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## Mental Health and In-Prison Experiences: Examining Socioeconomic and Sex Differences in the Effect of Mental Illness on Institutional Misconduct and Disciplinary Segregation

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Mental Health and In-Prison Experiences: Examining Socioeconomic and Sex Differences in the  
Effect of Mental Illness on Institutional Misconduct and Disciplinary Segregation

by

Rachel E. Severson

A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy  
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## **DEDICATION**

I dedicate this dissertation to one of my best friends and colleagues, Scott F. Allen. Scott, you were taken from us too soon. I could not have completed this journey without your constant support, friendship, and sense of humor. I miss you dearly and am forever grateful that our paths crossed.

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## ABSTRACT

Mental health problems have become a common occurrence in American correctional settings. This occurrence is not equally distributed in terms of gender; incarcerated women have higher rates of mental illness incarcerated men (Bronson & Berzofsky, 2017; James & Glaze, 2006). This phenomenon is problematic as research suggests that American correctional institutions are ill equipped to treat and manage inmates with mental health problems (Arrigo & Bullock, 2008; Bennion, 2015; Clark, 2018). This is also true in women's prisons as they are often tasked to deal with strict budgetary restrictions and have fewer resources compared to men's prisons (Holsinger, 2014; Stephan, 2008; Toman, 2017).

Untreated mental illness in prison may impact prison order and safety for inmates and staff. Signs and symptoms of mental illness and mental health diagnoses are associated with inmate misconduct (Adams, 1986; James & Glaze, 2006; Reidy, Cihan, & Sorensen, 2017; Steiner et al., 2014; Stewart & Wilton, 2014) and may exacerbate the severity of disciplinary sanctions imposed in response to misconduct (Houser & Belenko, 2015). Untreated symptoms of mental illness (i.e. hallucinations, paranoid ideation) can lead to disruptive behaviors, which may distract correctional officers, increasing risk for further disorder (Galanek, 2015).

To date, research on the impact of mental illness on in-prison experiences largely ignores the role of gender, socioeconomic status, and mental health treatment. This study seeks to address this gap in research by examining the following issues: 1) the extent and nature of the relationship between mental illness, socioeconomic status, and the in-prison experiences of

inmate misconduct and disciplinary segregation, 2) the role of mental health treatment in mediating these relationships, and 3) the role of gender in contextualizing these relationships.

Using the Survey of Inmates in State and Federal Correctional Facilities, 2004 (SISFC; US DOJ, 2004), this dissertation examines the general and gendered effect of mental illness, socioeconomic status, and treatment on misconduct and disciplinary segregation. Analyses are conducted first with misconduct as the dependent variable of interest and then with disciplinary segregation as the outcome of interest. Three stages of analyses are conducted for each dependent variable. First, logistic regression is used to determine the main effects of mental illness and socioeconomic status on each outcome. Second, predicted probabilities and tests of group differences are estimated to determine if an interaction exists between mental illness and socioeconomic status. Third, logistic regression using the KHB method is estimated to determine if mental health treatment mediates the effect of mental illness on the dependent variables. Finally, these steps are repeating using gender-disaggregated models in order to examine if differences in these relationships exist for men and women.

Findings from this dissertation advance research, theory, and policy in correctional settings. First, results suggest that a diagnosis of mental illness is associated with violent misconduct and placement in disciplinary segregation. This may suggest that inmates with mental illness act out more frequently than those without mental illness, or perhaps correctional officers perceive these individuals as more dangerous than those without mental illness. Second, no interaction effect exists between mental illness and socioeconomic status. Several explanations for this finding are possible. It is possible that the effect of mental illness does not vary by socioeconomic status; perhaps the stigma of mental illness and seeking treatment is so pervasive in society that socioeconomic differences do not matter. However, it may also be true

that measures of socioeconomic status used in this dissertation are inadequate; additional measures should be explored in future research. Third, using mental health services consistently mediates the effect of mental illness on misconduct and disciplinary segregation. Here, it may be that providing services is an alternative pathway institutions can use to assist individuals in adjusting to prison life. Finally, gender differences exist in the effect of mental illness on misconduct and disciplinary segregation. Taken together, these findings underscore the importance of examining the influence mental illness and treatment has on inmate behavior and in-prison punishment as well as the need for continued research on the incarcerative experience among women. To conclude the dissertation, a discussion of the findings and implications for theory, research, and policy are provided.

## CHAPTER ONE: INTRODUCTION

Historically, in the United States, mental illness and problems with substance abuse were viewed as public health concerns and individuals suffering from these conditions were treated in the community (Pratt, 2009). However, individuals in these facilities were often housed in deplorable conditions, which led to deinstitutionalization – a shift from psychiatric hospitalization to community-based mental health treatment. This transition was led by John F. Kennedy when he signed the 1963 Community Mental Health Centers Act, which was intended to expand community services, access to medication, and Medicaid services. Flash forward to a few years later, when these programs became defunded and individuals with serious mental illness were left with nowhere to go. As a result, these individuals often end up homeless and cycling in and out of jails and prisons; so much so, that correctional settings are now the largest mental health service provider in the United States (Al-Rousan et al., 2017; Kupers, 2015; Raphael & Stoll, 2013).

This shift in how American society responds to individuals with mental illness is problematic for several reasons, but most notably because the prison system is not conducive to mental health treatment. Simply put, prisons were not designed for treatment. These facilities are often overburdened, understaffed, and lack the appropriate resources to provide adequate care to individuals with mental illness, which can lead to deadly outcomes. One example, outlined in *The Atlantic*, details the case of Karl Taylor, an inmate in a New York State prison diagnosed



with delusional disorder and paranoid personality disorder. Upon being asked to clean his cell, which he had been unwilling to do for weeks at this point, Taylor was involved in a confrontation with guards that would end his life. Taylor insisted that the guards were harassing him; he insisted they would trash his cell and steal his belongings, leaving him to clean up after them. In this particular incident, witness accounts differ as to what happened after Taylor's cell was opened. Guards state that Taylor initiated the altercation by punching one of the officers in the face; inmate witnesses claim the guard initiated this incident. In the end, Taylor was beat in the head with a baton, when he ran away, he was chased and subdued by officers; this is where inmate witnesses state that Taylor exclaimed that he could not breathe. Taylor was handcuffed and carried to the prison clinic, where he was subsequently declared dead (Robbins, 2018).

The case of Karl Taylor is just one of many where individuals with mental illness have fallen through the cracks and ended up in facilities unable to care for them. While this is one of the most extreme cases, it is not as rare as one thinks. For example, the *Virginian Pilot* has compiled a database of 434 cases of individuals with mental illness who have died in American jails (Houp & Harki, 2018). While death is certainly the most negative outcome that individuals with mental illness face during their incarceration, research suggests there are several other negative outcomes that inmates with mental illness may experience more in comparison to those without mental illness. Two of these negative outcomes are engaging in misconduct and the use of disciplinary segregation to punish rule violations. To continue with the example of Karl Taylor, Robbins (2018) found that Taylor had a lengthy disciplinary record in prison, which landed him in solitary confinement or having his sentence lengthened. Although Taylor had multiple documented mental diagnoses, he spent almost half of his incarcerated period – 10 out of 27 years – in solitary confinement.

While the discussion of Karl Taylor provides a real world example of negative outcomes individuals with mental illness face in prison, it is important to note that these individuals are overrepresented in U.S. prisons and jails; rates of mental illness in correctional facilities are higher than that of the general population and state psychiatric hospitals (Karlsson & Zielinski, 2018; Prins, 2014; Skeem, Steadman, & Manchak, 2015). Recent reports suggest that over half of incarcerated individuals show evidence of mental health problems (James & Glaze, 2006; Prins, 2014).

Several problems exist that are associated with the increased number of individuals with mental illness in the prison setting. First, prisons were not designed with the goal of treating those with mental illness; the main organizational foci of these institutions are concerns of safety and order management, leaving less time and resources to focus on goals such as rehabilitation (Adams, 1983; O'Keefe & Schnell, 2007; Slate et al., 2013). Second, correctional institutions are rife with structural constraints such as overcrowding and scarce resources and are therefore ill equipped to effectively treat individuals with mental health problems (Arrigo & Bullock, 2008; Bennion, 2015; Clark, 2018; Lahm, 2016). Third, correctional officers may lack the necessary training to distinguish between the signs and symptoms of untreated mental illness that may lead to misconduct (Houser et al., 2012; Peters, LeVasseur, & Chandler, 2004). Due to the increased volume of inmates with mental health problems and the lack of resources for institutions to effectively deal with these inmates, further examination of mental health in prison is warranted.

While mental illness in correctional settings is a concern to prison administrators, policymakers, and researchers generally, it is not equally distributed in terms of sex; rates of mental illness among women in prison far outweigh those of men. Approximately three-fourths of women and half of men in prison show evidence of mental health problems (Bronson &

Berzofsky, 2017; James & Glaze, 2006). Research suggests that women have unique pathways to offending and prison that is rooted in their increased experiences with victimization, substance use/abuse, and mental illness in comparison to men (Belknap & Holsinger, 2006; Bloom, Owen, & Covington, 2003; Karlsson & Zielinski, 2018; Lynch et al., 2017; Salisbury & van Voorhis, 2009). In a qualitative study, conducted in an English women's prison, Caulfield (2016) found that women do, in fact, have heightened rates of victimization, substance abuse, and mental illness prior to entering prison and that the prison environment exacerbated mental illness that existed prior to imprisonment as well as contributed to mental illness among women who did not report prior mental health problems.

There is also reason to suspect that individuals from lower socioeconomic statuses (SES) are disproportionately impacted by mental illness. These individuals experience unique strains from their environment that may uniquely impact mental health (e.g. job insecurity, unemployment, low income; APA, 2020) and less access to community-based treatment (McCorkle, 1995). Therefore, these individuals may be more likely to suffer from untreated mental illness and less likely to receive treatment in the community (Cockerham, 1992; McCorkle, 1995; McLoyd, 1998). This is important to consider in the correctional setting considering the high number of individuals in prison that come from impoverished backgrounds (Reiman & Leighton, 2013).

While we know that mental illness is associated with negative outcomes in prison, less is known about positive outcomes, particularly the effect engaging in mental health treatment has on these negative outcomes. A burgeoning body of literature focuses on who uses services in prison; generally studies find that those who are White, women, and severely disabled by their illness are most likely to use services behind bars (Steadman et al., 1991), but less research

examines how these services may influence the relationship between mental illness, inmate adjustment, and prison discipline. Thus, there is reason to explore the effect treatment may have on these outcomes; perhaps, for example, if treatment is determined to be a protective factor against inmate violence, linkage to treatment could prevent outcomes such as that of Karl Taylor's.

The high prevalence of mental illness in prison has direct implications for prison order and safety, yet research on the nature and extent of this relationship is limited. Existing research is not comprehensive as it ignores sex, socioeconomic status, and mental health treatment in examining the in-prison experience (i.e., the deprivations individuals experience during imprisonment, behavioral adjustment patterns to the prison setting, programming and treatment provided, and punishments incurred due to misbehavior). The goal of this dissertation is to add to the body of literature by answering the following research question: How does a diagnosis of mental illness and engagement in mental health treatment impact the likelihood of misconduct and disciplinary segregation?

Analyses for this dissertation are informed by several theoretical perspectives including general strain theory (GST), the feminist pathways perspective, the importation and deprivation perspectives, focal concerns theory, the evil woman hypothesis and the chivalry hypothesis.

These theories provide justification for the examination of the following relationships:

1. The effect of mental illness on misconduct and disciplinary segregation;
2. The moderating effect socioeconomic status has on the relationships between mental illness, misconduct, and disciplinary segregation;
3. The mediating effect mental health service use has on the relationships between mental illness, misconduct and disciplinary segregation;

4. The moderating effect sex has on the relationship between mental illness, misconduct, and disciplinary segregation; and
5. The moderating effect sex has on the mediating relationship between mental illness, mental health service use, misconduct, and disciplinary segregation.

### **Overview of the Chapters**

The following chapters outline the relevant literature, theoretical framework, and methodology for the proposed study in greater detail. Chapter 2 reviews the literature on mental illness, mental health service use, sex, socioeconomic status in prisons. This is followed by a discussion of general strain theory the pathways perspective to provide a theoretical foundation for the subsequent analyses.

Chapter 3 reviews literature of inmate behavior and institutional responses to this behavior. Specifically, the in-prison experiences of institutional misconduct and disciplinary segregation and potential sex and socioeconomic differences are discussed. This is followed by a discussion of the importation and deprivation theories of inmate behavior and the focal concerns and feminist perspectives on female sentencing patterns as they relate to in-prison sentencing.

Chapter 4 reviews the proposed methodology for the current study. This section begins with a description of the hypotheses to be tested, followed by a description of the data and sample. Next, a detailed description of the measures to be used in this study is provided. The chapter concludes with a detailed discussion of the analytic plan for the current dissertation. Results will be presented in Chapter 5. The chapter begins with a discussion of the descriptive statistics followed by model fit statistics. Next, results exploring the general effect of mental illness, socioeconomic status, and mental health treatment on violent misconduct and subsequent disciplinary segregation are presented. Finally, the chapter presents results of sex differences in

the effects of mental illness, socioeconomic status, and mental health treatment on misconduct and segregation.

Finally, Chapter 6 discusses the results of this dissertation. First, a discussion of the findings in relation to inmate adjustment and institutional misconduct are presented, followed by a discussion of findings relevant to disciplinary segregation as an institutional response to misconduct. Next, relevant findings that involve mental health services use are discussed. Finally, the chapter concludes with a discussion of data implications and limitations.

**CHAPTER TWO:**  
**MENTAL ILLNESS, GENDER, AND SOCIOECONOMIC STATUS IN**  
**CORRECTIONAL SETTINGS**

In recent years, scholarship has identified a disproportionate growth of women and individuals with mental illness in incarcerated populations (Al-Rousan et al., 2017; Bronson & Berzofsky, 2017; James & Glaze, 2006; NIMH, 2017). Specifically, women's incarceration rates in state prisons has increased from 9.5 per 100,000 women in 1980 to 57.1 per 100,000 women in 2015 (Sawyer, 2018). Similarly, the percentage of inmates with serious mental illness (SMI) grew from 0.7% in 1880 to 21% in 2005 (The Center for Prisoner Health and Human Rights, 2020). Moreover, recent estimates suggest that over half of the incarcerated population has a recent history of mental health problems or exhibit symptoms of mental illness (James & Glaze, 2006; Prins, 2014).

The high prevalence of mental illness in prison has direct implications for prison order and safety, yet research on the nature and extent of this relationship is limited. Existing research is not comprehensive as it ignores gender, socioeconomic status, and mental health treatment in examining the relationship between mental illness and in-prison experiences. The goal of this dissertation is to add to the body of literature by addressing these relationships, to inform policies and practices concerning these topics, and increase prison order and safety for inmates and staff. This chapter begins with a review of the literature regarding mental illness, mental health

treatment, gender, and socioeconomic status in correctional settings. This is followed by a brief overview of two theories of offending that will be used as the theoretical framework for this chapter: general strain theory and the pathways perspective.

## **Literature Review**

### **Defining Mental Illness**

According to the American Psychiatric Association's (2000, p.xxxi) *Diagnostic and Statistical Manual of Mental Disorders*, mental disorders<sup>1</sup> are defined as

A clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress (e.g., a painful symptom) or disability (i.e., impairment in one or more important areas of functioning) or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom.

This pattern or syndrome must be a dysfunction in the individual and not considered an acceptable response to a particular event (e.g., death of a loved one), deviant behavior, or conflict between an individual and society that is not a result of dysfunction. This definition of mental disorder will be used throughout this dissertation.

Mental illnesses impact individuals in many ways including the way one thinks, feels, functions, and relates to others (National Alliance on Mental Illness [NAMI], 2018). However, mental illnesses vary in levels of impact on an individual ranging from no impairment to severe impairment (National Institute of Mental Health [NIMH], 2017). Individuals with serious mental illness (SMI) are those who experience severe impairment as a result of mental disorder. Severe impairment impacts an individual's ability to function in one or more major life activities.

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<sup>1</sup> The terms "Mental illness," "Mental disorder," and "Mental health problems" will be used interchangeably throughout this dissertation.



Diagnoses that often fall under the category of SMI include schizophrenia and other disorders with psychotic features, bipolar disorder, and major depressive disorder (Lynch et al., 2017; Mental Illness Policy Org., n.d.; NIMH, 2017; Slate, Buffington-Vollum, & Johnson, 2013).

Recent estimates suggest that 18.3% of adults in America have a diagnosable mental illness, with 4.2% of adults having a serious mental illness. General mental illness and serious mental illness are more prevalent among women (21.7% and 5.3%, respectively) than men (14.5% and 3.0%, respectively), and are also more prevalent among individuals between the ages 18 and 25 in comparison to those aged 26 or older (NIMH, 2017). Surprisingly, less than half of individuals with mental illness undergo mental health treatment. For example, in 2016, 48.8% of women, 33.9% of men, and 35.1% of those aged 18-25 years old with any mental illness received treatment. However, over half of those with SMI went through treatment in 2016; when broken down by age and gender, over half of each subgroup engaged in treatment (NIMH, 2017).

Research shows that individuals from lower socioeconomic statuses (SES) have higher rates of mental illness than those of higher SES (Cockerham, 1992; McCorkle, 1995). Indeed, studies find a cyclical link between poverty and mental illness, where poverty may be both the cause and the result of mental illness (Langner & Michael, 1963; Murali & Oyebode, 2004). Moreover, research suggests that impoverished individuals with mental illness are less likely to have access and receive treatment in the community, and instead are more likely to first come into contact with mental health services in the criminal justice system (McCorkle, 1995). This is not surprising as mental health services in the community are often overburdened and overwhelmed, leading to a lack of treatment for many individuals with mental illness; these individuals may be denied services or refuse treatment. Thus, individuals with mental illness often come into contact with the criminal justice system and are incarcerated due to public

displays of symptoms of untreated mental illness (Council of State Governments et al., 2002). As a result, individuals with mental illness are roughly twice as likely to be arrested as those without mental illness for similar offenses (Moore & Hiday, 2006; Teplin, 1984), yet offenders with mental illness are more likely to be incarcerated for low-level or minor crimes (Council of State Governments, 2002; Ostermann & Matejkowski, 2013). These findings are supported by recent research that suggests that offenders with mental illness are more likely to be arrested for misdemeanors in comparison to felonies following their release from prison or jail (Constantine et al., 2010; Lovell et al., 2002).

Although access to services is a pertinent explanation for the disproportionate contact with the criminal justice system among those who suffer from mental illness in disadvantaged communities, individuals with mental illness overall, have disproportionately high contact with the criminal justice system. Several explanations for this occurrence have been introduced into criminological literature. Some research suggests individuals with mental illness have a modest, but increased risk of criminality (Elbogen & Johnson, 2009; Hodgins & Janson, 2002; Martin, Dorken, Wamboldt, & Wootten, 2012), while others find that this increased risk of criminality is a result of other well-known risk factors such as substance use, negative peer associations, and lack of family support (Bonta, Law, & Hanson, 1998; Elbogen & Johnson, 2009; Hiday, 2006; Martin et al., 2012; Ostermann & Matejkowski, 2013; Skeem, Encandela, & Eno Loudon, 2003; Skeem & Loudon, 2006).

Due to the increased contact with the criminal justice system, the incarceration rate of individuals with mental illness exceeds that of the general population as well as the population of state mental hospitals (Al-Rousan, Rubenstein, Sieleni, Deol, & Wallace, 2017; Karlsson & Zielinski, 2018; Prins, 2014; Torrey, Kennard, Eslinger, Lamb, & Pavle, 2010). The next section

will provide an overview of mental illness in correctional settings, including a discussion of factors that contributed to increased rates of mental illness in prison, challenges associated with the increased rates of mental illness in prison, and gender and class differences in mental health in these settings.

### **Mental Illness in Correctional Settings**

Over the past several decades, the American correctional system has rapidly expanded, which has led to large prison populations that present management and order problems (Bottoms, 1999; Gendreau et al., 1997; Toch et al., 1989). Moreover, mass incarceration has led to the growth of particularly at-risk populations within the prison setting (Toman et al., 2018). One of these at-risk inmate groups that has shown substantial growth in recent decades are individuals with mental illness (Adams, 1983; Adams & Ferrandino, 2008; Al-Rousan et al., 2017; Bronson & Berzofsky, 2017; Fellner, 2006; James & Glaze, 2006; Lamb & Bachrach, 2001; McCorkle, 1995; Prins, 2014; Raphael & Stoll, 2013).

Recent estimates suggest that approximately one-fourth of state prisoners report a recent history and roughly half of state prisoners report symptoms of mental illness (James & Glaze, 2006). Moreover, the number of individuals with mental illness are overrepresented in the correctional setting in comparison to the general population as well as the population of state mental hospitals (Al-Rousan et al., 2017; Karlsson & Zielinski, 2018; Prins, 2014; Torrey et al., 2010). Thus, researchers have argued that correctional institutions have become the largest mental health service provider in the United States (Adams & Ferrandino, 2008; Al-Rousan et al., 2017; Clark, 2018).

**Factors contributing to the growth of the population of incarcerated individuals with mental illness.** Many causes of the increased number of individuals with mental illness in

correctional settings have been proposed in the literature. Beginning in the 1950s a series of changes in mental health treatment and policies led to what has been coined as deinstitutionalization. The introduction of medications for psychotic symptoms as well as the establishment of Medicare and Medicaid programs contributed to this phenomenon. However, The Community Mental Health Centers Act of 1963 led to the large-scale downsizing or closing of state and Veterans Affairs psychiatric facilities across the United States in an effort to provide community based mental health care for individuals with mental health problems. As a result of these changes, the population in state mental hospitals decreased by approximately 500,000 individuals (Kupers, 2015; Raphael & Stoll, 2013; Slate et al., 2013). While deinstitutionalization was implemented with the goal of increasing community mental health treatment, these same community services were subject to continuous budget cuts over time and by the 1990s were incapable of sufficiently providing services to those in need (Kupers, 2015). In investigating the role of deinstitutionalization in the growth of the U.S. prison population, Raphael and Stoll (2013) found that this process contributed between four and seven percent of the growth in the incarcerated population between 1980 and 2000. Additionally, their results suggest that a large proportion of individuals were incarcerated who in prior years would have been treated in mental health facilities (14-26% in year 2000).

Stricter sentencing practices have also been proposed as a significant factor in increasing the population of individuals with mental illness in incarcerated populations. According to Pratt (2009), an inverse relationship exists between a society's emphasis on social support and its emphasis on social control; in recent years, the United States has emphasized social control, while simultaneously devaluing responsibilities of the state that are related to social support such as education and public health. The relevance of this issue to this dissertation lies in the area of

public health. In the past several decades, the U.S. has seen a shift away from the rehabilitative ideal of corrections in favor of a punitive philosophy known as the “get tough” era which among other consequences has resulted in stricter sentencing practices (Garland, 2001; Pratt, 2009). Prior to the “get tough” era, mental health and substance abuse problems were generally viewed by society as public health issues to be treated in the community. With the shift in paradigm towards punitive correctional policy came decreased funding for mental and public health agencies, leaving correctional institutions as the key solution to these problems in society (Pratt, 2009).

Research suggests, too, that the increased prevalence of individuals with mental health problems in prison may be the result of a backlog effect where those with mental illness are not released as quickly as those without mental illness (Slate et al., 2013). Indeed, research indicates that inmates with mental disorders have longer lengths of stay in comparison to their counterparts in the general population without mental illness (Council of State Governments et al., 2002). Longer lengths of stay among inmates with mental health problems is largely due to issues with overcrowding, staffing, and a lack of adequate resources to effectively treat this population. By staying longer in an environment ill-equipped to treat mental illness, these individuals may further decompensate from untreated symptoms of mental illness, which in turn, impacts an inmate’s ability to comprehend and abide by prison rules (Adams, 1983; Council of State Governments et al., 2002; Slate et al., 2013). This decreased capacity to understand and comply with prison rules leads to unique challenges institutions must face when dealing with this special population.

#### **Challenges associated with the increase of individuals with mental illness in prison.**

Offenders with mental illness experience a wide range of symptoms including, but not limited to

hallucinations, delusions, and erratic moods. As a result of these symptoms, these individuals may have difficulty understanding and/or following prison rules and may engage in abnormal behaviors (Adams, 1983; Slate et al., 2013). Inmates with mental illness have an increased incidence of disciplinary infractions, victimization, self-injurious behaviors, as well as suicidal ideation/attempts, all of which provide unique management issues in the correctional setting (Adams, 1986; Applebaum et al., 2011; Baillargeon et al., 2009; Ball, 2007; Blitz, Wolff, & Shi, 2008; Council of State Governments et al., 2002; Felson et al., 2012; Hayes, 2007; Herpertz, 2007; James & Glaze, 2006; Slate et al., 2013; Toch & Adams, 2002). For example, increased incidence of self-injurious behaviors and suicidal ideation may require intensive supervision of these inmates in a setting where correctional officers are already understaffed.

As a result of these behaviors, correctional officers (COs) may experience unique management problems due to a lack of effective training and resources for dealing with mentally ill inmates (Council of State Governments et al., 2002; Rich, 2009; Slate et al., 2013). Without thorough training, CO's may have difficulty distinguishing between rule violations as an act of defiance and behaviors that result from mental illness (Rich, 2009; Toch & Adams, 2002). This is problematic as COs are responsible for identifying when an inmate is in need of services such as mental health care, protective custody, or a change of cell (Slate et al., 2013). Moreover, when inmates who are suffering from mental illness are not identified and act out as a result of their symptoms, they may be punished accordingly, which may not correct their behavior and could potentially worsen their condition (Haney, 2003).

Without effective recognition of mental health problems and initiation of treatment, inmates may decompensate and become more disruptive over time, which can harm both the inmates and the operations of the institution itself (Council of State Governments et al., 2002;

Dvoskin & Spiers, 2004). Inadequate training for CO's, coupled with the inadequate staffing, high turnover, and burnout that is common among mental health professionals in these settings, can lead to serious issues for inmates with mental health problems; they often do not receive treatment, are viewed as disciplinary problems, or are accused of malingering (faking illness for personal gain; Slate et al., 2013). These issues carry consequences for both inmates and prison order. Untreated mental illness can lead to disruption (Adams, 1983; Slate et al., 2013), producing strain in the social environment, which in turn affects the adjustment of other inmates and the goals of the institutions in which they are housed.

In addition to the challenges to management of offenders, and training for CO's, there are many challenges involving treatment for individuals with mental disorders. First, prisons were not designed for treatment of individuals with mental illness (Rothman, 1971; Slate et al., 2013). Second, prisons often lack the resources to provide adequate treatment for this population of offenders (Fellner, 2006). Due to these limited resources, the goals of correctional institutions for treating offenders with mental illness are also fairly limited, focusing on the mere stabilization of individual so they can be housed in the general population (Human Rights Watch, 2003; Slate et al., 2013). Finally, mental health systems in correctional institutions are often understaffed and lack the resources to effectively screen, diagnose, and track prisoners with mental illness (Human Rights Watch, 2003). These challenges are particularly salient in the era of mass incarceration. The widespread expansion of the American correctional system compounds these challenges, making proper treatment for mental health harder during a time that the population of inmates with mental illness is also growing (Al-Rousan et al., 2017; Bronson & Berzofsky, 2017; James & Glaze, 2006; NIMH, 2017). Due to these challenges associated with treatment for this population of inmates, concerns arise regarding the impact on the prison environment as well as

the impact on communities after the eventual release of many of these inmates (Slate et al., 2013).

In addition to these consequences, women's prisons may be uniquely impacted by high rates of mental illness; many programs in women's prisons are traditionally geared toward men and do not take into consideration the unique needs of incarcerated women such as their roles as care-givers, extensive histories of victimization, and high rates of mental illness and/or substance use disorders (Holsinger, 2014). Due to these factors, prisons must address specific challenges related to management, training, and treatment for individuals with mental illness. While an abundance of research has explored the prevalence and challenges of mental illness in the correctional setting, fewer empirical studies have explored the role of socioeconomic status and gender in the context mental health and the prison experience.

This oversight is problematic for at least 4 key reasons. First, research suggests that prison experiences are different for men and women (Holsinger, 2014; Toman, 2017a). Second, individuals from low SES communities are more likely to have mental illness and less likely to receive treatment in the community (Cockerham, 1992; McCorkle, 1995). Third, higher rates of mental illness exist among incarcerated women (Belknap & Holsinger, 2006; Bronson & Berzofsky, 2017; James & Glaze, 2006; Houser & Belenko, 2015; Houser et al., 2012). Finally, empirical evidence suggests that due to budgetary restrictions and fewer resources, women's prisons may be less equipped than men's prisons to provide adequate services to those with mental illness (Holsinger, 2014; Lahm, 2016; McCorkle, 1995; Stephan, 2008; Toman, 2017a). The next section of this chapter will provide a brief overview of the literature concerning women, mental health, and prison.



**Prison, mental illness, and gender.** In the era of mass incarceration, correctional institutions have seen a rise in the population of incarcerated women. Indeed, incarcerated women are the fastest-growing facet of the American incarcerated population, with a seven-fold increase in the number of women in prison between 1980 and 2014 (Holsinger, 2014; Sawyer, 2018; Severson, Berry, & Postmus, 2007; The Sentencing Project, 2015). The number of women in American prisons has grown at over double the pace of men since the late 1970's (Sawyer, 2018). Moreover, the occurrence of mental illness in incarcerated populations is not equally distributed in terms of gender as incarcerated women experience mental health problems at rates higher than their male counterparts (Al-Rousan et al., 2017; Bronson & Berzofsky, 2017; James & Glaze, 2006). Particularly, women are more likely than men to experience depression, anxiety, eating disorders, and post-traumatic stress disorder in the general population (World Health Organization [WHO], 2018), in jail (Drapalski, Youman, Stuewig, & Tangney, 2009), and in prison (Zlotnick et al., 2008).

While research has suggested there has been a substantial increase in the number of women in prison as well as the high rates of mental illness among this population, the extant literature largely ignores the role gender plays in prison life (Gover et al., 2008; Holsinger, 2014; Pollock, 2002; Salisbury, van Voorhis, & Spiropoulos, 2009; Stohr, Jonson, & Lux, 2015; Toman, 2017a). This lack of attention to gender in correctional research is problematic for three reasons. First, research suggests that gender-specific risk factors (e.g. high rates of sexual victimization) may be a unique pathway to prison for women (Karlsson & Zielinski, 2018; Lynch et al., 2017; Salisbury & van Voorhis, 2009). Second, the incarcerative experiences of men and women are qualitatively different (Holsinger, 2014; Toman, 2017a). Third, responses to and treatment for individuals with mental illness vary across men and women's prisons (Adams,

1992; Faith, 1993; Holsinger, 2014; Lahm, 2016). Thus, gender differences may emerge in the way mental illness impacts the prison experience.

In exploring prison life, researchers have identified distinct pathways to offending and incarceration that are unique to women (Belknap & Holsinger, 2006; Bloom, Owen, & Covington, 2003; Karlsson & Zielinski, 2018; Lynch et al., 2017; Salisbury & van Voorhis, 2009). Histories of abuse, mental illness, substance abuse, homelessness, relationships, as well as economic and social marginalization in this population have all been identified in pathways research as factors that contribute to female offending (Belknap, 2001; Bloom, 1998; Bloom et al., 2003; Chesney-Lind, 1997; Covington, 1998; Covington, 1999; North & Smith, 1993; Pollock, 1999). The pathways perspective is discussed in more detail in the theoretical framework section of this chapter.

Research suggests, too, that the experiences of men and women are qualitatively different both before and during incarceration (Holsinger, 2014). Just as there are unique pathways to prison for women (Belknap & Holsinger, 2006; Bloom, Owen, & Covington, 2003; Karlsson & Zielinski, 2018; Lynch et al., 2017; Salisbury & van Voorhis, 2009), there are also gender-specific factors that impact how women do time in prison (Holsinger, 2014). Incarcerated women are often young, heads of households, with young children. They also may be care-givers to elderly and sick members of their families and the impact of their incarceration often extends to the individuals they care for (Holsinger, 2014). Moreover, women's identities, their pre-prison experiences, and the structure of the institution have all been identified as factors impacting the prison experience (Holsinger, 2014; Kruttschnitt & Gartner, 2003; Owen 1998). Women are more likely to blame themselves and fail to recognize social and structural factors that contribute to their problems and offending patterns (Holsinger, 2014); this may lead to increased incidence

of depressive symptoms in incarcerated women as they are more likely to turn inward and blame themselves (APA, 2017). Finally, gender differences have been revealed in patterns of misconduct. Women are less likely than men to be written up for serious infractions but are more likely than men to be written up for individual expressions of opposition towards correctional staff (Wright et al., 2007). Predictors of misconduct identified as being unique to women include being young, non-White, perceiving staff to be less caring, having less education and a shorter sentence length (Gover, Perez, & Jennings, 2008; Holsinger, 2014). These unique experiences have the potential to influence the incarcerative experience through individual adjustment to prison life as well as institutional responses to the unique needs of incarcerated women (Adams & Ferrandino, 2008; Holsinger, 2014; Houser et al., 2012).

Prison structure and resources differ between men and women's prisons; fewer facilities exist to house incarcerated women and these facilities often have fewer resources than male facilities (Adams, 1992; Faith, 1993; Holsinger, 2014; Lahm, 2016; Marcus-Mendoza & Wright, 2003). Moreover, incarcerated women are often housed greater distances from family and friends, are more likely to be separated from young children, and experience lengthier waiting lists for programming within prisons, all of which have potential to impact adjustment to prison as well as re-entry into the community following release from prison (Arditti & Few, 2006; Glaze & Maruschak, 2008; Lahm, 2016; Tasca, Turanovic, White, & Rodriguez, 2014). These gender differences have the potential to influence prison life, particularly misconduct patterns, institutional responses to misconduct, and mental health service utilization within prison.

Although researchers have identified gender-specific risk factors that may lead to incarceration as well as impact adjustment to prison life, many of the empirical studies exploring these factors are limited to male samples (Gover et al., 2008; Toman, 2017a). Moreover, those

studies that assess gender differences and mental health in correctional populations are largely limited to juveniles, jail inmates, and focus on substance use/abuse instead of a broader consideration of mental illness (Binswanger et al., 2010; Drapalski, Youman, Stuewig, & Tangney, 2009; Dembo, Williams, & Schmeidler, 1993; Lindquist & Lindquist, 1997; Peters, Strozier, Murrin, & Kearns, 1997; Teplin, 1990). This inattention to the role gender and mental health play in the prison experience leads to unanswered questions surrounding gender, mental health, and treatment in the correctional setting.

While recent research has begun to explore gender differences in the prison setting, less research examines the role of socioeconomic status, mental illness, and gender in these settings. While literature suggests that SES and mental illness are correlated, less is known about how this relationship may differ across gender. However, research on the feminization of poverty suggests that gender inequalities that exist in the experience of poverty may influence the in-prison experience.

Since the 1970's, scholars have noted that poverty has become "feminized" in the United States. Pearce (1978), notes that the economic status of women declined from the mid-1950's to the mid-1970's and that almost two-thirds of impoverished individuals above the age of 16 were women. This phenomenon continues to persist throughout the world; according to the United Nations Development Programme ([UNDP] 2018), over 700 million people live in poverty, with women being more likely than men to live in poverty (Bradshaw, Chant, & Linneker, 2017; UNDP, 2018). As a result, the feminization of poverty been applied as a framework through which to discuss gender inequalities surrounding poverty around the globe (Bradshaw et al., 2017).

The gender inequalities that exist in poverty may be important to consider in the prison context as economic marginalization may influence outcomes such as misconduct and disciplinary segregation. Moreover, there is reason to suggest these relationships may be conditioned by gender. Furthermore, mental illness is important to consider in this context as prevalence estimates in both the general and incarcerated populations reveal higher rates of mental illness among women; these findings coupled with the relationship between mental illness and poverty suggest that the interaction between poverty and mental illness may uniquely impact incarcerated women. The next section reviews literature surrounding mental health treatment in the prison setting.

### **Mental Health Service Utilization in Prison**

Considering the increasing number of individuals with mental illness in America's prison system, questions surrounding mental health service utilization in prison have come to the forefront in the criminological, psychological, and social work literature. Recent estimates suggest that nearly half of all inmates with serious psychiatric disorders do not receive mental health care in prison. The populations most likely to seek mental health services are women and White inmates (Morgan, Steffan, Shaw, & Wilson, 2007; Steadman, Holohean, & Dvoskin, 1991). While researchers have begun to explore the needs for services and the patterns of service utilization in the extant literature, little research has addressed how mental health service utilization in prison may impact inmate behavior and institutional responses to this behavior. Moreover, even less research has explored the role of socioeconomic status and gender in this context. This section of the dissertation will provide an overview of the current status of mental health services in prison as well as reasons to expect socioeconomic and gender differences in the utilization of mental health services.

**Current state of mental health services in prison.** Prior to the “get tough” movement and the era of mass incarceration, mental health and substance abuse problems were viewed as public health issues to be treated in the community (Pratt, 2009). Rising populations of individuals with mental illness in correctional populations and a decrease in funding for mental and public health services in the community have led to correctional institutions becoming the largest mental health provider in the United States (Adams & Ferrandino, 2008; Al-Rousan et al., 2017; Clark, 2018; Pratt, 2009). Research suggests that during incarceration, 15% to 20% of the incarcerated population will require psychiatric treatment (Metzner, Cohen, Grossman, & Wettstein, 1998). Results from the most recent prison census, collected in 2000, indicate that the majority of state prisons have policies regarding mental health services. For example, policies for screening at intake, psychiatric assessments, therapy/counseling, distribution of medications, helping inmates obtain community mental health services, and 24-hour mental health care exist among the majority of prisons (Beck & Maruschak, 2001). While existence of these policies appears promising, the implementation of these policies often falls short as adequate and appropriate services are not widely available to inmates. Moreover, few procedures exist to monitor and ensure that adequate and quality treatment is being provided (Human Rights Watch, 2003).

Despite the high rate of incarcerated individuals with mental illness, it is unsurprising that correctional institutions are unable to provide quality mental health care. Simply put, correctional settings are not conducive to the therapeutic relationship and the goals of these facilities are often in direct opposition to the goals of mental health treatment (Adams, 1983; Cullen & Gilbert, 2013; Rothman, 1972). Many structural barriers exist that prevent adequate mental health treatment in prison, including understaffing, limited mental health budgets, lack of

confidentiality, poor screening and tracking of prisoners with mental health problems, and concerns surrounding the distribution of medications (Gonçalves et al., 2017; Human Rights Watch, 2003; Kupers, 2005). These structural barriers also contribute to long waiting lists for services as many facilities are lacking in mental health professionals willing to work in these settings (Human Rights Watch, 2003; Slate et al., 2013).

Barriers to treatment are especially pronounced in women's prisons (Sharp, 2003); access to health care, including mental health treatment, is particularly limited in these facilities (Belknap, 2001; Belknap, 2003; Holtfreter & Morash, 2003; Pollock, 2002). The programming offered in these facilities were often developed for incarcerated men and does not account for the unique needs of incarcerated women (Belknap, 2003; Holsinger, 2014; Holtfreter & Morash, 2003; Sharp, 2003). Specifically, programming, including mental health treatment, in prisons has largely ignored gender-specific needs such as histories of trauma and high rates of mental illness (Belknap, 2003; Holsinger, 2014; Sharp, 2003). Women may benefit from services that acknowledge their unique experiences prior to prison, allowing for better adjustment and a safer environment behind bars (Wright et al., 2012). This is particularly alarming as research suggests that women have higher rates of mental illness and are more likely than men to engage in mental health treatment (NIMH, 2018).

**Who uses mental health services in prison?** Research suggests that roughly 20% of inmates with mental health problems do not receive mental health services (Morgan et al., 2007; Steadman et al., 1991). Research has also explored service utilization patterns by type of mental health service offered. Gonzalez and Connell (2014) explored medication use and continuity among incarcerated populations, finding that 18% of inmates in both federal and state prisons use psychotropic medications to treat their mental illness. However, federal inmates have higher

rates of medication continuity in prison than their state inmate counterparts (52% and 42%, respectively). Moreover, inmates with schizophrenia are more likely than those with depression to continue using medication and those with the most severe mental health conditions are most likely to use medication to treat mental illness both before and during incarceration. When turning to counseling as the modality of treatment, the authors find that federal inmates are more likely than state inmates to use counseling services (Gonzalez & Connell, 2014).

Individual patterns of service utilization have been explored in addition to patterns of type of treatment modality. Steadman and colleagues (1991) report that service utilization patterns differ by sex, race, and disability status. Specifically, inmates who are women, White, and most severely disabled by a mental health or physical condition are most likely to receive mental health services. This finding highlights the importance of gender in exploring service utilization patterns as scholars note that limited research has been conducted on women's mental health and substance use service utilization (Metzner et al., 1998; Staton, Leukefeld, & Webster, 2003), yet women are more likely than men to engage in service utilization both in incarcerated populations (Goldkuhle, 1999; Morgan et al., 2007; Steadman et al., 1991) and the general population (NIMH, 2018).

While service utilization in incarcerated populations has been explored in terms of prevalence (Gonzalez, 2014) and individual-level patterns (Steadman et al., 1999), rarely has research explored the role of engaging in mental health treatment on the in-prison experiences of misconduct and disciplinary segregation. This is problematic for three key reasons. First, the extant literature suggests that prisons are overburdened with inmates with mental illness and lack appropriate institutional responses (Al-Rousan et al., 2017; Fellner, 2006; Lahm, 2016). Second, this lack of appropriate responses is likely detrimental to the mental health of these inmates,



which may lead to disruption in the prison milieu. Indeed, untreated mental illness has been linked to disruption and misconduct patterns in prisons (Applebaum et al., 2011; Baillargeon et al., 2009; Felson et al., 2012). Finally, the coupling of untreated mental illness and increased risk of misconduct may lead to an increased likelihood of disciplinary segregation among inmates with mental illness. The harmful effects associated with segregation practices in prison may lead to the development or exacerbation of preexisting mental illness among this population (Council of State Governments, 2002; Human Rights Watch, 2003), yet little is known how mental health treatment impacts these experiences. To this end, this dissertation will explore the role of mental health treatment in contextualizing the relationships between mental health, misconduct, and disciplinary segregation. The role of socioeconomic status and gender will also be examined in this context. This next section reviews the theoretical framework that is applied to understand the incarcerative experience of mentally ill inmates.

### **Theoretical Framework**

In order to explore how mental illness may affect the prison experience, this dissertation draws on two criminological theories. General strain theory is used to explore how mental illness may influence individuals' reactions to the strains they experience in prison and how gender and socioeconomic status may operate in this context. In addition, traditional criminological theories have been criticized for a lack of addressing female issues by simply "adding women and stirring" (Chesney-Lind, 1988). To ameliorate this concern feminist criminologists advise that theories should explain women's experiences rather than controlling for sex as a variable. This dissertation also draws on the feminist pathways perspective to further explore how the pre-prison experiences of women may uniquely contribute to the prison experience.

## **General Strain Theory**

Historically, strain theories explain crime and delinquency as a means for coping with an inability to achieve positively-valued goals (Agnew, 1992; Morris, Carriaga, Diamond, Piquero, & Piquero, 2012). Agnew (1985, 1992) developed general strain theory (GST) by expanding upon classic strain theories (Cloward & Ohlin, 1960; Cohen, 1955; Merton, 1938) to include two new sources of strain: the loss of positively-valued stimuli (e.g. loss of property or romantic partners) and the presentation of negatively-valued or aversive stimuli (e.g. verbal or physical abuse). Agnew (1992) argued individuals may cope with strain through engaging in criminal or delinquent behavior. For example, individuals may steal as a means to achieve blocked goals; they may use crime as a mechanism to seek revenge, such as assaulting an abuser; or they may engage in criminal or delinquent behavior (e.g. drug use) as a means to alleviate negative emotions stemming from strains (Agnew, 2009).

According to Agnew (1992, 2009) three factors impact whether or not an individual will turn to crime to cope with strain: the ability to engage in legal versus illegal coping mechanisms, the perceptions of the costs of crime, and an individual's disposition towards crime. These three factors are influenced by several other factors such as coping skills, social support, social control, delinquent peers, and exposure to situations that are conducive to crime. In 2001, Agnew expanded his theory to specify that an individual's reaction to strain is both a function of individual characteristics as well as characteristics of the strain that the individual is experiencing. Strains likely cause crime when seen as unjust, high in magnitude, associated with low social control, and create pressure to engage in criminal coping (Agnew, 2001, 2009).

**General strain and corrections.** Recently, GST has been applied to the prison experience (Blevins, Listwan, Cullen, & Jonson, 2010; Listwan, Sullivan, Agnew, Cullen &

Colvin, 2011; Morris et al., 2012). For example, Blevins and colleagues (2010) used GST as a framework to integrate three popular correctional theories of inmate behavior: the deprivation model (Sykes, 1958), the importation model (Irwin & Cressey, 1962), and the coping model (Toch, 1977). The authors argued that GST is consistent with all three models of inmate behavior. First, GST and the deprivation model both identify categories of strain that impact the lives of inmates; the five “pains of imprisonment” identified by Sykes (1958) are strains in and of themselves that inmates must deal with in their day-to-day life. Second, GST and the importation model both acknowledge that antisocial values that inmates bring into prison with them may make deviant adaptation to prison strains more likely. Individuals enter prison with a propensity for criminal coping and therefore may have an increased tendency towards criminal coping when they experience pains of incarceration. Finally, GST and the coping model recognize that when inmates have sufficient support systems and coping skills, violent or deviant adaptation to prison strains will be less likely (Blevins et al., 2010).

The expansion of GST by Blevins and colleagues (2010) has direct relevance to the relationship between mental illness and the prison experience. First, research suggests that key deprivation factors identified in the literature may exacerbate current mental illness or contribute to the development of new mental health problems (Armour, 2012; WHO/ICRC, 2005). For example, factors such as overcrowding, prison violence, isolation, lack of privacy, and lack of mental health services are known to have negative effects on inmates’ mental health (WHO/ICRC, 2005). Second, mental illness is likely to be an importation factor that many inmates bring into prison with them; this impacts adjustment to prison life and therefore has the potential to impact whether an individual experiences deviant adaptation to prison strains. Scholarship suggests mental illness is linked to the ability to cope with prison life as evidenced

by the high frequency of misconduct among inmates with mental health problems (James & Glaze, 2006; Kupers, 2015; Raphael & Stoll, 2013). Finally, mental health treatment heavily emphasizes the role of support systems and positive (or legal) coping skills in dealing with mental illness (Anthony, Cohen, Farkas, & Gagne, 2002; Drake, Green, Mueser, & Goldman, 2003); individuals with mental illness who have well-defined support systems and coping skills may be less likely to develop deviant adaptations to prison strains.

General strain theory also allows for the exploration of gender differences in this context. The 2001 extension of the theory explicitly states that whether or not an individual engages in crime as a reaction to strain is dependent on individual characteristics and characteristics of the strain itself (Agnew, 2001). Therefore, individuals experience and may react to strains differently. In the context of this dissertation, gender differences may emerge in inmates' reactions to prison strains. For example, research suggests that women's identities, pre-prison experiences, social support, and traditional gender roles that emphasize family and relationships among women may influence their prison experience (Adams, 1992; Faith, 1993; Holsinger, 2014).

Scholarship also suggests that fewer prisons exist for housing incarcerated women (Lahm, 2016) and that these facilities have fewer resources in comparison to men's prisons. Those resources that are available are typically designed for incarcerated men (Holsinger, 2014; Lahm, 2016). This lack of resources for women may translate into less legitimate avenues for coping with poverty, mental illness, and prison life. Considering the gender differences that have been identified in patterns of mental illness (Bloom et al., 2003; Lindquist & Lindquist, 1997; WHO, n.d.; Wright et al., 2007), the prison experience (Holsinger, 2014; Toman, 2017a), and

mental health service utilization patterns (Steadman, 1991; Morgan et al., 2007), it is logical to surmise that men and women may experience and react to the strains of prison life differently.

When exploring socioeconomic differences in the prison experience, GST is also useful. Research shows that individuals from low SES backgrounds have increased contact with the criminal justice system (Cockerham, 1992; McCorkle, 1995; McLoyd, 1998), increased incidence of mental illness, and a decreased likelihood of receiving treatment in the community (Cockerham, 1992; McCorkle, 1995). All of these experiences and characteristics are likely to influence the way an individual will react to strains they experience in an incarcerated setting. Moreover, as a result of this heightened risk of mental illness and decreased access to services, unique strains may present among this population; socioeconomic status may have a moderating effect on the relationship between mental illness and the prison experience. While GST is useful in providing a framework for this dissertation, it is imperative to acknowledge feminist perspectives that help to explain gender differences in the prison experience. To this end, the next section will provide an overview of the pathways perspective and its utility in the context of this dissertation.

### **Pathways Perspective**

Although traditional criminological theories, such as GST, have been applied to women, these theories have often been critiqued by feminist scholars for being male-centered. Feminist scholars have noted that criminological theories focus on explaining offending among men, but largely ignore offending among women (Belknap, 2001; Gehring, 2018). Moreover, these theories are heavily critiqued for the tendency to “add women and stir” (Chesney-Lind, 1988) by adding gender as a variable and drawing conclusions about differences without theorizing the role of gender in offending. This tendency to utilize theories developed to explain male

offending, but estimate them using samples of women, is problematic as this inherently ignores the unique pre-prison experiences and risk factors for women that feminist scholars have identified (Chesney-Lind, 1997; Holsinger, 2014). Considering men make up the majority of the population involved with the criminal justice system, it is unsurprising that theoretical explanations of offending largely center on patterns of male offending. However, with recent increases in the populations of female offenders and incarcerated women, it is paramount to understand what factors contribute to offending patterns among women (Belknap, 2001; Chesney-Lind, 1997). One theory that explains offending patterns of women is known as the pathways perspective.

This perspective asserts that certain factors – such as mental health, trauma, and substance abuse – create unique pathways to offending among women that are inherently different than the pathways to offending among men (Belknap, 2001; Chesney-Lind; Wright et al., 2007). Indeed, research suggests that incarcerated women have extensive histories of both physical and sexual abuse (Belknap & Holsinger, 2006; Browne, Miller, & Maguin, 1999; Chesney-Lind & Pasko, 2013; Karlsson & Zielinski, 2018; Lynch et al., 2017; Salisbury & Van Voorhis, 2009) as well as higher rates of mental health problems and substance abuse problems (Belknap & Holsinger, 2006; Bronson & Berzofsky, 2017; James & Glaze, 2006; Houser & Belenko, 2015; Houser et al., 2012), both in comparison to incarcerated men as well as the general population (Al-Rousan et al., 2017; Karlsson & Zielinski, 2018; Prins, 2014). Considering victimization has been linked to mental health problems (Stuart, 2003) and the need for mental health services (Guterman, Hahm, & Cameron, 2002), women’s offending may be inherently tied to the experience of mental health problems and the need for mental health

treatment. The pathways perspective provides a useful framework for exploring these relationships.

This theoretical perspective is of relevance to this dissertation as it provides a framework for exploring gender differences in the incarcerative experience as a function of mental illness. Although research has begun to assess the role of mental illness in the prison experience (Adams, 1986; Bennion, 2015; Houser & Belenko, 2015; Houser et al., 2012; James & Glaze, 2006; Steiner et al., 2014; Stewart & Wilton, 2014), much remains to be assessed regarding the role of gender in contextualizing the relationships between mental illness, inmate behavior, and institutional responses to this behavior.

### **Summary**

Taken together, the literature suggests that high rates of mental illness in correctional settings are not equally distributed; particularly women and individuals from low SES backgrounds are disproportionately impacted by mental illness (Al-Rousan et al., 2017; Bronson & Berzofsky, 2017; Cockerham, 1992; James & Glaze, 2006; McCorkle, 1995; NIMH, 2017). Those with mental illness have increased contact with the criminal justice system, which is ill-equipped to manage and treat their needs (Fellner, 2006; Moore & Hiday, 2006; Teplin, 1984). Moreover, the resources in women's prisons are particularly limited (Holsinger, 2014; Lahm, 2016). Although mental illness is difficult for all inmates, these experiences may be particularly difficult for women and those from low SES backgrounds. Without effective treatment and management, prison order may be directly impacted (Adams, 1986). Specifically, incidents of misconduct and subsequent disciplinary action may be one result of untreated mental illness in prisons (Houser et al., 2012). Chapter three will discuss inmate behavior and institutional responses to their behavior.

## **CHAPTER THREE:**

### **INMATE BEHAVIOR AND INSTITUTIONAL RESPONSES**

In the era of mass incarceration, the rate of incarcerating women has doubled that of men and individuals with mental illness make up over half of the correctional population (Al-Rousan, Rubenstein, Sieleni, Deol, & Wallace, 2017; Bronson & Berzofsky, 2017; James & Glaze, 2006; National Resource Center on Justice Involved Women [NRCJIW], 2016; Sawyer, 2018; The Sentencing Project, 2015). At the same time, scholars have explored separately the factors that contribute to inmate misconduct and the impact of mental illness on the prison experience (Berg & Delisi, 2006; Blevins, Listwan, Cullen, & Jonson, 2010; Flanagan, 1983; Gendreau, Goggin, & Law, 1997; O’Keefe & Schnell, 2007; Steiner, Butler, & Ellison, 2014). Smaller bodies of literature have explored the role mental illness plays in misconduct (Adams, 1983; Clark, 2018; Houser, Belenko, & Brennan, 2012) and disciplinary segregation among inmates (Butler & Steiner, 2017; Clark, 2018; Olson, 2016). While researchers find a relationship between mental illness and misconduct, the literature regarding the role of mental illness in disciplinary segregation is mixed. Moreover, the role of gender, socioeconomic status, and mental health services in contextualizing these relationships remains to be explored. This chapter begins with a review of the literature regarding mental health, misconduct, gender, and socioeconomic status in correctional settings. This is followed by a brief overview of two existing theories of inmate misconduct: importation and deprivation. Next, a discussion of institutional responses to inmate



behavior is provided, including a discussion of the focal concerns theory of sentencing as applied to in-prison decision-making and feminist theories of sentencing patterns.

## **Inmate Adjustment**

### **Misconduct in Correctional Settings**

Prison misconduct, or misbehavior among inmates, raises concerns among researchers, practitioners, and policy makers about the safety of the inmates and staff, the costs associated with identifying and responding to misconduct, and the implications for re-entry of offenders (Adams, 1983; Flanagan, 1983; Houser et al., 2012). Violent and disruptive behavior in prison leads to safety concerns for inmates and staff, which, in turn, impacts costs associated with health care and day-to-day operations in the event of injury (Houser et al., 2012; Goetting & Howsen, 1986; Wolff & Shi, 2009). Disruptive inmates may contribute to general social disruption; they may, for example, involve other inmates when acting out. This disruption impacts the adjustment of other inmates, leads to increased emphasis on maintaining order, and may undermine other organizational goals such as rehabilitation (Adams, 1983; O'Keefe & Schnell, 2007). Moreover, records of misconduct and rule violations play a key role in access to correctional programming, disciplinary decision-making, and prison release decisions (Adams, 1983; Cao, Zhao, & Van Dine, 1997; Flanagan, 1983; Houser et al., 2012). Scholars have identified several factors that contribute to misconduct among inmates; age, education, marital status, employment, criminal history, substance use history, victimization history, and mental health history are all predictors of misconduct (Adams, 1983; Flanagan, 1983; Gover et al., 2008; Houser et al., 2012; Steiner, Butler, & Ellison, 2014; Toman, 2017a). Despite this increased understanding in what leads to misconduct, much of what we know is limited to empirical

studies using male samples, leaving unanswered questions surrounding misconduct and differences in gender, class, and mental health status.

**Gender and socioeconomic differences in misconduct.** The tendency of researchers to rely on samples of incarcerated men to explore the nature and extent to which misconduct occurs in prison (Gover et al., 2008; Toman, 2017a) is problematic for several reasons. First, research has shown that incarcerated women are the fastest growing facet of the incarcerated population in the U.S. (Holsinger, 2014; Sawyer, 2018; Severson, Berry, & Postmus, 2007; The Sentencing Project, 2015). Second, research suggests that men and women experience incarceration differently (Holsinger, 2014; Toman, 2017a). Indeed, scholars have found that the incarcerative experience of women is influenced by many factors including their lives before incarceration, their relationships with prison staff, and the structure of the prison itself (Chesney-Lind & Rodriguez, 1983; Craddock, 1996; McCorkel, 2006; Owen, 1988; Stohr, Jonson, & Lux, 2015; Toman, 2017a). Finally, scholarship indicates that factors predicting misconduct may operate differently among women than men (Gover et al., 2008). Specifically, gender-specific risk factors, such as extensive histories of abuse, victimization, and trauma; high rates of drug dependence and mental illness; and the role as care-givers to minor children and elderly or sick family members, may impact patterns of behavior among incarcerated women (Blevins et al., 2010; Broidy & Agnew, 1997; Holsinger, 2014). While research has begun to address gender differences in misconduct, little is known regarding the relationships between gender, mental health status, and institutional misconduct. This dissertation aims to address this gap in the literature.

In addition to the lack of research regarding gender and misconduct, the role of poverty in misconduct remains to be fully explored. Research regarding the impact of poverty – typically

operationalized as employment status prior to incarceration – on misconduct is mixed (Steiner et al., 2014; Steiner & Wooldredge, 2008). Specifically, Steiner and Wooldredge (2008) find that those who were employed prior to incarceration had decreased odds of committing “other nonviolent” offenses and assaults; employment status has no significant effect on drug or alcohol offenses. In their review of the literature regarding the sources and correlates of misconduct, Steiner and colleagues (2014) find that roughly half of the studies included in their analysis do not report significant findings for the relationship between employment status and misconduct. This study also includes a measure of “pre-incarceration neighborhood disadvantage;” findings reveal that half of the studies included in the analysis find a positive relationship between disadvantage and misconduct, one-fourth find an inverse relationship, and one-fourth report no significant findings (Steiner et al., 2014). While researchers have explored separately the role of poverty and gender in the incidence of institutional misconduct, less is known regarding the role of mental health status in contextualizing these relationships. Considering the high rates of mental illness among women and those from lower SES backgrounds, there is reason to suspect that mental illness and poverty may interact to impact misconduct and that gender differences may also emerge.

**Mental Illness, treatment, and institutional misconduct.** Due to the increasing number of individuals with mental illness in incarcerated populations, several researchers have explored the relationship between mental illness and inmate misconduct (Adams, 1983; Clark, 2018; Houser & Belenko, 2015; Houser et al., 2012; McCorkle, 1995; Olson, 2016; O’Keefe & Schnell, 2007). Several studies find support for the hypothesis that mental illness is associated with misconduct among inmates. Adams (1983, 1986) finds inmates with a history of mental illness to be more likely to engage in both violent and nonviolent misconduct. Similarly, Toch

and Adams (1986) found that inmates who had previously been treated for, or diagnosed with, a mental illness to be more disruptive and violent than those without a history of mental illness. More recently, scholars have identified mental illness as a predictor of both violent and nonviolent misconduct (Felson, Silver, & Remster, 2012; Steiner et al., 2014; Steiner & Meade, 2016). In their review of misconduct literature, Steiner and colleagues (2014) found that mental health problems and receipt of mental health treatment prior to incarceration were significant predictors of misconduct in the majority of the studies included in their analysis. Steiner and Meade (2016) found that inmates experiencing mental health problems in the year prior to their arrest were more likely to commit assaults in prison and have a higher prevalence of both assault and drug or alcohol violations. Felson and colleagues (2012) found that a diagnosis of psychosis or major depression were strongly predictive of both violent and nonviolent infractions, with anxiety disorders having weaker effects on nonviolent infractions.

In sum, research regarding inmate adjustment has independently identified gender, poverty, and mental health status as predictors of misconduct (Houser et al., 2012; Steiner et al., 2014; Steiner & Wooldredge, 2008). However, less research examines how gender, poverty, and mental health interact to influence the experiences of inmate misconduct and disciplinary segregation. There are several compelling reasons to examine how gender, poverty, and mental illness influence these outcomes. First, a large body of research has identified gender differences in the prison experience that may influence misconduct and disciplinary segregation (Holsinger, 2014; Lahm, 2016; Toman, 2017b; Wright et al., 2007). Second, class differences in mental illness have been identified (Cockerham, 1992; McCorkle, 1995; McLoyd, 1998); those in the lower class are more likely to have mental health problems and less likely to receive treatment for these problems. Moreover, gender differences in mental health and poverty have been

identified (Bradshaw, Chant, & Linneker, 2017; NIMH, 2017; Pearce, 1978; UNDP, 2018) and suggest that the impact of mental illness and poverty on misconduct and disciplinary segregation may also be gendered. Thus, this dissertation aims to address this gap in the literature by examining the extent to which gender contextualizes the role of poverty and mental illness in misconduct. The next section of this dissertation provides an overview of the theories of inmate misconduct that provide a framework for this dissertation.

### **Theories of Inmate Misconduct**

Chapter 2 reviewed general strain theory (GST) in relation to mental illness and the prison experience. Scholars have recently suggested that GST provides an adequate overarching theory that also encompasses two common theories of inmate behavior. These theories, deprivation and importation, will be reviewed in the next sections.

**Deprivation theory.** The deprivation model formulated by Sykes (1958) has commonly been used to explain inmate behavior and adjustment to incarceration. Sykes (1958) argued that as a result of imprisonment, inmates experience psychological and environmental deprivations, which in turn, impact how inmates adjust to prison life. Specifically, he outlined 5 “pains of imprisonment’ that influence inmate behavior, which include the loss of: personal security, personal autonomy, social acceptance, material possessions, and heterosexual relations (Sykes, 1958; Sykes & Messinger, 1960). Thus, prison structure and conditions of confinement are influential in shaping the behavior of inmates during their incarceration (Blevins et al., 2010; Siennick, Mears, & Bales, 2013; Toman, 2017a).

Several factors related to deprivation have been identified in the literature as predictive of misbehavior among inmates. Visitation, time served, institutional programming, ratio of staff to inmates, institutional crowding, among other prison-specific conditions have been examined as

predictors of inmate adjustment and behavior. (Adams, 1992; Goncalves et al., 2014; Gover, Mackenzie, & Armstrong, 2000; Toman, 2017b). Policymakers and practitioners have suggested that these deprivations associated with imprisonment may exacerbate current mental illness or lead to the development of new mental illnesses among inmates (Armour, 2012; WHO/ ICRC, n.d.).

While research has identified these predictors of misconduct, less research examines gender differences in this context (Holsinger, 2014; Toman, 2017b). Research suggests, however, that there may be gender differences in how these deprivations are experienced and how they may impact institutional misconduct. First, incarcerated women are typically young, heads of families, with young children (Holsinger, 2014; McCorkle, 1995; Severson et al., 2007); as there are often fewer women's prisons which are typically located in remote settings, maintaining maternal ties may be difficult. Second, women's institutions lack diversity in programming that is found in men's institutions (Clear & Cole, 1990; McCorkle, 1995), such as fewer opportunities and long waiting lists for educational, vocational, and recreational programming (Holsinger, 2014; McCorkle, 1995). Further, the available vocational programming has historically focused on stereotypical female occupations by training women in fields such as cosmetology, cooking, and secretarial work (Holtfreter & Morash, 2003; McCorkle, 1995). Inadequate resources are available for recreational programs in facilities for women, which has the potential to inhibit their adjustment to prison life (McCorkle, 1995).

Although research has identified gender differences in the experience of deprivation factors, research exploring the effect of these factors on inmate adjustment is largely limited to studies relying on male samples. Thus, the extant literature largely ignores the influence of gender in how the "pains of imprisonment" posited by Sykes (1958) are experienced (Gover et

al. 2008; Toman 2017b). In examining deprivation factors and how they influence misconduct, Gover and colleagues (2008) found gender differences in the following deprivation factors: work assignments, sentence length, perceptions of staff treatment, and perceived safety within the institution. Having a work assignment decreased the likelihood of misconduct among incarcerated men, while longer sentences, perceiving staff as less caring, and greater sense of safety decreased the likelihood of misconduct among incarcerated women. These findings contribute to existing explanations of gender differences in offending and misconduct (Gover et al., 2008; Holsinger, 2014). From the findings of Gover and colleagues (2008), it appears that having a work assignment is important in decreasing misconduct among men, while measures of social support are more important among women. These findings further highlight the need for attention to gender-responsive needs and programming in the prison setting (Wright, Van Voorhis, Salisbury, & Bauman, 2012).

**Importation theory.** While the deprivation model has been useful in explaining inmate adjustment to prison life, Irwin and Cressey (1962) questioned the utility of this model as the sole explanation of inmate behavior. They argued that despite the fact that prisons are total institutions, the subcultures within these institutions are influenced by factors outside prison walls. Specifically, the authors argued that, “Men bring in patterns of behavior with them when they enter prison and use them in prison” (Irwin & Cressey, 1962, p.143). More recently, scholars have suggested that prisons are no longer total institutions and that prison subculture is influenced through external factors as barriers between the prison and community have become more permeable (Berg & DeLisi, 2006). For example, Thomas and Foster (1973) noted that prison policy regarding visitation and correspondence may influence the contact prisoners have with those outside of prison. Similarly, Vandebosch (2005) suggested that media use, such as

watching television and listening to the radio, helps to normalize the incarcerative experience by keeping prisoners informed of major events outside prison walls. Due to the importation of external factors, the prison subculture is similar to the criminal subculture that offenders learn prior to incarceration and these external behavior patterns are influential in determining behavior patterns within prison walls, including misconduct (Irwin & Cressey, 1962).

Research examining the importation model suggests that known correlates of crime, as well as offender characteristics established prior to incarceration impact inmate behavior patterns (Berg & DeLisi, 2006; Irwin & Cressey, 1962; Steiner et al., 2014; Tasca, Griffin, & Rodriguez, 2010). Specifically, scholars have identified age, education, low self-control, marital status, criminal history, substance use/abuse, mental health problems, and victimization history as important predictors of institutional misconduct (Adams, 1992; Berg & DeLisi, 2006; Steiner et al., 2014; Tasca et al., 2010; Toman, 2017a). Of particular relevance to this dissertation, mental health problems have been theoretically and empirically linked to misconduct as an imported factor.

Much like the research concerning deprivation theory in prison, the literature examining importation theory is limited due to its heavy reliance on male samples and the failure to examine the influence of gender in how these factors are experienced (Gover et al., 2008). Gover and colleagues (2008) examine gender differences in misconduct patterns using an importation framework. The authors found gender differences in the following importation factors: type of offense, self-control, age, race, and education. Among incarcerated men, type of primary offense is associated with misconduct patterns; men who enter prison with violent and nonviolent primary offenses are less likely to engage in misconduct than men with drug offenses. Self-control is also an important predictor of misconduct among men; low levels of self-control are



associated with an increase in misconduct. Among women, age, race, and education are important predictors of misconduct; women who are older, White and have higher levels of education are less likely to engage in misconduct (Gover et al., 2008).

In addition to differences between men and women on established importation factors, women may experience unique importation factors that contribute to their adjustment to prison life. Indeed, a large body of literature has identified several factors that uniquely impact women, which have been coined as “pathways to prison” for women: high rates of victimization, high rates of substance use/abuse, and high rates of mental illness. These factors are commonly explored to explain women’s offending, but may also be crucial to understanding how women adjust to prison life (Holsinger, 2014; Severson et al., 2007). For example, high rates of victimization and high rates of substance use/abuse are known correlates of mental illness; incarcerated women are also more likely than men to report mental health problems (Bronson & Berzofsky, 2017; James & Glaze, 2006). Research has shown that inmates with mental illness may have difficulty understanding and conforming to prison rules (Adams, 1983; Houser et al., 2012; Wright et al., 2007). Gender differences have also been identified in behavioral symptoms of mental illness; women are more likely to exhibit internalizing behaviors such as sadness and depression, while men are more likely to exhibit externalizing behavior such as aggression and anger (Broidy & Agnew, 1997; Ptacek, Smith, & Dodge, 1994). As a result of these gender differences coupled with the potential for the behavior of inmates with untreated mental illness to be misconstrued by correctional officers as misconduct (Houser et al., 2012), an increased likelihood of being written up for misconduct may occur among incarcerated women with untreated mental illness (Wright et al., 2007).

Scholarship suggests that together the importation and deprivation models are useful in explaining inmate behavior generally, and misconduct specifically (Gendreau et al., 1997; Gover et al., 2000). However, these theoretical frameworks, both independently and together, have largely been evaluated using samples of incarcerated men (Gover et al., 2008; Toman, 2017b), leaving unanswered the question of the utility of these perspectives in explaining incarcerative experiences and inmate behavior among women. Using a combined framework is of particular relevance for this dissertation considering the increased number of individuals importing mental illness into the prison experience as well as research arguing the deprivations associated with imprisonment can exacerbate current mental illness or lead to the development of mental illness.

### **Institutional Responses to Inmate Misconduct**

Prior research suggests correctional officers are afforded considerable discretion throughout the prison disciplinary process: during the decision to write up an inmate for misconduct, the determination of guilt during a disciplinary hearing, and the decision of imposing sanctions (Butler & Steiner, 2017; Clark, 2018; Cochran et al., 2018; Conover, 2000; Crewe, 2011; Fellner, 2006; Liebling, 2000; Liebling, 2011; Toman, 2017). This process is akin to the discretion afforded in police and court decisions (Cochran et al., 2018; Liebling, 2011). For the purposes of this dissertation, analyses are concerned with the factors that lead to an individual being written up or found guilty of misconduct and those that lead to a sanction of disciplinary segregation.

#### **Disciplinary Segregation**

Disciplinary segregation is a form of solitary confinement designed as a punishment for rule violations that occur within a prison (Browne, Cambier, & Agha, 2011). This and other solitary confinement practices grew out of the Pennsylvania prison system of the 1800s, which

required prisoners to work in solitude and silence in order to reflect and repent for the crimes they committed (Arrigo & Bullock, 2008; Bennion, 2015; Browne et al., 2011; Garland, 2001; Lobel, 2008; Mears, 2013; Mears, Mancini, Beaver, & Gertz, 2013; Mears & Reisig, 2006). Despite knowledge regarding the negative consequences related to these practices established as far back as the 1800s, the use of disciplinary segregation and other forms of solitary confinement is still widespread in American correctional facilities (Arrigo & Bullock, 2008).

When confined to segregation, prisoners are typically housed in their cells for 23 hours per day. Human interaction is minimal and typically restricted to interactions with correctional officers; however, even this interaction is generally not face-to-face (Arrigo & Bullock, 2008; Browne et al., 2011; Lobel, 2008; Mears et al., 2013; Mears & Reisig, 2006; O'Keefe, 2008). Individuals in segregation may be provided with out-of-cell time for one hour every 24 hours; however, some facilities only provide 5-hours of out-of-cell time per seven day period. This time outside of cells is typically reserved for recreation or hygiene purposes (Arrigo & Bullock, 2008; Browne et al., 2011; O'Keefe, 2008). Inmates are also limited in terms of contact visits, access to personal belongings, and access to prison programming such as vocational or educational programs (Arrigo & Bullock, 2008).

The negative consequences associated with segregation practices have been documented as early as the 1800s (Arrigo & Bullock, 2008). These negative consequences continue to be documented by today's scholars who argue that these consequences not only impact the individuals who experience segregation, but also extends to prison staff (Cloud et al., 2015) as well as society at large (Bennion, 2015; Haney, 2003; Haney & Lynch, 1997; Mears & Reisig, 2006; O'Keefe, 2008). While this dissertation is focused on the individual-level consequences, social issues associated with correctional practices such as recidivism, employment, housing, and

reintegration may be adversely impacted by segregation practices (Mears & Bales, 2010; O'Keefe, 2008).

With regard to deleterious consequences for inmates, individuals sanctioned to segregation experience both physical and psychological effects (Bennison, 2015). The concept of social isolation, which is key to segregation has been linked to morbidity and mortality to the same extent as several well-known risk factors including high blood pressure, obesity, and smoking (Bennison, 2015). In terms of psychological effects, inmates confined to segregation may experience a lack of concentration, hallucinations, or impaired memory. These practices may also exacerbate existing mental illnesses such as major depression and anxiety (Bennison, 2015; Haney, 2003; Mears & Reisig, 2006). Finally, suicide is an outcome that has been linked to segregation practices (Sanchez, 2013).

**Predictors of disciplinary segregation.** Recent research has identified both individual-level and prison-level predictors of receiving disciplinary segregation as punishment for violating prison rules (Butler & Steiner, 2017; Clark, 2018; Cochran et al., 2018; Olson, 2016). Common individual-level predictors of disciplinary segregation include age, sex, criminal history, number of infractions, type of infractions, having a prison work assignment, visitation, and time served (Butler & Steiner, 2017; Cochran et al., 2018; Olson, 2016). The extant literature regarding racial disparities in the use of disciplinary segregation is mixed. Olson (2016) found that racial differences existed in the use of disciplinary segregation; Black inmates reported spending more time in disciplinary segregation than White inmates. In contrast, the findings presented by Butler and Steiner (2017) and Cochran and colleagues (2018) revealed that this race effect disappears when accounting for severity of misconduct. Further, some research suggests

that race effects are conditioned by gender. For example, Tasca and Turanovic (2018) found that racial and ethnic differences exist among incarcerated men, but not among incarcerated women.

Of particular interest to this dissertation are findings regarding mental health problems and their influence on the use of disciplinary segregation. The findings regarding the influence of mental health problems on disciplinary segregation outcomes are mixed (Butler & Steiner, 2017; Clark, 2018; Olson, 2016). Butler and Steiner (2017) included a measure of mental health problems in their analysis identifying predictors of disciplinary segregation in prisons and found that mental health problems did not impact disciplinary segregation placement (Butler & Steiner, 2017). In contrast, studies including a diagnosis of mental illness have shown that mental illness is predictive of placement in disciplinary segregation (Clark, 2018; Olson, 2016). Butler and Steiner (2017) also examined prison-level predictors of disciplinary segregation. Their findings indicate that the proportion of inmates classified as minimum-security and the proportion of inmates with a work assignment are negatively associated with rates of disciplinary segregation. Measures of assault rate, overcrowding, proportion of inmates classified as maximum-security, and proportion of inmates in vocational programming were not associated with rates of disciplinary segregation use in prison (Butler & Steiner, 2017).

While the extant body of literature has identified individual and facility-level predictors of disciplinary segregation, little research has examined socioeconomic and gender differences in the use of disciplinary segregation. Regarding gender, studies examining disciplinary segregation have typically included a measure of sex as a covariate and found that women were less likely than men to receive disciplinary segregation (Butler & Steiner, 2017; Cochran et al., 2018). Studies examining the disciplinary experiences of incarcerated women have typically been limited to samples of women (Houser & Belenko, 2015; Houser et al., 2012), which does not

address whether there is gender symmetry in the effects between men and women. Those studies that did explore gender differences found that key differences exist across gender in the use of disciplinary segregation (Tasca & Turanovic, 2018; Toman, 2017a). Most notably, women who did not conform to stereotypical gender roles and engaged in violent misconduct were more likely to receive disciplinary segregation than those who exhibited nonviolent behavior (Toman, 2017a). Similarly, studies have rarely examined class effects in institutional responses to misconduct. Most often studies have included a measure of pre-prison employment or homelessness, but the effects of these variables on disciplinary outcomes are mixed (Clark, 2018; Houser et al., 2012; Olson, 2016).

In sum, the extant literature has identified predictors of placement in disciplinary segregation both at the individual- and institutional-level (Butler & Steiner, 2017; Clark, 2018; Cochran et al., 2018; Olson, 2016). At the same time, scholars have argued that individuals with low socioeconomic statuses are both more likely to suffer from mental illness and less likely to receive treatment for these illnesses (Cockerham, 1992; McCorkle, 1995). Yet, research regarding the influence of mental illness and class on disciplinary segregation is mixed (Butler & Steiner, 2017; Clark, 2018; Houser et al., 2012; Olson, 2016). Additionally, research suggests that gender differences emerge in the use of disciplinary segregation (Tasca & Turanovic, 2018; Toman, 2017a); however, each of these studies is limited by using data of one state, which may be problematic in generalizing the results to the general population of the United States. This dissertation seeks to expand upon prior research by using a nationally representative sample of state inmates to examine the independent and interactive effects of mental illness and class on disciplinary segregation as well as the role of gender in contextualizing these relationships. In exploring disciplinary segregation, this dissertation will use the following theoretical

frameworks: focal concerns, the chivalry hypothesis, and the “evil woman” hypothesis. These theoretical frameworks are outlined below.

### **Theoretical Framework**

This next section presents theories of sentencing patterns that have commonly been applied to in-prison disciplinary decision-making (Butler & Steiner, 2017; Cochran et al., 2018; Severson, 2019). These theories provide a useful framework for understanding how differences in disciplinary decision-making may be influenced by mental health status, socioeconomic status, and gender.

#### **Focal Concerns Theory**

Traditionally, the focal concerns perspective of courtroom decision-making has been extended to the disciplinary decision-making process within prisons (Butler & Steiner, 2017; Cochran, Toman, Mears, & Bales 2017). This perspective typically explains the processes through which racial and ethnic disparities occur in sentencing outcomes. Specifically, this theory argues that individuals responsible for decisions in sentencing rely on perceptual shorthands or cognitive heuristics in order to make these decisions. Three main conditions influence these perceptual shorthands and sentencing decisions: the offender’s blameworthiness, the risk the offender poses to the community at large, and any practical concerns that may be affecting the court or jurisdiction (Steffensmeier, Ulmer, & Kramer, 1998). This perspective has been used to explain racial and ethnic disparities in the use of disciplinary segregation as a sanction for misconduct (Cochran et al., 2018) as well as to describe the general use of disciplinary segregation across facilities in the United States (Butler & Steiner, 2017).

**Poverty, mental illness, and focal concerns.** The focal concerns perspective has been used to explain class differences in sentencing patterns. Spohn and Holleran (2000) tested the

focal concerns perspective outlined by Steffensmeier and colleagues (1998). Their findings are largely consistent with the findings of Steffensmeier and colleagues (1998) with one key addition: unemployment matters. Specifically, unemployment among men is dependent upon the offender's race/ethnicity and age; unemployed Black and Hispanic men are substantially more likely than employed White men to be sentenced to prison. These findings are relevant to the current dissertation by examining the relationship between one measure of poverty (unemployment) and sentencing patterns. The current dissertation will extend upon this study by exploring the role of poverty in the in-prison sentencing process of disciplinary segregation.

Recently, scholars have applied focal concerns to individuals with mental illness. Ray and Dollar (2013) explored the role of focal concerns in the mental health court (MHC) setting. The authors found that gender and length of time in MHC influenced perceptions of noncompliance and that gender and race interacted to predict MHC termination. These findings support those of Steffensmeier and colleagues (1998) by finding that MHC actors rely on perceptual shorthands in order to make decisions regarding noncompliance and termination from MHC. Moreover, these perceptual shorthands develop based on race, gender, and the perceived culpability and dangerousness of the offenders. The authors found that men were more likely to be perceived culpable for noncompliant behaviors than their female counterparts; in observing MHC operations, the authors noted that MHC teams spent more "contextualizing female defendants' noncompliance in ways that minimized their culpability" (Ray & Dollar, p. 662). Finally, the authors found that race and gender were important in predicting termination from MHC; White women were less likely to be terminated from the MHC process than all other race-gender subgroups. These findings are relevant to the current dissertation by applying the focal concerns perspective to mentally ill individuals who participate in MHCs. However, the sample



for this study is only limited to those who chose to participate in this problem-solving court. Prevalence estimates suggest a large number of individuals with mental illness exist within the correctional setting. This dissertation will extend the research of Ray and Dollar (2013) by examining the impact of focal concerns in the context of in-prison decision making, among men and women with mental illness.

**Focal concerns and gender.** The focal concerns perspective has also been applied to gender differences in sentencing patterns (Steffensmeier et al., 1993). Studies commonly find that female offenders are given more leniency in sentencing trends in comparison to their male counterparts (Daly & Bordt, 1995; Steffensmeier et al., 1993). Focal concerns literature suggests that criminal justice actors may perceive women to be less blameworthy than their male counterparts. Female offending may be contextualized in ways that minimize their culpability; offending may be explained as a function of mental illness or association with criminal men, which may decrease perceived blameworthiness (Ray & Dollar, 2013; Steffensmeier et al., 1993). Moreover, decision-makers may perceive women as less likely to recidivate (Albonetti, 1991; Daly & Bordt, 1995; Rodriguez, Curry, & Lee, 2006) and may sentence women more leniently to prevent disruption in the family unit as women are usually primary caregivers to minor children (Holsinger, 2014; Glaze & Maruschak, 2008; Steffensmeier et al., 1993).

Given the research exploring focal concerns in courts (Ray & Dollar, 2013; Spohn & Holleran, 2000; Steffensmeier, Ulmer, & Kramer, 1998) and in prison disciplinary decision-making (Butler & Steiner, 2017; Cochran et al., 2018), perhaps correctional officers rely on biases and “perceptual shorthands” to assist in their decision-making once an inmate is found guilty of misconduct. However, the prison environment is different than the courtroom environment in that correctional officers often know the inmates they supervise. Perhaps this

increased familiarity with inmates may decrease or negate the effect extralegal factors may have on disciplinary decision-making behind bars.

In addition to the focal concerns theory of sentencing patterns, other theoretical explanations are useful in examining the nature and extent of gendered sentencing patterns. This section will provide a brief discussion of two relevant theoretical models: the chivalry and “evil woman” hypotheses. While these perspectives are traditionally applied to courtroom sentencing patterns (Franklin & Fearn, 2008; Griffin & Wooldredge, 2006; Koons-Witt, 2002; Kruttschnitt, 1980), recent research suggests they provide a useful lens to understand gender differences in in-prison decision-making (Toman, 2017a).

The chivalry hypothesis attempts to explain the common finding in sentencing literature that women are treated more leniently in comparison to their male counterparts (Albonetti, 1991; Franklin & Fearn, 2008; Kruttschnitt, 1984; Nagel & Johnson, 1994). This explanation states that criminal justice decision-makers award women greater leniency as a result of perceptions that women are inherently weaker than men and should be afforded protection as both victims and offenders (Franklin & Fearn, 2008; Grabe, Trager, Lear, & Rauch, 2006; Visher, 1983). These protections are most often extended to women perceived to fall into “traditional” gender roles; women who are White, middle class, have a submissive demeanor, and minor children are most likely to experience the chivalrous treatment of criminal justice actors (Koons-Witt, 2002; Visher, 1983).

Gendered sentencing patterns have also been viewed through a perspective known as the evil woman thesis or selective chivalry (Rodriguez et al., 2006). This perspective asserts that the protections of criminal justice actors are only afforded to women whose criminal behavior does not violate conventional gender roles; those women who engage in criminal acts that violate

these gender roles, such as violent crimes, are treated more harshly (Crew, 1991; Farnworth & Teske, 1995; Rodriguez et al., 2006; Spohn, 1999).

## Summary

In sum, the focal concerns perspective has been used to explain both courtroom and in-prison decision-making (Butler & Steiner, 2017; Cochran et al., 2018). Despite a growing body of research applying the focal concerns perspective to gender and class differences in sentencing patterns (Daly Bordt, 1995; Ray & Dollar, 2013; Steffensmeier et al., 1993), a limited body of research has applied this perspective to in-prison decision-making (Butler & Steiner, 2017; Cochran et al., 2018; Toman, 2017a). Similarly, the chivalry and evil woman hypotheses have received support in their application to courtroom sentencing (Franklin & Fearn, 2008; Grabe et al., 2006; Koons-Witt, 2002; Rodriguez et al., 2006; Spohn, 1999); however less research has applied these perspectives to in-prison sentencing (Toman, 2017a).

This dissertation seeks to expand upon the extant literature by applying these perspectives to in-prison decision-making. Empirical assessments of the use of disciplinary segregation in prison suggest that women may continue to benefit from their gender (Butler & Steiner, 2017; Cochran et al., 2018). Moreover, women with mental health problems may be even more likely to be afforded protection in regard to in-prison punishments as focal concerns literature shows that the culpability of female offenders may be attributed to mental illness (Ray & Dollar, 2013). Finally, class may independently and through interactions with mental illness impact disciplinary segregation outcomes; focal concerns literature (Spohn & Holleran, 2000) and assumptions of the chivalry hypothesis (Koons-Witt, 2002; Visher, 1983) suggest that class matters in sentencing outcomes.

Considering the literature reviewed in Chapters Two and Three, this dissertation seeks to answer the following research question and test the subsequent hypotheses.

**Research Question:** How does a diagnosis of mental illness impact violent misconduct and disciplinary segregation?

**Hypothesis 1:** A diagnosis of mental illness will increase the likelihood of misconduct.

**Hypothesis 1a:** A diagnosis of mental illness will increase the likelihood of disciplinary segregation.

**Hypothesis 2:** Socioeconomic status will moderate the effect of mental illness on misconduct – those from lower SES with a diagnosis of mental illness will have a higher likelihood of misconduct.

**Hypothesis 2a:** Socioeconomic status will moderate the effect of mental illness on disciplinary segregation – those from lower SES with a diagnosis of mental illness will have higher likelihood of being sanctioned to disciplinary segregation.

**Hypothesis 3:** Mental health services will mediate the effect of mental illness on misconduct – those with a diagnosis of mental illness who use mental health services in prison will have a decreased likelihood of misconduct.

**Hypothesis 3a:** Mental health services will mediate the effect of mental illness on disciplinary segregation – those with a diagnosis of mental illness who use mental health services in prison will have a decreased likelihood of disciplinary segregation.

**Hypothesis 4:** Sex differences exist in the relationships outlined above.

The next chapter will outline the methodology used for this dissertation. To this end, the dataset, samples, and variables used in this dissertation will be outlined, followed by a discussion of the analytic plan for this dissertation.

## **CHAPTER FOUR: METHODOLOGY**

The purpose of this dissertation is to examine the role of mental illness, socioeconomic status, and sex in the in-prison experiences of institutional misconduct and disciplinary segregation. To date, research on these topics is limited. For example, no research has examined the interaction between socioeconomic status and mental illness in relation to the prison experience. Moreover, extant research has yet to examine the role of sex and mental health treatment in moderating these relationships. To that end, this chapter begins with a discussion of the data, samples, and measures included in the analyses and is followed by an outline of the analytic plan for this dissertation.

### **Data and Sample**

Data for this dissertation are drawn from the Survey of Inmates in State and Federal Correctional Facilities, 2004 (SISFC). This survey is collected by the Bureau of Justice Statistics (BJS) and the public use files are available at the National Archive of Criminal Justice Data (NACJD), housed in the Inter-University Consortium for Political and Social Research (ICPSR) at the University of Michigan. The total sample from these data consists of 14,499 inmates nested within 1,584 facilities (James & Glaze, 2006; United States Department of Justice [US DOJ], 2000; US DOJ, 2004).

The Survey of Inmates in State and Federal Correctional Facilities, 2004 (SISFC), was collected by BJS from October 2004 through May 2005. The survey provides nationally

representative data on inmates housed in State and Federal prisons. The survey uses a two-stage sample design; prisons are selected in the first stage and inmates within the sampled prisons are selected in the second stage. Personal interviews were conducted where inmates provided self-report data on several topics including, but not limited to, history of misconduct and disciplinary responses, mental health and/or substance abuse history and treatment, current offense and sentence, personal characteristics, family background, and prison programming and services (US DOJ, 2004). Due to potential unmeasured differences between state and federal facilities (Butler & Steiner, 2017; Toman, 2017b), the data for this dissertation are limited to the State prison survey. The SISFC is well suited to answer the research questions of this dissertation for three reasons. First, the data encompass information on mental health, misconduct, and disciplinary outcomes. Second, the data contains information on an array of relevant covariates. Finally, the large-scale, nationally representative nature of the data provide the opportunity to examine the research questions by sex and SES.

For the analyses using misconduct as the dependent variable (see Table 1), the final sample size (n=13,102; 80% were men and 20% were women) consists of all inmates who reported information on the dependent variable, the independent variables, and all covariates of interest. Descriptive statistics indicated that 1,219 (8.51%) cases were missing data on key variables of interest. Of those variables missing data, less than 1% of observations were missing on each variable. Therefore, cases with incomplete information were dropped from the analysis. For analyses with disciplinary segregation as the dependent variable (see Table 2), the final sample size was limited to state inmates who reported being written up or found guilty of a rule violation (n= 6,586; 82% were men and 18% were women) and reported information on the dependent variable, the independent variables, and all control variables of interest. Descriptive

statistics reveal that 603 (8.40%) cases were missing data on key variables of interest, with less than 1% of observations missing for each of these variables; these cases were dropped from the analysis.

## Measures

### Dependent Variables

**Institutional misconduct.** To examine the effects that mental illness, SES, and sex have on institutional misconduct, a dichotomous measure of violent misconduct is included in the analyses. The following item from the survey is used to create a dummy variable for violent misconduct: “Since your admission, have you been written up for or been found guilty of [violent infractions]?” Violent infractions include possession of a weapon, escape or attempted escape, and physical/verbal assaults on staff or inmates. Inmates who reported being written up or found guilty of any violent infractions are coded as 1. As shown in Table 2, 21% of men and 14% of women report violent infractions.

**Disciplinary segregation.** A dichotomous measure of disciplinary segregation will be included in the analyses. This variable measures whether inmates reporting receiving “solitary confinement or segregation” as a disciplinary action for their most recent rule violation. Thirty percent of men and twenty-three percent of women report receiving disciplinary segregation as punishment for their most recent infraction (see Table 2).

### Independent Variables

**Mental illness.** For the purposes of this dissertation mental illness will be measured using a series of dichotomous variables using responses to the following item from the SISCF: “Have you ever been told by a mental health professional, such as a psychiatrist or psychologist, that you had [mental health diagnosis]” (US DOJ, 2004). Responses to this question include, “A

depressive disorder,” “Manic-depression, bipolar disorder, or mania,” “Schizophrenia or another psychotic disorder,” “Post-traumatic stress disorder,” “Another anxiety disorder, such as panic disorder,” “A personality disorder (such as an antisocial or borderline personality disorder),” and “Any other mental or emotional condition.” Inmates responding yes to one or more of these items will be coded as having a history of mental illness. Consistent with prior literature (James & Glaze, 2005), descriptive statistics show that incarcerated women in both samples have higher rates of mental illness than their male counterparts (Table 1: 48% of women and 24% of men; Table 2: 55% of women and 28% of men).

**Mental health service use.** Mental health service utilization will be measured through a dichotomous indicator that includes whether, since admission to prison, they have taken medication for a mental health problem; been admitted to a mental hospital, unit, or treatment program; received counseling; or received any other mental health treatment or services. Inmates endorsing 1 or more of these items will be coded as utilizing mental health services.

**Sex.** A dichotomous measure of sex will be included in the analyses; inmates identifying as men will be coded as 0, inmates identifying as women will be coded as 1.

**Socioeconomic status.** A resource-based measure of socioeconomic status (SES) is included in these analyses. In accordance with recommendations outlined by the National Committee on Vital and Health Statistics (2012) and recent research in the psychological literature outlining best practices for measuring SES (Diemer, Mistry, Wadsworth, Lopez, & Reimers, 2013), SES is a summated measure including level of education, income, and employment status. Specifically, these recommendations include that education should be measured in single years completed up to 5 or more years of college and whether the individual obtained a high school diploma or equivalent. Due to the nature of the data, education is



measured as years completed in school up to 2 or more years of post-graduate education (Men:  $M = 6.17$ ,  $SD = 5.81$ ; Women:  $M = 6.91$ ,  $SD = 5.85$ ) Income includes a measure of total monthly income in the month prior to arrest for the current offense. This measure includes 12 categories of income, ranging from no income to \$7500 or more (Men:  $M = 5.84$ ,  $SD = 3.65$ ; Women:  $M = 4.80$ ,  $SD = 3.61$ ). Employment status includes a dichotomous measure indicated whether an inmate was employed in the month prior to their arrest for the current offense (Men:  $M = 0.73$ ,  $SD = 0.44$ ; Women:  $M = 0.58$ ,  $SD = 0.49$ ).

Once the composite item was created, Cronbach's alpha was estimated to determine the level of internal reliability of the measure ( $\alpha = 0.15$ ). An alpha of 0.70 or higher is generally viewed as acceptable levels of reliability (Allen & Yen, 2002; Carmines & Zeller, 1979), however this measure of SES does not meet this threshold. As a result, analyses for this dissertation will be analyzed using a dichotomous measure of education (0 = less than a high school education; 1 = high school diploma or higher level of education) as a proxy for socioeconomic status as level of education has been shown to increase social capital (Huang, van den Brink, & Groot, 2009; Gradstein & Justman, 2000), social capital has shown to be associated with a decrease in mental health problems (McPherson et al., 2014; Scheffler et al., 2007), and social capital may increase access to and use of mental health services (Hendryx & Ahern, 2001).

### **Covariates**

The following individual-level covariates are accounted for through the use of dichotomous variables: race/ethnicity (Black non-Hispanic, Hispanic, and other, with White non-Hispanic as the reference category), marital status (currently married), parental status (respondent has children, including step or adopted children), prior record (has been previously

incarcerated), and current offense severity (violent, property, drug, other). Age is accounted for using a continuous measure that ranges from 16 to 84 years old. Descriptive statistics for the misconduct sample (Table 1) show that the sample has an average age of 35.35 years, is predominantly Black (41%), unmarried (83%), and without any children (58%). Half of the sample has been previously incarcerated, with the majority being currently incarcerated for a violent offense (45%).

**Substance abuse and dependence.** A series of dichotomous variables are utilized in order to account for substance abuse or dependence. These variables are based on the diagnostic criteria for substance abuse or dependence outlined in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR [American Psychiatric Association, 2000]). The criteria listed in the *DSM-IV-TR* create two mutually exclusive categories of substance abuse and dependence, where the symptoms for substance abuse do not meet the criteria for substance dependence, and vice versa (APA, 2000).

*Substance abuse.* Substance abuse is measured with 2 separate variables capturing inmates with unique needs related to drug and alcohol abuse. The first of these variables is alcohol abuse, the second is drug abuse. Using the diagnostic criteria listed in the *DSM-IV-TR*, inmates meet the criteria for alcohol abuse if they endorse at least 1 of 4 alcohol abuse symptoms (44% of men, 36% of women). Similarly, inmates who endorse at least 1 of 4 drug abuse symptoms are identified as meeting the criteria for drug abuse (64% of men, 65% of women). Abuse symptoms encompass the following categories: failure to fulfill major role obligations, continued use in hazardous situations, alcohol/drug-related legal problems, and recurrent social or interpersonal problems (APA, 2000).

*Substance dependence.* Substance dependence is measured with 2 separate variables capturing inmates who have unique needs related to drug and alcohol dependence. In line with the diagnostic criteria of the *DSM-IV-TR*, inmates meet the criteria for alcohol dependence if they endorse at least 3 of 7 alcohol dependence symptoms (23% of men, 21% of women). Similarly, inmates endorsing at least 3 of 7 drug dependence symptoms are identified as meeting the criteria for drug dependence (32% of men, 46% of women). Dependence symptoms encompass the following categories: tolerance; withdrawal; compulsive use; impaired control; time spent obtaining, using, recovering; neglect of activities; and continued use despite problems (APA, 2000).

**Victimization history.** The link between traumatic experiences and mental illness has been well documented (see Mayo Clinic, n.d.; Centers for Disease Control [CDC], 2012). According to the *DSM-IV-TR*, problems related to abuse or neglect are frequently reported among individuals seen by health professionals (APA, 2000). Therefore, a series of dichotomous variables are utilized in order to account for victimization history.

*Abuse in Childhood.* The experience of abuse or neglect in childhood is a well-known risk factor for mental illness and negative life experiences in adulthood (“Health and Mental Health,” n.d.). Specifically, studies have linked child abuse and/or neglect to anxiety and depression (Afifi, Brownridge, Cox, & Sareen, 2006; Brown et al., 1999; Kaplow & Widom, 2007; Wolfe, Francis, & Straatman, 2005; Thornberry, Ireland, & Smith, 2001; Widom, DuMont, & Czaja, 2007), posttraumatic stress disorder (PTSD) (Holmes & Sammel, 2005; Widom, 1999; Wolfe et al., 2005), substance abuse (Widom, 2014; Wolfe et al., 2005), legal troubles (Holmes & Sammel, 2005; Wolfe et al., 2005), and incarceration (Holmes & Sammel, 2005; Mersky & Topitzes, 2010).

Two dichotomous variables are used to account for childhood victimization. The first variable accounts for sexual abuse experienced as a child. Two items on the survey are used to create this variable. First, inmates are asked about their experiences with sexual abuse in their lifetime. The second item asks the time period in which the abuse occurred; those who indicate experiencing this form of abuse prior to the age of 18 are coded as experiencing childhood sexual abuse (5% of men, 28% of women). A similar process is used to account for physical abuse experienced in childhood. Inmates are first asked if they have ever experienced any physical abuse; those who report experiencing this form of abuse prior to the age of 18 are coded as experiencing childhood physical abuse (36% of men, 33% of women; US DOJ, 2004).

*Abuse in Adulthood.* Two dichotomous variables are used to account for abuse experienced in adulthood. The same process for the childhood victimization measures is used for the adult victimization measures. Inmates who endorse an item asking if they experienced sexual abuse at any point in their lifetime and indicate that the abuse occurred after the age of 18 are coded as experiencing adult sexual abuse (1% of men, 25% of women); those who indicate that they have ever experienced physical abuse and that the abuse occurred after the age of 18 are coded as experiencing adult physical abuse (29% of men, 34% of women; US DOJ, 2004).

### **Analytic Plan**

Analyses for this dissertation will be conducted in two stages. Both stages will assess the relationship between mental illness, SES, and mental health service use with the dependent variables of interest; the first stage will use institutional misconduct as the dependent variable, the outcome of interest in stage two is disciplinary segregation. Considering the focus of this dissertation is to examine sex differences in the relationships between mental illness, SES, mental health service use, misconduct, and disciplinary segregation, the analyses begin with

means-difference tests for each of the variables across sex. Tables 1 and 2 depict the descriptive statistics and the results from the means-difference tests for each variable in both samples; sex differences occur across most of the variables included in these analyses. Next, a series of sex-specific stepwise logistic regression models are estimated to determine the effect of mental illness and SES on misconduct, and if mental health service use mediates these relationships. Logistic regression is appropriate in this context due to the dichotomous nature of the dependent variables (Menard, 2010). Finally, coefficient comparison tests will be used to determine if results differ significantly across sex (Paternoster et al., 1998).

While logistic regression is appropriate for use in this context, problems arise when comparing coefficients of a variable of interest across models, as is done in step-wise mediation models (Clogg, Petkova, & Haritou, 1995; Karlson & Holm, 2011). More specifically, in logit models, coefficients from different models are not measured on the same scale, which makes comparison of two coefficients from separate models less feasible and difficult to interpret; this is known as the scale identification issue, which makes the decomposition of direct and indirect effects difficult (Karlson & Holm, 2011; Karlson, Holm, & Breen, 2012). To combat this problem, Karlson and colleagues (2012) introduced the KHB method as a tool to estimate direct and indirect effects that are not biased as a result of the scale identification issue. This method extends decomposition features of linear models to logit models by calculating the residuals of a regression coefficient between the mediator and independent variable of interest (Clogg et al., 1995; Karlson & Holm, 2011; Kohler, Karlson, & Holm, 2011). The residuals are used as predictors in a reduced model, which also includes the independent variable as a predictor of the outcome variable. Then a second, or full model, adds the mediator as a predictor. By using the residuals of the mediator in this model, the predictors are uncorrelated, and is therefore not a

confounding variable; however, the residuals have the same conditional relationship with the dependent variable as the mediator. This allows for the reduced model and the full model to be measured on the same scale, allowing for the comparison of coefficients across models (Breen, Karlson, & Holm, 2018).

The use of the KHB method is desirable for the current dissertation as it allows for the comparison of coefficients across step-wise logistic regression models by estimating all models on the same scale of measurement. As such, KHB will be used to conduct the following analyses. First, mental health service use will be regressed on mental illness to determine the relationship between mental illness and use of services while in prison. Next, an initial model will be estimated separately for men and women in order to determine the effect of mental illness on misconduct outcomes. Third, a model including the mediator, mental health service use, is estimated to determine the relationship between mental health service use and misconduct across sex. Fourth, the reduced KHB model, including mental illness, the residuals of the linear regression of mental health service use, and misconduct is estimated. Finally, the full model, which includes mental illness, mental health service use, misconduct, and all relevant covariates is estimated to determine the direct and indirect effects of mental illness on misconduct. The second stage of analyses will repeat the aforementioned steps but will use disciplinary segregation as the outcome of interest.

Due to the nested nature of the data (inmates housed within prisons), all analyses are estimated using robust standard errors. Additionally, a sampling weight, provided by the survey, is applied to the analyses. The final sampling weight is the product of the basic weight (the inverse of the probability of selection) and all adjustment factors (weighting control factor, duplication control factor, person noninterview adjustment factor, and control count ratio

adjustment factor [US DOJ, 2004]). Finally, to test for issues with collinearity, variance inflation factors (VIFs) with a threshold of 2.50 will be used to test for multicollinearity (Allison, 1999).

### **Sensitivity Analyses**

A series of sensitivity analyses will be estimated to determine the nature and extent of the relationships between mental illness, mental health service use, misconduct, and disciplinary segregation. First, sensitivity analyses will explore varying measures of mental illness in their effects on the dependent variables of interest. Specifically, analyses exploring the effect of diagnoses characterized by externalizing behaviors are of interest to determine if certain diagnoses are more relevant in this context. Research regarding mental illness suggests that certain diagnoses are characterized by externalizing behaviors (i.e., psychotic disorders, schizophrenia, etc.), while others are characterized by individuals turning inward (i.e., depression; NIMH, 2017; Slate et al., 2013). These analyses will determine if those diagnoses that are characterized by outward behavior increase the likelihood of misconduct and disciplinary segregation in the prison setting.

Analyses will also assess whether the relationships between mental illness and inmate misconduct and disciplinary segregation are impacted by severity of mental illness. More specifically, are individuals with multiple diagnoses at higher risk of being written up for misconduct and subsequent sanctions of disciplinary segregation? Prior research suggests that mental illness with co-occurring substance-use disorders may impact misconduct and disciplinary action (Houser et al., 2012). However, less research has examined the extent to which having multiple disorders impacts these outcomes. This is of interest due to the high rates of comorbidity between different diagnoses (see *DSM-IV-TR*, APA, 2000).

## CHAPTER FIVE:

### RESULTS

This chapter reviews the findings of this dissertation in three sections. First, the descriptive statistics of the samples and a summary of the results of the chi-square tests of independence used to identify sex differences that emerge are presented. After identifying significant sex differences across many the dependent variables, independent variables, and covariates included in these analyses, results from a series of logistic regression models are reviewed to show the effect of mental illness, education, mental health service use, and sex on violent misconduct and disciplinary segregation. General models exploring these relationships are presented, followed by sex-specific models to determine if the effects vary by sex. First, a logistic regression model is estimated to show the main effects of mental illness and education on the dependent variables. Second, plots of predicted probabilities and tests of second differences (Mize, 2018) are conducted to determine if mental illness and education interact to impact the outcomes of interest. Finally, mediation analyses using the KHB logistic regression model (Karlson & Holm, 2011; Karlson, Holm, & Breen, 2012) are reviewed to determine the mediating effect that mental health service use has on the relationship between mental illness, misconduct, and disciplinary segregation. The chapter will conclude with a brief discussion of model-fit and sensitivity analyses.



## Descriptive Statistics

### Institutional Misconduct

Table 1 depicts the results from the descriptive statistics and the chi-square tests of independence<sup>2</sup> for the full model and when separated by sex. Here, significant sex differences emerge across nearly all of the variables included in the analyses. Overall, 19% of the sample report being written up or found guilty of violent misconduct and 23% report being written up or found guilty of only nonviolent misconduct. Men report higher rates of violent misconduct than women (21% and 14% respectively). In terms of mental illness, 28.65% of the total sample reports being diagnosed with a mental illness in their lifetime. Here, women report higher rates of mental illness than men (48% and 24% respectively). Roughly 29% of the sample has a high-school education or higher (28.51% of men and 32.79% of women). Twenty-one percent of the sample reports using mental health services since admission; women are more likely to use services than men (37% and 17% respectively). The sample is, on average, 35 years old. In terms of racial/ethnic background, the sample is predominantly Black (41%), 36% are White 17% are Hispanic, and 3% identify as another race/ethnicity. The majority of the sample is unmarried (83%) and do not have children (58%).

### Disciplinary Segregation

Table 2 depicts descriptive statistics from the sample limited to individuals who have been written up or found guilty for their most recent rule violation. Again, significant sex differences emerge across the majority of the variables included in the analyses. Roughly 29% of the sample reports being sanctioned to segregation as punishment for their most recent infraction (30% of men and 23% of women). Similar to the misconduct sample, men have higher rates of

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<sup>2</sup> T-tests of independence are used for continuous variables; means and standard deviations are reported for these variables.

violent misconduct (40% compared to 31% of women) and women have higher rates of nonviolent misconduct (53% compared to 43% of men). Thirty-two percent of the sample report a diagnosis of mental illness; here, women have significantly higher rates than men (55% and 28% respectively). Approximately one-fourth of the sample has a high school education or higher (25% of men and 29% of women). The sample is predominantly Black (44%), with 39% White, 15% Hispanic, and 3% identifying as another racial/ethnic background. On average, the sample is approximately 34 years old, and most are unmarried (86%) and without children (60%). The majority of individuals are currently incarcerated for a violent offense (55%) and half have been previously incarcerated. Approximately two-thirds of the sample meets *DSM-IV-TR* diagnostic criteria for drug abuse (68%), with 46% meeting criteria for alcohol abuse, 23% for alcohol dependence, and 37% for drug dependence.

### **Model Fit**

Considering the binary nature of the dependent variables, logistic regression was used throughout the analyses. While logistic regression estimation presents a pseudo  $R^2$  value, there are disadvantages in using this value to assess model fit; specifically, this value cannot be used to interpret the proportion of variation in the dependent variable explained by the independent variables (Walsh, 1987). Thus, in order to determine model-fit, a Receiver Operator Characteristic (ROC) curve is estimated for each initial logistic regression (Egan, 1975; Gorsevski, Gessler, Foltz, & Elliot, 2006; Smith & McKenna, 2013; Swets 1988; Williams et al., 1999). The curve depicts the probability of a true positive versus a false positive and values range between 0 and 1 (Gorsevski et al., 2006). Figures depicting ROC curves for the initial logistic regression models are included in Appendix A.

## The General Effect of Mental Illness and Education on Misconduct and Disciplinary Segregation

### Main Effects of Mental Illness and Education

To test the first hypothesis, the main effects of the independent variables are estimated to determine if differences exist in the writing up/guilty finding of violent misconduct and subsequent disciplinary segregation as a result of mental illness and education level. Table 3 shows the main effects of mental illness and education on violent misconduct, while controlling for theoretically and empirically relevant variables. Both mental illness ( $b = 0.50, p < 0.001$ ) and education ( $b = -0.25, p < 0.001$ ) have significant effects on violent misconduct. Individuals with a mental illness have a 64% increase in the odds of being written-up or found guilty of violent misconduct in comparison to those without a diagnosis of mental illness. Those with a high school education or higher have a 22% decrease in the odds of being written up or found guilty when compared to those with less than a high school education. Table 4 depicts the relationship between mental illness, education, and disciplinary segregation. Mental illness has a significant effect on disciplinary segregation ( $b = 0.23, p < 0.001$ ), but education does not ( $b = -0.01, p = 0.86$ ). Those with a diagnosis of mental illness have a 26% increase in the odds of being sanctioned to disciplinary segregation than those without mental illness.

In order to interpret the size of the effect of mental illness in these relationships, guidelines established by Chen and colleagues (2010) are useful. They suggest that odds-ratios of 1.68 are equivalent to a small or “weak” association as determined by Cohen’s  $d$ , odds-ratios of 3.47 constitute a “moderate” association, and an odds-ratio of 6.71 constitutes a “strong” association. Using these guidelines, the effects of mental illness and education on misconduct and disciplinary segregation listed above are considered to be weak associations. These

guidelines will be used to interpret the remainder of the results detailed in this chapter.

Next, results are presented using the measure of mental illness that distinguishes between internalizing and externalizing disorders. Internalizing disorders ( $b = 0.42, p < 0.001$ ), externalizing disorders ( $b = 0.54, p < 0.001$ ), and education ( $b = -0.25, p < 0.001$ ) have significant effects on violent misconduct (see Table 5). Similar to the general measure of mental illness, internalizing and externalizing disorders appear to have a small, but significant effect on misconduct. Individuals with internalizing disorders have a 53% increase and those with externalizing disorders have a 71% increase in the odds of being written up or found guilty of violent misconduct in comparison to those with no diagnosis of mental illness. Again, the association between education and misconduct is small – individuals with a high school education or higher have a 22% decrease in the odds of violent misconduct than those with less than a high school education.

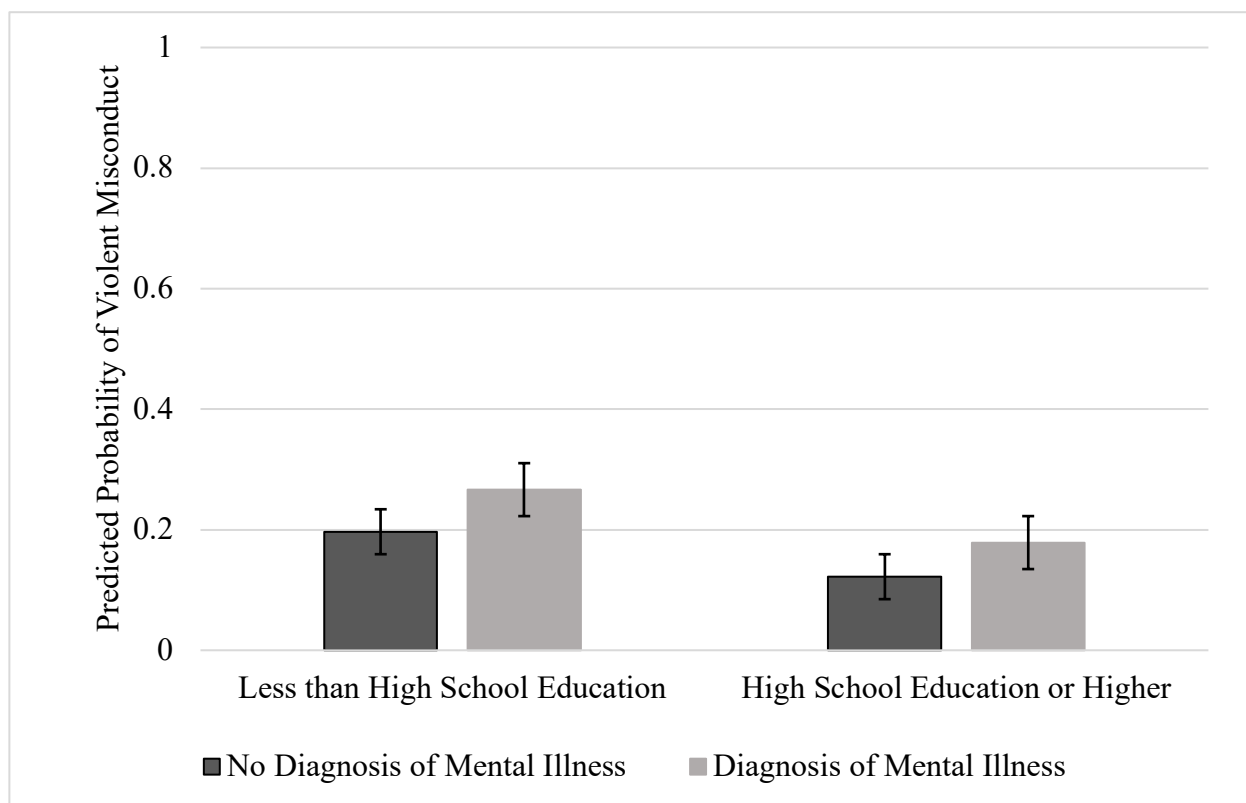
Turning to disciplinary segregation as the outcome of interest, Table 6 presents the effects of internalizing disorders, externalizing disorders, and education. Here, both internalizing ( $b = 0.20, p = 0.04$ ) and externalizing ( $b = 0.25, p = 0.001$ ) disorders show a small increase the odds of being sanctioned to disciplinary segregation. Individuals with internalizing disorders have a 22% increase and those with externalizing disorders have a 29% increase in the odds of being sanctioned to disciplinary segregation in comparison to individuals with no diagnosis of mental illness. Education had no effect on disciplinary segregation.

### **The Moderating Effect of Education on Mental Illness**

To test the second hypothesis, the data are analyzed to determine if an interaction effect exists between mental illness and education. Recent advances in methodological work advise caution in interpreting interactions in a logistic regression model and between non-continuous

covariates (Long & Mustillo, 2018; Mize, 2019). As a result, the following steps, outlined by Mize (2019), are used to determine if an interaction exists between mental illness and education. First, an interaction term is included in the logistic model. Next, predicted probabilities are created and visually inspected for each group using the Stata “margins” command. Finally, tests of second differences are presented using the Stata “margins” command to determine if the interaction is significant. Results with violent misconduct as the outcome of interest are presented first, followed by the results using disciplinary segregation as the dependent variable.

**Violent misconduct.** Table 7 presents the violent misconduct model when the interaction term between mental illness and education is included. While the interaction term is not significant ( $b = 0.04, p = 0.71$ ), the interaction effect is tested for using the steps outlined above. Figure 1 provides a visual for the interaction between mental illness and education. By visually inspecting this figure, no interaction effect exists as there are not significant differences in education level within groups of mental illness.



**Figure 1.** Predicted Probabilities of Misconduct by Mental Illness and Level of Education.

Table 8 tests group differences based on these estimated probabilities. First, the predicted probabilities and standard errors for each group are presented. The second column determines within group differences (i.e., difference in the probability for individuals with mental illness who do and do not have a high school education or higher) and tests the significance. Finally, tests of between group differences are presented (i.e., is the effect of education similar for those with and those without a diagnosis of mental illness). Results from these analyses confirm that no interaction effect exists between mental illness and education.

These steps are repeated with the measure of mental illness that distinguishes between internalizing and externalizing disorders. Table 9 includes the interaction term between externalizing disorders and education and the interaction term between internalizing disorders

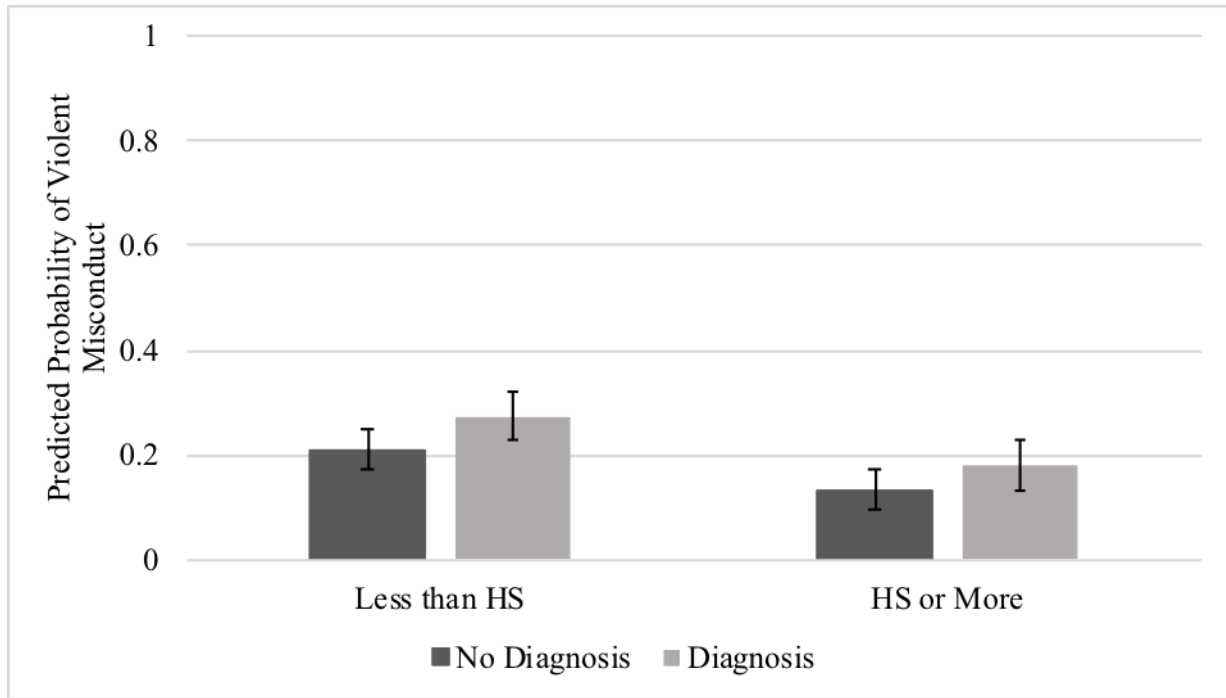
and education<sup>3</sup>. Similar to the measure of any mental illness, neither interaction term is significant (see Table 9). After visually inspecting the predicted probabilities of misconduct by internalizing disorders and education and by externalizing disorders and education (see Figure 2), and the corresponding tests of second differences (see Table 10), it is confirmed that there is no interaction effect between internalizing or externalizing disorders and education.

**Disciplinary segregation.** Next, the interaction is tested in the disciplinary segregation sample. Table 11 depicts the results when the interaction term between mental illness and education is included in the model. Much like the misconduct sample, the interaction term is not significant ( $b = 0.07, p = 0.59$ ); however, the interaction effect is tested for using the steps outlined above. Figure 3 provides a visual for the interaction in this sample. By visually inspecting this figure, no interaction effect emerges as there are not significant differences in education level within groups of mental illness. Table 12 tests the group differences based on the predicted probabilities of disciplinary segregation. Here, tests of second differences confirm that no interaction effect emerges between mental illness and education.

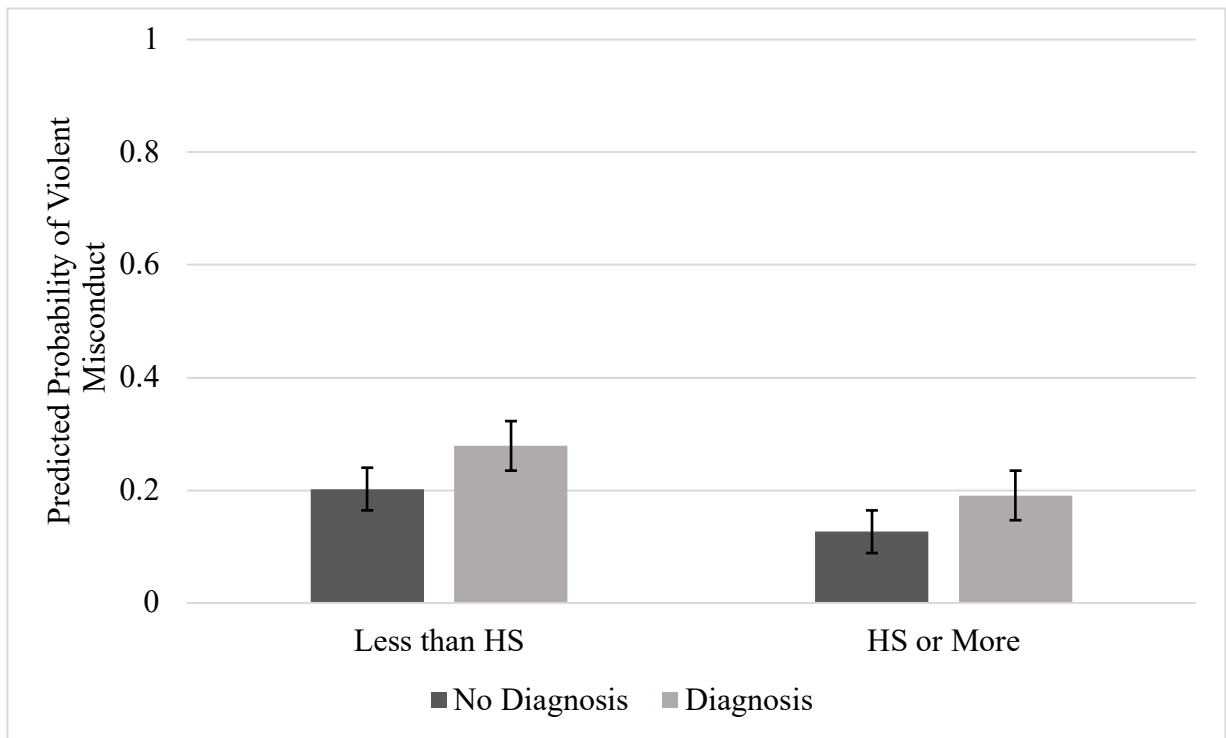
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<sup>3</sup> These models were run separately, without substantive changes in the effect size or direction of the covariates; to conserve space, these models are presented in one table.

Panel A. Predicted Probabilities of Violent Misconduct for Internalizing Disorders

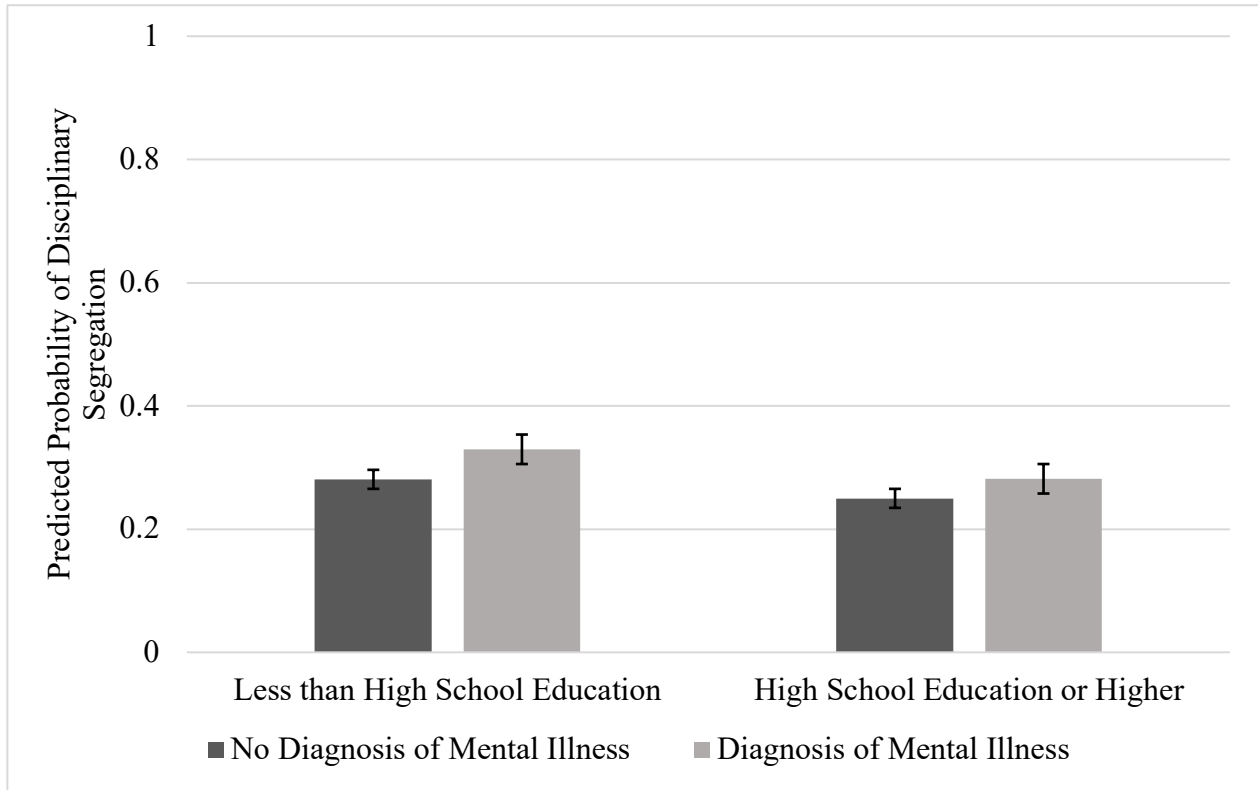


Panel B. Predicted Probabilities of Violent Misconduct for Externalizing Disorders



**Figure 2.** Predicted Probabilities of Misconduct by Internalizing Disorders, Externalizing Disorders, and Level of Education.





**Figure 3.** Predicted Probabilities of Disciplinary Segregation by Mental Illness and Level of Education.

These steps are repeated with the measure of mental illness that distinguishes between internalizing and externalizing disorders. Table 13 includes the interaction term between externalizing disorders and education and the interaction term between internalizing disorders and education<sup>4</sup>. Similar to the measure of any mental illness, neither interaction term is significant in Table 13. After visually inspecting the predicted probabilities of misconduct by internalizing disorders and education and by externalizing disorders and education (see Figure 4), and the corresponding tests of second differences (Table 14), it is confirmed that there is no interaction effect between internalizing or externalizing disorders and education.

Overall, results suggest that the effect of mental illness on disciplinary segregation does

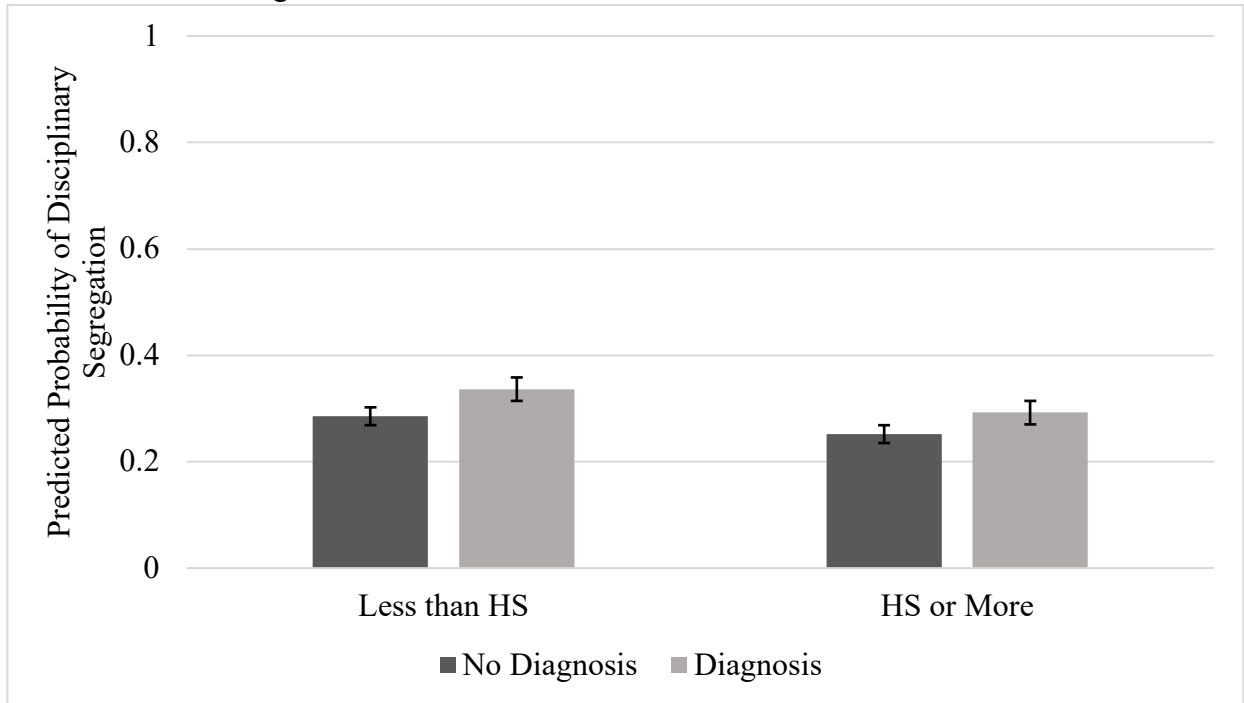
<sup>4</sup> These models were run separately, without substantive changes in the effect size or direction of the covariates; to conserve space, these models are presented in one table.

not vary by the proxy measure for SES, level of education. Similarly, the effects of internalizing and externalizing disorders do not vary by level of education. These findings will be discussed in detail in Chapter 6.

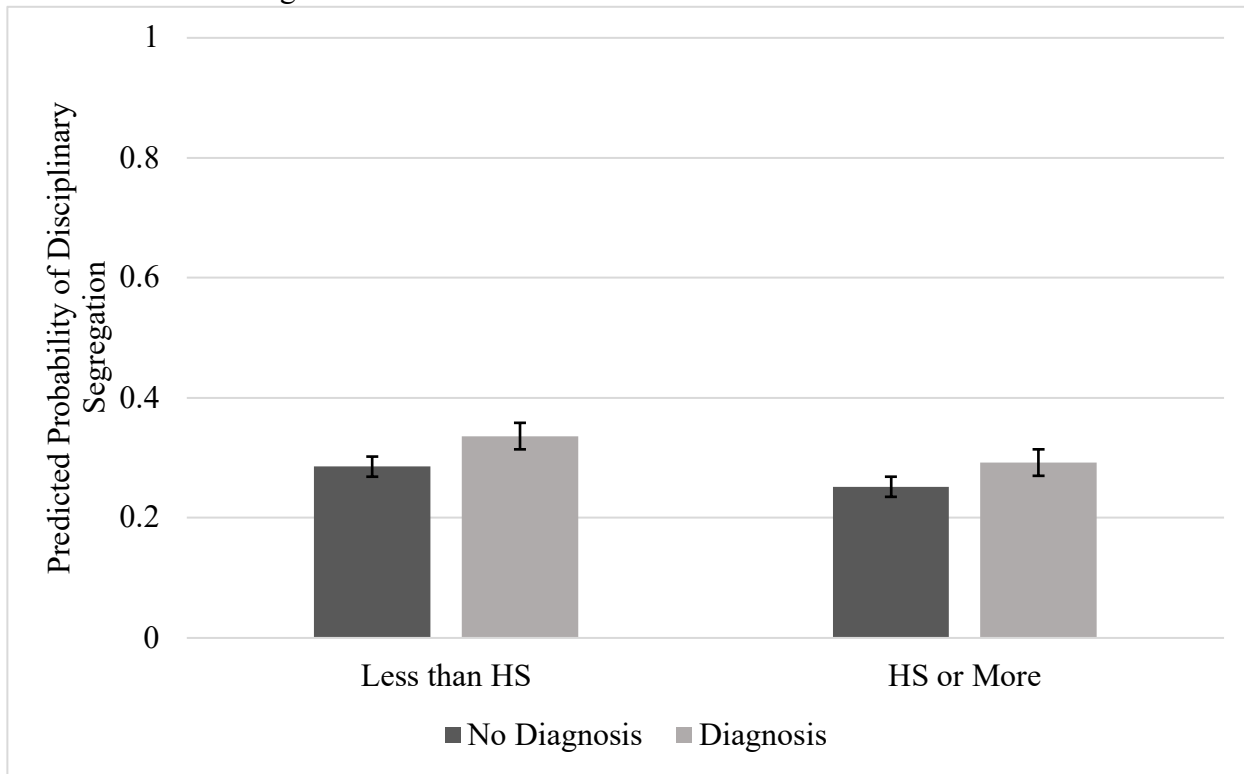
### **The Mediating Effect of Mental Health Services**

To test the third hypothesis, the data are analyzed using a series of logistic regression models using the KHB method to account for the dichotomous nature of the dependent variables (Karlson & Holm, 2011; Karlson, Holm, & Breen, 2012). Considering no interaction effect is found between education and mental illness, the remaining analyses in this section examine the effect of mental health service use in the relationships between mental illness, misconduct, and disciplinary segregation. First, results examining the impact of any mental illness and any mental health services on violent misconduct are presented. These results are followed by examining if this relationship changes using measures of internalizing and externalizing disorders. Finally, these results are repeated with disciplinary segregation as the outcome of interest.

Panel A. Internalizing Disorders



Panel B. Externalizing Disorders



**Figure 4.** Predicted Probabilities of Disciplinary Segregation by Internalizing Disorders, Externalizing Disorders, and Level of Education.

The results of KHB analyses report a series of statistics that are useful in interpreting if mediation occurs. First, the reduced model (the model including the residuals of mental health service use) is presented, followed by the full model (the model including the mediating variable), and the difference (the difference in the effect size between the reduced and full models). Finally, the confounding ratio and confounding percentage are reported. The confounding ratio determines the extent to which the mediator (service use) confounds the independent variable (mental illness), while the confounding percentage is the percent of the effect of mental illness that is explained by mental health service use (Karlson & Holm, 2011; Karlson, Holm, & Breen, 2012).

**Violent misconduct.** Table 15 shows the results from the mediation analysis using the dichotomous measure of mental illness. The results of the reduced model show a small, but significant main effect of mental illness on violent misconduct ( $b = 0.49, p < 0.001$ ); individuals with a diagnosis of mental illness have a 64% increase in the odds of being written up or found guilty of violent misconduct in comparison to those without a diagnosis of mental illness. In the full model, when the use of mental health services is accounted for, the magnitude of the effect decreases, but remains significant ( $b = 0.28, p < 0.001$ ); here, the slight increase in the odds of misconduct is reduced to 33%. The confounding ratio indicates that the effect of mental illness in the reduced model is 1.75 times larger than the effect of mental illness in the full model and 42.77% of the relationship between mental illness and violent misconduct is explained by using mental health services in prison. These results suggest that although the main effect of mental illness on misconduct is modest, using mental health services reduces this effect.

Results using internalizing and externalizing disorders as a measure of mental illness are presented in Table 16. Results indicate a modest relationship between internalizing disorders ( $b =$

0.41,  $p < 0.001$ ), externalizing disorders ( $b = 0.54, p < 0.001$ ) and violent misconduct; individuals diagnosed with internalizing disorders have a 51% increase and those with externalizing disorders have a 71% increase in the odds of violent misconduct in comparison to those without a diagnosis. Both of these effects remain significant, but are reduced in magnitude when the use of mental health services is accounted for (internalizing:  $b = 0.24, p < 0.001$ ; externalizing:  $b = 0.31, p < 0.001$ ); the increase in the odds of misconduct is reduced to 27% for individuals with internalizing disorders and 36% for those with externalizing disorders. The effects of mental illness in the reduced models are 1.73 times (for internalizing disorders) and 1.74 times (for externalizing disorders) larger than that of the full model and 42% of the relationship between both internalizing and externalizing disorders and violent misconduct are explained by mental health service use in prison.

**Disciplinary segregation.** Table 17 depicts results of the mediation analyses when disciplinary segregation is the dependent variable of interest. A small, but significant main effect emerges between a diagnosis of mental illness and disciplinary segregation ( $b = 0.23, p < 0.001$ ); when compared to individuals with no diagnosis of mental illness, those with a diagnosis have a 26% increase in the odds of being sanctioned to segregation. This effect is reduced in both magnitude and significance when mental health service use is included in the model ( $b = 0.10, p = 0.26$ ). The effect of mental illness in the reduced model is 2.39 times larger than its effect in the full model and 58% of this effect is explained by using mental health services in prison.

Results using internalizing and externalizing disorders as measures of mental illness are presented in Table 18. Here, both internalizing ( $b = 0.25, p < 0.001$ ) and externalizing disorders ( $b = 0.20, p = 0.04$ ) have a modest, but significant main effect on disciplinary segregation outcomes; individuals with internalizing disorders have a 28% increase and those with

externalizing disorders have a 22% increase in the odds of being sanctioned to disciplinary segregation than those without mental illness. These effects are reduced in terms of significance and magnitude when mental health service use is incorporated in the models (internalizing:  $b = 0.11, p = 0.24$ ; externalizing:  $b = 0.08, p = 0.45$ ). In both panels, the effects of mental illness in the reduced models are over two times greater than the effects in the full models and over 50% of the relationships between internalizing disorders, externalizing disorders, and disciplinary segregation are explained by using mental health services in prison.

### **Summary of the General Effects of Mental Illness, Education, and Service Use**

In exploring the general effects of mental illness, education, and service use on violent misconduct and disciplinary segregation several key findings are of interest. First, measures of mental illness consistently predict violent misconduct and subsequent disciplinary segregation – although these main effects are small in magnitude (see Chen et al., 2010). Education, however, only modestly predicts violent misconduct. Second, results suggest that no significant interaction exists between education and measures of mental illness. Finally, mental health service use consistently mediates the effects of mental illness on violent misconduct and disciplinary segregation. These results will be discussed in greater detail in Chapter 6. The next section will examine if sex differences exist in the relationships explored above.

### **Sex Differences in the Effect of Mental Illness, Education, and Mental Health Services**

To test the final hypothesis, a series of sex specific models are estimated. The results of these analyses are presented in the same order as the general models. Beginning with violent misconduct as the outcome of interest, logistic regression models estimating the main effects of mental illness and education on violent misconduct are presented followed by predicted probabilities and tests of second differences to test for an interaction between mental illness and

education. Next, the mediation analyses using the KHB method are presented to determine if mental health service use explains the relationship between mental illness and violent misconduct. Finally, these steps will be repeated with disciplinary segregation as the dependent variable.

### **Violent Misconduct**

The main effects of mental illness and education on violent misconduct are presented in Table 19. Here, mental illness and education are significant predictors of misconduct for both men (MI:  $b = 0.50, p < 0.001$ ; Education:  $b = -0.24, p < 0.001$ ) and women (MI:  $b = 0.60, p < 0.001$ ; Education:  $b = -0.25, p = 0.05$ ). Odds-ratios show that men and women with mental illness have a slight increase (58% and 82%, respectively) in the odds of misconduct when compared to those of the same sex without mental illness. Tests comparing coefficients between men and women (Paternoster et al., 1998) revealed no significant differences for mental illness or education. However, differences exist between men and women on two of the covariates. Black women are significantly more likely to be written up or found guilty of violent misconduct than black men (women:  $b = 1.12, p < 0.001$ ; men:  $b = 0.35, p < 0.001$ ). Women who are employed prior to their incarceration are significantly less likely than their male counterparts to be written up or found guilty of violent misconduct (women:  $b = -0.05, p < 0.001$ ; men:  $b = -0.20, p = 0.01$ ).

Considering women are more likely to be diagnosed with disorders characterized by internalizing behaviors (Eaton et al., 2012; Zlotnick et al., 2008), the effect of internalizing and externalizing disorders is explored in sex-specific models and are presented in Table 20. Here, three sex differences emerge. First sex differences exist in the impact of mental illness on violent misconduct. Internalizing disorders have a modest, but significant effect on violence among men

( $b = 0.44$ ,  $OR = 1.55$ ,  $p < 0.001$ ), but not among women ( $b = 0.30$ ,  $p = 0.13$ ). The effect of externalizing disorders are significant among both men ( $b = 0.47$ ,  $OR = 1.60$ ,  $p < 0.001$ ) and women ( $b = 0.71$ ,  $OR = 2.03$ ,  $p < 0.001$ ); results comparing the coefficients of externalizing disorders among men and women reveal that although the effect of externalizing disorders on violence is weak for both sexes, externalizing disorders are a more salient predictor for women than for men. Externalizing disorders increase the odds of misconduct for women by 103%, while the odds of misconduct for men is increased by 60%. Second, coefficient comparisons reveal that Black women ( $b = 1.11$ ,  $p < 0.001$ ) are more likely to be written up or found guilty of violent misconduct than Black men ( $b = 0.35$ ,  $p < 0.001$ ). Finally, women who were employed in the month prior to their incarceration ( $b = -0.55$ ,  $p < 0.001$ ) are less likely to be written up or found guilty of violent misconduct compared to their male counterparts ( $b = -0.17$ ,  $p = 0.01$ ).

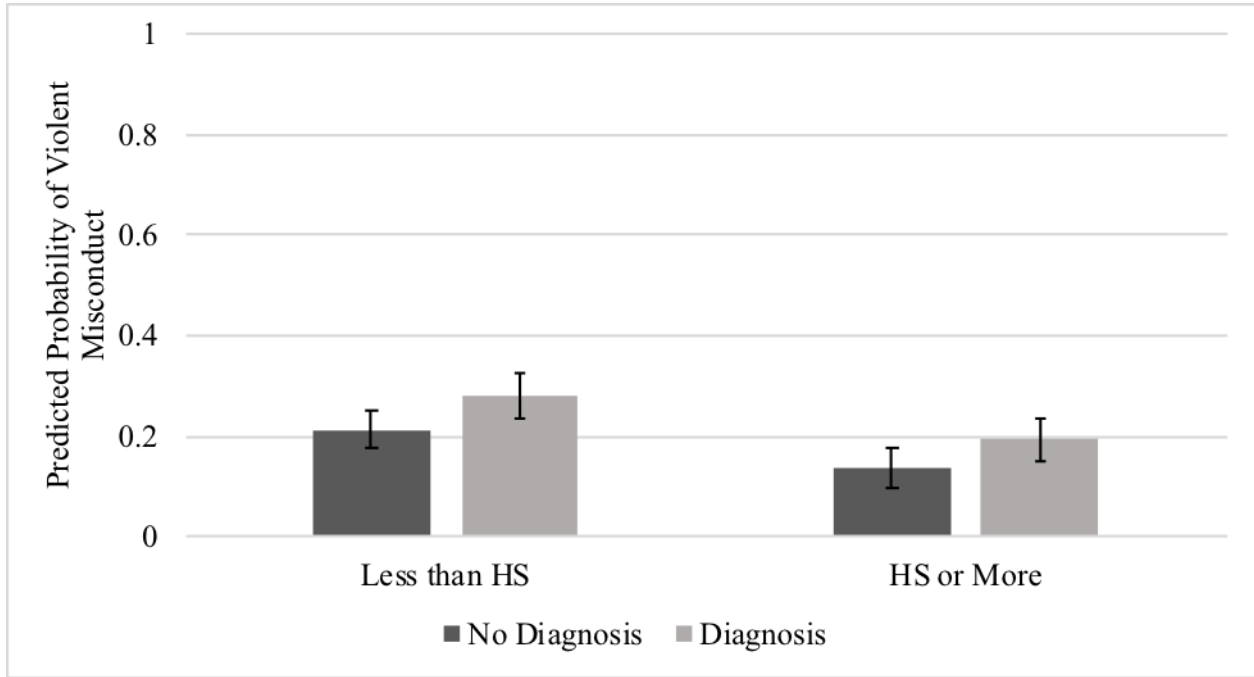
**The moderating effect of education.** Logistic regression results incorporating an interaction term between mental illness and education are shown in Table 21. Mental illness is a weak, but significant predictor of violence for men ( $b = 0.45$ ,  $OR = 1.56$ ,  $p < 0.001$ ) and women ( $b = 0.55$ ,  $OR = 1.73$ ,  $p < 0.001$ ). Here education is significant for men ( $b = -0.25$ ,  $p < 0.001$ ), but not for women ( $b = -0.36$ ,  $p = 0.10$ ). Although the interaction term is insignificant in both models, predicted probabilities and tests of second differences are presented to determine if interactions emerge (see Long & Mustillo, 2018; Mize, 2019). Figure 5 provides a visual for the predicted probabilities of misconduct by mental illness and education for both men (Panel A) and women (Panel B); here, there appears to be no interaction effect for men or women. Table 22 portrays group differences based on the predicted probabilities; these differences confirm that no interaction exists between mental illness and education for either sex.



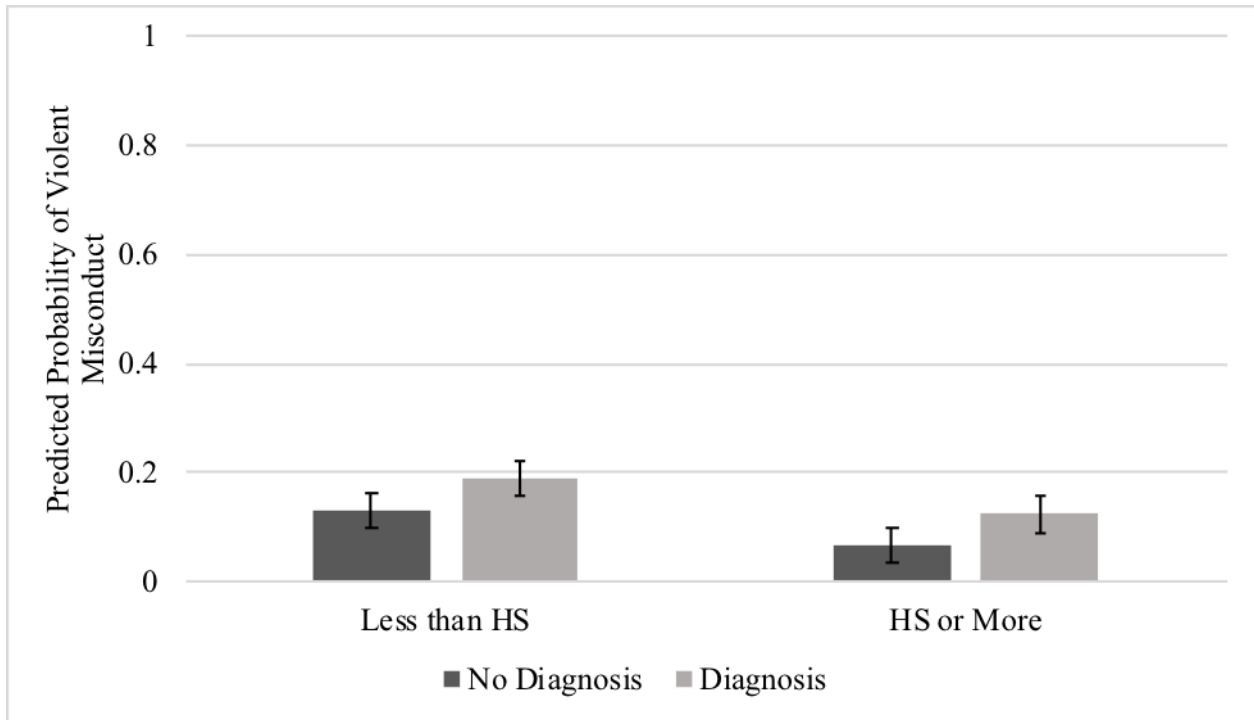
Interaction effects are also explored when measures of internalizing and externalizing disorders are used as measures of mental illness. When interaction terms between internalizing disorders and education, as well as externalizing disorders and education are included in the logistic regression models, neither interaction term is significant (see Table 23). The predicted probabilities of violent misconduct by internalizing disorders and education are plotted in Figure 6; again, there appears to be no interaction effect for men or women. Tests of second differences based on these predicted probabilities confirm that there is not interaction between internalizing disorders and education (see Table 24).

Figure 7 portrays the predicted probabilities of violent misconduct by externalizing disorders and education. Panel A presents the predicted probabilities among men and panel B presents predicted probabilities among women. These figures show that an interaction effect does not exist between externalizing disorders and education. Tests of second differences for both men and women confirm that no interaction effect exists between externalizing disorders and education (see Table 25).

Panel A. Predicted Probabilities of Violent Misconduct among Men

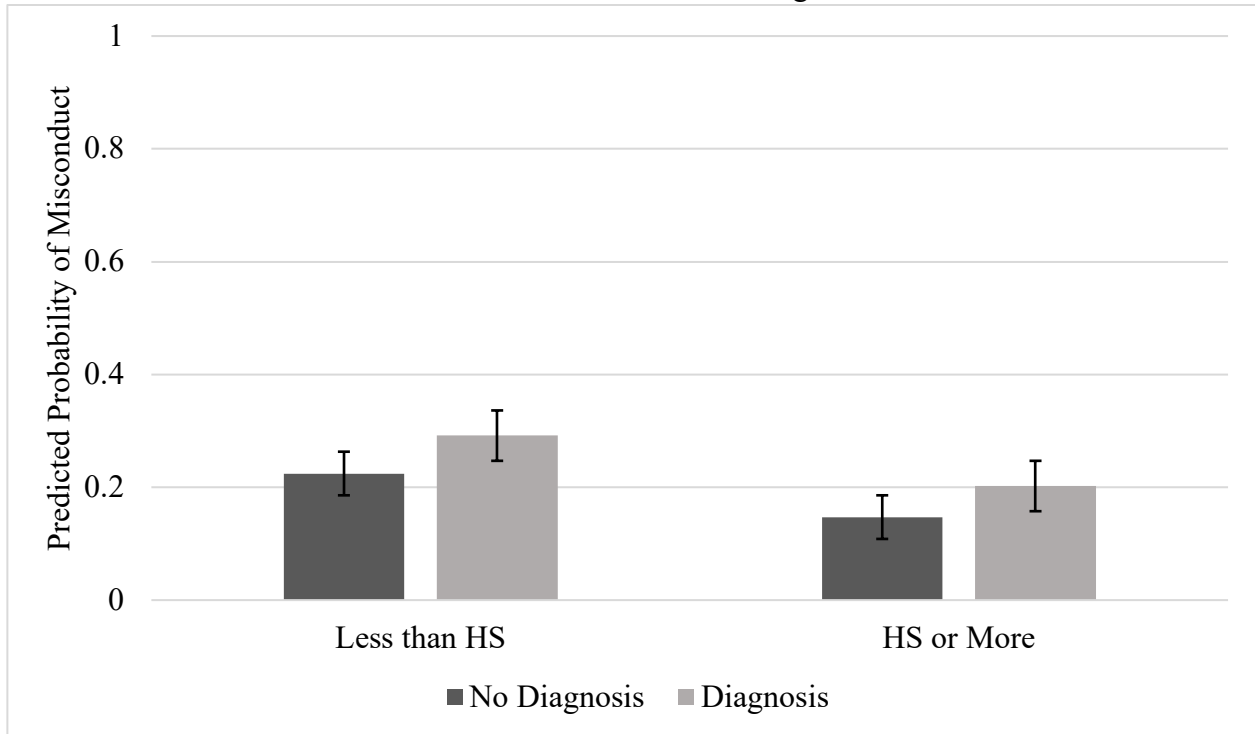


Panel B. Predicted Probabilities of Violent Misconduct among Women



**Figure 5.** Sex-Specific Predicted Probabilities of Misconduct by Mental Illness and Level of Education.

Panel A. Predicted Probabilities of Violent Misconduct among Men



Panel B. Predicted Probabilities of Violent Misconduct among Women

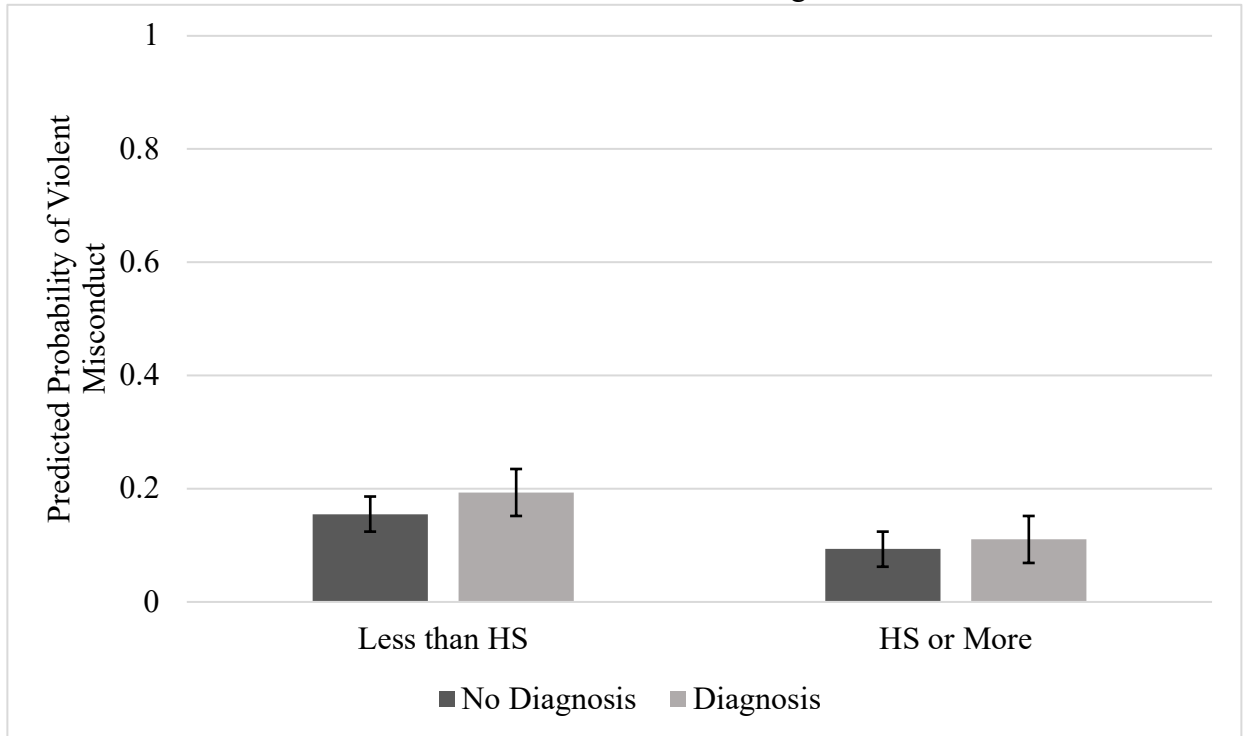
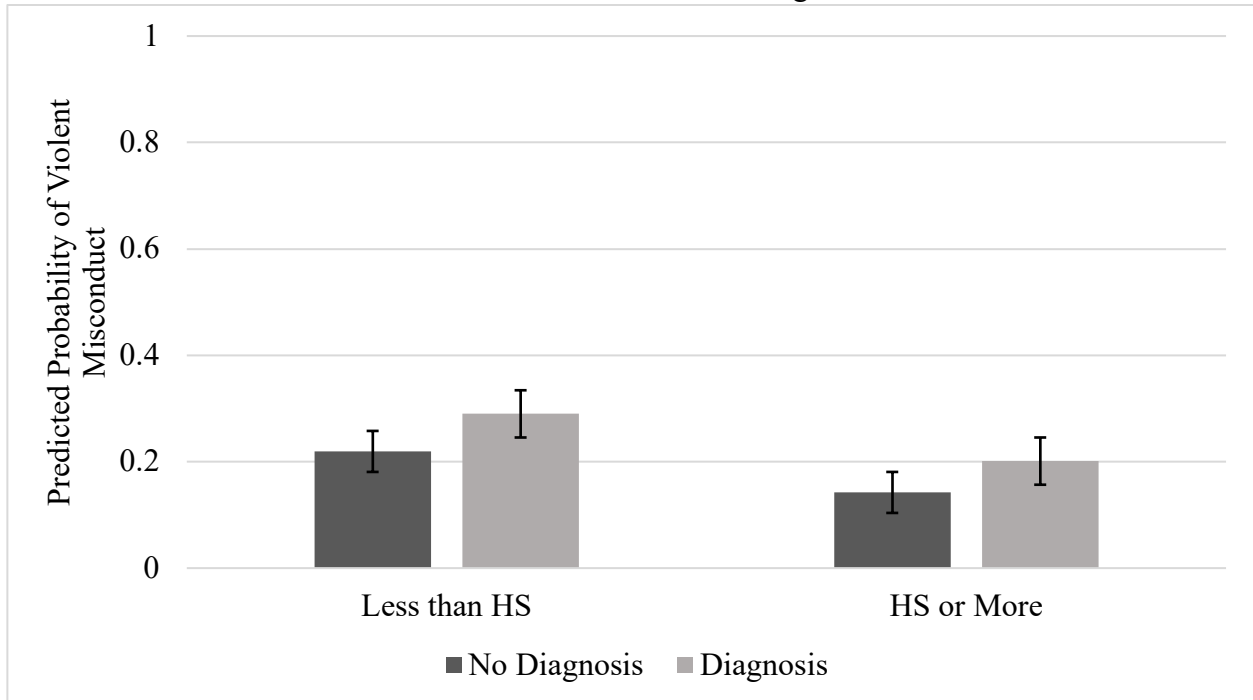


Figure 6. Sex-Specific Predicted Probabilities of Misconduct by Internalizing Disorders by and Level of Education.

Panel A. Predicted Probabilities of Violent Misconduct among Men



Panel B. Predicted Probabilities of Violent Misconduct among Women

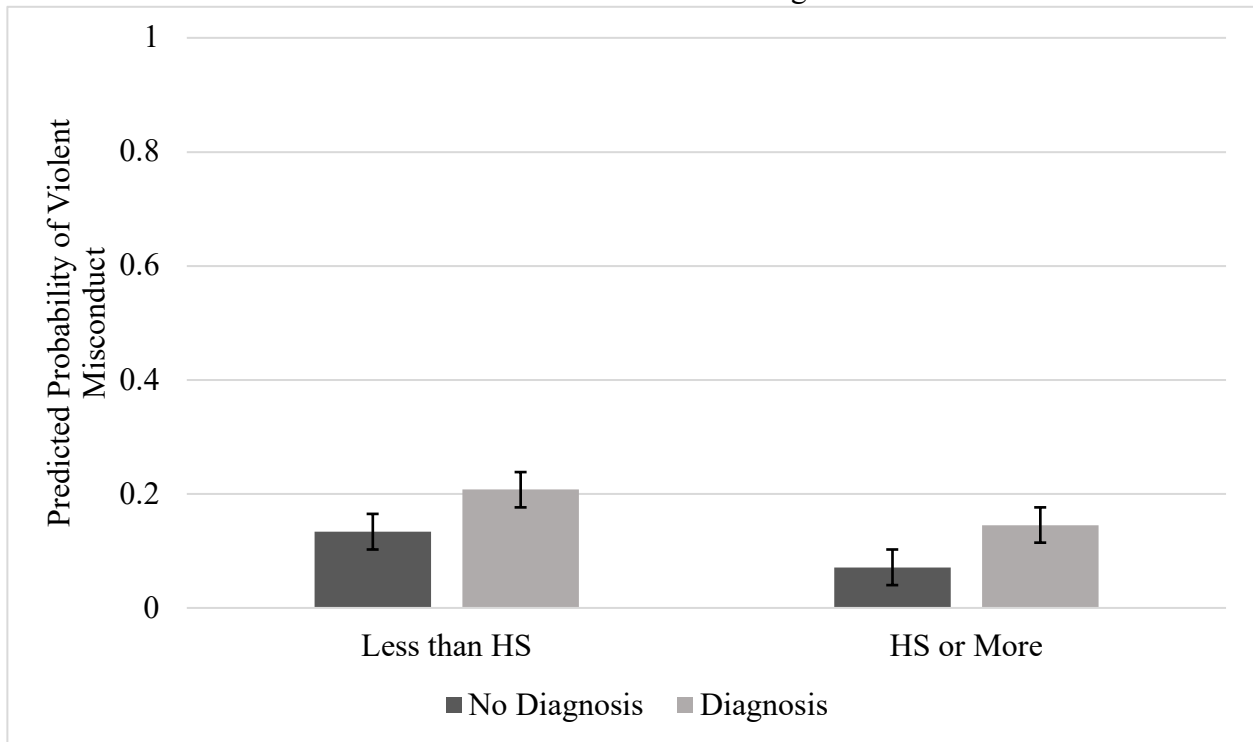


Figure 7. Sex-Specific Predicted Probabilities of Misconduct by Externalizing Disorders and Level of Education.

**The mediating effect of mental health services.** This section presents the results of the logistic regression models using the KHB method to determine if mental health service use mediates the relationships between mental illness, internalizing and externalizing disorders, and violent misconduct by sex. First, the results for the general mental illness measure will be presented for both men and women. These results are followed by the results using internalizing and externalizing disorders as a measure of mental illness.

The results of the relationship between general mental illness, mental health service use, and violent misconduct among men are presented in Table 26. The reduced model shows that mental illness has a small, but significant main effect on violent misconduct ( $b = 0.45, p < 0.001$ ); when compared to men with no diagnosis of mental illness, those with a diagnosis have a 57% increase in the odds of being written up or found guilty of violent misconduct. When mental health service use is added to the model, both the significance and magnitude of the effect are reduced ( $b = 0.26, p = 0.002$ ). Results indicate that the effect of mental illness in the reduced model is 1.72 times larger than the effect in the full model and 41.70% of the relationship between mental illness and violence among men is explained by mental health service use.

Next, the results of the mediation analysis are presented for women (see Table 27). Again, the main effect of mental illness is small, but significant ( $b = 0.58, p < 0.001$ ); women with a mental illness have a 78% increase in the odds of being written up or found guilty of violence than women without a diagnosis of mental illness. This effect is reduced in magnitude and is no longer significant in the full model. Moreover, the effect of mental illness in the reduced model is 2.05 times greater than its effect in the full model and 51.38% of the relationship between mental illness and violence among women is explained by using mental health services in prison.

Turning to internalizing and externalizing disorders, the results of the mediation analyses for men and women are presented in Tables 28 and 29. For men significant, but weak associations exist between both internalizing ( $b = 0.43, p < 0.001$ ) and externalizing disorders ( $b = 0.47, p < 0.001$ ) and violence in the reduced models. The effects for both internalizing ( $b = 0.27, p = 0.01$ ) and externalizing disorders ( $b = 0.26, p = 0.01$ ) are lessened in the full models when mental health service use is accounted for. Roughly 37% of the relationship between internalizing disorders and 44% of the relationship between externalizing disorders and violence is mediated by service use among men. For women, internalizing disorders ( $b = 0.27, p = 0.15$ ) are not predictive of violence, while externalizing disorders ( $b = 0.70, p < 0.001$ ) modestly increase the odds of being written up for violent misconduct. When accounting for mental health service use, the effect of externalizing disorders ( $b = 0.40, p = 0.01$ ) is reduced. Furthermore, the KHB analysis reveals that approximately 43% of the relationship between externalizing disorders and violence is mediated by service use.

### **Disciplinary Segregation**

The sex-specific models estimating the effects of mental illness and education are presented in Table 30. Here, mental illness slightly increases the likelihood of disciplinary segregation for both men ( $b = 0.20, OR = 1.22, p = 0.01$ ) and women ( $b = 0.45, OR = 1.57, p = 0.02$ ); in comparing coefficients, no significant differences emerge. Education does not have an effect on disciplinary segregation outcomes for either sex (men:  $b = -0.03, p = 0.69$ ; women:  $b = 0.06, p = 0.70$ ). Several sex differences appear in this model. First, violent misconduct is a weak predictor of disciplinary segregation for men ( $b = 0.94, OR = 2.55, p < 0.001$ ) and a moderate predictor of disciplinary segregation for women ( $b = 1.62, OR = 5.05, p < 0.001$ ). In comparing coefficients, results suggest that violent misconduct is a more salient predictor of disciplinary

segregation among women than men. Additionally, age ( $b = -0.01, p = 0.01$ ), time served ( $b = 0.003, p < 0.001$ ), having a work assignment ( $b = -0.32, p < 0.001$ ), meeting *DSM-IV-TR* diagnostic criteria for drug abuse ( $b = -0.18, p = 0.03$ ), and having a visit in the past month ( $b = -0.21, p < 0.001$ ) are all predictors of disciplinary segregation for men, but not for women.

Turning to the effects of internalizing and externalizing disorders on disciplinary segregation, results are presented in Table 31. Here, the effects of internalizing and externalizing disorders on disciplinary segregation differ by sex; internalizing disorders are weak predictors of segregation for men ( $b = 0.24, OR = 1.27, p = 0.02$ ), but not for women ( $b = 0.13, OR = 1.14, p = 0.59$ ). The opposite is true when looking at the effect of externalizing disorders on segregation; the effect is small, but significant for women ( $b = 0.57, OR = 1.76, p = 0.003$ ), but is not significant for men ( $b = 0.17, OR = 1.19, p = 0.06$ ). Similar to the general mental illness model, violent misconduct is a more salient predictor for women ( $b = 1.61, OR = 5.00, p < 0.001$ ) than men ( $b = 0.94, OR = 2.56, p < 0.001$ ), and age ( $b = -0.01, p = 0.01$ ), time served ( $b = 0.003, p < 0.001$ ), having a work assignment ( $b = -0.32, p < 0.001$ ), drug abuse ( $b = -0.18, p = 0.03$ ), and having a visit in the past month ( $b = -0.21, p = 0.01$ ) are significant for men, but not for women.

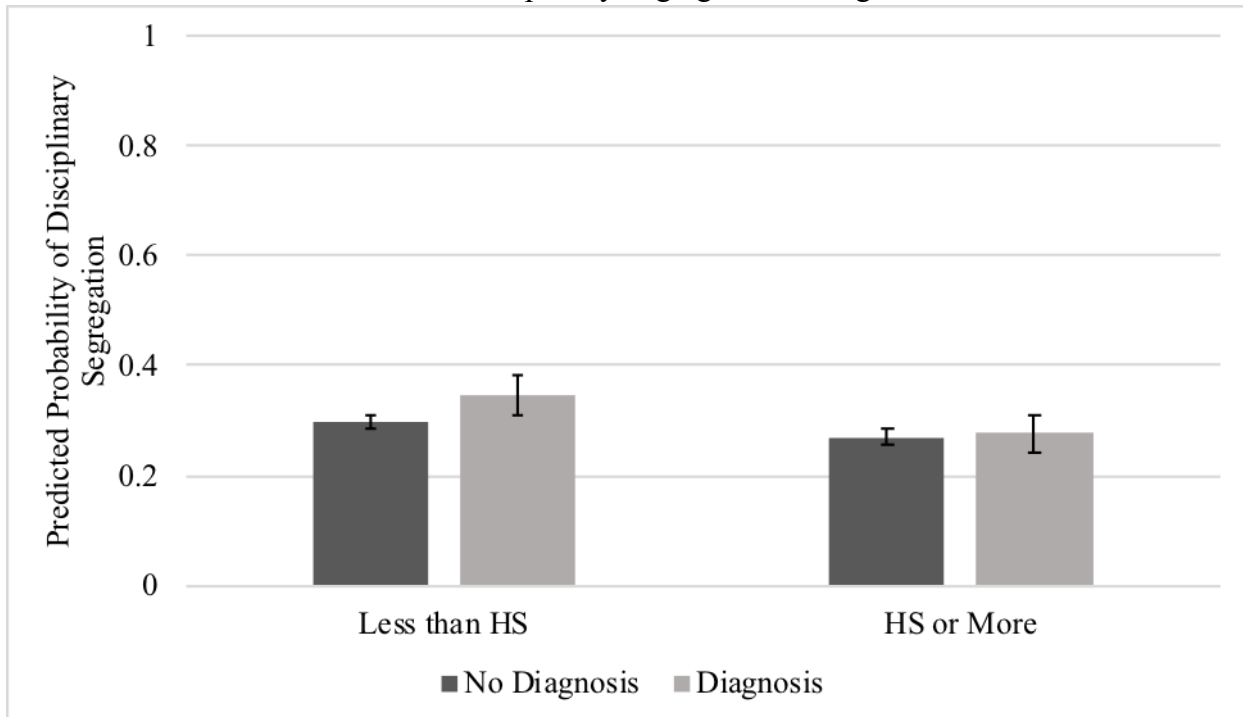
**The moderating effect of education.** The results of the logistic regression model including an interaction term between mental illness and education are depicted in Table 32. When the interaction term is included in the model, mental illness is no longer significant for women ( $b = 0.33, p = 0.13$ ), but remains significant for men ( $b = 0.25, p = 0.01$ ). Although the interaction term is not significant in either model (men:  $b = -0.22, p = 0.18$ ; women:  $b = 0.42, p = 0.22$ ), predicted probabilities for each sex are plotted in Figure 8. Upon visual inspection it appears no significant interaction emerged between mental illness and education; tests of second differences confirm these results (see Table 33).

Turning to measures of internalizing and externalizing disorders, results of the interaction between internalizing disorders and education are presented in Table 34 and the interaction between externalizing disorders and education are presented in Table 35. For all models, the interaction terms are not significant; predicted probabilities of segregation by internalizing disorders and education are presented in Figure 9, while the predicted probabilities by externalizing disorders and education are presented in Figure 10. Tests of second differences based on these predicted probabilities reveal that no significant interaction exists between internalizing disorders or externalizing disorders and education for either sex (see Tables 36 and 37).

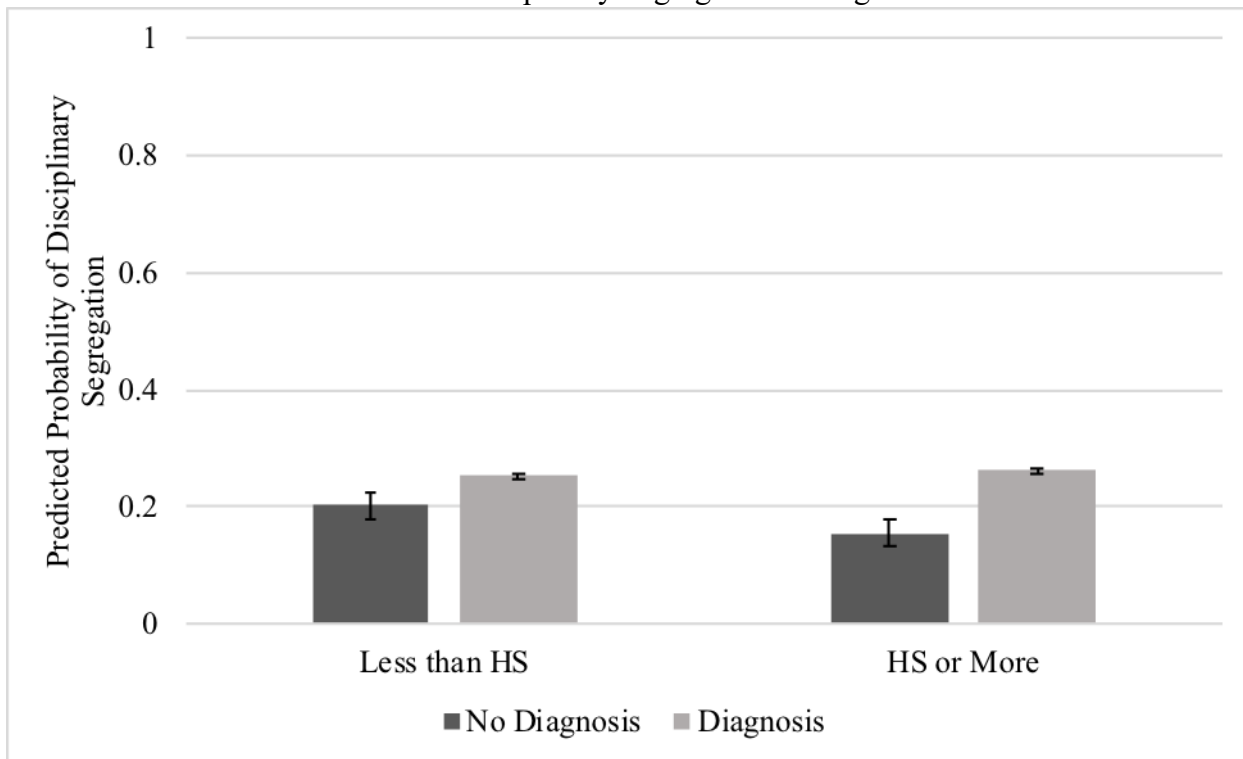
**The mediating effect of mental health services.** Next results of the logistic regression models using the KHB method to determine if mental health service use mediates the relationships between mental illness, internalizing and externalizing disorders, and disciplinary segregation by sex are presented. First, the results for the general mental illness measure will be presented for both men and women. These results will be followed by the results using internalizing and externalizing disorders as a measure of mental illness.



Panel A. Predicted Probabilities of Disciplinary Segregation among Men

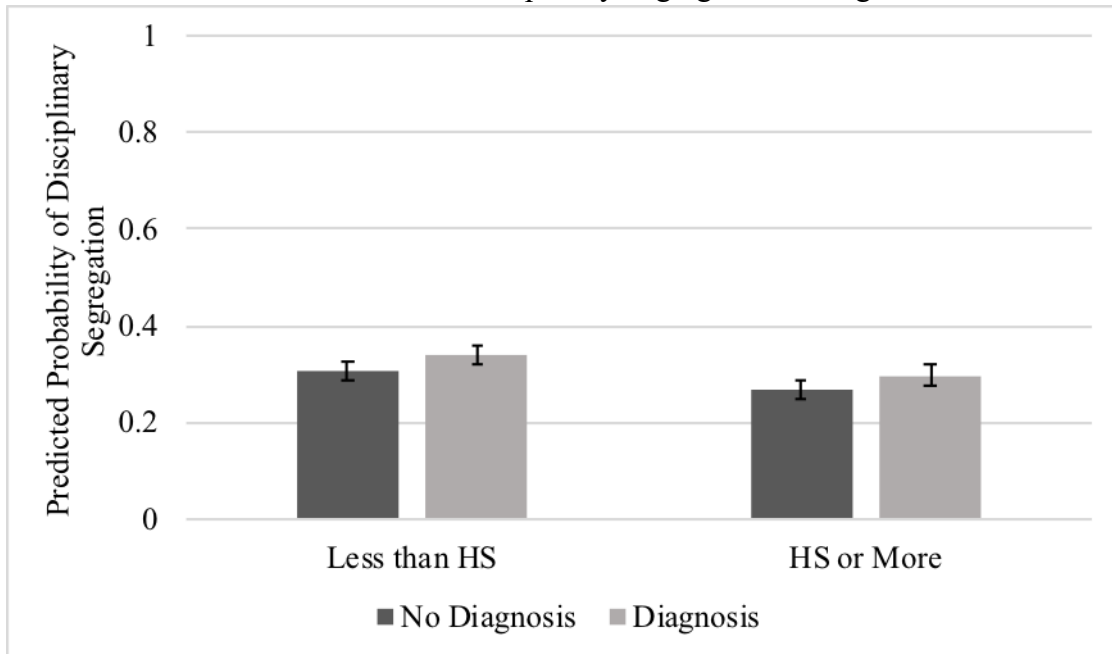


Panel B. Predicted Probabilities of Disciplinary Segregation among Women

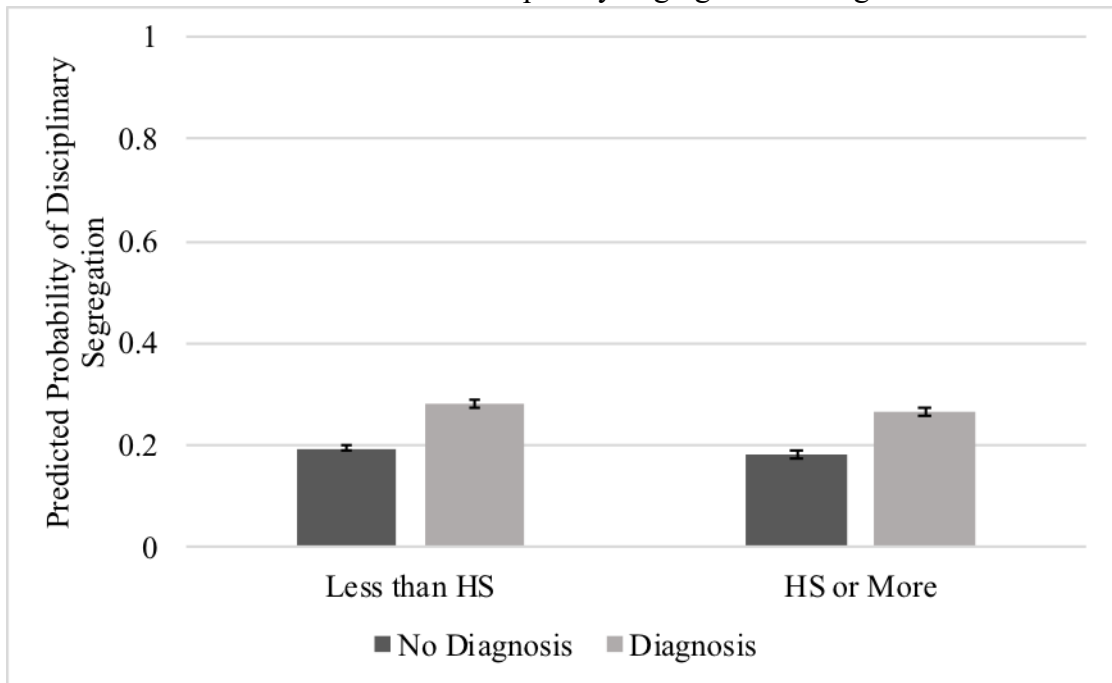


**Figure 8.** Sex-Specific Predicted Probabilities of Disciplinary Segregation by Mental Illness and Level of Education.

Panel A. Predicted Probabilities of Disciplinary Segregation among Men

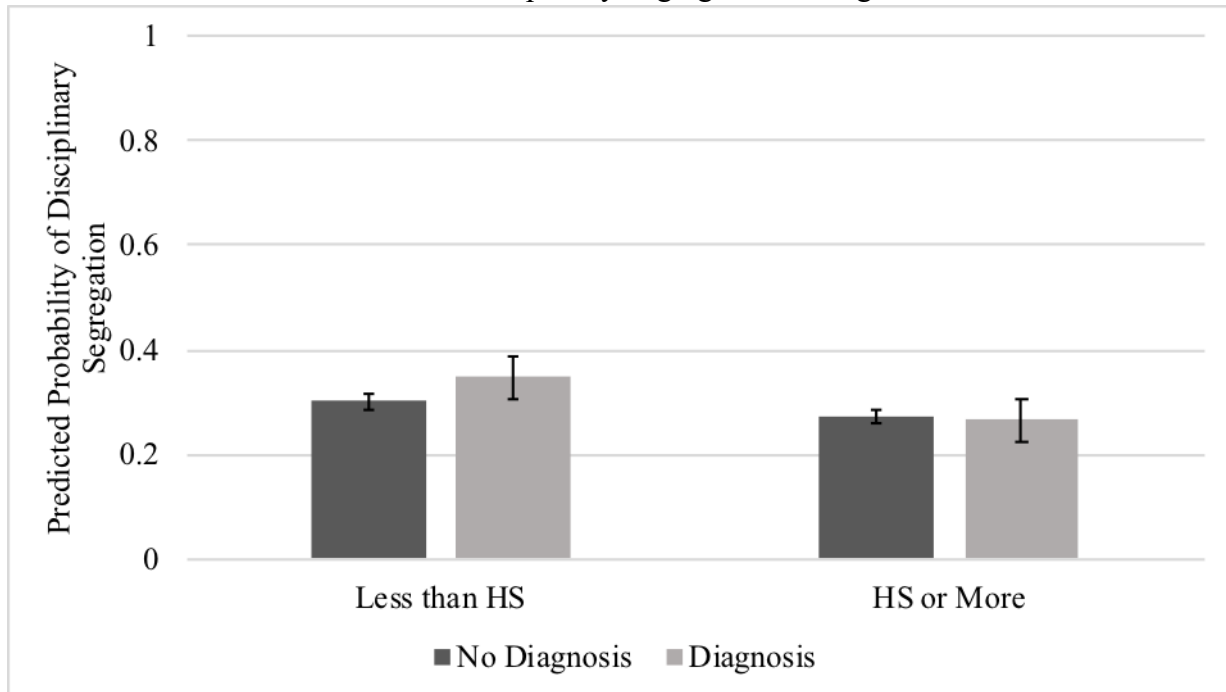


Panel B. Predicted Probabilities of Disciplinary Segregation among Women

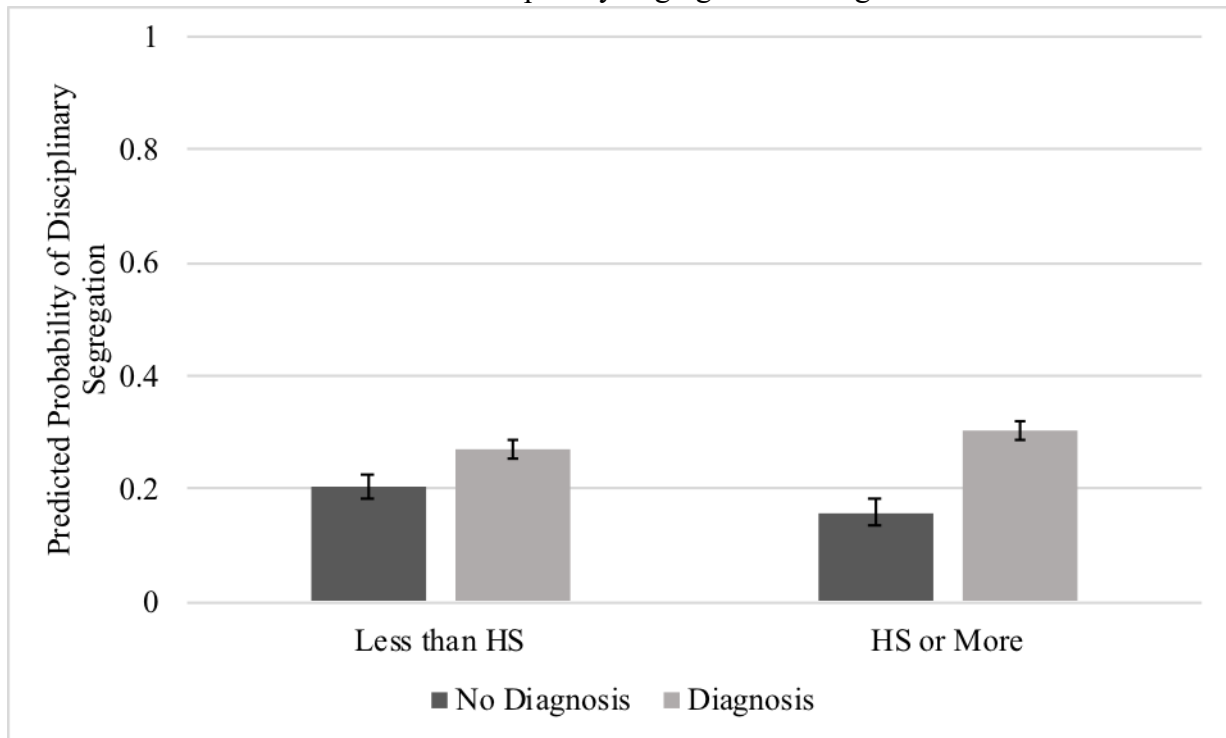


**Figure 9.** Sex-Specific Predicted Probabilities of Disciplinary Segregation Diagnosis of Internalizing Disorders and Level of Education.

Panel A. Predicted Probabilities of Disciplinary Segregation among Men



Panel B. Predicted Probabilities of Disciplinary Segregation among Women



**Figure 10.** Sex-Specific Predicted Probabilities of Disciplinary Segregation by Diagnosis of Externalizing Disorders and Level of Education.

Sex-specific logistic regression results estimating the relationship between any mental illness, mental health service use, and disciplinary segregation are depicted in Tables 38 and 39. For men, the reduced model reveals that the effect of mental illness on segregation is small, but significant ( $b = 0.20, p = 0.01$ ); this effect is reduced in magnitude and is no longer significant when service use is incorporated in the full model ( $b = 0.10, p = 0.27$ ). The effect of mental illness on segregation is 1.88 times larger in the reduced model than the full model, and 46.75% of the relationship between mental illness and segregation is explained by service use. The results of the mediation analysis for women are substantively similar (see Table 40). Again, mental illness has a small, but significant effect on segregation in the reduced model ( $b = 0.44, p = 0.02$ ) that is reduced in magnitude and significance in the full model ( $b = 0.07, p = 0.81$ ). The effect of mental illness is 6.58 times larger in the reduced model than the full model, and for women, service use explains 84.79% of the relationship between mental illness and segregation.

Mediation analyses exploring the effects of internalizing and externalizing disorders among men are presented in Table 40. Internalizing disorders ( $b = 0.24, p = 0.03$ ) have a small, but significant effect on segregation in the reduced model. This effect is reduced in magnitude and significance when accounting for service use ( $b = 0.16, p = 0.17$ ). The effect in the reduced model is 1.51 times larger than the effect of the full model; 33.29% of the relationship between internalizing disorders and segregation among men is explained by service use. Turning to externalizing disorders, there is no significant main effect ( $b = 0.16, p = 0.06$ ) or mediating effect when service use is accounted for ( $b = 0.07, p = 0.54$ ).

The results of the mediation analyses for women are presented in Table 41. Here, no significant main effect ( $b = 0.12, p = 0.63$ ) or mediating effect ( $b = -0.20, p = 0.53$ ) emerges for internalizing disorders. Turning to externalizing disorders, there is a small, but significant main

effect on disciplinary segregation for women ( $b = 0.56, p = 0.003$ ) that is decreased in magnitude and significance when incorporating service use into the model ( $b = 0.19, p = 0.50$ ). The confounding ratio reveals that the effect size of externalizing disorders is 2.93 times larger in the reduced model than in the full model and the confounding percentage shows that 65.88% of the relationship between externalizing disorders and segregation is explained by service use.

### **Summary of the Sex Differences in the Effects of Mental Illness, Education, and Service Use**

Results from the sex-specific models suggest that sex differences exist in the context of mental illness, service use, misconduct, and segregation. First, the effects of internalizing and externalizing diagnoses differ by sex: internalizing disorders predict violent misconduct and disciplinary segregation for men, but not women; externalizing disorders predict violent misconduct for men and women, but only predict disciplinary segregation for women. Second, the effect of violent misconduct on disciplinary segregation is greater among women than men. When examining the moderating effect of education on mental illness, no significant interaction exists in the context of misconduct or disciplinary segregation. Finally, similar to the general models, mental health service use consistently mediates the relationships between mental illness, misconduct, and disciplinary segregation.

### **Sensitivity Analyses**

In order to determine if the results of the analyses presented in this chapter are robust, a series of sensitivity analyses were conducted. Analyses assessing the main effects of number of diagnoses revealed substantively similar results for both dependent variables and are presented in Appendix B. Mediation analyses assessing the effects of alternate measures of service use

(severity of treatment and number of services used) revealed substantively similar results for both dependent variables and are also presented in Appendix B.

### **Summary**

This chapter provided a detailed explanation of the results of the analyses for each hypothesis. First, a discussion of the descriptive statistics and bivariate relationships between the variables of interest was presented. Next, general models assessing each hypothesis were detailed followed by a discussion of the sex-specific models assessing the same hypotheses. Finally, this section concluded with a discussion of sensitivity analyses that showed substantively similar results. These findings will be further discussed in the next chapter, which will review notable findings, discuss the theoretical and policy implications of this study, detail the limitations of the current study, and provide direction for future research.

**Table 1.** Descriptive Statistics and Chi-Square Tests of Independence by Sex, Misconduct Sample

Variable	Full Model (n=13,102) <i>Freq. (%)</i>	Men (n=10,415) <i>Freq. (%)</i>	Women (n=2,687) <i>Freq. (%)</i>
Misconduct			
Violent***	2,538 (19.37)	2,166 (20.80)	372 (13.84)
Nonviolent	2,967 (22.65)	2,327 (22.34)	640 (23.82)
Socioeconomic Status			
Education***	3,850 (29.38)	2,969 (28.51)	881 (32.79)
Employment***	9,302 (71.00)	7,730 (74.22)	1,572 (58.50)
Income***	3.10 (1.78)	3.21 (1.78)	2.70 (1.74)
Any Mental Illness***	3,754 (28.65)	2,472 (23.73)	1,282 (47.71)
Depression***	2,802 (21.39)	1,790 (17.19)	1,012 (37.66)
Bipolar***	1,531 (11.69)	886 (8.51)	645 (24.00)
Psychotic DO***	613 (4.68)	435 (4.18)	178 (6.62)
PTSD***	906 (6.91)	520 (4.99)	386 (14.37)
Anxiety DO***	1,097 (8.37)	655 (6.29)	442 (16.45)
Personality DO***	833 (6.36)	570 (5.47)	263 (9.79)
Other DO**	255 (1.95)	185 (1.78)	70 (2.61)
Mental Health Service Use***	2,778 (21.20)	1,789 (17.18)	989 (36.81)
Medication***	2,200 (16.79)	1,390 (13.35)	810 (30.15)
MH Hospital*	397 (3.03)	299 (2.87)	98 (3.65)
Counseling***	1,844 (14.07)	1,178 (11.31)	666 (24.79)
Other Treatment***	262 (2.00)	182 (1.75)	80 (2.98)
Age <sup>+</sup>	35.31 (10.40)	35.26 (10.65)	35.51 (9.36)
Hispanic**	2,245 (17.13)	1,843 (17.70)	402 (14.96)
Black***	5,383 (41.09)	4,420 (42.44)	963 (35.84)
White***	5,179 (39.53)	3,911 (37.55)	1,268 (47.19)
Other Race	365 (2.79)	296 (2.84)	69 (2.57)
Married*	2,172 (16.58)	1,685 (16.18)	487 (18.12)
Parent***	5,452 (41.61)	4,428 (42.52)	1,024 (38.11)
Priors***	6,352 (48.48)	5,291 (50.80)	1,061 (39.49)
Violent Offense***	5,846 (44.62)	5,056 (48.55)	790 (29.40)
Property Offense***	2,696 (20.58)	1,919 (18.43)	777 (28.92)
Drug Offense***	2,845 (21.71)	2,060 (19.78)	785 (29.21)
Other Offense	1,586 (12.11)	1,272 (12.21)	314 (11.69)
Time Served (months) ****	47.02 (60.90)	52.09 (63.94)	27.34 (41.69)
Work Assignment***	7,982 (60.92)	6,262 (60.12)	1,720 (64.01)
Alcohol Abuse***	5,693 (43.45)	4,709 (45.21)	984 (36.62)
Drug Abuse	8,491 (64.81)	6,738 (64.70)	1,753 (65.24)
Alcohol Dependence	2,978 (22.73)	2,396 (23.01)	582 (21.66)
Drug Dependence***	4,619 (35.25)	3,376 (32.41)	1,243 (46.26)
Child Sexual Abuse***	1,321 (10.08)	573 (5.50)	748 (27.84)
Adult Sexual Abuse***	787 (6.01)	127 (1.22)	660 (24.56)
Child Physical Abuse***	4,627 (35.32)	3,757 (36.07)	870 (32.38)
Adult Physical Abuse***	4,292 (32.76)	3,036 (29.15)	1,256 (46.74)
Visit (past month)***	4,007 (30.58)	3,082 (29.59)	925 (34.43)

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ ; <sup>+</sup>Variables that are not measured dichotomously report means, standard deviations, and means-difference tests

**Table 2.** Descriptive Statistics and Chi-Square Tests of Independence by Sex, Disciplinary Segregation Sample

Variable	Full Model (n=6,590) <i>Freq. (%)</i>	Men (n=5,386) <i>Freq. (%)</i>	Women (n=1,204) <i>Freq. (%)</i>
Disciplinary Segregation***	1,892 (28.71)	1,620 (30.08)	272 (22.59)
Misconduct			
Violent***	2,538 (38.51)	2,166 (40.22)	372 (30.90)
Nonviolent	2,967 (45.02)	2,327 (43.20)	640 (53.16)
Socioeconomic Status			
Education*	1,691 (25.66)	1,347 (25.01)	344 (28.57)
Employment***	4,563 (69.24)	3,893 (72.28)	670 (55.65)
Income***	3.08 (1.82)	3.16 (1.81)	2.75 (1.81)
Any Mental Illness***	2,141 (32.49)	1,482 (27.52)	659 (54.73)
Depression***	1,600 (24.28)	1,072 (19.90)	528 (43.85)
Bipolar***	856 (12.99)	517 (9.60)	339 (28.16)
Psychotic DO***	365 (5.54)	267 (4.96)	98 (8.14)
PTSD***	513 (7.78)	317 (5.89)	196 (16.28)
Anxiety DO***	606 (9.20)	393 (7.30)	213 (17.96)
Personality DO***	528 (8.01)	380 (7.06)	148 (12.29)
Other DO	160 (2.43)	123 (2.28)	37 (3.07)
Mental Health Service Use***	1,731 (26.27)	1,159 (21.52)	572 (47.51)
Medication***	1,368 (20.76)	895 (16.62)	473 (39.29)
MH Hospital**	291 (4.42)	218 (4.05)	73 (6.06)
Counseling***	1,219 (18.50)	800 (14.85)	419 (34.80)
Other Treatment***	174 (2.64)	125 (2.32)	49 (4.07)
Age <sup>+</sup>	34.46 (10.26)	34.48 (10.43)	34.34 (9.42)
Hispanic	985 (14.95)	820 (15.22)	165 (13.70)
Black**	2,914 (44.22)	2,425 (45.02)	489 (40.61)
White***	2,556 (38.79)	2,023 (37.56)	533 (44.27)
Other Race	177 (2.69)	150 (2.78)	27 (2.25)
Married	909 (13.79)	738 (13.70)	171 (14.20)
Parent***	2,641 (40.08)	2,214 (41.11)	427 (35.47)
Priors***	3,326 (50.47)	2,822 (52.40)	504 (41.86)
Violent Offense***	3,637 (55.19)	3,132 (58.15)	505 (41.94)
Property Offense***	1,216 (18.45)	916 (17.01)	300 (24.92)
Drug Offense***	1,095 (16.62)	802 (14.89)	296 (24.34)
Other Offense	581 (8.82)	481 (8.93)	100 (8.31)
Time Served (months) +***	66.62 (69.30)	72.09 (71.72)	42.15 (50.48)
Work Assignment***	4,223 (64.08)	3,390 (62.94)	833 (69.19)
Alcohol Abuse***	3,040 (46.13)	2,542 (47.20)	498 (41.36)
Drug Abuse	4,497 (68.24)	3,680 (68.33)	817 (67.86)
Alcohol Dependence	1,537 (23.32)	1,238 (22.99)	299 (24.83)
Drug Dependence***	2,410 (36.57)	1,819 (33.77)	591 (49.09)
Child Sexual Abuse***	753 (11.43)	359 (6.67)	394 (32.72)
Adult Sexual Abuse***	422 (6.40)	91 (1.69)	331 (27.49)
Child Physical Abuse*	2,872 (43.58)	2,379 (44.17)	493 (40.95)
Adult Physical Abuse***	2,262 (34.32)	1,672 (31.04)	590 (49.00)
Visit (past month)***	2,045 (31.03)	1,603 (29.76)	442 (36.71)

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ ; <sup>+</sup>Variables that are not measured dichotomously report means, standard deviations, and means-difference tests



**Table 3.** Logistic Regression of Violent Misconduct on Mental Illness and Education ( $n = 13,102$ )

Variable	Coefficient	Standard Error	Odds Ratio
Mental Illness	0.50***	0.06	1.64
Education	-0.25***	0.06	0.78
Age	-0.06***	0.23	0.94
Male	0.08	0.00	
Hispanic	0.24**	0.09	1.27
Black	0.50***	0.06	1.61
Other Race	0.05	0.16	
Employed	-0.23***	0.06	0.79
Income	0.05***	0.01	1.05
Married	-0.13	0.07	
Parent	-0.15**	0.05	0.86
Priors	0.04***	0.00	1.04
Violent Offense	0.41***	0.08	1.51
Drug Offense	-0.22*	0.09	0.80
Other Offense	-0.12	0.11	
Time Served (months)	0.01***	0.00	1.01
Work Assignment	-0.20**	0.06	0.82
Alcohol Abuse	0.08	0.06	
Drug Abuse	0.17*	0.07	1.19
Alcohol Dependence	-0.08	0.07	
Drug Dependence	0.19**	0.06	1.20
Child Sexual Abuse	-0.09	0.09	
Adult Sexual Abuse	-0.16	0.13	
Child Physical Abuse	0.51***	0.05	1.67
Adult Physical Abuse	0.19**	0.06	1.21
Visit (past month)	-0.15**	0.06	0.86
Pseudo R <sup>2</sup>	0.18		

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 4.** Logistic Regression of Disciplinary Segregation on Mental Illness and Education ( $n = 6,590$ )

Variable	Coefficient	Standard Error	Odds Ratio
Mental Illness	0.23***	0.07	1.26
Education	-0.01	0.08	
Violent Misconduct	1.04***	0.07	2.82
Age	-0.01***	0.00	0.99
Male	0.25	0.39	
Hispanic	-0.16	0.11	
Black	0.11	0.07	
Other Race	-0.15	0.18	
Employed	0.06	0.07	
Income	0.01	0.01	
Married	-0.02	0.09	
Parent	0.01	0.05	
Priors	0.01	0.01	
Violent Offense	-0.08	0.09	
Drug Offense	-0.07	0.10	
Other Offense	-0.13	0.13	
Time Served (months)	0.00***	0.00	1.00
Work Assignment	-0.32***	0.08	0.73
Alcohol Abuse	0.02	0.07	
Drug Abuse	-0.16*	0.08	0.85
Alcohol Dependence	-0.02	0.09	
Drug Dependence	0.04	0.07	
Child Sexual Abuse	-0.04	0.10	
Adult Sexual Abuse	-0.07	0.13	
Child Physical Abuse	0.07	0.07	
Adult Physical Abuse	-0.02	0.07	
Visit (past month)	-0.18*	0.07	0.84
Pseudo R <sup>2</sup>	0.07		

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 5.** Logistic Regression of Violent Misconduct on Internalizing Disorders, Externalizing Disorders, and Education ( $n = 13,102$ )

Variable	Coefficient	Standard Error	Odds Ratio
Internalizing Disorders	0.42***	0.09	1.53
Externalizing Disorders	0.54***	0.07	1.71
Education	-0.25***	0.06	0.78
Age	-0.06***	0.00	0.94
Male	0.08	0.24	
Hispanic	0.24**	0.09	1.27
Black	0.48***	0.06	1.61
Other Race	0.05	0.16	
Employed	-0.23***	0.06	0.79
Income	0.05***	0.01	1.05
Married	-0.13	0.08	
Parent	-0.15**	0.05	0.86
Priors	0.04***	0.01	1.04
Violent Offense	0.41***	0.08	1.51
Drug Offense	-0.22*	0.09	0.80
Other Offense	-0.12	0.11	
Time Served (months)	0.01***	0.00	1.01
Work Assignment	-0.20***	0.06	0.82
Alcohol Abuse	0.08	0.06	
Drug Abuse	-0.17*	0.07	0.84
Alcohol Dependence	-0.08	0.07	
Drug Dependence	0.18**	0.07	1.20
Child Sexual Abuse	-0.10	0.09	
Adult Sexual Abuse	-0.16	0.13	
Child Physical Abuse	0.51***	0.05	1.66
Adult Physical Abuse	-0.19***	0.06	0.83
Visit (past month)	-0.15**	0.00	0.86
Pseudo R <sup>2</sup>	0.18		

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 6.** Logistic Regression of Disciplinary Segregation on Internalizing Disorders, Externalizing Disorders, and Education ( $n = 6,590$ )

Variable	Coefficient	Standard Error	Odds Ratio
Internalizing Disorders	0.20*	0.10	1.22
Externalizing Disorders	0.25***	0.08	1.29
Education	-0.01	0.08	
Violent Misconduct	1.04***	0.07	2.82
Age	-0.01***	0.00	0.99
Male	0.25	0.39	
Hispanic	-0.16	0.11	
Black	0.11	0.07	
Other Race	-0.15	0.18	
Employed	0.06	0.07	
Income	0.01	0.01	
Married	-0.02	0.09	
Parent	0.01	0.05	
Priors	0.01	0.01	
Violent Offense	-0.08	0.09	
Drug Offense	-0.07	0.10	
Other Offense	-0.13	0.13	
Time Served (months)	0.00***	0.00	1.00
Work Assignment	-0.32***	0.08	0.73
Alcohol Abuse	0.02	0.07	
Drug Abuse	-0.16*	0.08	0.85
Alcohol Dependence	-0.03	0.09	
Drug Dependence	0.04	0.07	
Child Sexual Abuse	-0.04	0.10	
Adult Sexual Abuse	-0.07	0.13	
Child Physical Abuse	0.07	0.07	
Adult Physical Abuse	-0.02	0.07	
Visit (past month)	-0.18*	0.07	0.84
Pseudo R <sup>2</sup>	0.07		

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 7.** Logistic Regression of Violent Misconduct on the Interaction of Mental Illness and Education ( $n = 13,102$ )

Variable	Coefficient	Standard Error	Odds Ratio
Mental Illness	0.49***	0.06	1.63
Education	-0.27***	0.07	0.76
MI*Ed	0.04	0.12	
Age	-0.06***	0.00	0.94
Male	0.08	0.23	
Hispanic	-0.24**	0.09	0.79
Black	0.48***	0.06	0.62
Other Race	0.05	0.16	
Employed	-0.23***	0.06	0.79
Income	0.05***	0.01	1.05
Married	-0.13	0.07	
Parent	-0.15**	0.05	0.86
Priors	0.04***	0.01	1.04
Violent Offense	0.41***	0.08	1.51
Drug Offense	-0.22*	0.09	0.80
Other Offense	-0.12	0.11	
Time Served (months)	0.01***	0.00	1.01
Work Assignment	-0.20***	0.06	0.82
Alcohol Abuse	0.08	0.06	
Drug Abuse	0.17*	0.07	1.19
Alcohol Dependence	-0.08	0.07	
Drug Dependence	0.19*	0.06	1.21
Child Sexual Abuse	-0.09	0.09	
Adult Sexual Abuse	-0.16	0.13	
Child Physical Abuse	0.51***	0.05	1.67
Adult Physical Abuse	0.19**	0.06	1.21
Visit (past month)	-0.15**	0.06	0.86
Pseudo R <sup>2</sup>	0.18		

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 8.** Probability of Violent Misconduct by Mental Illness and Education with Tests of Interaction Effects ( $n = 13,102$ )

	Probability of Misconduct	First Differences	Second Differences
No Diagnosis, <HS Education	0.197 (0.006)***		
No Diagnosis, $\geq$ HS Education	0.122 (0.006)***	$0.197 - 0.122 = 0.075$ ***	
Diagnosis, < HS Education	0.267 (0.009)***		$0.075 - 0.088 = -0.013$
Diagnosis, $\geq$ HS Education	0.179 (0.011)***	$0.267 - 0.179 = 0.088$ ***	

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 9.** Logistic Regression of Violent Misconduct on Internalizing Disorders, Externalizing Disorders, and Education ( $n = 13,102$ )

Variable	Coefficient	Standard Error	Odds Ratio
Internalizing Disorders	0.43***	0.10	1.53
Externalizing Disorders	0.54***	0.07	1.71
Education	-0.25***	0.06	0.78
Internalizing*Ed	-0.01	0.20	
Externalizing*Ed	0.06	0.13	
Age	-0.06***	0.00	0.94
Male	0.08	0.24	
Hispanic	0.24**	0.09	1.27
Black	0.48***	0.06	1.61
Other Race	0.05	0.16	
Employed	-0.23***	0.06	0.79
Income	0.05***	0.01	1.05
Married	-0.13	0.08	
Parent	-0.15**	0.05	0.86
Priors	0.04***	0.01	1.04
Violent Offense	0.41***	0.08	1.51
Drug Offense	-0.22*	0.09	0.80
Other Offense	-0.12	0.11	
Time Served (months)	0.014***	0.00	1.01
Work Assignment	-0.20***	0.06	0.82
Alcohol Abuse	0.08	0.06	
Drug Abuse	-0.17*	0.07	0.84
Alcohol Dependence	-0.08	0.07	
Drug Dependence	0.18**	0.07	1.20
Child Sexual Abuse	-0.10	0.09	
Adult Sexual Abuse	-0.16	0.13	
Child Physical Abuse	0.51***	0.05	1.66
Adult Physical Abuse	-0.19***	0.06	0.83
Visit (past month)	-0.15**	0.00	0.86
Pseudo R <sup>2</sup>	0.18		

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 10.** Probability of Violent Misconduct by Mental illness and Education with Tests of Interaction Effects ( $n = 13,102$ )

Panel A. Internalizing Disorders	Probability of Misconduct	First Differences	Second Differences
No Diagnosis, <HS Education	0.211 (0.006)***		
No Diagnosis, $\geq$ HS Education	0.135 (0.006)***	$0.211 - 0.135 = 0.076$ ***	
Diagnosis, < HS Education	0.273 (0.015)***		$0.076 - 0.093 = -0.016$
Diagnosis, $\geq$ HS Education	0.181 (0.021)***	$0.273 - 0.181 = 0.093$ ***	

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Panel B. Externalizing Disorders	Probability of Misconduct	First Differences	Second Differences
No Diagnosis, <HS Education	0.202 (0.006)***		
No Diagnosis, $\geq$ HS Education	0.126 (0.006)***	$0.202 - 0.126 = 0.076$ ***	
Diagnosis, < HS Education	0.279 (0.011)***		$0.076 - 0.088 = -0.012$
Diagnosis, $\geq$ HS Education	0.191 (0.013)***	$0.279 - 0.191 = 0.088$ ***	

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$



**Table 11.** Logistic Regression of Disciplinary Segregation on the Interaction of Mental Illness and Education ( $n = 6,590$ )

Variable	Coefficient	Standard Error	Odds Ratio
Mental Illness	0.25***	0.08	1.29
Education	0.01	0.09	
MI*Ed	-0.08	0.14	
Violent Misconduct	1.04***	0.07	2.82
Age***	-0.01	0.00	
Male	0.25	0.39	
Hispanic	-0.16	0.11	
Black	0.11	0.07	
Other Race	-0.02	0.18	
Employed	0.06	0.07	
Income	0.01	0.01	
Married	-0.02	0.09	
Parent	0.01	0.05	
Priors	0.01	0.01	
Violent Offense	-0.08	0.09	
Drug Offense	-0.07	0.10	
Other Offense	-0.13	0.13	
Time Served (months)	0.00***	0.00	1.00
Work Assignment	-0.32***	0.08	0.73
Alcohol Abuse	0.02	0.07	
Drug Abuse	-0.16*	0.08	0.85
Alcohol Dependence	-0.02	0.09	
Drug Dependence	0.04	0.07	
Child Sexual Abuse	-0.04	0.10	
Adult Sexual Abuse	-0.07	0.13	
Child Physical Abuse	0.07	0.07	
Adult Physical Abuse	-0.02	0.07	
Visit (past month)	-0.18*	0.07	0.84
Pseudo R <sup>2</sup>	0.07		

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 12.** Probability of Disciplinary Segregation by Mental illness and Education with Tests of Interaction Effects ( $n = 6,590$ )

	Probability of Disciplinary Segregation	First Differences	Second Differences
No Diagnosis, <HS Education	0.281 (0.013)***		
No Diagnosis, $\geq$ HS Education	0.250 (0.016)***	$0.281 - 0.250 = 0.031$	
Diagnosis, < HS Education	0.330 (0.016)***		$0.031 - 0.048 = -0.017$
Diagnosis, $\geq$ HS Education	0.282 (0.020)***	$0.330 - 0.282 = 0.048^*$	

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 13.** Logistic Regression of Disciplinary Segregation on the Interaction of Internalizing Disorders and Education ( $n = 6,590$ )

Variable	Coefficient	Standard Error	Odds Ratio
Internalizing Disorders	0.23*	0.11	1.25
Externalizing Disorders	0.25***	0.08	1.29
Education	-0.00	0.08	
Internal*Ed	-0.10	0.22	
External*Ed	-0.04	0.16	
Violent Misconduct	1.04***	0.07	2.82
Age	-0.01***	0.00	0.99
Male	0.25	0.39	
Hispanic	-0.16	0.11	
Black	0.11	0.07	
Other Race	-0.15	0.18	
Employed	0.06	0.07	
Income	0.01	0.01	
Married	-0.02	0.09	
Parent	0.01	0.05	
Priors	0.01	0.01	
Violent Offense	-0.08	0.09	
Drug Offense	-0.07	0.10	
Other Offense	-0.13	0.13	
Time Served (months)	0.00***	0.00	1.00
Work Assignment	-0.32***	0.08	0.73
Alcohol Abuse	0.02	0.07	
Drug Abuse	-0.16*	0.08	0.85
Alcohol Dependence	-0.02	0.09	
Drug Dependence	0.04	0.07	
Child Sexual Abuse	0.04	0.10	
Adult Sexual Abuse	-0.07	0.13	
Child Physical Abuse	0.064	0.07	
Adult Physical Abuse	-0.02	0.07	
Visit (past month)	-0.18*	0.07	0.84
Pseudo R <sup>2</sup>	0.07		

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 14.** Probability of Disciplinary Segregation by Mental illness and Education with Tests of Interaction Effects ( $n = 6,590$ )

Panel A. Internalizing Disorders	Probability of Disciplinary Segregation	First Differences	Second Differences
No Diagnosis, <HS Education	0.292 (0.013)***		
No Diagnosis, $\geq$ HS Education	0.258 (0.015)***	$0.292 - 0.258 = 0.034^*$	
Diagnosis, < HS Education	0.336 (0.023)***		$0.034 - 0.054 = -0.020$
Diagnosis, $\geq$ HS Education	0.282 (0.033)***	$0.336 - 0.282 = 0.054$	

Panel B. Externalizing Disorders	Probability of Disciplinary Segregation	First Differences	Second Differences
No Diagnosis, <HS Education	0.285 (0.006)***		
No Diagnosis, $\geq$ HS Education	0.252 (0.006)***	$0.285 - 0.252 = 0.034^*$	
Diagnosis, < HS Education	0.336 (0.011)***		$0.034 - 0.044 = -0.010$
Diagnosis, $\geq$ HS Education	0.292 (0.013)***	$0.336 - 0.292 = 0.044$	

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 15.** Mediating Effect of Mental Health Services in the Relationship between Mental Illness and Misconduct ( $n = 13,102$ )

Model	Coefficient	Standard Error	Odds Ratio
Reduced	0.49***	0.06	1.64
Full	0.28***	0.07	1.33
Difference	0.21***	0.04	1.23
Confounding Ratio	1.75	--	--
Confounding Percentage	42.77	--	--

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 16.** Mediating Effect of Mental Health Services in the Relationship between Internalizing Disorders, Externalizing Disorders, and Violent Misconduct ( $n = 13,102$ )

Panel A.			
Internalizing Disorders	Coefficient	Standard Error	Odds Ratio
Reduced	0.41***	0.09	1.51
Full	0.24**	0.09	1.27
Difference	0.17***	0.03	1.19
Confounding Ratio	1.73	--	--
Confounding Percentage	42.29	--	--
Panel B.			
Externalizing Disorders	Coefficient	Standard Error	Odds Ratio
Reduced	0.54***	0.06	1.71
Full	0.31***	0.08	1.36
Difference	0.23***	0.04	1.26
Confounding Ratio	1.74	--	--
Confounding Percentage	42.42	--	--

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 17.** Mediating Effect of Mental Health Services in the Relationship between Mental Illness and Disciplinary Segregation ( $n = 6,590$ )

Model	Coefficient	Standard Error	Odds Ratio
Reduced	0.23***	0.07	1.26
Full	0.10	0.09	
Difference	0.14*	0.05	1.15
Confounding Ratio	2.39	--	--
Confounding Percentage	58.11	--	--

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 18.** Mediating Effect of Mental Health Services in the Relationship between Internalizing Disorders, Externalizing Disorders, and Disciplinary Segregation ( $n = 6,590$ )

Panel A.			
Internalizing Disorders	Coefficient	Standard Error	Odds Ratio
Reduced	0.25***	0.08	1.28
Full	0.11	0.10	
Difference	0.14*	0.06	1.15
Confounding Ratio	2.31	--	--
Confounding Percentage	56.78	--	--
Panel B.			
Externalizing Disorders	Coefficient	Standard Error	Odds Ratio
Reduced	0.20*	0.10	1.22
Full	0.08	0.11	
Difference	0.12*	0.05	1.13
Confounding Ratio	2.50	--	--
Confounding Percentage	59.98	--	--

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$



**Table 19.** Logistic Regression of Violent Misconduct on Mental Illness and Education by Sex

Variable	Men ( <i>n</i> = 10,415)			Women ( <i>n</i> = 2,687)		
	Coefficient	Standard Error	Odds-Ratio	Coefficient	Standard Error	Odds-Ratio
Mental Illness	0.46***	0.07	1.58	0.60***	0.14	1.82
Education	-0.24***	0.06	0.79	-0.25*	0.13	0.78
Age	-0.06***	0.00	0.94	-0.07***	0.01	0.93
Hispanic	0.14	0.09		0.70***	0.19	2.01
Black <sup>+</sup>	0.35***	0.07	1.42	1.12***	0.14	3.06
Other Race	0.04	0.17		-0.05	0.48	
Employed <sup>+</sup>	-0.20 **	0.06	0.82	-0.55***	0.15	0.58
Income	0.05***	0.01	1.05	0.05**	0.02	1.05
Married	-0.10	0.08		-0.29	0.17	
Parent	-0.17**	0.06	0.84	0.05	0.01	
Priors	0.04***	0.01	1.04	0.04**	0.13	1.04
Violent Offense	0.43***	0.08	1.54	0.29	0.19	
Drug Offense	-0.21*	0.01	0.81	-0.22	0.21	
Other Offense	-0.15	0.12		0.06	0.23	
Time Served (months)	0.01***	0.00	1.01	0.02***	0.00	1.02
Work Assignment	-0.22***	0.07	0.80	-0.09	0.16	
Alcohol Abuse	0.07	0.07		0.10	0.18	
Drug Abuse	0.19*	0.07	1.21	0.20	0.19	
Alcohol Dependence	-0.13	0.08		0.18	0.15	
Drug Dependence	0.23***	0.07	1.26	-0.03	0.18	
Child Sexual Abuse	0.02	0.11		-0.22	0.14	
Adult Sexual Abuse	0.23	0.22		-0.20	0.17	
Child Physical Abuse	0.50***	0.06	1.65	0.45***	0.12	1.57
Adult Physical Abuse	0.25***	0.06	1.28	-0.03	0.13	
Visit (past month)	-0.14*	0.06	0.87	-0.13	0.14	
Pseudo R <sup>2</sup>	0.17	--		0.19	--	

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ ; <sup>+</sup>Significant coefficient difference when comparing men and women

**Table 20.** Logistic Regression of Violent Misconduct on Internalizing Disorders, Externalizing Disorders, and Education by Sex

Variable	Men ( <i>n</i> = 10,415)			Women ( <i>n</i> = 2,687)		
	Coefficient	Standard Error	Odds-Ratio	Coefficient	Standard Error	Odds-Ratio
Internalizing Disorders	0.44***	0.10	1.55	0.30	0.20	
Externalizing Disorders <sup>+</sup>	0.47***	0.07	1.60	0.71***	0.14	2.03
Education	-0.24***	0.06	0.79	-0.25	0.13	
Age	-0.06***	0.00	0.94	-0.07***	0.01	0.93
Hispanic	0.14	0.09		0.70***	0.18	2.01
Black <sup>+</sup>	0.35***	0.07	1.42	1.11***	0.14	3.03
Other Race	0.04	0.17		-0.05	0.49	
Employed <sup>+</sup>	-0.17**	0.06	0.84	-0.55***	0.15	0.58
Income	0.05***	0.01	1.05	0.06**	0.02	1.06
Married	-0.10	0.08		-0.30	0.17	
Parent	-0.17**	0.06	0.84	0.04	0.10	
Priors	0.04***	0.01	1.04	0.04**	0.13	1.04
Violent Offense	0.43***	0.08	1.54	0.29	0.19	
Drug Offense	-0.21*	0.01	0.81	-0.23	0.21	
Other Offense	-0.15	0.12		0.06	0.23	
Time Served (months)	0.01***	0.00	1.01	0.02***	0.00	1.02
Work Assignment	-0.22***	0.07	0.80	-0.09	0.16	
Alcohol Abuse	0.07	0.07		0.10	0.17	
Drug Abuse	0.18*	0.07	1.20	0.20	0.19	
Alcohol Dependence	-0.13	0.08		0.17	0.15	
Drug Dependence	0.23***	0.07	1.26	-0.04	0.18	
Child Sexual Abuse	0.02	0.11		-0.25	0.14	
Adult Sexual Abuse	0.23	0.22		-0.19	0.17	
Child Physical Abuse	0.50***	0.06	1.65	0.44***	0.12	1.55
Adult Physical Abuse	0.25***	0.06	1.28	-0.05	0.13	
Visit (past month)	-0.14*	0.06	0.87	-0.14	0.14	
Pseudo R <sup>2</sup>	0.17	--		0.19	--	

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ ; <sup>+</sup>Significant coefficient difference when comparing men and women

**Table 21.** Logistic Regression of Violent Misconduct on the Interaction of Mental Illness and Education by Sex

Variable	Men ( <i>n</i> = 10,415)			Women ( <i>n</i> = 2,687)		
	Coefficient	Standard Error	Odds-Ratio	Coefficient	Standard Error	Odds-Ratio
Mental Illness	0.45***	0.07	1.57	0.55***	0.16	1.73
Education	-0.25***	0.08	0.78	-0.36	0.22	
MI*Ed	0.04	0.14		0.19	0.28	
Age	-0.06***	0.00	0.94	-0.07***	0.01	0.93
Hispanic	0.14	0.09		0.70***	0.19	2.01
Black <sup>+</sup>	0.35***	0.07	1.42	1.12***	0.14	3.06
Other Race	0.04	0.17		-0.05	0.48	
Employed	-0.17**	0.06	0.84	-0.55***	0.14	0.58
Income	0.05***	0.01	1.05	0.05**	0.02	1.05
Married	-0.10	0.08		-0.28	0.17	
Parent	-0.17**	0.06	0.84	0.05	0.10	
Priors	0.04***	0.01	1.04	0.04**	0.01	1.04
Violent Offense	0.43***	0.08	1.54	0.29	0.19	
Drug Offense	-0.22*	0.10	0.80	-0.23	0.22	
Other Offense	-0.15	0.12		0.05	0.23	
Time Served (months)	0.01***	0.00	1.01	0.02***	0.00	1.02
Work Assignment	-0.23***	0.07	0.79	-0.09	0.16	
Alcohol Abuse	0.07	0.07		0.10	0.18	
Drug Abuse	0.18*	0.07	1.20	0.20	0.19	
Alcohol Dependence	-0.13	0.08		0.18	0.15	
Drug Dependence	0.23***	0.69	1.26	-0.04	0.18	
Child Sexual Abuse	0.02	0.11		-0.22	0.14	
Adult Sexual Abuse	0.23	0.22		-0.20	0.17	
Child Physical Abuse	0.50***	0.06	1.65	0.45***	0.12	1.57
Adult Physical Abuse	0.25***	0.06	1.28	-0.03	0.13	
Visit (past month)	-0.14*	0.06	0.87	-0.14	0.14	
Pseudo R <sup>2</sup>	0.17	--		0.19	--	

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ ; <sup>+</sup>Significant coefficient difference when comparing men and women

**Table 22.** Probability of Violent Misconduct by Mental Illness and Education with Tests of Interaction Effects among Men and Women

Panel A. Sample of Men ( <i>n</i> = 10,415)	Probability of Violent Misconduct	First Differences	Second Differences
No Diagnosis, <HS Education	0.214 (0.007)***		
No Diagnosis, ≥ HS Education	0.137 (0.007)***	0.214 - 0.137 = 0.076***	
Diagnosis, < HS Education	0.281 (0.011)***		0.076 - 0.088 = -0.011
Diagnosis, ≥ HS Education	0.194 (0.014)***	0.281 - 0.194 = 0.088***	
Panel B. Sample of Women ( <i>n</i> = 2,687)	Probability of Violent Misconduct	First Differences	Second Differences
No Diagnosis, <HS Education	0.130 (0.012)***		
No Diagnosis, ≥ HS Education	0.068 (0.011)***	0.130 - 0.068 = 0.062***	
Diagnosis, < HS Education	0.190 (0.015)***		0.062 - 0.066 = -0.004
Diagnosis, ≥ HS Education	0.124 (0.014)***	0.190 - 0.124 = 0.066***	

\**p* < 0.05, \*\**p* < 0.01, \*\*\**p* < 0.001

**Table 23.** Logistic Regression of Violent Misconduct on the Interaction between Internalizing Disorders, Externalizing Disorders, and Education

Variable	Men (n = 10,415)			Women (n = 2,687)		
	Coefficient	Standard Error	Odds-Ratio	Coefficient	Standard Error	Odds-Ratio
Internalizing Disorders	0.44***	0.10	1.55	0.30	0.20	
Externalizing Disorders <sup>+</sup>	0.47***	0.07	1.60	0.71***	0.14	2.03
Education	-0.24***	0.06	0.79	-0.25	0.13	
Internalizing*Ed	0.03	0.24		-0.11	0.46	
Externalizing*Ed	0.04	0.17		0.26	0.27	
Age	-0.06***	0.00	0.94	-0.07***	0.01	0.93
Hispanic	0.14	0.09		0.70***	0.18	2.01
Black <sup>+</sup>	0.35***	0.07	1.42	1.11***	0.14	3.03
Other Race	0.04	0.17		-0.05	0.49	
Employed <sup>+</sup>	-0.17**	0.06	0.84	-0.55***	0.15	0.58
Income	0.05***	0.01	1.05	0.06**	0.02	1.06
Married	-0.10	0.08		-0.30	0.17	
Parent	-0.17**	0.06	0.84	0.04	0.10	
Priors	0.04***	0.01	1.04	0.04**	0.13	1.04
Violent Offense	0.43***	0.08	1.54	0.29	0.19	
Drug Offense	-0.21*	0.01	0.81	-0.23	0.21	
Other Offense	-0.15	0.12		0.06	0.23	
Time Served (months)	0.01***	0.00	1.01	0.02***	0.00	1.02
Work Assignment	-0.22***	0.07	0.80	-0.09	0.16	
Alcohol Abuse	0.07	0.07		0.10	0.17	
Drug Abuse	0.18*	0.07	1.20	0.20	0.19	
Alcohol Dependence	-0.13	0.08		0.17	0.15	
Drug Dependence	0.23***	0.07	1.26	-0.04	0.18	
Child Sexual Abuse	0.02	0.11		-0.25	0.14	
Adult Sexual Abuse	0.23	0.22		-0.19	0.17	
Child Physical Abuse	0.50***	0.06	1.65	0.44***	0.12	1.55
Adult Physical Abuse	0.25***	0.06	1.28	-0.05	0.13	
Visit (past month)	-0.14*	0.06	0.87	-0.14	0.14	
Pseudo R <sup>2</sup>	0.17	--		0.19	--	

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ ; <sup>+</sup>Significant coefficient difference when comparing men and women

**Table 24.** Probability of Violent Misconduct by Internalizing Disorders and Education with Tests of Interaction Effects among Men and Women

Panel A. Sample of Men ( <i>n</i> = 10,415)	Probability of Violent Misconduct	First Differences	Second Differences
No Diagnosis, <HS Education	0.224 (0.007)***		
No Diagnosis, ≥ HS Education	0.147 (0.007)***	0.224 - 0.147 = 0.077***	
Diagnosis, < HS Education	0.292 (0.018)***		0.077 - 0.090 = -0.013
Diagnosis, ≥ HS Education	0.202 (0.027)***	0.292 - 0.202 = 0.090**	
Panel B. Sample of Women ( <i>n</i> = 2,687)	Probability of Violent Misconduct	First Differences	Second Differences
No Diagnosis, <HS Education	0.155 (0.009)***		
No Diagnosis, ≥ HS Education	0.093 (0.009)***	0.155 - 0.093 = 0.062***	
Diagnosis, < HS Education	0.193 (0.029)***		0.062 - 0.083 = -0.021
Diagnosis, ≥ HS Education	0.110 (0.032)***	0.193 - 0.110 = 0.083	

\**p* < 0.05, \*\**p* < 0.01, \*\*\**p* < 0.001

**Table 25.** Probability of Violent Misconduct by Externalizing Disorders and Education with Tests of Interaction Effects among Men and Women

Panel A. Sample of Men ( <i>n</i> = 10,415)	Probability of Violent Misconduct	First Differences	Second Differences
No Diagnosis, <HS Education	0.219 (0.007)***		
No Diagnosis, ≥ HS Education	0.142 (0.007)***	0.219 - 0.142 = 0.077***	
Diagnosis, < HS Education	0.290 (0.013)***		0.077 - 0.089 = -0.012
Diagnosis, ≥ HS Education	0.201 (0.018)***	0.290 - 0.201 = 0.089**	
Panel B. Sample of Women ( <i>n</i> = 2,687)	Probability of Violent Misconduct	First Differences	Second Differences
No Diagnosis, <HS Education	0.134 (0.011)***		
No Diagnosis, ≥ HS Education	0.071 (0.010)***	0.134 - 0.071 = 0.063***	
Diagnosis, < HS Education	0.207 (0.017)***		0.063 - 0.062 = 0.001
Diagnosis, ≥ HS Education	0.145 (0.017)***	0.207 - 0.145 = 0.062**	

\**p* < 0.05, \*\**p* < 0.01, \*\*\**p* < 0.001

**Table 26.** Mediating Effect of Mental Health Services in the Relationship between Mental Illness and Violent Misconduct among Men ( $n = 10,415$ )

Model	Coefficient	Standard Error	Odds Ratio
Reduced	0.45***	0.07	1.57
Full	0.27**	0.08	1.30
Difference	0.19***	0.04	1.21
Confounding Ratio	1.715	--	--
Confounding Percentage	41.70	--	--

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$



**Table 27.** Mediating Effect of Mental Health Services in the Relationship between Mental Illness and Violent Misconduct among Women ( $n = 2,687$ )

Model	Coefficient	Standard Error	Odds Ratio
Reduced	0.58***	0.14	1.78
Full	0.28	0.15	1.35
Difference	0.30**	0.11	
Confounding Ratio	2.05	--	--
Confounding Percentage	51.38	--	--

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 28.** Mediating Effect of Mental Health Services in the Relationship between Internalizing Disorders, Externalizing Disorders, and Violent Misconduct among Men ( $n = 10,415$ )

Panel A.			
Internalizing Disorders	Coefficient	Standard Error	Odds Ratio
Reduced	0.43***	0.10	1.54
Full	0.27**	0.11	1.31
Difference	0.16***	0.04	1.17
Confounding Ratio	1.59	--	--
Confounding Percentage	37.16	--	--
Panel B.			
Externalizing Disorders	Coefficient	Standard Error	Odds Ratio
Reduced	0.47***	0.07	1.60
Full	0.26**	0.09	1.30
Difference	0.21***	0.05	1.23
Confounding Ratio	1.79	--	--
Confounding Percentage	44.41	--	--

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 29.** Mediating Effect of Mental Health Services in the Relationship between Internalizing Disorders, Externalizing Disorders, and Violent Misconduct among Women ( $n = 2,687$ )

Panel A.			
Internalizing Disorders	Coefficient	Standard Error	Odds Ratio
Reduced	0.27	0.19	
Full	0.04	0.20	
Difference	0.23*	0.09	1.26
Confounding Ratio	6.87	--	--
Confounding Percentage	85.45	--	--
Panel B.			
Externalizing Disorders	Coefficient	Standard Error	Odds Ratio
Reduced	0.70***	0.14	2.01
Full	0.40**	0.15	1.49
Difference	0.30*	0.12	1.35
Confounding Ratio	1.74	--	--
Confounding Percentage	42.70	--	--

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 30.** Logistic Regression of Disciplinary Segregation on Mental Illness and Education by Sex

Variable	Men ( <i>n</i> = 5,386)			Women ( <i>n</i> = 1,204)		
	Coefficient	Standard Error	Odds-Ratio	Coefficient	Standard Error	Odds-Ratio
Mental Illness	0.20*	0.08	1.22	0.45*	0.19	1.57
Education	-0.03	0.09		0.06	0.17	
Violent Misconduct <sup>+</sup>	0.94***	0.07	2.56	1.62***	0.18	5.05
Age	-0.01**	0.00	0.99	-0.02	0.01	
Hispanic	-0.20	0.11		-0.00	0.27	
Black	0.11	0.08		0.02	0.20	
Other Race	-0.10	0.19		-0.66	0.63	
Employed	0.05	0.08		0.17	0.18	
Income	0.01	0.01		0.01	0.02	
Married	-0.01	0.10		-0.08	0.23	
Parent	0.01	0.06		0.01	0.13	
Priors	0.02	0.01		-0.05	0.04	
Violent Offense	-0.05	0.09		-0.19	0.22	
Drug Offense	-0.01	0.12		-0.27	0.19	
Other Offense	-0.15	0.14		-0.06	0.31	
Time Served (months)	0.00***	0.00	1.00	0.00	0.00	
Work Assignment	-0.32***	0.08	0.73	-0.33	0.20	
Alcohol Abuse	0.04	0.08		-0.08	0.23	
Drug Abuse	-0.18*	0.08	0.84	0.01	0.19	
Alcohol Dependence	-0.02	0.10		-0.09	0.31	
Drug Dependence	0.08	0.08		-0.16	0.18	
Child Sexual Abuse	-0.18	0.13		0.19	0.18	
Adult Sexual Abuse	-0.25	0.25		0.14	0.19	
Child Physical Abuse	0.06	0.07		0.04	0.18	
Adult Physical Abuse	0.00	0.07		-0.14	0.16	
Visit (past month)	-0.21**	0.08	0.81	-0.05	0.15	
Pseudo R <sup>2</sup>	0.06	--		0.13	--	

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ ; <sup>+</sup>Significant coefficient difference when comparing men and women

**Table 31.** Logistic Regression of Disciplinary Segregation on Internalizing Disorders, Externalizing Disorders, and Education by Sex

Variable	Men (n = 5,386)			Women (n = 1,204)		
	Coefficient	Standard Error	Odds-Ratio	Coefficient	Standard Error	Odds-Ratio
Internalizing Disorders	0.24*	0.11	1.27	0.13	0.25	
Externalizing Disorders	0.17	0.09		0.57**	0.19	1.77
Education	-0.03	0.09		0.06	0.17	
Violent Misconduct <sup>+</sup>	0.94***	0.07	2.56	1.61***	0.18	5.00
Age	-0.01**	0.00	0.99	-0.02	0.01	
Hispanic	-0.20	0.11		0.01	0.27	
Black	0.11	0.08		0.01	0.20	
Other Race	-0.09	0.19		-0.64	0.62	
Employed	0.05	0.08		0.17	0.18	
Income	0.01	0.01		0.01	0.02	
Married	0.00	0.10		-0.08	0.22	
Parent	0.01	0.06		-0.02	0.13	
Priors	0.02	0.01		-0.05	0.04	
Violent Offense	-0.05	0.09		-0.19	0.22	
Drug Offense	-0.02	0.12		-0.27	0.19	
Other Offense	-0.15	0.14		-0.03	0.31	
Time Served (months)	0.00***	0.00	1.00	0.00	0.00	
Work Assignment	-0.32***	0.08	0.73	-0.34	0.20	
Alcohol Abuse	0.04	0.07		-0.09	0.23	
Drug Abuse	-0.18*	0.08	0.84	0.01	0.19	
Alcohol Dependence	-0.01	0.10		-0.10	0.31	
Drug Dependence	0.08	0.08		-0.17	0.18	
Child Sexual Abuse	-0.18	0.13		0.17	0.19	
Adult Sexual Abuse	-0.25	0.25		0.15	0.19	
Child Physical Abuse	0.06	0.07		0.04	0.18	
Adult Physical Abuse	0.01	0.07		-0.17	0.17	
Visit (past month)	-0.21**	0.08	0.81	-0.04	0.15	
Pseudo R <sup>2</sup>	0.06	--		0.14	--	

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ ; <sup>+</sup>Significant coefficient difference when comparing men and women

**Table 32.** Logistic Regression of Disciplinary Segregation on the Interaction between Mental Illness and Education by Sex

Variable	Men ( <i>n</i> = 5,386)			Women ( <i>n</i> = 1,204)		
	Coefficient	Standard Error	Odds-Ratio	Coefficient	Standard Error	Odds-Ratio
Mental Illness	0.25**	0.09	1.28	0.33	0.22	
Education	0.03	0.10		-0.20	0.29	
MI*Ed	-0.22	0.16		0.42	0.34	
Violent Misconduct <sup>+</sup>	0.94***	0.07	2.56	1.62***	0.18	5.05
Age	-0.01**	0.00	1.01	-0.02	0.01	
Hispanic	-0.19	0.11		-0.00	0.27	
Black	0.11	0.08		0.01	0.20	
Other Race	-0.09	0.19		-0.69	0.63	
Employed	0.05	0.08		0.17	0.18	
Income	0.01	0.01		0.01	0.02	
Married	-0.00	0.10		-0.09	0.23	
Parent	0.01	0.06		0.02	0.13	
Priors	0.02	0.01		-0.05	0.04	
Violent Offense	-0.05	0.09		-0.19	0.22	
Drug Offense	-0.01	0.12		-0.27	0.19	
Other Offense	-0.15	0.143		-0.06	0.31	
Time Served (months)	0.00***	0.00	1.00	0.00	0.00	
Work Assignment	-0.32***	0.08	0.73	-0.32	0.20	
Alcohol Abuse	0.04	0.07		-0.08	0.23	
Drug Abuse	-0.18*	0.08	0.84	0.01	0.19	
Alcohol Dependence	-0.02	0.10		-0.10	0.31	
Drug Dependence	0.08	0.08		-0.16	0.18	
Child Sexual Abuse	-0.18	0.13		0.20	0.18	
Adult Sexual Abuse	-0.25	0.25		0.13	0.19	
Child Physical Abuse	0.07	0.08		0.05	0.18	
Adult Physical Abuse	0.00	0.07		-0.13	0.17	
Visit (past month)	-0.21**	0.08	0.81	-0.05	0.15	
Pseudo R <sup>2</sup>	0.06	--		0.13	--	

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ ; <sup>+</sup>Significant coefficient difference when comparing men and women.

**Table 33.** Probability of Disciplinary Segregation by Mental Illness and Education with Tests of Interaction Effects among Men and Women

Panel A. Sample of Men ( <i>n</i> = 5,386)	Probability of Disciplinary Segregation	First Differences	Second Differences
No Diagnosis, <HS Education	0.297 (0.015)***		
No Diagnosis, ≥ HS Education	0.271 (0.019)***	0.297 - 0.271 = 0.026***	
Diagnosis, < HS Education	0.347 (0.019)***		0.026 - 0.070 = -0.045
Diagnosis, ≥ HS Education	0.276 (0.024)***	0.347 - 0.276 = 0.070***	
Panel B. Sample of Women ( <i>n</i> = 1,204)	Probability of Disciplinary Segregation	First Differences	Second Differences
No Diagnosis, <HS Education	0.202 (0.027)***		
No Diagnosis, ≥ HS Education	0.155 (0.034)***	0.202 - 0.155 = 0.047***	
Diagnosis, < HS Education	0.252 (0.022)***		0.047 + 0.009 = 0.056
Diagnosis, ≥ HS Education	0.262 (0.033)***	0.252 - 0.262 = -0.009***	

\**p* < 0.05, \*\**p* < 0.01, \*\*\**p* < 0.001

**Table 34.** Logistic Regression of Disciplinary Segregation on the Interaction between Internalizing Disorders and Education by Sex

Variable	Men ( <i>n</i> = 5,386)			Women ( <i>n</i> = 1,204)		
	Coefficient	Standard Error	Odds-Ratio	Coefficient	Standard Error	Odds-Ratio
Internalizing Disorders	0.26*	0.12	1.30	0.21	0.30	
Externalizing Disorders	0.17	0.09		0.57**	0.19	1.77
Education	-0.03	0.09		0.10	0.20	
Internalizing*Ed	-0.06	0.24		-0.25	0.57	
Violent Misconduct <sup>+</sup>	0.94***	0.07	2.56	1.60***	0.18	4.95
Age	-0.01**	0.00	0.99	-0.02	0.01	
Hispanic	-0.19	0.11		0.02	0.27	
Black	0.11	0.08		0.01	0.20	
Other Race	-0.09	0.19		-0.62	0.62	
Employed	0.05	0.08		0.17	0.18	
Income	0.01	0.01		0.01	0.02	
Married	0.00	0.10		-0.07	0.23	
Parent	0.01	0.06		-0.02	0.13	
Priors	0.02	0.01		-0.05	0.04	
Violent Offense	-0.05	0.09		-0.18	0.23	
Drug Offense	-0.02	0.12		-0.27	0.19	
Other Offense	-0.15	0.14		-0.02	0.31	
Time Served (months)	0.00***	0.00	1.00	0.00	0.00	
Work Assignment	-0.32***	0.08	0.73	-0.34	0.20	
Alcohol Abuse	0.04	0.08		-0.09	0.23	
Drug Abuse	-0.18*	0.08	0.84	0.01	0.19	
Alcohol Dependence	-0.02	0.10		-0.09	0.31	
Drug Dependence	0.08	0.08		-0.17	0.18	
Child Sexual Abuse	-0.18	0.13		0.17	0.19	
Adult Sexual Abuse	-0.25	0.25		0.15	0.19	
Child Physical Abuse	0.06	0.07		0.04	0.18	
Adult Physical Abuse	0.01	0.07		-0.17	0.17	
Visit (past month)	-0.21**	0.08	0.81	-0.04	0.15	
Pseudo R <sup>2</sup>	0.06	--		0.14	--	

\**p* < 0.05, \*\**p* < 0.01, \*\*\**p* < 0.001; <sup>+</sup>Significant coefficient difference when comparing men and women



**Table 35.** Logistic Regression of Disciplinary Segregation on the Interaction between Externalizing Disorders and Education by Sex

Variable	Men ( <i>n</i> = 5,386)			Women ( <i>n</i> = 1,204)		
	Coefficient	Standard Error	Odds-Ratio	Coefficient	Standard Error	Odds-Ratio
Internalizing Disorders	0.24*	0.11	1.27	0.14	0.25	
Externalizing Disorders	0.23*	0.10	1.26	0.43*	0.22	1.54
Education	0.02	0.09		-0.19	0.23	
Externalizing*Ed	-0.27	0.19		0.54	0.36	
Violent Misconduct <sup>+</sup>	0.94***	0.07	2.56	1.60***	0.18	4.95
Age	-0.01**	0.00	0.99	-0.02	0.01	
Hispanic	-0.19	0.11		0.03	0.28	
Black	0.11	0.08		0.01	0.20	
Other Race	-0.09	0.19		-0.64	0.61	
Employed	0.05	0.08		0.17	0.18	
Income	0.01	0.01		0.01	0.02	
Married	-0.00	0.10		-0.06	0.22	
Parent	0.01	0.06		-0.01	0.13	
Priors	0.02	0.01		-0.05	0.04	
Violent Offense	-0.05	0.09		-0.18	0.22	
Drug Offense	-0.01	0.01		-0.28	0.19	
Other Offense	-0.14	0.14		-0.02	0.31	
Time Served (months)	0.00***	0.00	1.00	0.00	0.00	
Work Assignment	-0.32***	0.08	0.73	-0.33	0.20	
Alcohol Abuse	0.04	0.07		-0.09	0.23	
Drug Abuse	-0.18*	0.08	0.84	0.01	0.19	
Alcohol Dependence	-0.02	0.10		-0.11	0.31	
Drug Dependence	0.08	0.08		-0.16	0.18	
Child Sexual Abuse	-0.18	0.13		0.17	0.19	
Adult Sexual Abuse	-0.25	0.25		0.14	0.19	
Child Physical Abuse	0.07	0.07		0.04	0.18	
Adult Physical Abuse	0.01	0.07		-0.17	0.17	
Visit (past month)	-0.21**	0.08	0.81	-0.04	0.15	
Pseudo R <sup>2</sup>	0.06	--		0.14	--	

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ ; <sup>+</sup>Significant coefficient difference when comparing men and women

**Table 36.** Probability of Disciplinary Segregation by Internalizing Disorders and Education with Tests of Interaction Effects among Men and Women

Panel A. Men ( <i>n</i> = 5,386)	Probability of Disciplinary Segregation	First Differences	Second Differences
No Diagnosis, <HS Education	0.304 (0.015)***		
No Diagnosis, ≥ HS Education	0.267 (0.017)***	0.304 - 0.267 = 0.038***	
Diagnosis, < HS Education	0.338 (0.020)***		0.038 - 0.040 = -0.002
Diagnosis, ≥ HS Education	0.298 (0.021)***	0.338 - 0.298 = 0.040***	
Panel B. Women ( <i>n</i> = 1,204)	Probability of Disciplinary Segregation	First Differences	Second Differences
No Diagnosis, <HS Education	0.194 (0.023)***		
No Diagnosis, ≥ HS Education	0.181 (0.028)***	0.194 - 0.181 = 0.013***	
Diagnosis, < HS Education	0.282 (0.025)***		0.013 - 0.016 = -0.003
Diagnosis, ≥ HS Education	0.266 (0.036)***	0.282 - 0.266 = 0.016***	

\**p* < 0.05, \*\**p* < 0.01, \*\*\**p* < 0.001

**Table 37.** Probability of Disciplinary Segregation by Externalizing Disorders and Education with Tests of Interaction Effects among Men and Women

Panel A. Men ( <i>n</i> = 5,386)	Probability of Disciplinary Segregation	First Differences	Second Differences
No Diagnosis, <HS Education	0.302 (0.015)***		
No Diagnosis, ≥ HS Education	0.247 (0.017)***	0.302 - 0.247 = 0.028***	
Diagnosis, < HS Education	0.348 (0.022)***		0.028 - 0.081 = -0.053
Diagnosis, ≥ HS Education	0.267 (0.030)***	0.348 - 0.267 = 0.081***	
Panel B. Women ( <i>n</i> = 1,204)	Probability of Disciplinary Segregation	First Differences	Second Differences
No Diagnosis, <HS Education	0.203 (0.024)***		
No Diagnosis, ≥ HS Education	0.159 (0.030)***	0.203 - 0.159 = 0.045***	
Diagnosis, < HS Education	0.269 (0.026)***		0.045 + 0.034 = -0.079
Diagnosis, ≥ HS Education	0.303 (0.044)***	0.269 - 0.303 = -0.034***	

\**p* < 0.05, \*\**p* < 0.01, \*\*\**p* < 0.001

**Table 38.** Mediating Effect of Mental Health Services in the Relationship between Mental Illness and Violent Misconduct among Men ( $n = 5,386$ )

Model	Coefficient	Standard Error	Odds Ratio
Reduced	0.19**	0.08	1.21
Full	0.10	0.09	
Difference	0.09	0.06	
Confounding Ratio	1.88	--	--
Confounding Percentage	46.75	--	--

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 39.** Mediating Effect of Mental Health Services in the Relationship between Mental Illness and Disciplinary Segregation among Women ( $n = 1,204$ )

Model	Coefficient	Standard Error	Odds Ratio
Reduced	0.44*	0.19	1.55
Full	0.07	0.27	
Difference	0.37*	0.16	1.45
Confounding Ratio	6.58	--	--
Confounding Percentage	84.79	--	--

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 40.** Mediating Effect of Mental Health Services in the Relationship between Internalizing Disorders, Externalizing Disorders, and Disciplinary Segregation among Men ( $n = 5,386$ )

Panel A.			
Internalizing Disorders	Coefficient	Standard Error	Odds Ratio
Reduced	0.24*	0.11	1.27
Full	0.16	0.12	
Difference	0.08	0.05	
Confounding Ratio	1.51	--	--
Confounding Percentage	33.29	--	--
Panel B.			
Externalizing Disorders	Coefficient	Standard Error	Odds Ratio
Reduced	0.16	0.08	1.22
Full	0.07	0.11	
Difference	0.10	0.06	
Confounding Ratio	2.52	--	--
Confounding Percentage	60.39	--	--

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table 41.** Mediating Effect of Mental Health Services in the Relationship between Internalizing Disorders, Externalizing Disorders, and Disciplinary Segregation among Women ( $n = 1,204$ )

Panel A.			
Internalizing Disorders	Coefficient	Standard Error	Odds Ratio
Reduced	0.12	0.25	
Full	-0.20	0.32	
Difference	0.32	0.15	
Confounding Ratio	-0.60	--	--
Confounding Percentage	265.91	--	--
Panel B.			
Externalizing Disorders	Coefficient	Standard Error	Odds Ratio
Reduced	0.56**	0.19	1.22
Full	0.19	0.28	
Difference	0.37*	0.17	1.45
Confounding Ratio	2.93	--	--
Confounding Percentage	65.88	--	--

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

## **CHAPTER SIX:**

### **DISCUSSION**

The purpose of this dissertation was to assess the relationship between mental illness, mental health treatment, socioeconomic status, sex, and institutional misconduct and subsequent disciplinary segregation. Prior research examined several of these topics independently (Adams, 1983; Butler & Steiner, 2017; Clark, 2018; Cochran et al., 2018; Houser & Belenko, 2015; Severson, 2019; Tasca & Turanovic, 2018), but research examining the interrelated nature of these concepts is sparse. This dissertation expands on prior research examining predictors of misconduct and disciplinary segregation by exploring the general and sex-specific effects of mental illness, socioeconomic status and treatment in the prison setting. First, the nature of the relationships between mental illness, education, and violent misconduct or disciplinary segregation were explored. Second, this study determined if effects of mental illness vary by level of education. Finally, this dissertation explored whether using mental health services behind bars mediates the relationships between mental illness, violent misconduct, and disciplinary segregation.

The results in Chapter 6 revealed support for many of the hypotheses. Overall, mental illness increases the odds of being written up or found guilty of misconduct and being sanctioned to subsequent disciplinary segregation both generally, and separately for men and women. Findings exploring a potential interaction between mental illness and education do not support the hypotheses of this dissertation; the effect of mental illness did not vary by level of education for misconduct or segregation, or in general or sex-specific models. In examining the role of



mental health service use, engaging in treatment consistently mediated the relationships between mental illness, misconduct, and segregation. This chapter will provide an overview of these findings in relation to theory and policy, discuss limitations of the current study, and provide suggestions for future research.

### **Inmate Adjustment and Institutional Misconduct**

Taken together, these results suggest that mental illness is an important factor to consider when examining institutional misconduct and prison violence. In both the general and sex-specific models, measures of mental illness consistently predicted violent misconduct. These findings are consistent with prior research suggesting that mental illness is predictive of misconduct (Adams, 1983; Toch & Adams, 1986; Felson et al., 2012; Steiner et al., 2014; Steiner & Meade, 2016).

While measures of mental illness were consistent in predicting misconduct, sex differences varied depending on the measurement of mental illness. When using a dichotomous measure of mental illness, there was no difference in the effect of mental illness across sex. However, when using measures of internalizing and externalizing disorders, two important sex differences emerged. First, internalizing disorders predicted violence among men, but not women. These findings are interesting as prior research suggests that women are more likely than men to suffer from internalizing disorders and turn inward when reacting to stress, whereas men are more likely to act out when reacting to stressors (APA, 2017; Holsinger, 2014; WHO, 2018). Second, externalizing disorders were predictive of misconduct for both men and women, but the strength of this relationship is stronger among women. These results are surprising as research suggests that women are more likely to turn inward in expressing emotions, while men are more likely to react outwardly (Broidy & Agnew, 1997; NIMH, 2018; Ptacek et al., 1994).

There are at least two potential explanations for these findings. First, as prior theory and research suggest, real sex differences may exist in how internalizing and externalizing disorders impact inmate behavior. Alternatively, it could be true that officers react differently to men suffering from these disorders than women. While research may suggest that internalizing disorders should be a more salient predictor among women than men (Eaton et al., 2012; Zlotnick et al., 2008), the opposite may also be true, as women in prison report higher rates of mental illness overall (Al-Rousan et al., 2017; Bronson & Berzofsky, 2017; James & Glaze, 2006), and women are more likely to seek out treatment in both the general and correctional populations (Gonçalves et al., 2014; NIMH, 2018; Steadman et al., 1991). Thus, the effect of internalizing disorders among women may be weaker. Turning to externalizing disorders, the opposite may also be true; correctional officers may react differently to women experiencing these disorders than men. This explanation is consistent with the evil woman hypothesis, which suggests that women who do not conform to stereotypical behavior of their sex (i.e., violence) are treated more harshly by criminal justice actors (Crew, 1991; Farnworth & Teske, 1995; Rodriguez et al., 2006; Spohn, 1999).

Future research should be informed by the findings of this dissertation. The results provide incentive to further explore the role of sex and mental illness in inmate behavior. While no sex differences exist when using a general measure of mental illness, those analyses disaggregated by internalizing and externalizing disorders revealed significant sex differences. Considering the broad nature of the mental health items (inmates reporting if they've ever been told by a mental health professional that they have a mental health disorder), future studies should aim to gather more information regarding mental illness and their symptoms behind bars.

By collecting more detailed data, researchers may be able to further disentangle the relationship between mental illness, misconduct, and sex.

Given that these data are self-report, future research should explore if these results hold using clinical measures of mental illness. Individuals who took the survey answered the question, “Have you ever been told by a mental health professional, such as a psychiatrist or psychologist that you had [mental health diagnosis].” It is possible that individuals could misinterpret diagnoses or not know the accurate information to answer this question. Effort should be made to collect data that clinically assesses individuals to determine if a mental health diagnosis exists and if behavior behind bars may be influenced as a result.

Moreover, future research should explore if these results hold with official measures of misconduct. While self-report data regarding prison rule violations has been established as reliable and valid (Butler & Steiner, 2017; Steiner & Wooldredge, 2014), the measure used in this dissertation consisted of inmates reporting whether they had been written up or found guilty for their most recent infraction. Is this a true measure of inmate behavior? Or, is this a measure of correctional officers’ reaction to inmate behavior? Future research should explore factors that influence officers’ decisions to write up inmates for rule violations, as prior research suggests officers are afforded discretion in this process (Conover, 2000; Liebling, 2000; Toman, 2017).

These findings should be used to inform policy in correctional settings. Findings suggesting mental illness is a key predictor of violent misconduct can be interpreted in at least two ways. First, individuals with mental illness may be more likely to engage in violence than those without mental illness. This explanation is consistent with some research finding mental illness to be associated with an increase in criminal behavior (Elbogen & Johnson, 2009; Hodgins & Janson, 2002; Martin, Dorken, Wamboldt, & Wootten, 2012). Here, policies aimed at

identifying individuals with mental health diagnoses and providing intensive treatment could be beneficial. Evidence-based programming using techniques from cognitive-behavioral therapy (e.g., Reasoning and Rehabilitation, Thinking for a Change) have shown promise in reducing recidivism in the general population; perhaps, implementing similar programs in the prison setting could reduce recidivism behind bars (Aos, Miller, & Drake, 2006; Skeem et al., 2011).

However, it may also be true that correctional officers are ill-equipped to distinguish between symptoms of mental illness and true violent misconduct (Council of State Governments et al., 2002; Rich, 2009; Slate et al., 2013; Toch & Adams, 2002). Training programs that seek to enhance officer training regarding signs, symptoms, and reduced stigma surrounding mental illness may be useful in reducing violence among individuals with a history of mental illness. Here, borrowing from the literature regarding specialty mental health probation could inform training practices for correctional officers. Specialty mental health probation has shown promise in improving access to services and reducing probation violations among individuals with mental illness; research suggests this is due, in part, through specialized officer training regarding mental illness (Manchak, Skeem, Kennealy, & Eno Loudon, 2014).

The results of this dissertation are also important to consider in terms of criminological theory. First, while the importation theory of inmate behavior is supported by a wide body of research in the correctional setting (Adams, 1992; Berg & DeLisi, 2006; Irwin & Cressey, 1962; Steiner et al., 2014; Tasca et al., 2010; Toman, 2017a), these findings provide additional support for this framework. Individual characteristics that are brought into the prison setting (i.e., mental illness) influence how inmates adjust to and behave in the prison environment. Second, the pathways perspective suggests that women have distinct pathways to offending that are different from those of men (Belknap, 2001; Chesney-Lind; Wright et al, 2007). The findings of this

dissertation extend support for this perspective by suggesting that women have unique pathways to offending behind bars in comparison to their male counterparts. The large scale, nationally representative nature of the data used for these analyses also extend the generalizability of both of these frameworks. However, while these theories explain how inmates adjust and behave behind bars, they do not account for the reflexive relationship inmate behavior has with institutional response; these theories do not recognize that institutions may respond in particular ways that may aggravate existing problems. One of the ways institutions respond to inmate behavior is through in-prison sanctions.

### **Institutional Responses to Misconduct: Disciplinary Segregation**

Correctional institutions have systems in place to react to the behaviors in which inmates engage; one of these reactions is the use of disciplinary segregation as punishment for breaking prison rules (Butler & Steiner, 2017; Clark, 2018; Cochran et al., 2018). Findings showed that mental illness is important in this context as well; measures of mental illness consistently predicted disciplinary segregation, both generally and by sex. This falls in line with prior research that shows a relationship between mental health problems and segregation outcomes (Clark, 2018; Olson, 2016; Severson, 2019). It is important to note that all analyses estimating this relationship controlled for type of misconduct, by including the dichotomous variable measuring violent misconduct (nonviolent serving as the reference category). This means that mental illness has an effect on segregation outcomes that is independent of violence. This contradicts some research finding that the effect of extralegal factors, such as race, disappear when controlling for type of misconduct (Cochran et al., 2018).

When looking at the sex differences in the effect of mental illness on disciplinary segregation, three key findings are worthy of noting. First, there were no significant differences

in the effect of general mental illness by sex; this is somewhat surprising considering the high rates of mental illness among incarcerated women (Eaton et al., 2012; Zlotnick et al., 2008) and research showing that women are more likely to seek out services in comparison to men (Goldkuhle, 1999; Morgan et al., 2007; Steadman et al., 1991). While it is possible that no sex differences exist in terms of general mental illness, this may also be due to the measurement of mental health diagnosis – this measure was a dummy variable that consisted of several different diagnoses. Given the research on sex differences in mental health diagnoses (Eaton et al., 2012; Zlotnick et al., 2008), this measure may not be accurate for examining sex differences in this context.

Second, in comparing the effect of violent misconduct as a predictor of segregation, the effect of violence was a more salient predictor for women than men. One potential explanation for this finding may be that women are engaging in more violent behavior than men. This explanation contradicts prior research showing women's prisons are less violent than men's (Daly, 1992; Salisbury et al., 2009; Wright et al., 2012). Another explanation is that institutions react differently to women who engage in violence; this is consistent with the evil woman hypothesis – when women engage in misconduct that is not in line with traditionally acceptable behaviors, they are treated harshly (Crew, 1991; Farnworth & Teske, 1995; Rodriguez et al., 2006; Spohn, 1999). This explanation appears to be supported by the results of this dissertation – there is considerable discretion that correctional officers have in writing up misconduct formally. Perhaps this is the phase that should be explored in more depth to determine if mental illness, treatment, socioeconomic status, and sex have unique effects (Liebling, 2000; Toman, 2017a).

Finally, when examining the effect of internalizing and externalizing disorders, interesting sex differences exist. Specifically, internalizing disorders influenced segregation

outcomes among men, but not women, while externalizing disorders were predictive of segregation for women, but not men. These findings contradict what we know about the types of disorders with which men and women are more likely to be diagnosed (Eaton et al., 2012; Zlotnick et al., 2008) and what we know about how men and women express emotions (Matud, 2004; Ptacek et al., 1994; Tamres et al., 2002). Perhaps the high rates of mental illness in women's prisons may play a role in the lack of effect of internalizing disorders; it may be that internalizing disorders are so pervasive in women's prisons that correctional officers do not view them as problematic, but rather the norm. It could also be that women who are suffering from internalizing disorders withdraw and turn inward and are not engaging in behaviors that would be considered misconduct, while the way men react to these disorders may be to internalize and not react until they "explode" in a more noticeable or aggressive manner (Ptacek et al., 1994; Tamres et al., 2002).

These findings have implications for theory and policy. Focal concerns theory may be informed by these findings. Perhaps, correctional officers perceive individuals with mental illness to be more "blameworthy" (see, for example, Ray & Dollar, 2013). Moreover, women who act out and are afflicted with externalizing disorders may be seen as more blameworthy and therefore more likely to receive disciplinary segregation. Future research should seek to disentangle the relationship between mental illness, gender, and disciplinary segregation, by seeking to understand the "perceptual shorthands" that correctional officers may make based on these characteristics.

These findings also have important implications for correctional policy. These findings suggest that individuals with mental illness are more likely to be sanctioned to disciplinary segregation than their counterparts without mental illness. This is problematic as a large of

literature suggests that long periods of isolation, particularly among individuals suffering from mental illness, have deleterious effects (see, for example, Arrigo & Bullock, 2008; Bennion, 2015; Haney, 2003; Haney & Lynch, 1997; Mears & Reisig, 2006; O’Keefe, 2008). Generally, the effect of the use of confinement on prison order is unknown (Labrecque, 2015; Lucas & Jones, 2017; Morris, 2016; Toman, 2017a). Recent research shows that disciplinary segregation is not effective in preventing future misconduct (Toman, 2017a); future research should further explore this relationship and how it may impact individuals with pre-existing mental health conditions.

While this section focused on institutional responses that have potential to aggravate existing problems among inmates, results from this dissertation also revealed alternative institutional practices that show promise in combatting the effects of mental illness on violence and segregation. The next section will provide discussion of the effect of mental health services in mediating the relationship between mental illness, violent misconduct, and disciplinary segregation.

### **Institutional Responses to Inmate Behavior: Mental Health Services**

This dissertation sought to determine the extent to which engaging in mental health services after admission to prison mediates the relationship between mental illness, violent misconduct, and disciplinary segregation. The results from the mediation analyses are promising; using mental health services consistently mediated the effect of mental illness on misconduct and disciplinary segregation. The results were consistent both generally and across sex. This is promising, particularly given research that heavily critiques the quality of services behind bars (Adams, 1983; Cullen & Gilbert, 2013; Gonçalves et al., 2017; Human Rights Watch, 2003; Kupers, 2005; Rothman, 1972).



The results of the mediation analysis raise interesting theoretical questions. First, does service use influence focal concerns and the chivalry hypothesis? Regarding focal concerns, perhaps the “perceptual shorthands” correctional officers rely on to assist with decision making may be influenced if they know an inmate is receiving mental health services. If inmates are actively engaging in treatment, it is possible that correctional officers could see these individuals as less “blameworthy” than those without mental illness. Similarly, in considering the chivalry hypothesis, research suggests that women are afforded leniency by criminal justice actors as they are viewed as inherently weaker than men (Franklin & Fearn, 2008; Grabe, Trager, Lear, & Rauch, 2006; Visher, 1983). Correctional officers who know a woman suffers from mental illness and is receiving treatment could potentially have a perception that this subset of inmates is weak and in need of protection.

The findings from the mediation analyses result in important policy implications. For example, providing more services may be an alternative pathway that institutions can take to help inmates adjust well. The results of this dissertation showed that while mental illness influences the likelihood of misconduct and disciplinary segregation, mental health services decreased this effect, despite research suggesting that the quality of mental health services is lacking (Armour, 2012). Even though the inclusion of services lessened the effect of mental illness on violence and segregation, there were still effects of mental illness on these outcomes. Correctional administrators should consider what this may mean for prison order and institutional safety. Researchers and administrators should explore how improving access to, or the quality of services may further lessen the impact of mental illness on inmate behavior.

## Data Implications

The findings of this dissertation also have implications for data and measurement. First, in attempting to determine the effect of socioeconomic status in this dissertation, the measure of SES yielded low levels of internal consistency. Considering the large-scale nature of this dataset, this lack of internal consistency was surprising. In order to explore these findings with other measures, education served as proxy for SES, but did not appear to have any moderating effect<sup>5</sup>. There are two potential explanations for this: first, it is likely that the SES variable consists of measures that need revising. The employment measure included in the variable consists of a dichotomous variable where 1 indicates an inmate was employed in the month prior to their arrest for their current offense (US DOJ, 2004). It is reasonable to suggest that this item may not truly measure employment prior to arrest, as there are likely to be differences in SES based on length of employment. Additionally, the income variable is a categorical variable that reports the total monthly income and individual reports in the month prior to arrest for the current offense. The item consists of 12 categories of income that range from no income to \$7,500 or more. Similar to employment, it is possible that this measure does not capture the true impact of income as it only accounts for the month prior to the individual's arrest.

Another explanation for the lack of a moderating effect of education could be that the social stigma of mental illness and seeking treatment is so pervasive that it does not vary by social status. Perhaps, just because one has the resources and social capital to seek out services does not mean that they will as there is still a negative perception of utilizing these services. Research suggests that this explanation is not unreasonable – individuals with mental illness are heavily stigmatized and this lessens the likelihood individuals will seek treatment (Henderson et

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<sup>5</sup> Sensitivity analyses exploring other measures of education and measures of income were substantively similar (see Appendix A).

al., 2013; Knaak et al., 2017; Zartalousdi & Madianos, 2010).

Another implication for the data involves the measurement of mental health services. This measure was a dummy variable where 1 indicated that an individual had used any of the following mental health services since admission: medication, hospitalization, counseling, or other treatment. The variables included in the survey do not collect a variety of information on the type, quality, or length of service. Future efforts should be made to collect more information to further disentangle the relationship service use has with the prison experience.

### **Limitations**

While the findings of this dissertation are important for theory, research, and policy, it is not without its limitations. First, this dissertation relies on cross-sectional data and, therefore, temporal order is difficult to establish (Davis, 1985). Moreover, some of the measures in this dissertation may be problematic. Specifically, measures of mental illness ask inmates if they have ever in their lifetime been told they have a mental health diagnosis. It is possible that these measures may be proximally distal to the dependent variables in this study as the mental health diagnosis could have occurred before or during their current incarceration. The average time served in the overall sample is approximately 5.5 years; thus, it is reasonable to assume that some diagnoses may have occurred months, or years, prior to the outcome of interest. There is also the potential that the diagnosis occurred before or during treatment that they engaged in after admission and is no longer influencing the individual's day-to-day life. Finally, it is possible that diagnosis could have happened after an inmate's most recent incident of misconduct and sanction of disciplinary segregation. Future research should be concerned with the temporal order to determine if there really is a causal mechanism at play here. One avenue to address this problem is to collect data using a life events calendar (LEC) methodological

technique (Armstrong & Griffin, 2007; Griffin & Armstrong, 2003; Roberts & Horney, 2009), as it may help to disentangle the relationship between mental illness and the prison experience.

There are limitations with the current analyses regarding potential omitted variable bias. First, prior service use is not controlled for. Considering the research that exists demonstrating differences in seeking treatment based on gender, race, and other individual characteristics (Goldkuhle, 1999; Morgan et al., 2007; Steadman et al., 1991), it is possible there may be something qualitatively different about people who have a history of using services and those who do not. Second, the analyses are unable to account for individuals who engaged in misconduct, but were undetected or not written up; there is the potential for selection bias here as there may be something qualitatively different between people who get caught and those who do not (Toman, 2017a). Finally, these analyses do not account for institutional-level variables. While the analyses were estimated with robust standard errors to account for the clustered nature of the data, prior research shows institutional-level variables to be important in misconduct and disciplinary segregation (Butler & Steiner, 2017; Camp et al., 2003; Lahm, 2009). Future analyses should explore how these variables may impact the results of the current dissertation; for example, elements like overcrowding and assault rate may impact the effect of mental illness (Butler & Steiner, 2017).

## **Conclusion**

This dissertation sought to explore the effect of mental illness on the in-prison experiences of institutional misconduct and disciplinary segregation. Results from this dissertation suggest that mental illness is an important predictor of misconduct and disciplinary segregation generally, and across sex. Moreover, interesting sex differences exist in the effects of internalizing and externalizing disorders on misconduct and segregation. When exploring the

moderating effect of education in these relationships, no significant interactions exist in the current analyses. Finally, using mental health services behind bars appears to lessen the effect of mental illness on misconduct and segregation. In sum, this dissertation suggests that mental illness, treatment, and sex are important to consider in the context of violent misconduct and disciplinary segregation. Given the results, future research should attempt to further disentangle the effect mental illness has on the prison experience.

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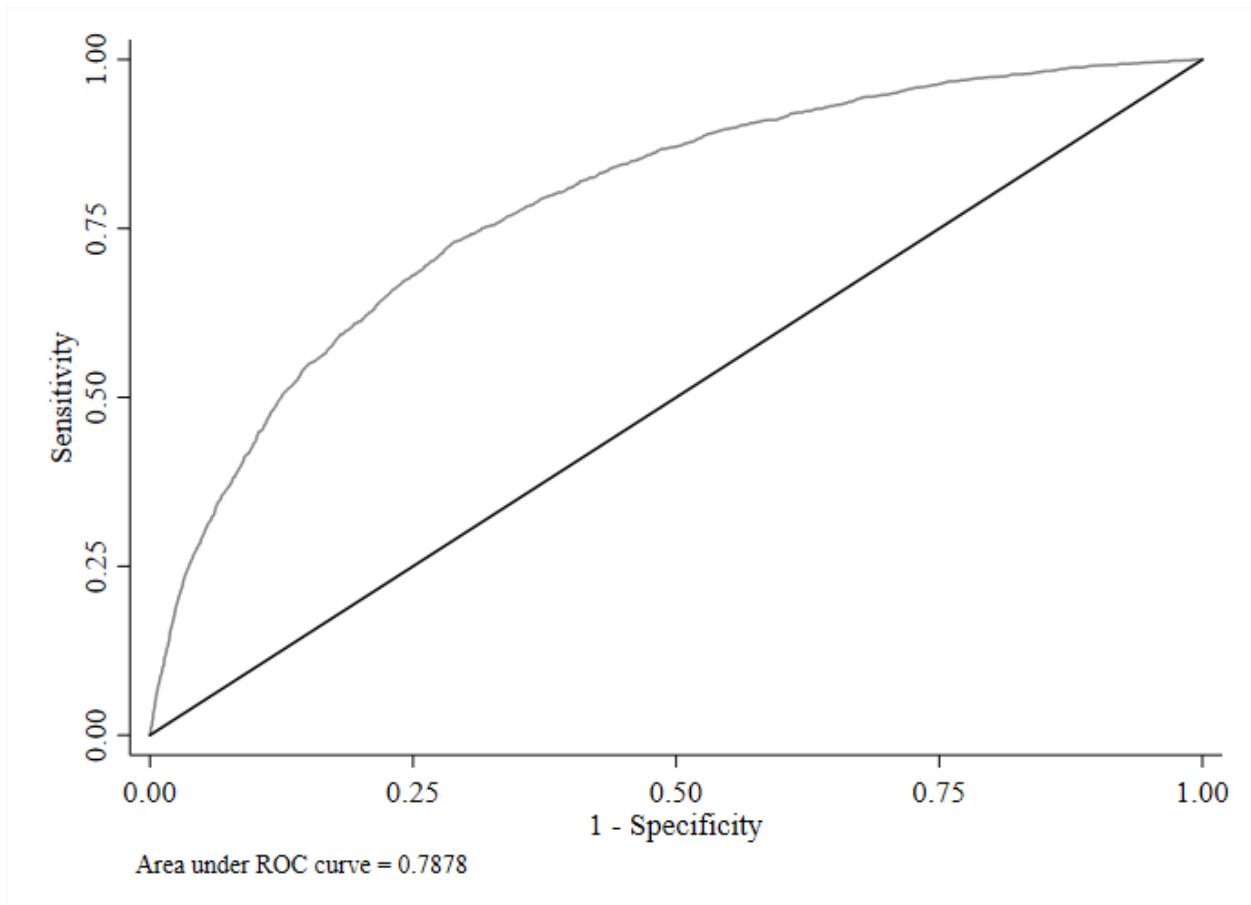


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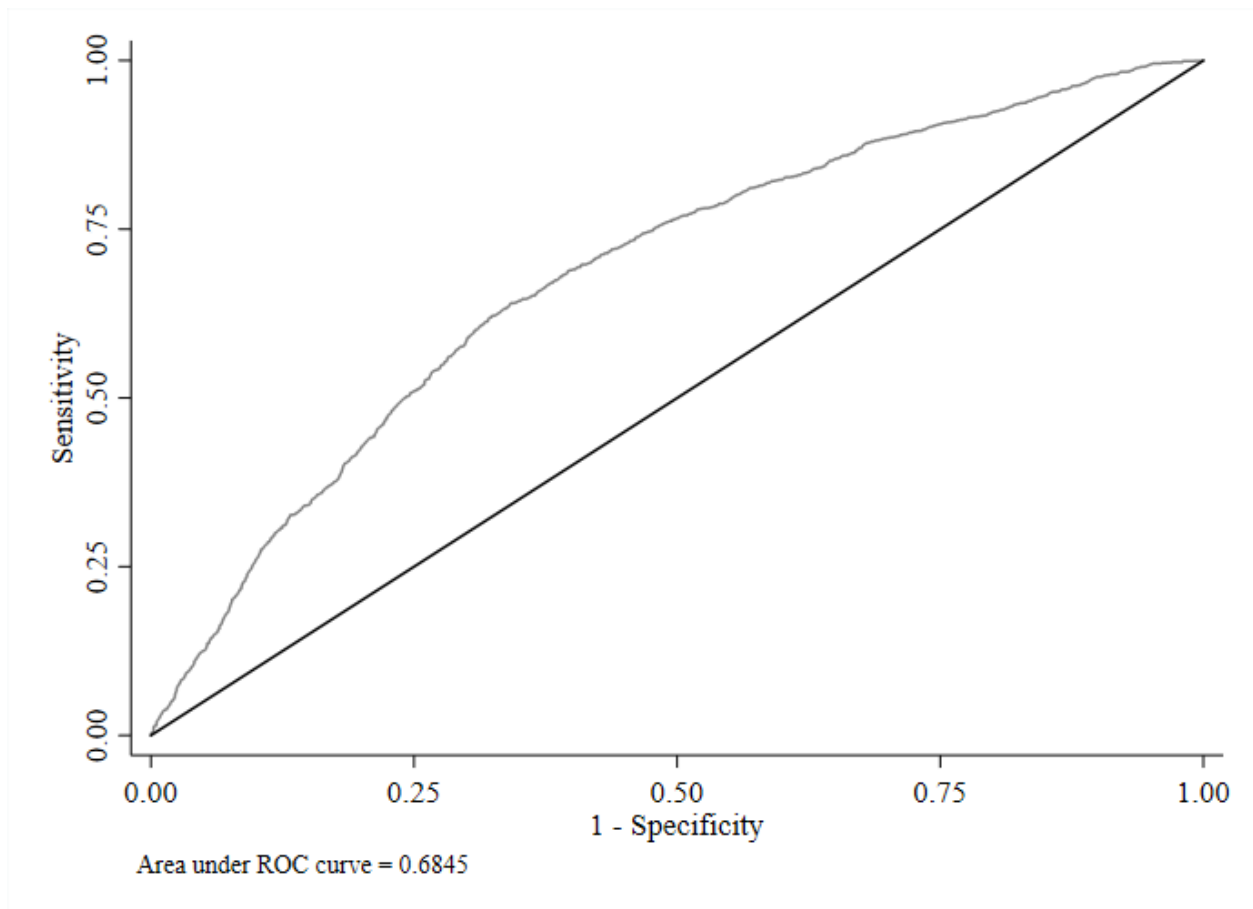
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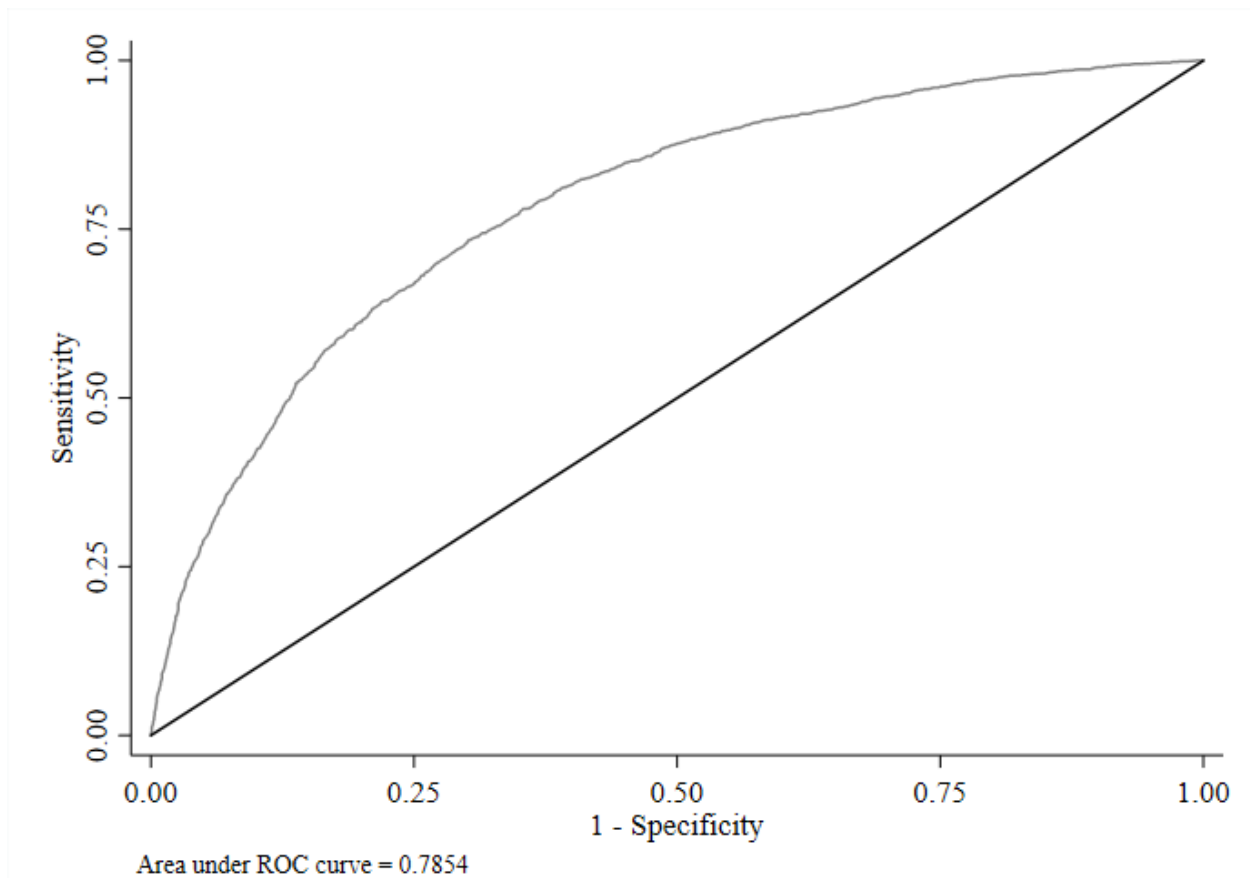
**APPENDIX A:**  
**MODEL FIT STATISTICS**



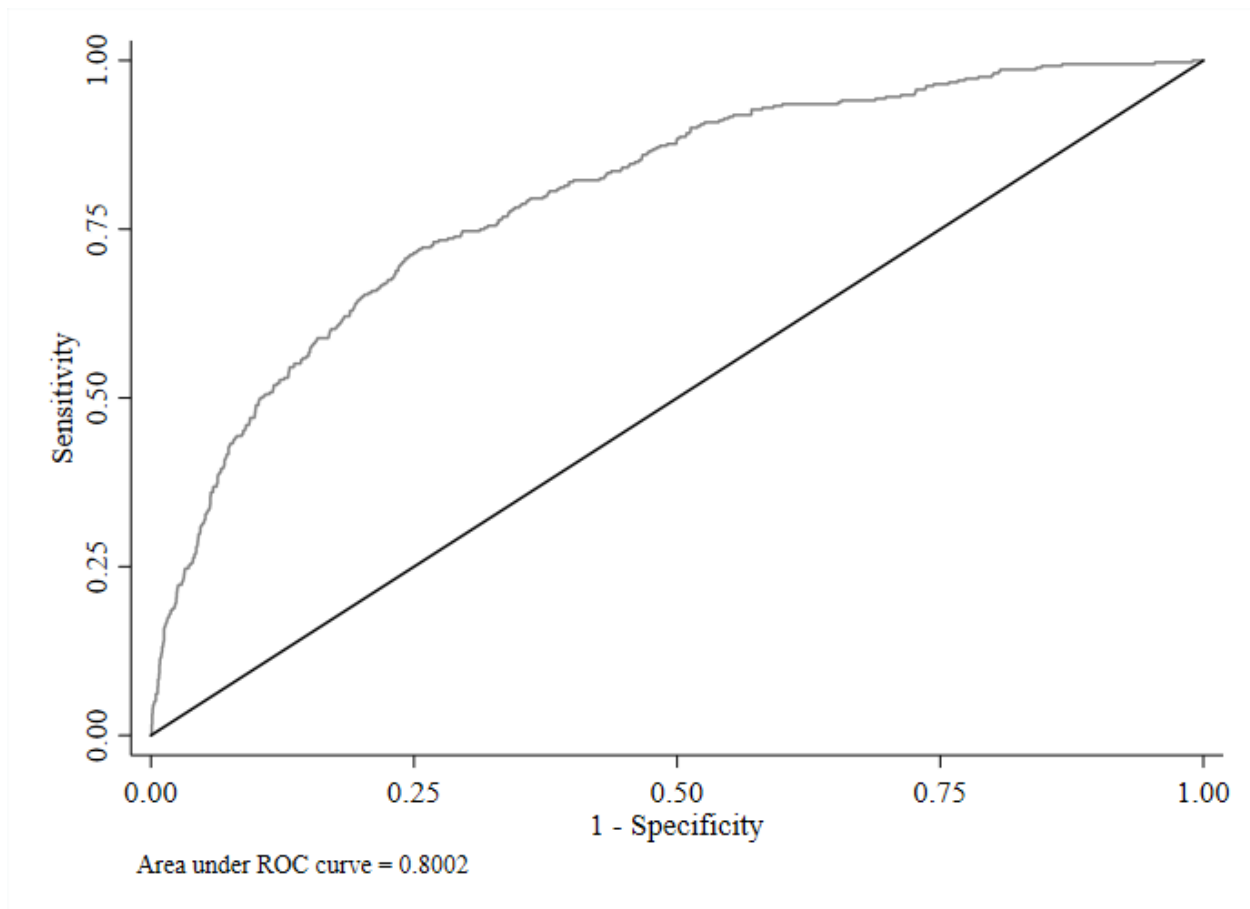
**Figure A.1.** Receiver Operator Characteristic (ROC) Curve for the Relationship between Mental Illness, Education, and Violent Misconduct



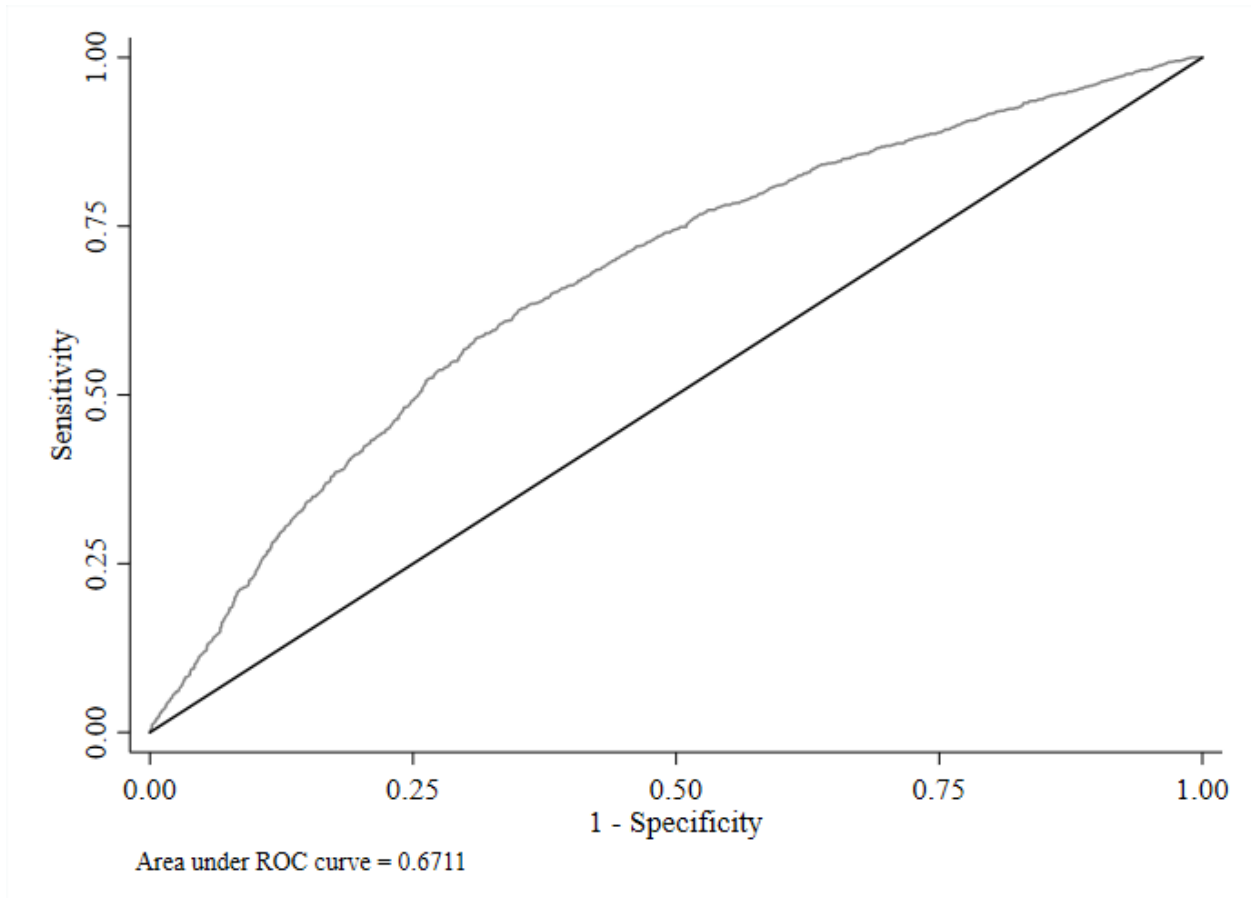
**Figure A.2.** Receiver Operator Characteristic (ROC) Curve for the Relationship between Mental Illness, Education, and Disciplinary Segregation



**Figure A.3.** Receiver Operator Characteristic (ROC) Curve for the Relationship between Mental Illness, Education, and Violent Misconduct among Men

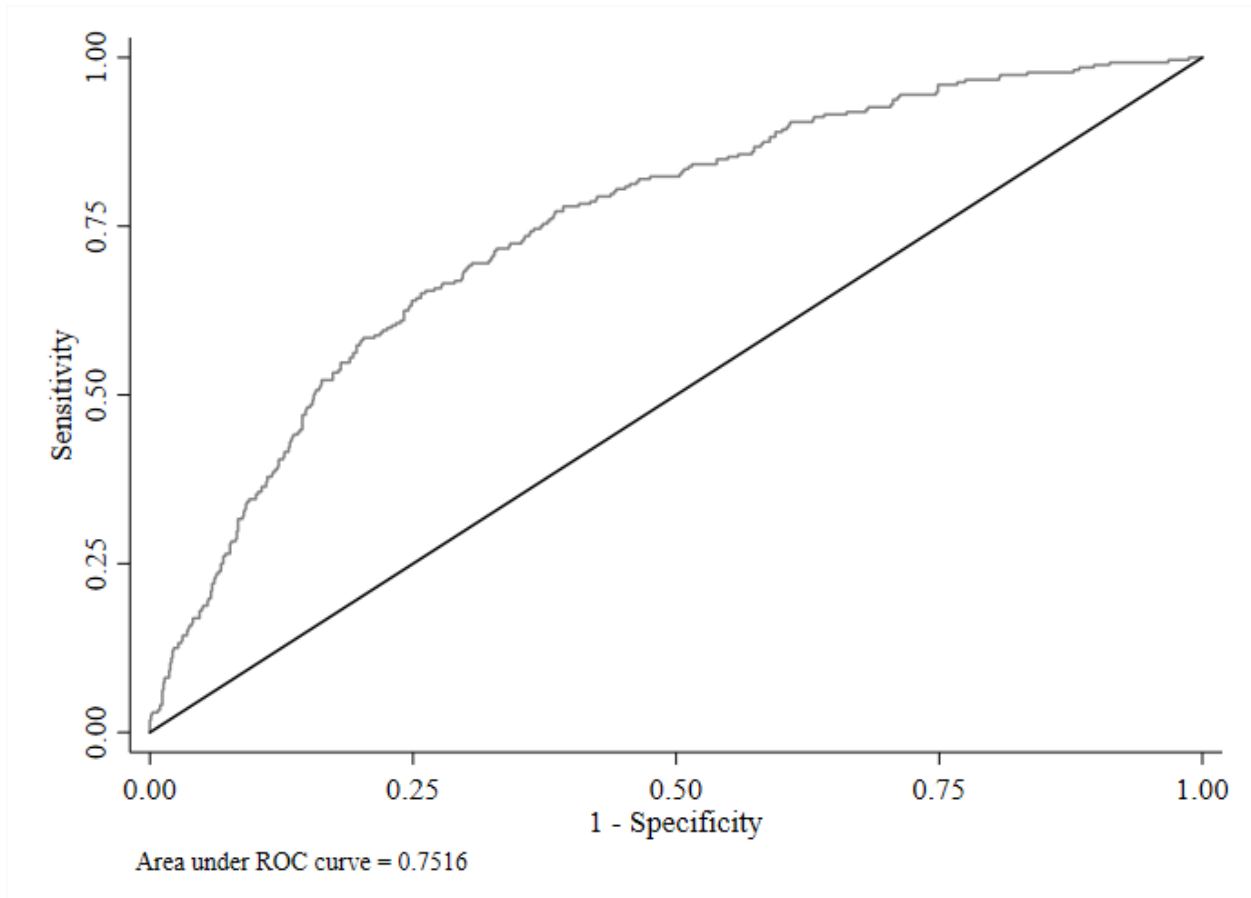


**Figure A.4.** Receiver Operator Characteristic (ROC) Curve for the Relationship between Mental Illness, Education, and Violent Misconduct among Women



**Figure A.5.** Receiver Operator Characteristic (ROC) Curve for the Relationship between Mental Illness, Education, and Disciplinary Segregation among Men





**Figure A.6.** Receiver Operator Characteristic (ROC) Curve for the Relationship between Mental Illness, Education, and Disciplinary Segregation among Women

## APPENDIX B:

### SENSITIVITY ANALYSES

**Table B.1.** Logistic Regression of Violent Misconduct on Number of Mental Health Diagnoses and Education ( $n = 13,102$ )

Variable	Coefficient	Odds Ratio	Standard Error
Mental Illness (number)	0.18***	1.20	0.02
Education	-0.24***	0.79	0.06
Age	-0.06***	0.94	0.00
Male	0.08	1.09	0.24
Hispanic	0.22**	1.25	0.09
Black	0.46***	1.53	0.06
Other Race	0.04	1.04	0.16
Employed	-0.23***	0.80	0.06
Income	0.05***	1.05	0.01
Married	-0.14	0.87	0.07
Parent	-0.16**	0.85	0.05
Priors	0.04***	1.04	0.01
Violent Offense	0.41***	1.51	0.08
Drug Offense	-0.23**	0.79	0.09
Other Offense	-0.12	0.89	0.11
Time Served (months)	0.01***	1.01	0.00
Work Assignment	-0.20**	0.82	0.06
Alcohol Abuse	0.08	1.09	0.06
Drug Abuse	0.17*	1.19	0.07
Alcohol Dependence	-0.09	0.92	0.07
Drug Dependence	0.19**	1.20	0.06
Child Sexual Abuse	-0.12	0.89	0.09
Adult Sexual Abuse	-0.18	0.84	0.13
Child Physical Abuse	0.51***	1.67	0.05
Adult Physical Abuse	0.18**	1.20	0.06
Visit (past month)	-0.15**	0.86	0.06
Pseudo R <sup>2</sup>	0.18		

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table B.2.** Logistic Regression of Violent Misconduct on 3 or more Mental Health Diagnoses and Education ( $n = 13,102$ )

Variable	Coefficient	Odds Ratio	Standard Error
Mental Illness (3 or more)	0.24***	1.27	0.03
Education	-0.24***	0.79	0.06
Age	-0.06***	0.94	0.00
Male	0.10	1.11	0.24
Hispanic	0.24**	1.27	0.09
Black	0.48***	1.61	0.06
Other Race	0.05	1.05	0.16
Employed	-0.23***	0.80	0.06
Income	0.05***	1.05	0.01
Married	-0.14	0.87	0.07
Parent	-0.16**	0.85	0.05
Priors	0.04***	1.04	0.01
Violent Offense	0.41***	1.51	0.08
Drug Offense	-0.22**	0.80	0.09
Other Offense	-0.12	0.89	0.11
Time Served (months)	0.01***	1.01	0.00
Work Assignment	-0.20**	0.82	0.06
Alcohol Abuse	0.09	1.09	0.06
Drug Abuse	0.17*	1.19	0.07
Alcohol Dependence	-0.09	0.92	0.07
Drug Dependence	0.18**	1.19	0.06
Child Sexual Abuse	-0.11	0.89	0.09
Adult Sexual Abuse	-0.17	0.84	0.13
Child Physical Abuse	0.51***	1.67	0.05
Adult Physical Abuse	0.19**	1.20	0.06
Visit (past month)	-0.15**	0.86	0.06
Pseudo R <sup>2</sup>	0.18		

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table B.3.** Logistic Regression of Disciplinary Segregation on Mental Illness and Education ( $n = 6,590$ )

Variable	Coefficient	Odds Ratio	Standard Error
Mental Illness (3 or more)	0.08*	1.09	0.03
Education	-0.01		0.08
Violent Misconduct	1.04***		0.07
Age	-0.01***		0.00
Male	0.24		0.40
Hispanic	-0.17		0.11
Black	0.10		0.10
Other Race	-0.16		0.16
Employed	0.06		0.06
Income	0.01		0.01
Married	-0.02		0.09
Parent	0.01		0.01
Priors	0.01		0.01
Violent Offense	-0.08		0.08
Drug Offense	-0.08		0.10
Other Offense	-0.14		0.13
Time Served (months)	0.00***		0.00
Work Assignment	-0.32***		0.08
Alcohol Abuse	0.02		0.07
Drug Abuse	-0.16*		0.07
Alcohol Dependence	-0.02		0.09
Drug Dependence	0.04		0.07
Child Sexual Abuse	-0.03		0.10
Adult Sexual Abuse	-0.06		0.13
Child Physical Abuse	0.07		0.07
Adult Physical Abuse	-0.02		0.07
Visit (past month)	-0.18**		0.07
Pseudo R <sup>2</sup>	0.072		

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table B.4.** Logistic Regression of Disciplinary Segregation on number of Mental Illness and Education ( $n = 6,590$ )

Variable	Coefficient	Odds Ratio	Standard Error
Mental Illness (number)	0.07**	1.09	0.03
Education	-0.01		0.08
Violent Misconduct	1.04***		0.07
Age	-0.01***		0.00
Male	0.24		0.39
Hispanic	-0.17		0.11
Black	0.10		0.10
Other Race	-0.16		0.16
Employed	0.06		0.06
Income	0.01		0.01
Married	-0.02		0.09
Parent	0.01		0.01
Priors	0.01		0.01
Violent Offense	-0.08		0.08
Drug Offense	-0.08		0.10
Other Offense	-0.13		0.13
Time Served (months)	0.00***		0.00
Work Assignment	-0.32***		0.08
Alcohol Abuse	0.02		0.07
Drug Abuse	-0.16*		0.07
Alcohol Dependence	-0.02		0.09
Drug Dependence	0.04		0.07
Child Sexual Abuse	-0.04		0.10
Adult Sexual Abuse	-0.06		0.13
Child Physical Abuse	0.07		0.07
Adult Physical Abuse	-0.02		0.07
Visit (past month)	-0.18**		0.07
Pseudo R <sup>2</sup>	0.072		

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table B.5.** Mediating Effect of Severe Mental Health Services in the Relationship between Mental Illness and Misconduct ( $n = 13,102$ )

Model	Coefficient	Standard Error	Odds Ratio
Reduced	0.50***	0.06	1.64
Full	0.49***	0.06	1.62
Difference	0.01	0.02	
Confounding Ratio	1.02	--	--
Confounding Percentage	2.34	--	--

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table B.6.** Mediating Effect of Number of Mental Health Services in the Relationship between Mental Illness and Misconduct ( $n = 13,102$ )

Model	Coefficient	Standard Error	Odds Ratio
Reduced	0.48***	0.06	1.62
Full	0.26***	0.07	1.29
Difference	0.22***	0.03	1.25
Confounding Ratio	1.86	--	--
Confounding Percentage	46.45	--	--

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

**Table B.7.** Mediating Effect of Severe Mental Health Services in the Relationship between Mental Illness and Disciplinary Segregation ( $n = 6,590$ )

Model	Coefficient	Standard Error	Odds Ratio
Reduced	0.23***	0.07	1.26
Full	0.23***	0.07	1.26
Difference	0.00	0.00	
Confounding Ratio	1.00	--	--
Confounding Percentage	0.03	--	--

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$



**Table B.8.** Mediating Effect of Number of Mental Health Services in the Relationship between Mental Illness and Disciplinary Segregation ( $n = 6,590$ )

Model	Coefficient	Standard Error	Odds Ratio
Reduced	0.23***	0.06	1.26
Full	0.12	0.08	
Difference	0.11*	0.05	1.12
Confounding Ratio	1.91	--	--
Confounding Percentage	47.70	--	--

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

## **APPENDIX C:**

### **EXECUTIVE SUMMARY**

This dissertation examines the effect of mental illness, mental health treatment, socioeconomic status, and gender have on violent misconduct and disciplinary segregation in prison. The Survey of Inmates in State and Federal Correctional Facilities (SISFC; US DOJ, 2004) is used to explore these relationships. Results from the analyses were used to identify critical issues in correctional facilities that require further attention across the United States. Several important findings are worthy of discussion.

First, results suggest that mental illness is important to consider in rule infractions and disciplinary proceedings behind prison walls. Mental illness consistently showed a significant effect in outcomes of violent misconduct and disciplinary segregation. While it may be that those with mental illness are more violent than those without, it may also be true that correctional officers, who are already overburdened and understaffed, may not have the time or knowledge to differentiate between untreated symptoms of mental illness and true, intentional misconduct. Results also suggest that the effect of mental illness is different for men and women; diagnoses of mental illness that are characterized by behaviors of turning inward (i.e., anxiety, depression) were important in predicting violence for men than women. Here, it is possible that men bottle their emotions until they explode, whereas women are more likely to react less violently. Diagnoses characterized by acting out (i.e., schizophrenia, PTSD) increase violence for both men and women, but this relationship is stronger for women. These findings suggest a critical need for identifying and providing treatment for individuals with mental illness.

Second, the results indicate that socioeconomic status was not important in influencing how mental illness impacts misconduct or disciplinary segregation. It is well-known in the general population that mental illness does not discriminate; this dissertation suggests the same is true behind prison walls. These findings highlight the need for widespread screening for mental illness in prison, rather than identifying subgroups who are at heightened risk. However, this study is one of the first to examine this relationship, and future studies should seek to determine if this effect is consistent across studies.

Third, individuals who used mental health treatment were less likely to engage in misconduct or be sanctioned to disciplinary segregation. This finding highlights the importance of linking individuals to services while they are incarcerated. By providing services to individuals with mental illness, the safety of inmates and correctional officers as well as prison order may be enhanced. However, even when using services, mental illness still increased the likelihood of misconduct and disciplinary segregation. This reveals a need for the improvement of access to, or quality of services in the prison setting.

In sum, this dissertation finds that mental illness, access to treatment, and sex are important to consider in the context of rule infractions and disciplinary proceeding in prison. The conclusion of the dissertation provides an in-depth discussion of the findings along with implications for prison policy. Given the results, prison administrators, policy makers, and researchers alike should continue to explore the impact these factors have on misconduct and prison discipline.