drug Abuse Act of 1986 and 1988 were passed to prevent the trafficking and use of cocaine throughout the United States and required minimum sentencing for drug offenses (Cooper, 2015). In the 1990's several states embraced the "Three Strikes and You're Out" Law (Mills & Romano, 2012). This law made it possible for an individual, who had previously committed a crime, to receive a maximum sentence (i.e., 25 years to life without parole) on their third offense even if the offense was a misdemeanor (Mills & Romano, 2012). This sentencing law specific to substance use may have contributed to the large number of individuals, majority of minorities, being incarcerated instead of receiving appropriate physical or mental health support.

Influence of Criminal Justice Facility Culture on Physical and Mental Health

Incarceration consists of strict day-to-day discipline, unannounced transfers from various cells or facilities, solitary confinement, restricted movement, and overcrowding that can, over time, shape the way an individual thinks, feels and behaves (Crewe et al., 2014; DeVeaux, 2013; Haney, 2012; Shalev, 2011). Individuals who are incarcerated or in confinement are living in an environment where displaying fears and feelings are considered a sign of vulnerability and, as a result, will tend to suppress their emotions (Crewe et al., 2014). Incarceration can also involve an

individual being in solitary confinement, also known as specialized housing units (SHU).

Inmates placed into SHUs entails that individual being in their single cell between 22.5 and 24 hours every day, with limited contact with any other inmate or staff (Shalev, 2011).

Influence on Physical Health

Placement in a criminal justice facility can affect the physical health of an individual in various ways. Research has found that individuals who are incarcerated or in confinement have higher rates of physical health concerns than the general public (Semenza & Grosholz, 2019). Individuals who have served time in an institutional correctional facility have stated it was common to experience physical and sexual assaults, and even murder while incarcerated (DeVeaux, 2013). Reported inmate-on-inmate physical assaults have increased to over 15,000 per year, however the majority of physical assaults go unreported due to fear of retaliation (Scott, 2015). Not only is being physically harmed a concern, but 23% to 34% of inmates have Hepatitis C, mostly from drug use while incarcerated (Fazel & Wolf, 2015). This is considered a worldwide health concern, as studies show that over 26% of male inmates have reported injecting drugs with non-sterile equipment as well as engaging in unprotected sex, which can lead to the transmission of Hepatitis C and HIV (Fazel & Wolf, 2015). Overcrowding in criminal justice facilities and poor ventilation can serve as a reservoir for the transmission of infectious diseases, such as tuberculosis (Fazel & Wolf, 2015). Recently, the COVID-19 pandemic increased public concern for the health of individuals who are incarcerated, due to overcrowded and confined spaces within facilities, along with individuals' limited access to hygiene products (Burton et al., 2021).

COVID-19 precautions implemented within criminal justice facilities have affected individuals' physical health in various ways (Burton et al., 2021). COVID-19 has led criminal

justice facilities to create additional strategies in attempt to prevent the transmission of the virus (Suhomlinova et al., 2022). One of the main strategies that led to effects on an individuals' physical health was the halting of non-essential activities and providing only in-cell activities (Suhomlinova et al., 2022). This led to individuals within criminal justice facilities spending if not all, the majority of the day inside their cell and not being able to participate in any physical activities (Suhomlinova et al., 2022).

Incarceration can also negatively affect individuals' physical activity levels, which can increase their risk of developing inactivity related diseases, such as obesity, diabetes, hypertension, and cardiovascular diseases (CVD) (Lagarrigue et al., 2017). One of the leading causes of death among inmates is CVD which includes risk factors of obesity, diabetes, and hypertension (Lagarrigue et al., 2017). Inmates' weight may increase while incarcerated due to having less control of ones' food options and physical activity (Houle, 2014). Research has shown that it is difficult to assess the diets of inmates overall, because of the varying dietary regulations set up by federal and state legislation (i.e. some facilities are required to provide macronutrient diets, while other facilities are only required to provide nutritionally adequate menus) (Houle, 2014). Institutional correctional facilities typically have commissaries where inmates are allowed to purchase foods, typically chips or candy, in addition to their regularly scheduled meals, which could result in increased body weight (Houle, 2014). Increasing the consumption of food, and not having control over the amount of physical activity one receives, can increase the probability of being diagnosed with diabetes as well as having high blood pressure (Houle, 2014).

Influence on Mental Health

Previous research has shown that one in seven inmates has a treatable mental illness that they have not received the proper medical attention for (Fazel & Wolf, 2015). The prevalence of mental health disorders, such as depression, psychosis, and personality disorder were examined in a systematic review and meta-analysis that involved over 23,000 inmates (Fazel & Danesh, 2002). Results showed that 4% of inmates experienced psychosis, 10-12% experienced depression, and 40-70% of inmates experienced a personality disorder (Fazel & Danesh, 2002). Additionally, research has shown that the life of an inmate consists of a culture filled with mutual mistrust, as well as high levels of stress, fear, antisocial behavior, substance abuse, aggression, and emotional withdrawal (Bilderbeck et al., 2013; Crewe et al., 2014).

The high levels of stress that inmates can encounter leaves this population 10 times more likely to be diagnosed with posttraumatic stress disorder (PTSD) than the general population (DeVeaux, 2013; Haney, 2012). The increase in stress while incarcerated can also create the need for inmates to acquire the ability to not only express their emotions in an appropriate way, but also control their reactions to their emotions (Laws & Crewe, 2016). Emotional regulation is “the process by which individuals influence the emotions they have, when they have them, and how they experience and express these emotions” (Laws & Crewe, 2016, p. 531). Individuals who have poor emotional regulation skills may experience additional mental health concerns, such as increased levels of stress, depression and anxiety (Ong & Thompson, 2019). Also, there are several research studies that show males are more likely to suppress their emotions than females and will “put on a mask” to better conform to culture within a facility, rather than utilizing positive coping skills while incarcerated (Laws & Crewe, 2016, p. 531; Picken 2016; Shinkfield & Graffam, 2010; Zlomke & Hahn, 2010). It is important for criminal justice facilities

to assist individuals with coping skills and emotional regulation to decrease their stress, anxiety, and depression levels while incarcerated or in confinement (Picken, 2012).

Inmates who are unable to establish positive coping skills while incarcerated are at a higher risk for self-harming behaviors and suicidal attempts (Gooding et al., 2015). Research shows that suicide is currently one of the leading causes of death in institutional correctional facilities, with rates of suicide being three to eight times greater in inmates than the general population (Fazel & Wolf, 2015; Gooding et al., 2015; Haney, 2012). This high number can be attributed to the detrimental psychological effects of incarceration, such as anxiety, depression, aggression, and psychosis, all of which are heightened when an inmate is in solitary confinement (Shalev, 2011). Solitary confinement is a disciplinary action when an individual is removed from “meaningful human contact for a minimum of 22 hours a day” (Johnson et al., 2021).

Due to COVID-19, criminal justice facilities have increased the isolation of individuals in hope to decrease the risk of transmission (Johnson et al., 2021). Isolation is an action to remove an individual as an infection or safety control measure (Johnson et al., 2021). Isolation confinement in a criminal justice facility can affect an individuals’ mental health by increasing the risk of being diagnosed with depression, psychosis, and engaging in self-injurious behaviors (Johnson et al., 2021). Additionally, the psychological effects of incarceration may increase the risk of inmates experiencing trauma.

Trauma during Incarceration. Trauma is defined as an event where physical or emotional harm to oneself is apparent, or when an individual directly experiences, witnesses or hears about an event that causes distress (DeVeaux, 2013). Psychological trauma can cause impairments involving the continuous activation of the sympathetic nervous system (SNS), which involves the fight-flight-or-freeze response as well as the suppression of the

parasympathetic nervous system (PNS), that initiates the rest-and-digest response (Telles et al., 2012). The SNS and PNS are meant to work in a complementary alternating rhythm to support and maintain adequate blood pressure and heart rate (Won & Kim, 2016). The SNS automatically activates when an individual experiences stress, which involves the release of adrenaline (stress chemical) and can lead to an accelerated heart rate, constricted blood vessels, and increase perspiration (Won & Kim, 2016). The PNS will then be activated to stop the SNS to prevent the stress chemicals from being released and promote the dilation of blood vessels and blood flow, returning the body to homeostasis (Won & Kim, 2016). When individuals experience a stressful or traumatic event, such as incarceration, the nervous system may become overstimulated and result in individuals experiencing anxiety, aggression, or restlessness; or the nervous system may begin to shut down and lead to depression and fatigue (Won & Kim, 2016). Thus, criminal justice facilities should create an environment conducive to inmates to develop the necessary skills for reducing the negative effects of incarceration (Miller & Najavits, 2012).

Trauma-Informed Correctional Care. A new development, known as trauma-informed correctional care (TICC) is starting to be utilized within criminal justice facilities to assist in improving the physical and mental health of individuals (Miller & Najavits, 2012). The primary concept of TICC is to ensure that a safe correctional environment, through organizational practices and protocols, is established to avoid or minimize additional stress or triggers of trauma endured before, or while in a facility (Miller & Najavits, 2012). There are five core values involved in TICC, including safety, trustworthiness, choice, collaboration, and empowerment (Kubiak, 2017). These five values are reflected in facilities when staff work to understand how individuals cope while incarcerated or in confinement, minimizing power dynamics/relationships, explaining why certain events are happening, and provide a safe

environment (Kubiak, 2017). TICC plays a crucial role in minimizing triggers, deescalating situations, avoiding restraints and seclusions, and any other aspects that could resemble past trauma (Justice et al., 2018; Miller & Najavits, 2012). TICC also plays a role in criminal justice facility programs through the use of participant agreements focused on emotional safety and confidentiality, and a commitment to avoid coercing inmates to participate in specific programs (Miller & Najavits, 2012).

Recreation in Criminal Justice Facilities

There is limited research regarding the use of recreation as a tool to improve individuals' physical and mental health in criminal justice facilities (Gallant et al., 2015). In the past, recreation in criminal justice facilities has been prohibited due to the policymakers' mindsets that these facilities were created for punishment, and that recreation was a privilege that individuals who were in confinement or incarcerated did not deserve (Delaney, 2016). With the number of individuals within criminal justice facilities increasing and the absence of recreation programming, opportunities for "prison" gangs to form have increased, thus forming a violent and unsafe atmosphere (Delaney, 2014). When the United Nations passed the *Standard Minimum Rules for the Treatment of Prisoners* in 1955, it established guidelines for respecting inmates' human rights and established minimum conditions required in all facilities (McCall-Smith, 2016). Within the guidelines, regulations regarding the provision of physical activity (i.e. at minimum inmates should have one hour outside, weather permitting) as recreational activities that could benefit inmates' physical and mental health were outlined (McCall-Smith, 2016). However, by the 1970's, it was evident that facilities were not abiding by these guidelines and "prison" gangs were becoming more powerful. When the *National Advisory Commission on Criminal Justice Standards and Goals* was passed by the LEAA in 1971, it stated specific

policies and practices that criminal justice facilities should abide by (Delaney, 2016). These policies and practices recommended that facilities hire a full-time director of recreation, evaluate every inmate individually to determine specific recreational needs, and provide a variety of recreational opportunities within the facility (Delaney, 2016).

Opportunities to regularly participate in recreation programs while incarcerated can increase inmates' physical activity levels and provide an alternative to substance abuse (Bataglia et al., 2015; Gallant et al., 2015). Research has also shown that recreation programs may increase inmates' self-esteem and provide an outlet for appropriately releasing their frustration and aggression (Delaney, 2016). In criminal justice facilities, recreation programs focused-on improving mental health, such as yoga, have shown to help increase self-esteem levels while decreasing levels of stress, aggression, and depression (Bilderbeck et al., 2013; Gallant et al., 2015).

Yoga

The practice of yoga originated nearly 2000 years ago when Eastern practitioners and philosophers in India discovered an energy system within the human body that promoted physical, mental, emotional, and spiritual well-being (Collins, 1998). Yoga is often expressed as the use of mindful breathing techniques (*pranayama*), meditation (*dyana*), and physical postures (*asana*) to connect the mind, body, and spirit (Cramer et al., 2016; Van Puymbroeck & Schmid, 2016). Yoga was brought to the United States and the Western world in 1893, and now more than 20 million Americans report practicing yoga (Cramer et al., 2016; Sengupta, 2012). Research has started to refer to yoga as a holistic approach to improve the "health and well-being of body, mind and spirit" (Harris, 2013, p. 531). There are a variety of different styles of yoga practice (i.e., Hatha, Iyengar, Pranayama, etc.); each style is associated with a particular philosophy that informs how different meditative exercises, breathing exercises, and physical

postures are used to address the specific needs of an individual (Büssing et al., 2012). While one style of yoga is not more beneficial than another (Cramer et al., 2016), research indicates that participation in yoga can provide more positive outcomes than traditional exercise due to yoga focusing on the mind-body connection (Schmid et al., 2016).

Yoga for Physical Health

Health care practitioners in the United States have been interested in health promotion programs to combat the rising number of physical health conditions, such as chronic pain and overall higher obesity rates (Büssing et al., 2012). Engaging in yoga could increase an individual's physical coordination, strength and overall physical activity levels, and provide an outlet for decreased hypertension and CVDs (Büssing et al., 2012; Groessl et al., 2015; Ross et al., 2013). Also, while participation in yoga might not cure an individuals' physical illness, it could help to alleviate the suffering and pain related to the illness (Groessl et al., 2015).

Yoga for Mental Health

Ample research identifies the mental health positive outcomes of yoga participation, including reduce symptoms of depression, stress, anxiety, substance abuse, PTSD, and improved emotional regulation (Büssing et al., 2012; Groessl et al., 2015; Pascoe & Bauer, 2015). Specific to depression, yoga has been shown to be an effective second-line treatment following medications (Groessl et al., 2015) that can decrease depressive episodes and an individual's risk of dysthymia (Groessl et al., 2015; Pascoe & Bauer, 2015). Yoga has also been shown effective in the prevention and management of stress disorders (Sengupta, 2012). Previous research has shown that participating in yoga effects an individuals' nervous system, which could lead to a better regulation of the SNS and PNS, and thus can also decrease the individuals' stress and anxiety levels when an individual experiences a traumatic or stressful situation (Groessl et al.,

2015; Pascoe & Bauer, 2015). The slow, deep breathing techniques used during yoga can increase individuals' parasympathetic tone, reduce stress and anxiety, and facilitate a calm and relaxed mental state (Telles et al., 2012). Furthermore, the "voluntary and sustained focusing of attention, as well as the monitoring of one's own mental activity in order to disengage attention from distractions" that occurs during yoga can improve individuals' emotional regulation (Menezes et al., 2015, p.84).

Yoga as Coping. When an individual encounters a stressful situation, they have to "identify ways to manage, adjust to, or work through the internal or external distress to reestablish their wellbeing" (Crowe et al., 2016, p. 124). A mind-body connection involves a relationship between an individuals' subjective experience and the effects it has on ones' body (i.e. one who is late for a job interview has an increased blood pressure) (Uzan, 2020). Yoga focuses on the mind-body connection and can provide individuals the opportunity to gain an enhanced sense of control over their thoughts, impulses, and aggressive behaviors (van der Kolk et al., 2014). Research has shown that yoga participation could directly impact the negative effects that incarceration has on individuals (Auty et al., 2017; Bilderbeck et al., 2013). The practice of yoga involves a complex interrelationship to where ones' thoughts and attitudes can negatively or positively effect ones' physical health and vice versa (Chaoul & Cohen, 2010). Implementing specific techniques in yoga programs, such as meditation, allows an individual the opportunity to not think about their existing concerns and problems and quiet or relax the mind, thus resulting in the mind having an effect on the body (Francis & Beemer, 2019). Yoga may assist individuals in coping with incarceration or confinement, improving and/or maintaining their health, and promoting a better understanding to allow personal growth (Auty et al., 2017).

Crowe et al. (2016) discussed how yoga could potentially serve as a problem- or emotion-focused coping strategy to help manage stress. A problem-focused coping strategy aims to modify or change the situation that is causing the distress to the individual (Lazarus & Folkman, 1980; Crowe et al., 2016). An emotion-focused coping strategy provides a way for an individual to focus on their emotions, how to perceive the situation, and to learn to accept what cannot be changed (Crowe et al., 2016; Folkman et al., 1991; Nejati et al., 2015). Crowe et al. (2016) discussed how emotion-focused coping includes three subcategories: palliative coping, mood enhancement, and companionship (Iwasaki & Mannell, 2000). A research study conducted by Crowe and Van Puymbroeck (2019) examined how participation in a 10-week yoga program enhanced problem- and emotion-focused coping skills with women going through menopause. Participants stated that they found yoga to be an effective problem-focused coping strategy to handle daily stressors by being able to identify specific actions that they could implement to reduce or remove the stressor (Crowe & Van Puymbroeck, 2019). Participants described they felt an improvement in all subcategories of emotion-focused coping, specifying yoga provided a break away from stress presented in their daily lives, an improved mood, an increase of self-efficacy, and discovered a new support group (Crowe & Van Puymbroeck, 2019). It has been suggested that breathing and mindfulness, which are two key components of yoga practice, could also specifically help individuals cope with stress (Perez et al., 2015). Research has shown that individuals who have insufficient coping strategies are at a higher risk for poor physical and mental health (Aborisade & Fayemi, 2016). Practicing yoga could also allow the opportunity for individuals to learn a new coping skill to overcome trauma symptoms.

Trauma-Informed Yoga. Engaging in yoga has shown to reduce levels of stress, depression, PTSD, substance abuse, as well as physical health conditions (Groessler et al, 2015).

One specialization in the practice of yoga that may be implemented within criminal justice facilities is TIY. TIY recognizes that the majority of individuals experience trauma and provides specific opportunities to possibly “overcome trauma and learn how to respond, rather than react, to symptoms and circumstances” (Justice et al., 2018, p. 39). Trauma-sensitive yoga (TSY) is another term that is often used interchangeably with TIY throughout research, despite having specific differences involving the instructors’ training (Jackson, 2014). TSY could be identified as a sub-category under TIY, in that the Trauma Center Trauma-Sensitive Yoga founder, Dave Emerson, states that TSY is specifically for individuals who have experienced a known trauma. In contrast, TIY operates under the general assumption that all individuals have experienced trauma and that a trauma-informed approach should be utilized in general (Jackson, 2014; Justice et al., 2018). Participating in yoga programs not tailored to be sensitive to existing trauma could adversely affect an individual’s mental health (Justice et al., 2018). Instructors implementing TIY use invitational language rather than command language throughout the entire session. Invitational language uses a direct style of instructions that allows the participant to increase autonomy, self-esteem, and create personal boundaries for themselves (Justice et al., 2018). Invitational language can create an environment where participants feel safe and calm, rather than self-judgement and comparison to others (Justice et al., 2018). TIY instructors may use phrases (i.e., “you may choose to...”) that continuously remind participants that they have a choice in what postures to engage in, and to move at ones’ own pace (Justice et al., 2018; Smoyer, 2016). The use of Sanskrit is often limited during TIY sessions to keep language simple for all participants, so it is comprehensible for all cognitive levels (Justice & Brems, 2019; Justice et al., 2018; Smoyer, 2016). Specific postures are removed from TIY sessions, including postures that place the hips in vulnerable positions as well as any postures that require the

instructor to physically touch the participant (Rousseau, Weiss-Lewit et al., 2019). TIY instructors aim to use caution and be self-aware when approaching a participant too quickly or while the participants' eyes are closed (Justice et al., 2018).

Inmates who have participated in TIY have demonstrated improved mental and physical health, including decreased stress, anxiety, and PTSD; increased levels of self-compassion; and improved coping skills for managing future stressors (Rousseau et al., 2019). However, further research is needed to determine whether TIY is being implemented across criminal justice facilities in the United States and if so, by whom; with what type(s) of training or certifications; and what are the participants' outcomes from engaging in a TIY approach.

Trained Personnel in Yoga

The National Center for Complementary and Integrative Health (NCCIH) states that yoga is generally a safe practice but should be implemented by a qualified instructor who is aware of any adverse effects that could result from participation (Lein et al., 2020). Research has shown that individuals who participate without the supervision of a certified yoga instructor are at a higher risk for acute adverse effects, such as strains, sprains, or more serious injuries including fractures, cerebral hemorrhage and nerve injuries (Cramer et al., 2019). Yoga instructors could obtain certifications by completing a yoga training program through various organizations. Certified yoga teachers (CYT) have completed an educational program to further their understanding of the fundamentals of yoga (Hart, 2008). CYTs are then able to continue increasing their knowledge by becoming a registered yoga teacher (RYT) through Yoga Alliance, which is a governing body for all registered yoga instructors (Bonura, 2014). RYTs have completed a minimal level of face-to-face training with the most common credentials being RYT-200 or RYT-500 (Bonura, 2014). Participation in yoga practices without a certified teacher

could do more harm than good (Cramer et al., 2019). Yoga instructors who are registered have a deeper understanding into what specific poses to implement with what populations, as well as any modifications that would be deemed appropriate (Lein et al., 2020).

Yoga in Criminal Justice Facilities

Research is increasingly focusing on recreation programs, such as yoga, being implemented in criminal justice facilities to reduce the detrimental effects of incarceration (Auty et al., 2017). Research suggests that yoga could provide inmates a way to detach from their physical environment and redefine their circumstances (Griera, 2016). There is a growing body of research that suggests a therapeutic yoga program could benefit individuals who are incarcerated by decreasing their levels of depression, stress, and aggression, and increasing their impulse control, emotional self-regulation, and overall physical and mental health (Bilderbeck et al., 2013; Kerekes et al., 2017; Rousseau et al., 2019).

One exploratory research study examined whether participation in a 10-week Hatha yoga program could improve inmates' psychological health and overall mood (Bilderbeck et al., 2013). This study recruited 167 inmates (155 males, 12 females), ages ranging from 21-68, from seven different institutional correctional facilities located in the United Kingdom; 100 inmates (98 men, 7 women) completed the study (Bilderbeck et al., 2013). Participants were randomly assigned to either the yoga (n=45; 43 men, 2 women) or control group (n=55; 50 men, 5 women) (Bilderbeck et al., 2013). Potential participants were excluded if they had a psychiatric illness, a major medical condition, or any current drug or alcohol abuse (Bilderbeck et al., 2013). All participants completed a socio-demographic information sheet and scales measuring effect (Positive and Negative Affect Scale), stress (Perceived Stress Scale), impulsivity (Barratt Impulsiveness Scale), and psychological distress (Brief Symptom Inventory) (Bilderbeck et al.,

2013). Assessments were completed pre- and post-intervention excluding the Brief Symptom Inventory (BIS)-11 in the post-intervention assessments, which was replaced with a cognitive-behavioral task (Go/No-Go) (Bilderbeck et al., 2013). The research study stated that the yoga program was implemented by trained teachers but did not specify what the certifications obtained by the teachers were (Bilderbeck et al., 2013). The weekly, two-hour yoga sessions were implemented once a week for two-hour durations for 10 weeks (Bilderbeck et al., 2013). The study did state that the yoga sessions were held in a private and quiet room, where participants went through Hatha yoga postures and stretches, with the final 10-20 minutes of each session dedicated to breathing exercises (Bilderbeck et al., 2013). Results indicated that inmates who participated in yoga self-reported improved mood, and decreased symptoms of stress, and psychological distress (Bilderbeck et al., 2013). Yoga participants also experienced increased impulse and cognitive control, compared to the control group (Bilderbeck et al., 2013). The limitations to this study included not knowing what elements of yoga (i.e., poses, breathing, or meditation exercises) had the greatest impact on participants' health (Bilderbeck et al., 2013). Also, individuals who were diagnosed with a psychiatric illness were excluded from the study. Thus, individuals diagnosed with depression or anxiety may not have been given the opportunity to participate in a yoga program focused on improving mood and decreasing psychological distress.

A similar study conducted by Kerekes and colleagues (2017) evaluated the effects of a 10-week Hatha yoga program to examine the effects on depression symptoms, anxiety, stress, anger, and behavioral control among inmates. Initially, 226 inmates (201 males, 25 females), ages 18-58 from nine medium- and high-security institutional correctional facilities in Sweden were recruited for the study; 152 inmates (133 males, 19 females) completed the study (Kerekes

et al., 2017). Attrition occurred for various reasons including requests to leave the program, refusal to attend all classes, facility transfers, misconduct, illness, injury, mental health problems, or scheduling conflicts (Kerekes et al., 2017). Participants were randomly assigned to either the yoga or control group; no exclusion criteria were identified in this study (Kerekes et al., 2017). Participants completed a pre- and post-intervention questionnaire, and assessments measuring stress (Perceived Stress Scale), aggression (Prison Adjusted Measure of Aggression) affect (Positive and Negative Affect Schedule), impulsivity (Conners' Continuous Performance Test II), sleep disturbances (Pittsburgh Sleep Quality Index), and psychological distress (Brief Symptom Inventory) (Kerekes et al., 2017). The weekly, 90-minute yoga sessions were implemented by correctional officers who were provided yoga teacher training by the Swedish Prison Probation office. Unfortunately, details about what the training involved and/or in what setting the yoga sessions were held were not provided. Protocols for each yoga session indicated that each class consisted of warm-up exercises, 16 specific postures (e.g., Boat Pose, Dog Pose), at least two powerful postures (e.g., Warrior II Pose), at least one breathing exercise, and a Corpse Pose to increase relaxation at the end (Kerekes et al., 2017). Findings indicated that yoga participants experienced statistically significant decreased levels of antisocial behavior, and negative affect, and increased positive affect and impulse control (Kerekes et al., 2017). In comparison to the control group, yoga participants had significant improvement of positive affect, perceived stress, and psychosocial distress (Kerekes et al., 2017). Significant differences in sleep quality were not found, however, yoga participants did experience a slight improvement in sleep quality (Kerekes et al., 2017). There was also no significant difference in perceived stress between yoga and control group participants; this may be explained due to the control group participants participating in 90 minutes of physical activity each week (Kerekes et al.,

2017). The limitations to this research included that a large number of participants that dropped out of the study were younger and also had higher ratings on the Prison Adjusted Measure of Aggression (PAMA) assessments, which also supported Bilderbeck et al.'s (2013) study, and indicated that younger inmates who have higher aggression levels and antisocial behavior had difficulties completing the yoga program (Kerekes et al., 2017).

In a different research study, yoga programs were implemented by Prison Yoga Projects' (PYP) trained yoga instructors (Danielly & Silverthorne, 2017). PYP is a nonprofit organization that utilizes a TIY approach to minimize the impact trauma has on inmates (Danielly & Silverthorne, 2017). The research study did not indicate what the durations were of the yoga program but stated that the time frame was decided by facility policies (Danielly & Silverthorne, 2017). There was also no mention of what the specific yoga sessions looked like, nor did it state the setting that the yoga sessions took place in (Danielly & Silverthorne, 2017).

An additional study examined the effects of a 10-week trauma-informed Hatha yoga program on levels of stress, depression, self-control, anxiety, self-awareness and rumination among incarcerated females (Danielly & Silverthorne, 2017). This study recruited 62 female inmates, ages 23-70 from two state institutional correctional facilities in South Carolina; 50 participants completed the study and were randomly assigned to a yoga or control group (Danielly & Silverthorne, 2017). Attrition occurred due to participants being placed in lock-up, their leaving the yoga program, or refusal to complete the post-assessments (Danielly & Silverthorne, 2017). Participants completed either two pre- and post-assessments or seven depending on the facility they were currently in, due to delayed International Review Board (IRB) approval and facility administration issues (Danielly & Silverthorne, 2017). Only data collected from the pre- and post-Perceived Stress Scale (PSS) and The Five Facet Mindfulness

Questionnaire (FEMQ) were analyzed to determine the impact of TIY on female inmates (Danielly & Silverthorne, 2017).

The results of this study indicate that inmates who participated in the yoga program had a significantly decreased level of stress, anxiety, and an increase of self-awareness, and self-control (Danielly & Silverthorne, 2017). One specific result from participation in this TIY yoga program was that participants had a shift in how they perceived their situation (incarceration), from punishment/victim, to taking responsibility for their actions and moving forward to do better (Danielly & Silverthorne, 2017). The limitations to this study included only including female inmates, and a small sample size.

One of the most prevalent limitations to current research is the lack of evidence-based practice regarding yoga programs being implemented within criminal justice facilities (Bilderbeck et al., 2013; Danielly & Silverthorne, 2017; Kerekes et al., 2017). Only one research study included in this literature review stated that the yoga program utilized a TIY approach, and only females were included in the study even though authors stated that a trauma-based practice would be beneficial to all inmates (Danielly & Silverthorne, 2017). Additional research is needed to determine the effects of yoga programs utilizing a TIY or TSY approach with individuals who are incarcerated or in confinement. Literature is also limited when describing the structure of yoga programs that are being implemented, including who is implementing them and what/if any are the goals or outcomes being targeted by yoga programs. There are many questions left unanswered in how yoga programs have been affected by COVID-19 within criminal justice facilities.

Chapter Three

Methods

Using a descriptive multi-method research design, the objective of this study was to gain a better understanding of the structure of yoga programs that are being utilized throughout United States criminal justice facilities and the effects of the COVID-19 pandemic on the programs.

Participants

After receiving Institutional Review Board approval, criterion and snowball sampling were used. The inclusion criteria for this study required that individuals currently be implementing or have implemented, within the past three years, a yoga program as a recreational opportunity in a criminal justice system facility within the United States. Potential participants were excluded from this study if they did not complete at least 50% of the survey, did not implement yoga in a facility in the criminal justice system within the past 3 years, or did not consent to participate, when asked at the beginning of the survey. Criterion sampling was used to recruit participants through national social media sites and professional listservs (e.g., The Yoga Alliance, Prison Yoga Project, Accessible Yoga, Bridgebuilders to Healthcare), as well as targeting specific individuals who were known to have implemented a yoga program within a criminal justice facility currently, or in the past three years (Babbie, 2020). Using snowball sampling, survey participants were asked to share the survey link with other individuals who are currently or have been involved with implementing yoga programs in United States criminal justice facilities (Babbie, 2020). See Appendix A for the survey.

Data Collection

Survey Development

The researcher developed a non-standardized 58 item-survey for data collection using Qualtrics (Qualtrics, Provo, UT). The content of this survey was developed from exploring limitations of current literature and professional and clinical experiences of those who work in criminal justice facilities. The survey included multiple choice and open response questions. See Table 1 for a description of the survey questions.

Table 1. Pilot Survey Questions Development.

Variable of Interest	Example Question(s)	Number of Questions	Data Analysis Technique
Criterion questions	Do you currently, or have you in the past 3 years taught a yoga program in a criminal justice system facility within the United States?	1	Descriptive statistics
Facility demographics	What level of security is the facility? What state is the facility in? What is the sex of the individuals housed by the facility?	6	Conventional and summative content analysis
Job roles	Please state what your job title(s) are when teaching yoga within your facility? Please describe your primary roles when teaching yoga.	2	Conventional and summative content analysis
TICC in the facility	Does the facility use trauma-informed correctional care (TICC)? Please describe what trauma-informed correctional care practice looks like in your facility?	2	Descriptive statistics, Conventional and summative content analysis
Yoga programs in facilities	Does your facility currently offer a yoga program? Why is the yoga program no longer offered at this facility?	2	Descriptive statistics, Conventional and summative content analysis
Inmate access to yoga programs in facility	Is the yoga program available to all individuals housed within the facility?	6	Descriptive statistics, Conventional

	Please select the reason(s) why the yoga program would not be available to a participant.		and summative content analysis
Goals of yoga program in facility	Are pre-assessments used to determine individuals needs or goals before participating in a yoga program? What physical health outcomes have you targeted/focused on? What mind-body connection outcomes have you targeted/focused on?	10	Descriptive statistics, Conventional and summative content analysis
Yoga approaches	What styles of yoga have you implemented at a facility? Do you use a trauma-informed yoga (TIY) approach? What percentage of the yoga classes that you teach, use a TSY approach?	9	Descriptive statistics, Conventional and summative content analysis
Characteristics of yoga program in facility	What are general adaptations (if any) that you make due to teaching yoga in a facility? What is the setting that yoga sessions take place in? How long does each session last? Do you use props in yoga sessions?	9	Descriptive statistics, Conventional and summative content analysis
Yoga teacher qualifications	Are you currently a certified or registered yoga teacher or therapist? What are your yoga credentials?	5	Descriptive statistics, Conventional and summative content analysis
Barriers/COVID-19	Has COVID-19 effected the yoga program within the correctional facility?	3	Descriptive statistics, Conventional and summative content analysis
Participant demographics	What is your age group? What race group best describes you?	3	Descriptive statistics

Pilot Data

After the completion of developing the survey, the researcher piloted the survey to increase the validity and reliability of the survey (Creswell & Creswell, 2017). The piloted survey contained 58 questions. The survey was piloted with eight individuals who either worked in a criminal justice facility or implement yoga programs in various settings. They were asked to complete the survey utilizing various electronic devices, including a desktop, tablet, and cellular device. They were asked to indicate any difficulties they encountered while taking the survey. To further strengthen the clarity of the content in the survey, they were asked to provide feedback regarding the survey length and appropriateness of the content and wording. Any format and content adjustments were adjusted prior to sending out the finalized survey to participants. Content adjustments included adding an additional four questions that involved asking survey participants follow-up questions for a more in-depth look into the structure of yoga programs in criminal justice facilities.

Final Survey Instrument

The final 62-item survey was administered to all participants using online Qualtrics survey software (Qualtrics, Provo, UT). The survey was anonymous, voluntary, and all participants were asked to consent prior to participating in the research study.

Data Analysis

To strengthen the credibility during analysis, the first author wrote down all personal experiences and biases related to yoga programs being implemented in criminal justice facilities. Survey data were exported from Qualtrics (Qualtrics, Provo, UT) to Excel to begin the data analysis process. Quantitative data were analyzed using descriptive statistics, including the calculation of frequencies and percentages of categorical variables with questions regarding

facility demographics as well as personal demographic information of the participants who completed the survey. Qualitative data were analyzed using conventional and summative content analysis with all open-ended responses (Hsieh & Shannon, 2005). Conventional content analysis was used to analyze participants responses to open-ended questions regarding what outcomes the yoga instructors were targeting, how a TIY or TSY approach was implemented, what barriers they experienced when implementing programs, and how COVID-19 has affected the yoga programs. In this study, each participants' survey responses were read thoroughly to gain a full understanding and then similar concepts and answers were grouped together to identify and create themes. After the finalization of themes, summative content analysis was used to determine the frequency of participant comments occurred that represent each theme (Hsieh & Shannon, 2005). See Table 1 for the specific data analysis approach for questions within the survey. The data were explored to understand the structure of yoga programs that are being utilized throughout United States criminal justice facilities and what effects the COVID-19 pandemic had on the programs.

Chapter Four**Manuscript****Yoga in Criminal Justice Facilities: A Descriptive Study**

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Yoga in Criminal Justice Facilities: A Descriptive Study

The United States currently incarcerates more individuals than any other country in the world, creating an effect known as mass incarceration. While incarcerated, individuals' physical and mental health can be affected. Yoga is a feasible, cost-effective modality that may be utilized in criminal justice facilities, to assist in the process of improving the physical and mental health of individuals who are incarcerated or in confinement. The purpose of this study was to explore the structure of yoga programs that are being implemented throughout United States criminal justice facilities and the effects that the COVID-19 pandemic had on programs. Through a multi-method research design, a nationwide survey investigated the structure of yoga programs being implemented within criminal justice facilities and what the yoga program entails. Twenty-five participants completed the survey and were included in this study. This exploratory study used quantitative data analysis to describe the specific characteristics that are being applied in yoga programs throughout various criminal justice facilities. Through content and summative analysis, the qualitative data revealed themes related to the outcomes of yoga programs being implemented in criminal justice facilities. Limitations and implications regarding this research study are discussed, as well as suggestions for future research.

Keywords: yoga, criminal justice facilities, correctional facilities, trauma-informed yoga, coping

Introduction

The United States houses over 20% of the world's total incarcerated population but represents less than only 5% of the world population, creating a phenomenon known as mass incarceration (Travis et al., 2014). The United States has incarceration rates five to 12 times higher than other countries (Petersilia, 2011). The minority population within criminal justice facilities is highly skewed; people marginalized on the basis of race are three to six times more likely to be incarcerated than Non-Hispanic/Caucasian individuals (Travis et al., 2014). Research has shown that incarceration can affect every domain of an individuals' life, including their

physical and mental health (Massoglia & Pridemore, 2015). Incarcerated individuals have a higher risk of being diagnosed with Human Immunodeficiency Virus (HIV), Hepatitis B, and Hepatitis C, as well as stress, post-traumatic stress disorder (PTSD), anxiety, depression, aggression, antisocial behavior and substance abuse (Bilderbeck et al., 2013; Massoglia & Pridemore, 2015; Moazen et al., 2018; Picken, 2012; Semenza & Grosholz, 2019). Being placed in a criminal justice facility can also put individuals at a higher risk for various physical health disorders, including obesity, diabetes, and hypertension (Lagarrigue et al., 2017).

With a vast majority of criminal justice facilities being overcrowded and having poor ventilation systems, facilities were hotspots for the transmission of the COVID-19 virus (Johnson et al., 2021). Further, due to the increase of COVID-19 cases within facilities, administration placed individuals in isolation to assist in the prevention of transmission (Johnson et al., 2021). Recent research has identified that most activities were stopped and an appropriate social distancing activities was not substituted (Johnson et al., 2021). The many fears of the unknown regarding COVID-19 and the isolation of individuals in their cells has increased the risk of this population being diagnosed with physical and health disorders (Johnson et al., 2021).

One recreational program that has been implemented in some criminal justice facilities is yoga. Yoga was founded nearly 2000 years ago and uses mindful breathing techniques (*pranayama*), meditation (*dhyana*), and physical postures (*asana*) to create a connection with the mind, body, and spirit (Cramer et al., 2016; Van Puymbroeck & Schmid, 2016). Current research has shown the improvement of an individuals' physical and mental health by participating in a yoga program implemented at a criminal justice facility (Bilderbeck et al., 2013; Danielly & Silverthorne, 2017; Kerekes et al., 2017). Literature shows that there is a high prevalence of mental health disorders in individuals housed in criminal justice facilities, including psychosis,

depression, anxiety, and personality disorders (Fazel & Wolf, 2015). Yoga programs implemented in criminal justice facilities have indicated that they can help improve the overall mood of participants, while also decreasing anxiety, depression, and perceived stress levels (Bilderbeck et al., 2013; Danielly & Silverthorne, 2017; Kerekes et al., 2017). Yoga programs have also shown to improve impulse control levels and decrease aggression levels (Bilderbeck et al., 2013; Danielly & Silverthorne, 2017; Kerekes et al., 2017).

Individuals housed in criminal justice facilities may also be at a higher risk of experiencing trauma. Trauma is defined as any event, whether through an individuals' direct experiences or witnessing an event that can cause physical and/or emotional harm (DeVeaux, 2013). Utilizing trauma-informed correctional care (TICC) when implementing programs in criminal justice facilities could assist in improving the physical and mental health of individuals (Miller & Najavits, 2012). Research has shown that criminal justice facilities are utilizing recreational programs, such as yoga, to help decrease aggressive outbursts, reduce the impacts of stress and trauma, while increasing individuals' mental health (Delaney, 2016; Nimrod et al., 2012). Yoga programs that take a trauma-informed approach and acknowledge the impact that trauma has on an individual could potentially decrease triggers participants could experience during the session, and avoid any postures that could resemble past traumatic experience (Horton, 2017; Justice et al., 2018; Miller & Najavits, 2012). There is limited research describing yoga programs implementing a trauma-informed approach (TIY) or trauma-sensitive approach (TSY), and the only study that has explored these approaches with yoga in correctional facilities included only female participants (Danielly & Silverthorne, 2017). Implementing yoga programs as a complementary and integrative health (CIH) approach has many advantages, including cost-effectiveness, able to provide to multiple individuals at once, and able to be

implemented in a restrictive environment (Bilderbeck et al., 2013; Clarke et al., 2015; Muirhead & Fortune, 2016).

Current research studies in correctional facilities omit various aspects regarding the yoga program (e.g. Auty et al., 2017; Bilderbeck et al., 2013; Kerekes et al., 2017; Rousseau et al., 2019). These studies have also excluded information on how many participants were in the yoga programs, the setting of the yoga programs, and the certifications of the yoga instructors.

Existing literature has identified that it is important for yoga programs to be implemented by instructors who have the appropriate certifications to avoid any adverse effects that could result from participation (Adams et al., 2022; Cramer et al., 2019; Lein et al., 2020; Wiles et al., 2021).

Various programs are available for individuals to become qualified yoga instructors and obtain credentials including certified yoga teacher (CYT) or registered yoga teacher (RYT). Yoga instructors who have completed the appropriate trainings and obtain certifications are able to have a greater knowledge when to apply any modifications with various populations (Lein et al., 2020). Since the emergence of the COVID-19 pandemic, there have been limited studies that describe how yoga programs are being implemented within facilities and following safety precautions for all participants. The purpose of this study was to explore the structure of yoga programs that are being utilized throughout United States criminal justice facilities and the effects of the COVID-19 pandemic on the programs.

Methods

A university Institutional Review Board approved this research prior to the study being completed. This study employed a descriptive multi-method research design. A multi-method research design has strength by using both quantitative and qualitative data to gain a more in-depth picture of the research question (Morse, 2003). The study has a deductive drive and minor

inductive projects, meaning that quantitative data was the primary data, while qualitative data was supportive (Morse, 2003). These data were collected from 2021-2022, thus there was potential for COVID-19 to have an impact on the collection of survey responses due to programs not being implemented. The study utilized a web-based national survey to gain information on the structure of yoga programs that are being implemented in criminal justice facilities, what the programs entail, and if COVID-19 has influenced the yoga programs being implemented. Criterion and snowball sampling were used to recruit participants who have implemented a yoga program in a criminal justice facility in the United States. Inclusion criteria required that participants currently implement, or within the past three years had implemented, a yoga program within a criminal justice facility in the United States. Participants were excluded from the study if they completed less than 50% of the survey, did not implement a yoga program within the past three years in a criminal justice facility in the United States, or did not consent to participate prior to answering survey questions.

Pilot Data

The piloted survey consisted of a non-standardized 58 item-survey and was sent to eight individuals who either worked in a criminal justice facility or implemented yoga programs in various settings. This was done to increase the reliability and credibility of the survey by ensuring that appropriate and accurate wording was used (Creswell & Creswell, 2017). During the pilot study, individuals were asked to complete the survey using various electronic devices, including a desktop, tablet, and cellular device to ensure no difficulties were encountered while taking the survey. All format and content adjustments were completed prior to sending out the finalized survey. Adjustments included adding an additional four follow up questions to have an in-depth look into the structure of yoga programs in criminal justice facilities. The final survey

consisted of 62-items. The survey was anonymous, voluntary, and all participants were asked to consent prior to beginning.

Data Collection

The survey was administered to participants using Qualtrics survey software (Qualtrics, Provo, UT). The 62-item non-standardized survey included questions with a variety of response options, including select one option, open-ended and select all that apply . A full description of the survey questions can be viewed in Table 2. The survey was distributed via a Qualtrics link through various social media outlets, including Facebook, Instagram, and LinkedIn groups related to criminal justice facilities and/or yoga. After one month, the Qualtrics survey link was resent to these groups as a reminder to complete prior to the deadline or send the survey link to other possible relevant participants. The survey was closed after two months.

Table 2. Final Survey Questions.

Variable of Interest	Example Question(s)	Number of Questions	Data Analysis Technique
Criterion questions	Do you currently, or have you in the past 3 years taught a yoga program in a criminal justice system facility within the United States?	1	Descriptive statistics
Facility demographics	What level of security is the facility? What state is the facility in? What is the sex of the individuals housed by the facility?	6	Conventional and summative content analysis
Job roles	Please state what your job title(s) are when teaching yoga within your facility? Please describe your primary roles when teaching yoga.	2	Conventional and summative content analysis
TICC in the facility	Does the facility use trauma-informed correctional care (TICC)?	2	Descriptive statistics, Conventional

	Please describe what trauma-informed correctional care practice looks like in your facility?		and summative content analysis
Yoga programs in facilities	Does your facility currently offer a yoga program? Why is the yoga program no longer offered at this facility?	2	Descriptive statistics, Conventional and summative content analysis
Inmate access to yoga programs in facility	Is the yoga program available to all individuals housed within the facility? Please select the reason(s) why the yoga program would not be available to a participant.	6	Descriptive statistics, Conventional and summative content analysis
Goals of yoga program in facility	Are pre-assessments used to determine individuals needs or goals before participating in a yoga program? What physical health outcomes have you targeted/focused on? What mind-body connection outcomes have you targeted/focused on?	12	Descriptive statistics, Conventional and summative content analysis
Yoga approaches	What styles of yoga have you implemented at a facility? Do you use a trauma-informed yoga (TIY) approach? What percentage of the yoga classes that you teach, use a TSY approach?	9	Descriptive statistics, Conventional and summative content analysis
Characteristics of yoga program in facility	What are general adaptations (if any) that you make due to teaching yoga in a facility? What is the setting that yoga sessions take place in? How long does each session last? Do you use props in yoga sessions?	11	Descriptive statistics, Conventional and summative content analysis
Yoga teacher qualifications	Are you currently a certified or registered yoga teacher or therapist?	5	Descriptive statistics, Conventional

	What are your yoga credentials?		and summative content analysis
Barriers/COVID-19	Has COVID-19 effected the yoga program within the correctional facility?	3	Descriptive statistics, Conventional and summative content analysis
Participant demographics	What is your age group? What race group best describes you?	3	Descriptive statistics

Data Analysis

All participants' responses were recorded through Qualtrics (Qualtrics, Provo, UT), and downloaded to Excel on a password-protected computer. Quantitative data were analyzed using Excel to determine the percentages and frequencies of categorical information related to yoga programs being implemented in facilities within the United States criminal justice system. Qualitative data were analysed using conventional content analysis and summative content analysis (Hsieh & Shannon, 2005). Using conventional content analysis, participants' open-ended responses were explored to create themes regarding the targeted outcomes of yoga programs, adaptations utilized when implementing a TIY or TSY approach, barriers they have experience while implementing a program, and how COVID-19 has affected the programs. Summative content analysis was used to determine the frequency of occurrence of comments for the represented subthemes and themes (Creswell & Creswell, 2017; Hsieh & Shannon, 2005).

Results

There survey yielded a total of 46 responses. Nineteen individuals stated that they had not implemented a yoga program within the past 3 years and were eliminated from the data analysis, resulting in a sample size of 27. Two surveys were removed from the sample size due to completing less than 50% of the survey, resulting in the final sample of 25. Of the final sample

size of 25, 14 surveys were completed entirely, and 11 surveys were over 75% completed and included in the data analysis.

Demographics

The participants' ages ranged between 25 to over 65 years old and 40.0% (n=10) were women. Of this sample, 44.0% (n=11) stated they were certified yoga instructors, while 28.0% (n=7) stated they had the Registered Yoga Teacher (RYT-200) credentials. See Table 3 for the full demographic information for survey participants.

Thirty-six percent (n=9) of yoga programs were implemented in state correctional facilities, and 56.0% (n= 14) of the facilities housed only male individuals. See Table 4 for the full demographic information for the facilities.

Table 3. Participant Demographics.

Variable	Frequency (n=25)*	Percentage (%)
Age* ¹	25-30 (n=1) 31-40 (n=1) 41-54 (n=6) 55-65 (n=3) 65 and older (n=3) Did not respond (n=11)	4.0% 7.0% 24.0% 12.0% 12.0% 44.0%
Gender* ¹	Female (n=10) Male (n=4) Did not respond (n=11)	40.0% 16.0% 44.0%
Ethnicity* ¹	White (n=12) Black (n=2) Did not respond (n=11)	48.0% 8.0% 44.0%
Certifications as a Yoga Instructor* ¹	Yes (n=11) No (n=3) Did not respond (n=11)	44.0% 12.0% 44.0%
Certified Yoga Instructor Credentials* ³	Registered Yoga Teacher-200 (n=7) Registered Yoga Teacher-500 (n=2) Trauma Center Trauma Sensitive Yoga-Facilitators-300 (n=1) Certified Yoga Teacher-500 (n=2) Did not respond (n=14)	28.0% 8.0% 4.0% 8.0% 56.0%
Job Title* ²	Yoga Instructor (n=12) Recreational Therapist (n=6) Rehabilitation Therapist (n=2) Mindfulness Movement Teacher (n=1) Area Director (n=1) Did not respond (n=3)	55.0% 27.0% 9.0% 5.0% 5.0% 12.0%
* The difference in population size for each question is due to the lack of forced responses within the survey		
¹ Select one answer responses		
² Open-ended responses		
³ Select all that apply responses		

Table 4. Facility Demographics.

Variable	Frequency (n=25)*	Percentage (%)
Facility* ¹	State (n=9) Jail (n=4) Federal (n=3) Juvenile Long-Term (n=3) Juvenile Detention (n=2) Forensic Psychiatric Hospital (n=2) Adult Detention (n=1) Juvenile Probation (n=1)	36.0% 16.0% 12.0% 12.0% 8.0% 8.0% 4.0% 4.0%
Facility Security Level* ¹	State Low (n=3) Medium (n=2) High (n=2) Various (n=1) Residential (n=1) Federal Minimal (n=1) Medium (n=1) Unknown (n=1) Juvenile Detention Facility Secured (n=2) Juvenile Probation (n=1) Juvenile Long-Term Facility Secured (n=3) Adult Detention (n=1) Jail Medium (n=2) High (n=1) Unknown (n=1) Forensic Psychiatric Hospital High (n=2)	19.0% 13.0% 13.0% 6.0% 6.0% 6.0% 6.0% 6.0% 13.0% 6.0% 19.0% 6.0% 13.0% 6.0% 6.0% 13.0%
Sex of Individuals Housed in Facility* ¹	Males: 14 Females: 3 Both: 7 Did not respond (n=1)	56.0% 12.0% 28.0% 4.0%
State Location by Region* ¹	West: 13 Midwest: 4 South: 4 Northeast: 3 Did not respond (n=1)	52.0% 16.0% 16.0% 12.0% 4.0%
* The difference in population size for each question is due to the lack of forced responses within the survey ¹ Select one answer responses		

Qualitative Results

Conventional content analysis revealed four broad themes: descriptions of yoga programs, trauma-informed yoga (TIY) and trauma-sensitive yoga (TSY) approaches, barriers implementing yoga programs, and how COVID-19 has affected implementing yoga programs

within criminal justice facilities. Summative content analysis revealed the frequencies of specific words or comments used within the categories to further describe what participants were stating. Through the multi-methods research design, qualitative data was used to count and make groups to form quantitative data to gain a more in-depth look into yoga programs being implemented in criminal justice facilities.

Descriptions of Yoga Programs.

The survey consisted of questions to explore the structure and foundations of yoga programs, including assessments that were implemented, and the time, place, and setting of yoga programs. Twenty-eight percent (n=7) stated they use pre-assessments, with five of those participants stating they use non-standardized pre-assessments. As one participant described, “I use a combination of facility assessment and observation to determine if the inmate needs a more modified program.” One participant who utilizes standardized pre-assessments stated they use “Idyll Arbor Leisure Battery, Therapeutic Recreation Activity Assessment (TRAA), Comprehensive Evaluation in Recreational Therapy (CERT/PSYCH-REVISED), or an initial recreational therapy agency specific assessment.” Post-assessments were used by 28% (n=7) of survey participants with 71% (n=5) being facility-specific assessments. A participant explained they use a “basic survey that Yoga Behind Bars has designed.”

Twenty-nine percent (n=8) of survey participants stated that a yoga program was currently being offered at their facility. Responses regarding why the yoga program is no longer being offered included “safety concerns related to COVID-19,” “lack of interest from participants,” and “other therapies are happening during the time the program is being offered.” Survey participants were asked if the yoga program was available to all individuals housed in the facility, and to explain if a referral process was in place. Forty-four percent of participants

(n=11) stated that the yoga program was not available to everyone and 20% (n=5) stated individuals had to receive the yoga instructor approval to be able to participate. Other survey responses stated that individuals had to have a referral from the “corrections officer,” “psychologist” or a “clinical therapist.” The survey asked if yoga program participants were able to voluntarily stop coming to the program. Fifty-two percent (n=13) identified that participants could stop participating in the yoga program. Four percent (n=1) stated that it was a mandatory program and if an individual did not participate “they would lose their privileges.” Thirty-two percent (n=8) identified that participants would “lose interest” as a reason not to participate in the yoga program. Other reasons for discontinuing participation included “disciplinary watch,” “obtaining a job,” or “being moved to a different facility.” See Table 4 for descriptions of yoga programs.

Table 5. Descriptions of Yoga Programs.

Variable	Frequency (n=25)*	Percentage (%)
Props* ²	Yes (n=9) Mats (n=7) Blocks (n=5) Straps (n=2) Blankets (n=1) No (n=4) Did not respond (n=12)	36.0% 78.0% 56.0% 22.0% 11.0% 16.0% 48.0%
Setting* ²	Multipurpose Room (n=9) Cell Block (n=4) Inmate Cell (n=1) Chapel (n=1) Did not respond (n=10)	36.0% 16.0% 4.0% 4.0% 40.0%
Frequency of yoga classes* ²	1x/week (n=8) 2x/ week (n=2) 3x/week (n=1) More than 4x/week (n=1) Every other week (n=1) Did not respond (n=12)	32.0% 8.0% 4.0% 4.0% 4.0% 48.0%
Duration of yoga classes* ¹	Less than 30 minutes (n=2) 30-60 minutes (n=4) 60-90 minutes (n=5) 90-120 minutes (n=3) Did not respond (n=11)	8.0% 16.0% 20.0% 12.0% 44.0%
One-to-one or group setting* ¹	Group (n=12) Both (n=2)	48.0% 8.0%

	Did not respond (n=11)	44.0%
Available in solitary* ¹	Yes (n=1) No (n=7) Unsure (n=4) Did not respond (n=13)	4.0% 28.0% 16.0% 52.0%
Yoga style* ^{2,3}	Vinyasa (n=8) Hatha (n=8) Yin (n=3) iRest Yoga/Nidra (n=3) Vrksasana (n=1) Kundalini (n=1) Other (n=5)	32.0% 32.0% 12.0% 12.0% 4.0% 4.0% 20.0%
Minutes focused on physical postures* ^{1,2}	Less than 10 minutes (n=0) 10-30 minutes (n=1) 30-45 minutes (n=4) 45-60 minutes (n=4) Over 60 minutes (n=1) Did not respond (n=10)	0.0% 4.0% 16.0% 16.0% 4.0% 40.0%
Minutes focused on breathing* ^{1,2}	Less than 10 minutes (n=6) 10-30 minutes (n=2) 30-45 minutes (n=1) 45-60 minutes (n=0) Over 60 minutes (n=1) Did not respond (n=10)	24.0% 8.0% 4.0% 0.0% 4.0% 40.0%
Minutes focused on meditation* ^{1,2}	Less than 10 minutes (n=7) 10-30 minutes (n=3) Greater than 30 minutes (n=0) Did not respond (n=10)	28.0% 12.0% 0.0% 40.0%
* The difference in population size for each question is due to the lack of forced responses within the survey		
¹ Select one answer responses		
² Open-ended responses		
³ Select all that apply responses		

The overall targeted outcomes for the yoga programs being implemented were identified as well, with 64% (n=16) selecting “improve overall mental health,” and 52% (n=13) selecting to “improve overall physical health.” Forty percent of participants (n=10), identified that an outcome of the yoga program was to improve the mind and body connection. Responses mainly identified “breathing” as an avenue to connect mind and body. One participant identified, “I focus a lot on their breathing. This seems to be main thing that gets hijacked the quickest.” One participant stated, “Breathing, awareness of immediate reactions to stimuli” while another participant discussed how “To use breath instead of aggression during times of conflict.” Of the participants that identified they target spiritual outcomes (n=5), 40% (n=2) stated they allow time

for individuals to engage in “spiritual wellness.” One participant stated, “before class, we call in the God of their understanding. I am not there to tell them how to believe.” Another participant discussed the spiritual wellness related to nature by stating, “We recognize ego/personality vs. essence nature; profound peace.” See Table 5 for a detailed description of the outcomes of yoga programs.

Table 6. Targeted Outcomes of Yoga Programs.

Variable	Frequency (n=16)*	Percentage (%)
Outcomes* ³	Mental health (n=16) Physical health (n=13) Mind and body connection (n=10) Cognitive skills (n=9) Social skills (n=6) Spiritual health (n=5) Did not respond (n=9)	64.0% 52.0% 40.0% 36.0% 24.0% 20.0% 36.0%
Physical health outcomes* ³	Increase physical fitness (n=7) Alleviate pain related to disease/disorder (n=5) Decrease hypertension (n=3) Decrease cardiovascular diseases (n=1)	88.0% 63.0% 38.0% 13.0%
Mental health outcomes* ³	Decrease stress symptoms (n=12) Decrease anxiety symptoms (n=12) Decrease depression symptoms (n=11) Increase emotional regulation (n=11) Decrease trauma symptoms (n=11) Increase positive coping skills (n=10) Decrease PTSD symptoms (n=8) Decrease substance abuse (n=3)	100.0% 100.0% 92.0% 92.0% 92.0% 83.0% 67.0% 25.0%
Cognitive skills outcomes* ³	Improve attention (n=5) Improve memory (n=4) Improve concentration (n=3) Improve academic functioning (n=2)	83.0% 67.0% 50.0% 33.0%
Social skills outcomes* ³	Increase social interactions (n=3) Improve communication skills (n=3) Increase support systems (n=3)	75.0% 75.0% 75.0%
* The difference in population size for each question is due to the lack of forced responses within the survey or participant not selecting that goal related to the yoga program ¹ Select one answer responses		

TIY and TSY Approaches

TIY and TSY approaches were identified to be used in yoga programs (TIY: 48% (n=12), TSY: 40% (n=10)). When asked to expand on what a TIY approach looks like to them in

criminal justice facilities, participants stated, “sharing effects of trauma on human body-mind-emphasizing personal agency - resourcing when difficult sensations/thoughts/emotions arise-titrating” and “I avoid words like “surrender” and I avoid certain poses like child’s pose or cat-cow.” When asked to expand on what a TSY approach looks like in programs, responses included “I implement the five senses and no music unless all agree. I keep a watchful eye” and “Choice making, language used.” Survey respondents were asked to discuss specific adaptations that would be implemented in yoga programs that utilize a TIY or TSY approach. Responses included, “groups circle set up; chair yoga offering” and “everything we modelled is optional, they can sit or lie down on their mat or just observe and be in community with the group.” Data regarding the adaptations of yoga programs in criminal justice facilities were discussed. Participants (n=5) identified that if adaptations were needed, they would use “simple and modified poses to lower stress levels,” and stated, “everything is optional.”

Barriers Implementing Yoga Programs

Forty-four percent of survey participants (n=11) identified barriers they face throughout implementation, the most discussed barrier revolved around administration concerns, including lack of support. A common theme that 24% (n=6) participants identified was a barrier to implement yoga programs in criminal justice facilities was the overall “lack of knowledge” from both potential participants and leadership. One participant went further and stated that the “lack of understanding of the role of yoga and trauma management overall” was a barrier. Participants identified “administrative red tape” and “following prison rules as barriers to implement yoga programs inside criminal justice facilities.” Other responses included “interruptions, noise” and “getting instructors” as barriers to implementing yoga programs in criminal justice facilities.

COVID-19 Effects on Yoga Programs

Fifty-six percent (n=14) of survey participants stated that COVID-19 influenced yoga programs being implemented within criminal justice facilities. Thirty-six percent (n=9) of participants stated that yoga programs were “cancelled” or “halted,” due to COVID-19. One participant specified that “e-zines and newsletters to participants are delivered with yoga tips, movements and some gentle breathing/meditation guidance. We delivered 1:1 video phone visits due to cancelation of yoga programs.” Participant responses also included yoga programs being “smaller groups” while “wearing masks and cleaning more.” One participant indicated that “yoga is only provided by me and if I’m not on the unit, then it is not taught,” while another stated that “due to COVID-19 I was not working because I am personally at high-risk.”

Discussion

Literature suggests that yoga programs being implemented within criminal justice facilities may help decrease individual levels of depression, stress, and aggression, and increase impulse control, and overall physical and mental health (Bilderbeck et al., 2013; Kerekes et al., 2017; Rousseau et al., 2019). This study explored the structure of yoga programs implemented in criminal justice facilities to gain an in-depth understanding of what the program entails. Literature has shown that 90% of those who are incarcerated are males (Minton & Zeng, 2016). This research yielded similar findings, as survey participants who are implementing yoga programs are mostly doing so in state correctional facilities that house males. Research identifies that individuals who are incarcerated are at a higher risk of being diagnosed with a physical or mental health disorder (Massoglia & Pridemore, 2015; Lagarrigue et al., 2017). With this population being at a greater risk for these diagnoses, it is essential that yoga programs focus on decreasing these negative implications to those while incarcerated to increase the overall

personal health of that individual (Biglan, 2012). Data from this study indicates that the majority of instructors who responded have certifications, which supports research that yoga programs should be implemented by CYTs, RYTs, or another qualified (Adams et al., 2022; Cramer et al., 2019; Lein et al., 2020; Wiles et al., 2021).

Survey participants identified that pre- and post-assessments were utilized and were often non-standardized. Standardized assessments provide information that is shown to be reliable and valid and could provide yoga instructors the necessary tools to advocate for the implementation of yoga programs in criminal justice facilities based on demonstrated outcomes (Derlic, 2020; Piernik-Yoder & Beck, 2012). Survey participants indicated that either a Hatha or Vinyasa yoga style was used, although literature has identified that not one style of yoga is better than another (Cramer et al., 2016). Regarding the components of yoga: physical postures, breathing, and meditation, survey participants identified that they spent the longest duration focusing on physical postures. Current literature is limited regarding sequencing of yoga classes but does identify that is no right way to sequence a yoga class, with the main goal as to bring balance to individuals participating (Stephens, 2012).

Survey participants were asked to describe their yoga programs, regarding the setting, frequency, and duration of yoga sessions. Survey participants identified that most of their yoga programs are being implemented in a multipurpose room/gym setting, once a week, for a duration between 60-90 minutes. This is similar to existing literature regarding the location, frequency, and duration of yoga programs being implemented in criminal justice facilities (Bilderbeck et al., 2013; Danielly & Silverthorne, 2017; Kerekes et al., 2017). Literature also states that yoga programs with longer durations and shorter frequencies could affect the mental

health of an individual by decreasing PTSD, depression, and anxiety symptoms (Auty et al., 2017; Büssing et al., 2012).

Due to incarcerated individuals being at a higher risk of experiencing trauma in their lifetimes, literature suggests yoga programs that use a TIY or TSY approach may alleviate trauma symptoms and improve the mental health of individuals (Justice et al., 2018). Data collected in this study shows that yoga instructors are aware of the potential positive outcomes related to implementing yoga programs in criminal justice facilities. TIY and TSY approaches were discussed, and survey respondents had similar thoughts to as what they believed these approaches are, compared to their definitions. Based on the survey responses, some yoga instructors deemed a TIY or TSY approach appropriate and beneficial for yoga programs to implement in facilities within the criminal justice system. Due to not all survey respondents stating they utilize a TIY or TSY approach when implementing yoga programs in facilities, it leaves the opportunity for the yoga instructors to provide education and awareness to criminal justice facilities of the positive outcomes regarding implementing yoga programs inside facilities. This data depicts how yoga instructors utilize specific aspects of TIY and TSY, such as allowing autonomy and using invitational language (i.e. “everything we modelled is optional” and “teachers use invitational language instead of ordering people to do something”).

Literature has shown that the main barriers to implement yoga programs are the policies that must be followed and adhered to (McKeen, 2018). Survey participants were asked to identify other barriers unrelated to COVID-19 and identified that the lack of knowledge and support by superiors and staff shortages prevents yoga programs from being implemented. Participants were also asked to identify why their facility did not offer yoga programs at all, other than due to COVID-19. Responses included due to lack of interest or safety concerns.

These data support existing literature that some criminal justice facilities have stopped implementing yoga programs due to staff shortages and not being able to ensure the appropriate ratios to maintain safety (Norman, 2018). Due to the recency of COVID-19, there is limited research discussing how the pandemic has affected programs within criminal justice facilities. To mitigate the effects of COVID-19, literature shows that criminal justice facilities have suspended many activities, thus putting this population at further risk of being diagnosed with a physical or mental health disorder (Johnson et al., 2021). This research data shows that survey participants identified that many yoga programs have stopped due to the facilities attempting to prevent the spread of COVID-19. These findings support current research regarding the importance yoga programs have on an individuals' overall health while in a criminal justice facility.

Limitations and Implications

Due to the small sample size, results are not generalizable and likely do not give a full picture of yoga programs being implemented in criminal justice facilities. Due to the lack of forced responses throughout the survey, participants were able to choose which questions to provide answers to. This may have left discrepancies throughout responses. Participants were mostly White and women, and thus the survey had a lack of diversity of responses. Due to the majority of incarcerated individuals being males and people of color (POC), there is an imbalance with who is providing versus receiving yoga. Additionally, the terminology used within the study could have been misinterpreted by participants, specifically regarding TIY and TSY approaches due to a glossary not being provided. There also could have been a social desirability for survey participants to choose they have or are implementing a TIY or TSY approach.

Recommendations for Future Research

It is recommended for future researchers to gain access to the recreational departments within criminal justice facilities within the United States to obtain a greater sample size of facilities implementing yoga programs. Future research should examine whether yoga programs taught by POC better meet the needs of POC, and if so, how these needs are addressed. It is important to have a better understanding of the long-term effects that the yoga program has on individuals. Future research should examine what specific programs include in terms of postures, breathing exercises, and meditation. Future researchers should examine the effects that a TIY or TSY approach has, compared to other yoga styles (i.e. Hatha, Vinyasa), on participants' health. It would also be interesting to discover whether yoga program goals and outcomes have changed for participants following the COVID-19 pandemic. Future researchers might also be interested in exploring the effects of implementing a yoga program for individuals who are in solitary confinement or isolation in various criminal justice facilities to better help combat the physical and mental health implications.

Chapter Five

Conclusion

Recreation programs have often been limited for individuals who are incarcerated or in confinement in a criminal justice facility for various reasons, which may affect their physical and mental health (Delaney, 2016). While yoga is highly recognized as a recreational opportunity that could help improve the overall health of this population, there is limited literature pertaining to the structure of yoga programs being implemented in criminal justice facilities located in the United States (Auty et al., 2017; Bilderbeck et al., 2013; Danielly & Silverthorne, 2017; Kerekes et al., 2017). While literature states that TIY and TSY may reap more positive outcomes if implemented with this specific population, there is a lack of research describing what styles of yoga (i.e. Hatha, Iyengar) are being utilized, and whether a TIY approach is used. With the emergence of COVID-19 halting if not all, the majority of recreational programming throughout criminal justice facilities, it is unclear who is implementing yoga programs, what are the targeted outcomes of participation, if any barriers exist, and what the effects of COVID-19 are on the yoga program. The purpose of this study was to explore the structure of yoga programs that are being implemented throughout United States criminal justice facilities and the effects of the COVID-19 pandemic on the programs.

Summary of Major Findings

This study utilized a descriptive multi-method design to explore the structure of yoga programs being implemented in the United States criminal justice system. The data from this research study showed that the majority of survey participants are implementing yoga programs in state correctional facilities and are more often implemented with facilities that house males rather than females. The research also indicates that the majority of individuals who are

implementing yoga programs in criminal justice facilities have specific credentials/qualifications. Detailed information was obtained, and four categories emerged from the study including, the utilization of pre- and post-assessments, TIY and TSY approaches, barriers implementing yoga programs, and the effects COVID-19 has had on yoga programs in facilities. These findings suggest that implementing yoga with a TIY or TSY approach may provide more positive outcomes regarding an individuals' mental health. mental health.

In addition, this study investigated information regarding what the yoga programs specifically entailed. Research showed that the majority of survey participants implemented yoga programs in a Multipurpose Room/Gym area with a maximum size of 20 participants. Also, once a week session that lasted approximately 60 to 90 minutes were the most common. This research shows that yoga programs utilized mats the most. Most yoga programs, according to this research, are not available to individuals in solitary confinement. Study participants mostly implemented Vinyasa and Hatha yoga styles.

Contributions and Implications

By understanding the outcomes yoga programs may provide to individuals who are housed in criminal justice facilities throughout the United States, administration, and professionals in these facilities can provide adequate programming with qualified instructors to combat the effects confinement and/or incarceration can have on an individual. The findings from this study also suggest the need for yoga programs to be implemented to improve the physical and mental health of those in confinement and/or incarcerated due to COVID-19 restrictions.

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Appendix A

Yoga in Criminal Justice Facilities Survey

Start of Block: Welcome

Welcome!

My name is Rachel Broome. I am a recreational therapy graduate student at Clemson University. I appreciate your willingness to take part in this survey and contribute your knowledge regarding how, why, and by whom yoga programs are being implemented within criminal justice facilities in the United States.

Thank you!

End of Block: Welcome

Start of Block: Consent

KEY INFORMATION REGARDING RESEARCH STUDY

Voluntary Consent: Dr. Marieke Van Puymbroeck Chancellor is inviting you to volunteer for a research study. Dr. Marieke Van Puymbroeck is a professor at Clemson University conducting the study with Dr. Brandi Crowe, Dr. Deborah Tysor and Rachel Broome.

You may choose not to take part in this survey and you may choose to stop participating at any time. You will not be punished in any way if you decide not to be in the study or stop taking part in the study.

Study Purpose: The purpose of this research is to gain more knowledge regarding how, why, and by whom yoga programs are being implemented with criminal justice facilities.

Activities and Procedures: Your part in this study will be to complete this 63-item survey. Please note, depending on your survey responses, you may be asked to complete additional subquestions.

Participation Time: The online survey will take approximately 30 minutes to complete.

Risks and Discomforts: We do not know of any risks or discomforts to you in this research study.

Possible Benefits: You may not benefit directly for taking part in this study, however, your sharing your experience and knowledge related to whether if, how, why, and by whom therapeutic yoga programs are being implemented in criminal justice facilities will contribute to the evidence-base, and provide a better understanding of the structure of yoga programs within these facilities.

Incentives: There are no incentives for participating in this research study.

Protection of Privacy and Confidentiality: The results of this study may be published in scientific journals, professional publications, or education presentations. All survey responses will be anonymous. The information collected in this study could be used for future research.

Contact Information: If you have any questions or concerns about your rights in this research study, please contact the Clemson University Office of Research Compliance (ORC) at 864-656-0636 or irb@clemson.edu. If you are outside of the Upstate South Carolina area, please use the ORC's toll-free number, 866-297-3071. The Clemson IRB will not be able to answer some study-specific questions. However, you may contact the Clemson IRB if the research staff cannot be reached or if you wish to speak with someone other than the research staff.

If you have any study related questions or if any problems arise, please contact Dr. Marieke Van Puymbroeck at Clemson University at mvp@clemson.edu or Rachel Broome at Clemson University at rtbroom@g.clemson.edu

Consent: By participating in the study, you indicate that you have read the information written above, been allowed to ask any questions, and you are voluntarily choosing to take part in this research. You do not give up any legal rights by taking part in this research study.

- Yes, I consent (1)
- No, I do not consent (2)

End of Block: Consent

Start of Block: Survey

employment Do you currently, or have you in the past 3 years taught a yoga program within a criminal justice system facility in the United States (i.e. jail, correctional facility, juvenile corrections)?

- Yes (3)
- No (4)

Skip To: End of Survey If Do you currently, or have you in the past 3 years taught a yoga program within a criminal justice... = No

Q59 For the remaining questions on this survey, please answer reflecting the criminal justice facility where you have spent the most time implementing yoga in the past three years.

state/federal The type of facility you have spent the most time is a:

- Jail (Jails are operated by local cities and used for short-term incarceration, typically less than a year) (12)
- State correctional facility (Operated by the Department of State Corrections) (7)
- Federal correctional facility (Operated by the Bureau of Prisons) (8)
- Adult other (please specify) (16) _____
- Juvenile detention facility (Temporarily holding for juveniles while waiting for adjudication, disposition or different placement) (13)
- Juvenile long-term secure facility (Placement for juveniles that have been sentenced for an offense that would be considered a crime if the youth were an adult) (14)
- Juvenile other (please specify) (9) _____
- I am unsure (15)
-

Page Break _____

Display This Question:

If The type of facility you have spent the most time is a: = Jail (Jails are operated by local cities and used for short-term incarceration, typically less than a year)

Or The type of facility you have spent the most time is a: = State correctional facility (Operated by the Department of State Corrections)

Or The type of facility you have spent the most time is a: = Adult other (please specify)

security What level of security is the facility?

- Low (1)
- Medium (2)
- High (3)
- Other (please specify) (5) _____
-

Display This Question:

If The type of facility you have spent the most time is a: = Federal correctional facility (Operated by the Bureau of Prisons)

Q61 What level of security is the federal correctional facility?

- Minimum (1)
- Low (2)
- Medium (3)
- High (4)
- Administrative (5)
-

Display This Question:

If The type of facility you have spent the most time is a: = Juvenile detention facility (Temporarily holding for juveniles while waiting for adjudication, disposition or different placement)

Or The type of facility you have spent the most time is a: = Juvenile long-term secure facility (Placement for juveniles that have been sentenced for an offense that would be considered a crime if the youth were an adult)

Or The type of facility you have spent the most time is a: = Juvenile other (please specify)

Q60 What level of security is the juvenile facility?

- Staff secured (Juveniles are not restricted within the facility or its grounds by locked doors, gates, or fences) (1)
- Facility secured (Juveniles are restricted within the facility or its grounds by locked doors, gates, or fences some or all of the time) (2)
- Other (please specify) (3) _____

gender What is the sex of individuals housed by the facility?

- Males (3)
- Females (4)
- Both (5)

CF state What state is the facility located in?

▼ Alabama (1) ... Wyoming (50)

Page Break

job title Please state what your job title(s) are when teaching yoga within your facility.

Q46 Please describe your primary roles when teaching yoga.

Page Break

TICC Does the facility use trauma-informed correctional care (TICC)?

- Yes (1)
- No (2)
- I am unsure (3)

Skip To: current yoga If Does the facility use trauma-informed correctional care (TICC)? = No
Skip To: current yoga If Does the facility use trauma-informed correctional care (TICC)? = I am unsure

Q54 Please describe what trauma-informed correctional care practice looks like your facility.

current yoga Does your facility currently offer a yoga program?

- Yes (1)
- No (2)

Skip To: availability If Does your facility currently offer a yoga program? = Yes

Page Break

why no YP Why is the yoga program no longer offered at this facility? (Select all that apply)

Lack of finances (please describe) (4)

Lack of interest from participants (please describe) (5)

Safety concerns (please describe) (6)

Health concerns (please describe) (9)

Lack of support from administration (please describe) (7)

COVID-19 precautions (please describe) (10)

Other (please describe) (8) _____

Page Break

availability Is the yoga program available to all individuals housed within the facility?

- Yes, participants voluntary sign up for the yoga program (1)
- No, participants are only eligible for the yoga program by referral (5)
- No (please specify why) (2) _____
- Other (please specify) (6) _____

Skip To: discontinue If Is the yoga program available to all individuals housed within the facility? = Yes, participants voluntary sign up for the yoga program

Skip To: referral? If Is the yoga program available to all individuals housed within the facility? = No, participants are only eligible for the yoga program by referral

Skip To: Q71 If Is the yoga program available to all individuals housed within the facility? = No (please specify why)

Page Break _____

Q71 How do participants sign up to attend the yoga program? (please describe)

Q55 Please select the reason(s) why the yoga program would not be available to a participant. (select all that apply)

Physical health concerns (please describe) (1)

Mental health concerns (please describe) (2)

Behavior related concerns (please describe) (3)

Other related concerns (please describe) (5)

Other (please describe) (7) _____

I am unsure (6)

referral? Please describe the referral process for participants, including who makes the referral, and the typical reason for referrals.

discontinue Can participants voluntarily stop or discontinue the yoga program at any time?

Yes (1)

No (2)

Q70 What is the reason for participants to stop attending yoga sessions? (select all that apply)

Lose interest/enjoyment (1)

Lose privileges (please describe) (2)

Other obligations (please describe) (3)

Other (please describe) (4) _____

Page Break

Q76 Are pre-assessments used to determine individuals needs or goals before participating in a yoga program?

- Yes (1)
- No (2)
- I am unsure (5)

Skip To: goal of yoga program If Are pre-assessments used to determine individuals needs or goals before participating in a yoga p... = No

Q83 What type of assessments are utilized?

- Standardized (please state all standardized assessments used) (1)

- Agency-specific assessment by facility (please describe) (2)

- Other (please specify) (3) _____
- I am unsure (4)

Page Break

Q62 Are goals created for participants engaging in the yoga program?

- Yes (1)
- No (3)
- I am unsure (4)
-

goal of yoga program What are the goals for participants who participate in the yoga program?
(select all that apply)

- Improve overall physical health (1)
- Improve overall mental health (2)
- Improve overall cognitive skills (3)
- Improve social functioning (4)
- Improve spiritual health (6)
- Improve mind and body connection (7)
- Other (please specify) (5) _____
-

Display This Question:

If What are the goals for participants who participate in the yoga program? (select all that apply) = Improve overall physical health

Q35 What physical health outcomes have you targeted/focused on? (select all that apply)

- Increase physical fitness (4)
- To alleviate pain related to disease/disorder (5)
- Decrease hypertension (7)
- Decrease cardiovascular diseases (8)
- Other (please specify) (6) _____

Display This Question:

If What are the goals for participants who participate in the yoga program? (select all that apply) = Improve overall mental health

Q24 What mental health outcomes have you targeted/focused on? (select all that apply)

- Decrease stress symptoms (1)
- Decrease anxiety symptoms (2)
- Decrease depression symptoms (3)
- Increase emotional regulation (4)
- Decrease substance abuse (7)
- Increase positive coping skills (8)
- Decrease PTSD symptoms (9)
- Decrease trauma symptoms (10)
- Other (please specify) (5) _____

Display This Question:

If What are the goals for participants who participate in the yoga program? (select all that apply) = Improve overall cognitive skills

Q47 What cognitive functioning outcomes have you targeted/focused on? (select all that apply)

- Improve attention (1)
- Improve concentration (2)
- Improve academic functioning (5)
- Improve memory (6)
- Other (please specify) (4) _____

Display This Question:

If What are the goals for participants who participate in the yoga program? (select all that apply) = Improve social functioning

Q48 What social outcomes have you targeted/focused on? (select all that apply)

- Increase social interactions (1)
- Increase support systems (2)
- Improve communication skills (either verbal or non-verbal, including gestures and body language) (3)
- Other (please specify) (4) _____

Display This Question:

If What are the goals for participants who participate in the yoga program? (select all that apply) = Improve spiritual health

Q49 What spiritual health outcomes have you targeted/focused on? (please describe)

Q73 What mind-body connection outcomes have you targeted/focused on? (please describe)

Page Break

Q82 Are post-assessments used to determine the results of outcomes of individuals after participating in a yoga program?

- Yes (23)
 - No (25)
 - I am unsure (26)
-

Q85 What type of assessments are utilized?

- Standardized (please state all standardized assessments used) (1)

 - Agency-specific assessment by facility (please describe) (2)

 - Other (please specify) (3) _____
 - I am unsure (4)
-

Page Break

yoga styles What styles of yoga have you implemented at a correctional facility? (Select all that apply)

- Anusara (1)
- Bikram (4)
- Hatha (5)
- iRest Yoga/Nidra (6)
- Iyengar (7)
- Jivamukti (8)
- Kundalini (9)
- Vinyasa (3)
- Yin (2)
- Other (please specify) (13) _____

Page Break

TIY/TSY Do you use a trauma-informed yoga (TIY) approach?

- Yes (26)
- No (27)
- I am unsure (28)

Skip To: Q81 If Do you use a trauma-informed yoga (TIY) approach? = No
Skip To: Q81 If Do you use a trauma-informed yoga (TIY) approach? = I am unsure

Q50 Describe how you implement TIY (please be specific).

Q64 Do all yoga sessions you teach in the facility, use a TIY approach?

- Yes (4)
 - No (5)
-

Q75 What percentage of the yoga classes that you teach, use a TIY approach?

- less than 25% of classes (1)
 - 25%-50% of classes (2)
 - 50-75% of classes (3)
 - over 75% of classes (4)
-

Page Break _____

Q81 Do you use a trauma-sensitive yoga (TSY) approach?

- Yes (1)
- No (2)
- I am unsure (4)

Skip To: physical setting If Do you use a trauma-sensitive yoga (TSY) approach? = No
Skip To: physical setting If Do you use a trauma-sensitive yoga (TSY) approach? = I am unsure

Q51 Describe how you implement TSY (please be specific).

Q66 Do all yoga sessions you teach in the facility use a TSY approach?

- Yes (1)
 - No (2)
-

Q76 What percentage of the yoga classes that you teach, use a TSY approach?

- less than 25% of classes (2)
 - 25%-50% of classes (3)
 - 50%-75% of classes (4)
 - over 75% of classes (5)
-

Page Break

Q72 What are general adaptations (if any) that you make due teaching yoga in a facility? (please describe)

Q67 For a typical yoga session, how many minutes of the session is spent focusing on physical poses/postures?

- Less than 10 minutes (4)
- 10-30 minutes (5)
- 30-45 minutes (6)
- 45-60 minutes (7)
- More than 60 minutes (8)
- Other (please specify) (9) _____

Q68 For a typical yoga session, how many minutes of the session is spent focusing on breathing exercises?

- Less than 10 minutes (1)
- 10-30 minutes (2)
- 30-45 minutes (3)
- 45-60 minutes (4)
- More than 60 minutes (5)
- Other (please specify) (6) _____

Q69 For a typical yoga session, how many minutes of the session is spent focusing on meditation?

- Less than 10 minutes (1)
 - 10-30 minutes (2)
 - 30-45 minutes (3)
 - 45-60 minutes (4)
 - More than 60 minutes (5)
 - Other (please specify) (6) _____
-

physical setting What is the setting that yoga sessions take place in?

- Multipurpose Room/Gym (1)
 - Inmate Cell (2)
 - Cell block (4)
 - Exercise yard/outside (5)
 - Other (please describe) (3) _____
-

per week How many times a week do you teach a yoga program at the facility?

- Once a week (1)
 - Twice a week (2)
 - Three times a week (3)
 - More than four times a week (4)
 - Other (please describe) (5) _____
-

Q52 How long does each session last?

- Less than 30 minutes (1)
 - 30 minutes to 60 minutes (2)
 - 60 minutes to 90 minutes (3)
 - 90 minutes to 120 minutes (4)
 - Over 120 minutes (5)
 - Other (please specify) (6) _____
-

participant setting Are yoga sessions taught in a one-to-one or a group setting? (select all that apply)

- One-to-one (1)
 - Groups (2)
 - Combination of both (4)
-

Q63 Is the yoga program available to participants in solitary confinement (i.e. specialized housing units, SHU)?

- Yes (1)
- No (2)
- I am unsure (3)
- This question does not apply to my facility (4)

Display This Question:

If Are yoga sessions taught in a one-to-one or a group setting? (select all that apply) = Groups

Q72 In yoga group sessions, what is the maximum number of participants allowed?

Q71 Do you use any props in yoga sessions (i.e. mats, blocks, straps, sandbags)?

- Yes (please specify) (4) _____
- No (5)

Page Break

Q17 Are you currently a certified or registered yoga teacher or therapist?

Yes (1)

No (2)

Skip To: Q78 If Are you currently a certified or registered yoga teacher or therapist? = No

credentials What are your yoga credentials? (i.e. CYT, RYT 200, 500, C-IAYT)

Q19 Are you currently involved with any yoga organization (e.g. Yoga Alliance, Prison Yoga Project)

Yes (please specify) (1) _____

No (2)

Q73 Do you have any training in Trauma-Informed Yoga or Trauma-Sensitive Yoga?

Yes (please specify credentials) (5) _____

No (6)

Q78 How long have you been involved with a yoga program in a facility?

- Less than 1 year (1)
- 1-3 years (2)
- 4-7 years (3)
- Over 8 years (4)

Page Break

COVID Has COVID-19 effected the yoga program within the facility?

Yes (24)

No (25)

Skip To: barriers If Has COVID-19 effected the yoga program within the facility? = No

Q86 Please describe the way COVID-19 has effected the yoga program at the facility? (i.e. smaller yoga groups, different location where sessions take place, etc.)

barriers Please describe the barriers to teaching yoga in the facility? (i.e. lack of knowledge, lack of resources, etc.)

Page Break

age What is your age group?

- 18-24 (1)
 - 25-30 (2)
 - 31-40 (3)
 - 41-54 (4)
 - 55-65 (5)
 - 65 and older (6)
-

Q74 What gender do you identify with?

- Male (1)
 - Female (2)
 - Non-binary/third gender (4)
 - Prefer not to say (5)
-

race What race group best describes you? (select all that apply)

- White (1)
- African American (2)
- American Indian or Alaska Native (3)
- Asian (4)
- Native Hawaiian or Pacific Islander (5)
- Other (6)

End of Block: Survey
