UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

A PUNISHMENT BEYOND SENTENCING: INCARCERATION'S IMPACT ON OVERALL QUALITY OF HEALTH

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

In partial fulfillment of the requirements for the

Degree of

DOCTOR OF PHILOSOPHY

By

Matthew S. Loflin

Norman, OK

2024

Downloaded from SHAREOK. Persistent Handle URL: https://hdl.handle.net/11244/340437

A PUNISHMENT BEYOND SENTENCING: INCARCERATION'S IMPACT ON OVERALL QUALITY OF HEALTH

A DISSERTATION APPROVED FOR THE

DEPARTMENT OF SOCIOLOGY

BY THE COMMITTEE CONSISTING OF

Dr. Loretta Bass, Chair

Dr. B. Mitchell Peck

Dr. John Carl

Dr. Darren Purcell

© Copyright by MATTHEW S. LOFLIN, 2024

All Rights Reserved.

Table of Contents

Acknowledgements……..……v

List of Tables……...……...…….vi

Abstract……..……....vii

Chapter 1: Introduction and Dissertation Overview……...…….……1

Chapter 2: Self-Reported Health and Criminal Justice Involvement ……....19

Chapter 3: The Ability to Work and Criminal Justice Involvement..……42

Chapter 4: Negative Coping Strategies and Criminal Justice Involvement..…….63

Chapter 5: Discussion and Conclusion……...……...84

References……..92

Appendix A: Measures and Full Tables for Chapter 2……..……..108

Appendix B: Measures and Full Tables for Chapter 3……..…..…113

Appendix C: Measures and Full Tables for Chapter 4……....…118

Acknowledgements

This project would not have been possible with an enormous amount of support from my wife, my advisors, my family, my colleagues, and my friends. It is impossible to acknowledge every single person who gave me the wisdom and strength to pursue a Ph.D.

First, thank you to my amazing wife, Abbey Nixon, who encouraged me, motivated me, and took on a giant share of responsibilities, both professionally and personally, to help me make this dream a reality. I am nothing without her, and she absolutely deserves all the credit for any success I have ever attained.

Thank you, Mom! The greatest gift you ever gave me was not my life, but how you raised David and me despite how the odds were stacked against us. Thank you for providing me with the drive and desire to do this, and for always being there.

Thank you to Dr. Loretta Bass, who took a chance and saw something in me my very first semester in graduate school when I was on the verge of giving up on this pursuit. From her Stratification Seminar, to preparing for comprehensive exams, to guiding me during my dissertation, to being my "work mom," it's hard to express my full gratitude for your guidance, and mentoring. Thanks for keeping me grounded- you can ask Abbey how difficult that is...

Thanks to Dr. B. Mitchell Peck, who also saw my potential and challenged me to unlock it. I struggled mightily during my first semester in graduate school, particularly in Dr. Peck's Statistics Course. I struggled to the point where I literally had a panic attack during his final exam. Dr. Peck recognized what I was going through and challenged me to focus on my emotional health and my academic growth. He saw the potential in me, and his encouragement continues to fuel me to this day.

Thank you to Dr. John Carl, who I could swear might be a long-lost relative I never knew about. From the moment Dr. Trina Hope assigned me to be his teaching assistant, I knew that I had found a perfect mentor to aid my transition into graduate school. While I was raised by a phenomenal teacher who was also a single mother, Dr. Carl molded my pedagogic approach and helped inspire my research agenda. He also recognized when I was struggling and was willing to get his hands dirty to make sure I was not falling behind. From the moment I met him, I knew I had the best mentor possible. Thank you for everything.

Thank you to Dr. Darren Purcell, who has always been there both as a teacher and colleague. Your insight and patience with this project helped make it possible, as did your council and friendship. Thank you!

Special thanks to my cohort-mates: Dr. Carrie Leslie, Dr. Sarah Connelly, Kelly Tabbut, Jessie Laljer, Haifan Xiao, Rin Ferraro, Abby Young, Isabella Chiareli, and my fellow 2024 Ph.D. graduates: Dr. Liz McElroy, Dr. Heather Lepper-Pappan, and Dr. Fariborz Arief.

Lastly, thanks to the faculty at OU Sociology who nurtured and guided me into the person and scholar that I am today, especially Drs. Burge, Chapple, Piotrowski, Schleifer, Burns, Hope, Perry, Worthen, and Gerlinger.

List of Tables

Table 2.1. Chapter 2 Descriptive Statistics……..…….……..108

Table 2.2. Ordered Logistic Regressions—Ever Incarcerated Predicting Worse Health Outcomes.....110

Table 2.3. Ordered Logistic Regressions—Times Incarcerated Predicting Worse Health…..…111

Table 2.4. Ordered Logistic Regressions—Ever Arrested Predicting Worse Health…….....112

Table 3.1. Chapter 3 Descriptive Statistics……..113

Table 3.2. Logit Regressions—Ever Incarcerated Affecting the Ability to Work…….....……115

Table 3.3. Logit Regression—Number of Incarcerations Affecting the Ability to Work…...…116

Table 3.4. Logit Regression—Ever Arrested Affecting the Ability to Work…….....……117

Table 4.1 Chapter 4 Descriptive Statistics……...……118

Table 4.2 Logit Regressions—Paroled in Last 12 Months Predicting Illicit Substance Use Last 12 Months…….119

Table 4.3 Logit Regressions—Arrested in Last 12 Months Predicting Illicit Substance Use Last 12 Months…….120

Table 4.4 Logit Regressions—Paroled in Last 12 Months Predicting Opioid Misuse Last 12 Months…….121

Table 4.5 Logit Regressions—Arrested in Last 12 Months Predicting Opioid Misuse Last 12 Months…….122

Abstract:

In this dissertation I use Agnew's *General Strain Theory* as a frame and examine whether criminal justice involvement, specifically ever being arrested, ever incarcerated, or paroled, is related to the overall physical health and livelihood. I test for relationships between criminal justice involvement and two outcomes: respondents' self-reported fair/poor health and respondent stating that health affects their ability to work. A third outcome tests how criminal justice involvement in the last 12 months, specifically being paroled and being arrested, is related to using negative coping strategies, specifically illicit substance use and prescription opioid misuse, over this time period.

First, I examine how the self-reported health is shaped by incarceration using the National Longitudinal Survey of Youth (NLSY97). I find that ever being incarcerated has a significant negative effect on self-reported health outcomes; however, once access to health insurance and other social inclusion variables are introduced, the probability of reporting worse health outcomes is reversed, suggesting that there is an underlying relationship between having worse health and the social inclusion variables, and that the relationship between ever being incarcerated and worse health is mitigated by social inclusion factors. Being socially excluded is associated with worse self-reported health. These findings provide support for the health disenfranchisement hypothesis as well as the social exclusion hypothesis.

Next, I use the NLSY97 to examine the independent effects that incarceration and social inclusion have on respondents' self-reported ability to work. As predicted, I find that the experience of being arrested is associated with a higher likelihood of respondents reporting that their health affected their ability to work. While the number of incarcerations and arrests in the last 12 months variables both share positive bivariate relationships with reporting that their health affects their ability to work, these relationships do not hold once demographic and social

inclusion variables are included in the models. I also find that African Americans and females have a higher likelihood to self-report an inability to work due to their health. These findings for African Americans and females support the social exclusion hypothesis, but the relationship only holds for women once the social inclusion variables are included.

Last, I use the National Survey of Drug Usage and Health (NSDUH, 2021) to test whether being arrested and being on parole is associated with using the negative coping strategies of illicit substance use and prescription opioid misuse, while testing for the moderating effects of social inclusion factors. I find that experiencing an arrest and being paroled in the last 12 months are both associated with using negative coping strategies, which lends support to the social exclusion hypothesis. I find support for Agnew's *general strain theory* in that formerly incarcerated people are more likely to be vulnerable to *negative stimuli,* resulting in higher odds of using negative coping strategies. This aspect of *general strain theory* supports social exclusion due to the limited life chances that formerly incarcerated people can cultivate during the reentry process.

Overall, this dissertation provides evidence that criminal justice involvement negatively affects the life chances and coping behaviors of formerly incarcerated or paroled people. However, social inclusion factors provide a salient countering influence to the negative health effects of being arrested, incarcerated, or paroled.

Keywords: Incarceration, arrest, parole, health, life chances, stigma, reentry, health care access, negative coping strategies, opioid, cocaine, methamphetamine, heroin, social inclusion, social exclusion

Chapter 1: Introduction and Dissertation Overview

I. Introduction

> "The distance between a prison and an ex-offender's home community generally can be traversed by bus. But this conventional form of transportation masks the real distance the ex-offender must travel from incarceration to a successful reintegration in their community" (Thompson, 2004).

The impact of incarceration on overall physical health is a widely studied phenomenon with wide-ranging implications. Research shows how various interventions can mitigate some effects of incarceration in that access to health insurance can provide pathways for formerly incarcerated people (FIPs going forward[1]) (Vail et al., 2017) to address physical and emotional health issues. Because of the increased social exclusion that FIPs face, this leads to more adverse and consequential health issues that they face (e.g. Martin, 2017; Binswanger et al., 2011; Visher et al., 2004; Baffour et al., 2021). In this dissertation, I address gaps in the reentry and incarceration literature by focusing on how *General Strain Theory* is linked to health-related disparities.

This dissertation uses Agnew's *General Strain Theory* (1985), which argues that people commit crime or engage in delinquency because of pressure or strain (Kurbin et al., 2009). Agnew argues that these strains result from the introduction of a negative stimuli (e.g. arrest or incarceration), the removal of a positive stimuli (e.g. social inclusion), and the failure to achieve

[1] Research on FIPs often uses terms such as 'ex-convict', 'ex-prisoner', or 'formerly incarcerated person. Vail and colleagues (2017) suggest using 'formerly incarcerated person/people as a more humanizing and politically correct description for this population.

a goal (e.g. social exclusion). As a result, these strains lead to "negative affective states," which lead to negative emotions.

In addition to GST, I also apply Giddens's (2007) application of Rene Lenoir's *social exclusion* (1974), which recognizes that factors other than poverty alone may prevent individuals or groups from playing a full part in society. I use intersectionality for insight on how racial/ethnic group, class, gender, ability, and age operate not as unitary, mutually exclusive entities, but rather as reciprocally constructing phenomena (Collins, 2015). I test my predictions with ordinal logistic regression and logit (logistic) regression models to examine self-reported health outcomes and ability-to-work outcomes using the National Longitudinal Survey of Youth 1997 (NLSY97, 2017), and negative coping strategies using the 2021 National Survey of Drug usage and Health (NSDUH).

The substantive chapters of this dissertation are chapters 2, 3, and 4, and they are presented as three separate studies. Those chapters will contain literature reviews, theoretical frameworks and hypothesis, and methods, results, and discussion sections. This section, however, will include a summary of key concepts that will appear throughout all three analytical chapters. While all three studies examine certain aspects of adverse health effects resulting from incarceration, each study considers different components of an individual's health. While all three examine aspects of social health through social exclusion, chapters 2 and 3 use similar models with the same dataset, round 18 of the NLSY97, gathered in 2017, to examine self-reported health and self-reported ability to work through the lenses of social exclusion and intersectionality. Chapter 4 uses the NSDUH (2021) data resource to examine how negative affective states from GST influence negative coping strategies through substance use.

II. Theoretical Framework

For this dissertation, I use Agnew's *General Strain Theory* (GST) (1985), which argues that people commit crime or engage in delinquency because of pressure or strain (Kurbin et al., 2009). The basis for GST is rooted in Durkheim's concept of *anomie* (1897 [1952], which is the state of 'normlessness' that occurs when tremendous upheaval is present in society. Robert Merton's (1938) *social structure and anomie* built on Durkheim's *anomie* by arguing that anomie is a constant attribute of society and that there are micro-level responses to anomie.

For both Durkheim and Merton, responses to *anomie* centered on the failure to achieve economic goals. For Agnew, however, strain is not just caused by the failure to achieve a goal, but also emotions that contribute to strain. Agnew's GST (1985) focuses on the presentation of negative stimuli (e.g., getting arrested or going to prison, social exclusion), the removal of a positive stimuli (e.g., the loss of a job or income because of an arrest or incarceration), *and* the inability to achieve a goal (e.g., blocked opportunities for success). As a result, these strains lead to "negative affective states," leading to individuals feeling angry, fearful, frustrated, or depressed, leading to criminal or delinquent behavior.

Agnew's (1985) early work on GST focused on how strain is caused by an inability to escape adverse or negative situations, revising Merton's version of strain theory. Agnew's original study noted that juveniles were often in settings where they had limited control, such as in school or with their families. By using a cross-sectional sample of 2,213 boys as part of the 1966 Youth and Transition Study, Agnew measured adverse home situations and adverse school

situations with various scales. Agnew concluded that the inability to avoid abrasive environments created anger, leading to higher crime and drug usage.

While Agnew's early work on GST did not address causation with his cross-sectional study, Agnew (1989) developed longitudinal data to find that adversity led to delinquency but did not answer *'why?'*. Subsequent research found that strain can be cumulative, such as experiencing negative life events, criminal victimization or job loss, life hassles (e.g. social exclusion), negative relations with adults, parental fighting, an unsafe neighborhood, lack of success with the opposite sex, job strain, and clothing strain (Agnew and White, 1992). Agnew (2001) also described four conditions which potentially produce crime and delinquency: (1) the strain is seen as unjust, (2) the strain is high in magnitude, (3) the strains associated with low social control are likely to be crime producing, and (4) that the strain creates pressures or incentives for criminal or delinquent responses.

Agnew (1992) further developed GST to include how strain causes negative emotions, such as anger, depression, disappointment, and fear, finding that when bad things happen, people get angry and are more likely to commit crime or delinquent acts as a result. Agnew also found that engaging in delinquency at least temporarily reduced negative emotions with strain. Agnew (1992) states that strain refers to "Relationships in which others are not treating the individual as he or she would like to be treated" (Agnew, 2001:320); however, researchers use strain in different ways. While an objective strain is disliked by most individuals, this dissertation will focus on a subjective strain: the health effects of incarceration faced by formerly incarcerated people. To do this, I define objective strains as arrests or incarceration. Further, Agnew (2001:322) defines subjective strain as an event or condition that is disliked by people who are or who have experienced them. Because most in society will never experience incarceration and its

health effects, the long-term consequences of incarceration are often neglected throughout each phase of the reentry process. Therefore, I examine how social exclusion (e.g. negative relationships with employment, education, race/ethnicity, respondent sex, etc.) affects FIPs. Not only do the formerly incarcerated face substantial obstacles at the micro-, mezzo-, and macro-levels, but their health possibly limits FIPs' full participation in society. This phenomenon is examined in Chapters 2 and 3 by testing how health is affected by incarceration, the respondents' number of incarcerations, and whether they have been arrested. Chapter 3 builds on Chapter 2 by examining how health affects the respondents' ability to work. Chapter 4 examines negative coping strategies that result from negative affective states, such as social exclusion. To do this, various negative coping skills, such as mixing drugs and alcohol, misuse of opioids, or use of drugs, are examined with social exclusion variables, such as a lack of education, lack of employment, or being unmarried.

Social Exclusion, Social Inclusion, and *Life Chances*: In addition to *General Strain Theory*, I will also apply an integration of *social inclusion* and *exclusion* with *life chances*. The application of *social exclusion* and *social inclusion* comes from an integration of Rene Lenoir's *social exclusion*, Michele Foucault's *social exclusion*, and Anthony Giddens's integration of *social exclusion* with *life chances*. Chapter 4 will also include an application of Lemert's *labeling theory* to exemplify *negative stimuli*.

Lenoir's (1974) *social exclusion* originated with the publication of *Les Exclus: Un Français Sur Dix* (translated *Excluded: One in Ten French)*. While serving as the Secretary of State for Social Action in French Prime Minister Raymond Barre's government, Lenior noted that France's post-war economy had been prosperous; however, the elderly, disabled, and social misfits had not benefited from the 'thirty glorious years.' Lenoir argued that the excluded were

"citizens who were separated from mainstream society because of factors like disability, mental illness, and poverty," consisting of about 10% of the French population (Peters and Besley, 2014). Lenoir's definition of *social exclusion* was broad, yet he also recognized that exclusion was a threat to France's ideas of citizenship and social solidarity (Peters and Besley, 2014). Due to the nature of how physical health affects overall health and the ability to work, I argue that Lenoir's *social exclusion* process begins during incarceration once FIPs are incarcerated, and this process continues through the higher likelihood of disability, mental illness (e.g. illness such as substance abuse issues or Post-Traumatic Stress Syndrome), and poverty (e.g. the inability to find work after release).

Foucault's (1961) *social exclusion* was a central focus of his writing and political activities as early as the publication of *History of Madness.* Foucault's work and political activities focused on social exclusion through his campaigns for prisoners as marginalized and excluded in French society (Peters and Besley, 2014). The nature of incarceration is an exclusionary practice of architecture (Foucault, 1976 [1995]), where prisoners are separated from society and confined and subjected to the dynamic of surveillance and observation (Welch, 2011). This exclusion does not just operate in prisons; however, but also throughout society. Social exclusion is a common theme for how FIPs are treated once they have reentered society, whether they are applying for employment, seeking a place to live, or even pursuing education.

While *social exclusion* stipulates that individuals who are unable to fully participate in society become excluded, *social inclusion* stipulates that those with social or human capital will be able to participate in society. FIPs face substantial discredited stigma. For example, incarceration not only affects a variety of health outcomes, but it also stunts the accumulation of human capital, such as employment skills or education, and promotes adverse socioeconomic

outcomes (Vacak et al, 2019; Massoglia, 2008a; Pager, 2003; Pager, 2007). Incarceration also leads to a loss of social capital, which are the relationships and development of human capital (Bourdieu, 1986). For Bourdieu (1986), *social capital* is available to those who make the effort to acquire it by achieving positions of power and status. This project will operationalize social capital through racial/ethnic group, age at interview, respondent sex, description of financial condition, education, employment, and marital status. Those with high levels of social capital, such as a comfortable financial condition, employment, married, are defined as having *social inclusion*, which includes wealth, power, prestige, and privilege. Therefore, those who are *socially excluded* are those with low measures of social capital, such as an uncomfortable financial condition, lack of education, lack of employment, and are unmarried.

Life Chances: Giddens (1981:130-131) defines life chances as "the chances [that] an individual has of sharing in the socially created economic or cultural goods which typically exist in a given society." While earlier theorists such as Weber (1920 [1964]) or Dahrendorf (1979) used this concept, Giddens's (1981) definition is most appropriate for this research project. Simply stated, life chances are the chances that individuals have of gaining access to scarce and valued resources (Breen, 2005:32). Giddens (2007) applies Renoir's *social exclusion* to his concept of *life chances* by recognizing that factors other than poverty alone may prevent individuals or groups from playing a full part in society. As this dissertation focuses on various health outcomes, the lack of access to adequate healthcare both during and after an individual's incarceration further intensifies chronic health issues (Westervelt and Cook, 2012:70; Sharp, 2014:69), which substantially diminishes life chance prospects for formerly incarcerated people after incarceration. Massoglia and Pridemore (2015:303) state that the effects on health through incarceration have done a better job of showing *that* incarnation matters rather than *why*

incarceration matters. Through the diminishment of these life chances, any criminal justice system interaction essentially becomes a punishment beyond sentencing with far-reaching consequences.

For this dissertation, social exclusion leads to a diminishment of life chances while social inclusion promotes them. For Chapter 2, I expect that social exclusion will lead to worse health outcomes, while Chapter 3 will see that exclusion will increase the likelihood that respondents will be more likely to report that their health affected their ability to work. For Chapter 4, I argue that social exclusion will promote negative coping strategies, while social inclusion will diminish the chances.

Integration of General Strain Theory with *Social Inclusion* and *Social Exclusion:* Agnew's *General Strain Theory* focuses on the inability to escape adverse or negative situations. For Agnew, the presentation of negative stimuli, removal of a positive stimuli, and the inability to achieve a goal all trigger emotions that promote crime and delinquency. To integrate *social inclusion* and *exclusion*, we must consider how we react to positive and negative emotions. FIPs face multiple systems challenges combined with negative emotional reactions, which likely contributes to poor health outcomes (Binswanger et al., 2011). For FIPs, a significant challenge is securing employment after release. For those who are unable to find a job, this failure to achieve a goal could trigger feelings of removing the positive stimuli represented by employment, which was affected by their history of incarceration. Because FIPs are not able to earn legitimate income through their employment, The failure to achieve a goal, in this case getting a job, not only leads to diminished life chances but also leads to social exclusion.

III. Dissertation Overview

This dissertation will test two hypotheses: the social exclusion hypothesis and the health disenfranchisement hypothesis.

The Social Exclusion Hypothesis tests how FIPs are affected by the presentation of negative stimuli. As a result of criminal justice involvement, FIPs are exposed to social exclusion due to how they are able to navigate the introduction of negative stimuli and the removal of positive stimuli through stigma commonly attached to FIPs. The social exclusion hypothesis examines how the lack of health insurance access, employment, marriage, income, and education affect health outcomes for FIPs. The social exclusion hypothesis also proposes that FIPs of color and females are more likely to report worse health outcomes due to criminal justice interactions.

This dissertation will also test the health disenfranchisement hypothesis. This hypothesis will explore how criminal justice involvement becomes a determinant of health disenfranchisement. To do this, I explore the relationship between incarceration and arrest on self-reported health, and on health affecting the ability to work, and how arrests or parole in the last 12 months may put respondents at a greater risk to use negative coping strategies. Criminal Justice Involvement introduces a multitude of negative stimuli to FIPs, creating opportunities for this population to be socially excluded and disenfranchised.

Chapter 2 expands the literature on reentry and reintegration by addressing gaps in past research that do not consider how access to social inclusion for FIPs mitigates poor self-reported health effects. Morbidity and mortality are grossly disproportionate for newly released FIPs compared to the general population. Incarcerated and formerly incarcerated persons suffer from higher rates of chronic medical conditions and mental health problems and find difficulty

connecting to health and social services due to institutional and social factors (Vail et al., 2017: 1448). Poor quality of health resulting from incarceration is an added punishment for FIPs even after their release from custody throughout the life course.

Prisons and jails are settings that display the power of sovereigns through systems of constraint and control (Foucault, 1976 [1995]). With the expansion of incarceration since the 1980s, the penal and legal system has reached the point where the pervasive use of prison as a mechanism of social control has touched almost every aspect of contemporary American society (Massoglia, 2008a). That display of power leads a lasting mark on FIPs, resulting in poor quality of health as an added punishment that lasts long after their release from custody, creating opportunities for the introductions of negative stimuli and the elimination of positive stimuli.

Additionally, there is a large volume of research on how the stressors of incarceration affect males and females in different ways. By examining the gendered and racial/ethnic differences in health disparities through social exclusion, this research seeks to broaden our understanding on how FIPs can regain life chances and mitigate the effects of social exclusion. I expect that non-whites and females will be more likely to have worse health outcomes; however, access to health insurance and social inclusion will diminish these health outcomes.

Chapter 3 uses a similar theoretical framework as chapter 2, however; chapter 3 focuses on respondent health affecting the to work as the key outcome. I operationalize ability to work through the NLSY97 questionnaire, which asks respondents “Would [their] health keep [them] from working now?” According to the U.S. Census Bureau, 54.3% of the U.S. population received employer-based health coverage, while 8.3% of the population did not have health insurance at any point of 2021 (Mykyta et al., 2022). Of the 597 respondents of the NLSY97 who reported that they have been incarcerated, 41.88% also reported that they were uninsured at

the time of interview. I expect that criminal justice involvement will have substantial effects on the self-reported health for FIPs and for those who have been arrested. I also expect that health insurance access will have the most robust effect on self-reported health outcomes compared to elements of social inclusion (e.g. marriage, education, financial security, etc.).

Access to affordable and high-quality health care varies widely in the United States due to pervasive inequalities that exist across multiple domains (Lyon et al., 2014:661), even with the 2010 passage of the Affordable Care Act (ACA). Although the ACA allowed states to expand Medicaid coverage to adults with incomes of up to 138% of the Federal Poverty Level (Harker & Sharer, 2024), inmates are prohibited from purchasing a plan through the Marketplace (HealthCare.gov, n.d.). Once released, however, FIPs are eligible to use the Marketplace to acquire health care coverage. Winkelman and colleagues (2017) found that although the uninsured rate declined among FIPs males through the ACA, they were still a large proportion of the remaining uninsured. Despite the benefits of the ACA, FIPs men were also significantly less likely to report a regular source of primary care and more likely to report emergency department use than those who have never been incarcerated (Winkelman et al., 2017).

Securing and maintaining employment is often a requirement for parole or probation, which exposes FIPs to an additional pathway to recidivism. In a study of New Yorkers returning home from custody, Freudenberg and colleagues (2005) found that post-release employment and health insurance access were both associated with lower re-arrest rates and drug use, however; only about a third of their participants held formal jobs. For those unable to work or afford private insurance, federal regulations prohibit inmates from receiving Medicaid coverage while incarcerated. Once released, Medicaid coverage through the ACA is an option for health care coverage for those reentering society, however; gaining access can be a cumbersome process,

especially for FIPs. While chapter 3 uses a similar theoretical framework and dataset as chapter 2, it examines different outcomes that reflect the respondents' social exclusion status through intersectionality.

Chapter 4 utilizes the 2021 NSDUH data to examine whether being arrested or paroled is associated with negative coping strategies and how social exclusion affects them. This chapter tests Agnew's *negative affective states* concept from his *General Strain Theory* by examining how negative coping strategies could be promoted through social exclusion. To do this, I operationalize social exclusion by measuring access to health insurance, marital status, education, employment, and financial condition. Socially excluded individuals, such as those who have been arrested or who are on parole, tend to be overrepresented in groups with cumulative disadvantages, such as a lack of education, are unmarried, unemployed, and uninsured, while those who are socially included have higher education, are married, employed, and have health insurance. The key aim of this chapter is to gain an understanding as to how social inclusion can help mitigate or even potentially eliminate these outcomes.

Lastly, chapter 5 summarizes the findings from the analytical chapters and discusses the significance and implications of the results. While there is support for the social exclusion hypothesis, the social inclusion measures are strongly associated with respondents reporting better health outcomes, lower likelihood of reporting that health affects their ability to work, and lower likelihood of using negative coping strategies. Short of major wars, mass incarceration has been the most thoroughly implemented government social program of our lifetime (Currie, 1998 [2013]:18). Through this dissertation, I will examine whether this public investment is worth the social exclusion and strain that millions of formerly incarcerated people (FIP) face during the reentry process.

IV. Key Concepts

Reentry for formerly incarcerated people (FIPs) is a critical piece of any criminal, social, or racial justice agenda (Goger et al., 2021). Both individual choices and social policy contribute to recidivism (Freudenberg et al., 2005), presenting numerous challenges for FIPs. The effects of prior criminality continue to be felt during the reentry process and are likely to have reverberations throughout the life course, taking many manifestations in later life such as unemployment, drug addiction, and martial instability (Nagin and Paternoster, 2000:117). This dissertation will examine how social exclusion causes a significant and negative effect on self-reported health outcomes, self-reported ability to work, and likelihood of using negative coping strategies.

The Reentry Process. FIPs face numerous obstacles at the micro, mezzo-, and micro-levels during their reentry into society. Borrowing from Maslow's (1943, 1954) Hierarchy of Needs, Looman and Carl (2015:154) note that basic needs, such as food water, warmth, rest, security, and safety, are the most important needs for FIPs. I apply this concept to FIPs to demonstrate social inclusion through employment and marriage as FIPs' needs are severely hampered if their basic needs are not themselves fulfilled (Looman and Carl, 2015:154-155).

Each challenge that FIPs face reflects their ability or inability to overcome a series of challenges. To become fulfilled, an individual's successful reentry can be viewed through how adequately they are able to meet six basic life needs: livelihood, residence, family, health, criminal justice compliance, and social connections (Ferner, 2015). Each of these needs presents interconnected challenges for FIPs who are reentering, which can be overwhelming in our "meritocracy-based" society (Herrnstein and Murray, 1994). This dissertation focuses on micro-

level challenges and the consequences that micro-level challenges potentially have for FIPs on their mezzo- and macro-level reentry challenges.

Micro-level reentry challenges: Micro-level challenges focus on how an individual is reentering and reintegrating back into society. While this dissertation focuses on health, the ability to work, and coping strategies, a key aspect of micro-level challenges focuses on FIPs being able to secure and maintain employment. Employers are reluctant to hire people with criminal records due to a variety of reasons, such as the stigma of incarceration, lack of or limited employment histories, and limited education, thus severely curtailing FIPs' ability to meet psychological or safety needs. Those able to find employment find this security in low-skill jobs with very limited benefits including low wages and few opportunities for advancement (Pager, 2007).

Another hindrance to securing employment is the combination of limited education and a lack of relative work experience for FIPs. FIPs are nearly twice as likely to have no high school credential at all, and more than half only hold a high school diploma or General Educational Development (GED) equivalency, which have diminishing value in today's competitive job market (Couloute, 2018). Due to the stereotypes and stigma of incarceration, plus the added stigma from a higher likelihood of a lack of education, even uneducated black males who have not been arrested or incarcerated are often stereotyped as ex-offenders or FIPs (Pager, 2003; Decker et al., 2014), many of which do not even get a job interview (Pager, 2007). In Pager's (2007) matched pairs study, African American FIPs were two-thirds less likely to receive job offers despite having identical resumes to the white candidates they were matched with. Even African Americans who were non-offenders in her study were only half as likely as whites to

receive any job offer, severely restricting job opportunities through racial factors even if the applicant had not committed a crime (Pager, 2007).

Employers go to great lengths to not hire FIPs. Non-violent and drug-related offenders have the best odds of securing employment during the reentry process, particularly when they have relevant work experience and can remain drug free, while violent offenders face the steepest odds of securing employment (Holzer et al., 2003). The threat of a loss of business coupled with exposing the public to a potentially dangerous person hampers the prospects for FIPs to secure employment. It is estimated that 90% of employers perform background checks during the application process (Mauer, 2005). Because employers must consider the need to maintain public safety, employers often will not consider hiring FIPs (Goger et al., 2021). For example, Holzer and colleagues (2003) found that employers who had hired FIPs, especially employers who hired FIPs convicted of sex crimes, were held financially liable for exposing the public to a potentially dangerous individuals, resulting in an average settlement of $1.6 million per negligent hiring verdict. Employers potentially assume substantial risks for hiring FIPs, which only limits access to employment and blocks a potential positive turning point (Sampson and Laub, 1993) in the reentry process. Since a majority of Americans receive their health insurance coverage through their employer as part of their compensation (Mykyta et al., 2022), these employment practices close a potential pathway for FIPs to gain access to health insurance.

Mezzo-level reentry challenges: Mezzo-level reentry challenges involve how FIPs rekindle relationships with friends or family members during the reentry process, reflected in the psychological needs and self-fulfillment needs of FIPs. Social networks are often collateral damage when an individual is incarcerated, opening a pathway towards social exclusion. Incarcerated people who maintain consistent contact and connection with their family network

during their incarceration have lower recidivism rates (Hairston, 1988). Half of incarcerated adults are parents of minor children, with about one in five of these children aged four or younger (Wang and Bertram, 2022). The disruptive nature of incarceration results in many parents missing out on their children's critical and formative years, further complicating the reentry process.

Maintaining any semblance of contact with a family member during their incarceration can be extremely complicated. Jails and prisons lack sufficient information about visiting procedures. Physical visits present considerable challenges for the incarcerated and their family: on average, a men's prison is located 100 miles away from their children, while incarcerated females are on average 160 miles away from their children, resulting in families who cannot afford the time or transportation to the prison (Travis et al., 2005). The time and financial aspect of visiting a loved one results in difficulties in scheduling visits, which can be humiliating or uncomfortable for families (Delaney et al., 2018). Additionally, foster parents are less likely to aid visits for foster children (Travis et al., 2005).

In addition to the challenges with visiting a loved one in prison, there are complications for maintaining contact via telephone or other communication during an incarceration. Phone calls and written communication are difficult to schedule and are monitored by the prison, often costing upwards of $5 per thirty-minute phone call (Kim, 2023). While the state of Texas has cut the cost of inmate collect phone calls from $0.26/minute to $0.06/minute (McCullough, 2018), phone call surcharges generate substantial income for many jails and prisons in other jurisdictions (Ahmed, 2022).

Maintaining contact with a family is difficult for incarcerated people, however, rekindling those relationships with family once a FIP is released presents its own challenges.

Once released, FIPs are often dependent on family members for emotional and financial support, akin to supporting a dependent adult (Martin, 2017). FIPs must overcome years of limited contact, possible resentment from their family and social networks, and a change in the household dynamic. Visher and colleagues (2004) found that 82% of FIPs thought it would be easy to rebuild relationships during reentry, however, more than half wound up reporting in subsequent interviews that rebuilding these relationships was much more difficult than expected.

Macro-level reentry challenges: The macro-level challenges that FIPs are faced with are the threat of collateral consequences of their incarceration. Even after they have served their sentence, FIPs are faced with significant legal restrictions that are unrelated to their original crime. For example, every state has restrictions on the right to vote, the right to serve on a jury, and federal law blocks financial aid for college tuition and bans access to public housing (Looman and Carl, 2015).

Another macro-level challenge is that the expectations for returning to normal life during reentry are not realistic. FIPs tend to return to a limited number of communities, often plagued with concentrated disadvantages (Sampson et al., 1999). Characteristics of these communities include high rates of unemployment, higher rates of female-headed households, and higher rates of families living below the Federal Poverty Line (Visher et al., 2004). Given the lack of opportunities in these communities, 82% of FIPs expected that their parole officers would be helpful in the transition process, however, less than half stated in subsequent interviews that their parole officer was helpful (Visher et al., 2004). While FIPs reported that their parole officers were professional and shared accurate information, they did not expect to receive post-release supervision, and potentially entered that relationship with negative stereotypes towards their officers (Visher et al., 2004).

Perhaps the most significant macro-level challenge to reentry is parole, which presents a wide array of challenges depending on state law, the nature of the original crime, and the prisoner's behavior while incarcerated. Parole provides FIPs the opportunity to demonstrate that they can reenter society before their sentence expires. Technical violations of parole present unintended obstacles that FIPs can easily violate. The most common conditions include securing maintaining employment, remaining within a specific geographic area, payment of legal financial obligations (LFOs), abstaining from drug and alcohol usage, not associating with known felons, and submitting to searches at any time by parole officers. Any violation of these conditions presents a risk of a technical violation of the terms of release, opening the door for recidivism and additional prison time. Despite the public attitude towards punishing those convicted of crimes, the negative outcomes resulting from corrections, particularly for women, do not often justify the costs to communities, families, and individuals (Datchi et al., 2017).

Chapter 2: Self-Reported Health and Criminal Justice Involvement

Abstract:

Incarceration has significant effects on an individual's health and the potential to create a domino effect of disruptions to an individual's life chances. While research examines the health effects of incarceration, there is a need to examine both incarceration and social exclusion simultaneously when modeling the overall quality of health of individuals. This project utilizes Ordinal Logistic Regression Models to examine how criminal justice involvement affects self-reported health with Wave 18 of the National Longitudinal Survey of Youth 1997 (n=5,853), collected in 2017, and then compare these results to the general population. Across all 9 sets of models in this chapter, incarceration, arrests, and social exclusion are strongly associated with reporting fair/poor health outcomes; however, once social inclusion variables are introduced, the probability of reporting worse health outcomes is attenuated. Further, the findings provide evidence that Hispanics are more likely to report worse health, demonstrating how social exclusion moderates the Hispanic Paradox of self-reported health. These findings strongly support the health disenfranchisement hypothesis and provide support for Agnew's *negative affective states* concept as well as salience of social inclusion, meaning that social exclusion accelerates the health effects resulting from incarceration.

I. Introduction

The impact of incarceration on overall self-reported physical health has wide-ranging implications. Adverse health effects ultimately further incapacitate FIPs by denying them the ability to fully reintegrate into society by exposing them to chronic health ailments, physical and emotional disability, and an increased likelihood for substance abuse issues. These adverse health effects potentially add to the weight of stigma (Baffour et al., 2021) that society adds to the already heavy burden the FIPs already heavy they bear during the reentry process.

Chronic ailments such as arthritis, kidney stones, high blood pressure, hepatitis, skin rashes, dental problems, digestive disorders, and poor vision are common for prisoners (Westervelt and Cook, 2012), which can cause significant life disruptions throughout the life course. Prisons are violent places, where stabbings, beatings, and physical ailments are common (Westervelt and Cook, 2012; Mauer, 1999; Sharp, 2014; Western, 2018), also creating possible long-term health consequences as FIP populations get older. Poor diet, inadequate treatment, poor living conditions, high rates of substance abuse, and stress potentially further exaggerate these chronic health problems (Westervelt and Cook, 2012). Females in particular are vulnerable to the stress caused by incarceration because of a loss of a family member to incarceration or the effects of their own incarceration (Massoglia et al., 2014). In addition to the complications related to the reentry process, such as securing employment, housing, access to food, rekindling relationships with friends and family, the consequences to one's health from incarceration exemplify how FIPs are potentially exposed to a gruesome death by a thousand cuts (Clear, 2007).

This study will analyze how elements of social inclusion potentially act as moderators to reduce exposure to worse health outcomes. By utilizing an integration of Agnew's *General Strain Theory* (GST) and Giddens's application of Lenoir's *Social Exclusion* to his *Life Chances*

concept, incarceration's effect on self-reported health will be examined. For Agnew (1985), crime or delinquency occurs when there is the introduction of a negative stimuli, the removal of a positive stimuli, and the inability to achieve a goal. Giddens (1981) stated that *life chances* are chances that an individual has in sharing in the socially created economic or cultural goods that exist within a society. Giddens (2007) applied Lenoir's *social exclusion* to his *life chances* concept by recognizing that factors other than poverty, such as negative stimuli like incarceration, may prevent individuals or groups from playing a full part in society. Channeling Lenoir (1974), if social exclusion means that individuals or groups cannot play a full part in society, social inclusion means that individuals have high levels of education, are married, are financially comfortable, have health insurance, and are employed. In other words, those who are socially included are able to play a full part in society, while those who are excluded are not able to. Therefore, positive stimuli are represented by social inclusion, negative stimuli are represented by whether respondents have been incarcerated or arrested, and the inability to achieve a goal is represented by social exclusion.

It is estimated that 60% of FIPs are still unemployed within 1 year of release (Bushway and Puckett, 2023), thus exposing them to higher degrees of social exclusion. It is estimated that two-thirds of FIPs are re-arrested, and half are reincarcerated within the first three years of release (Benecchi, 2021), further diminishing the ability for them to fully participate in society. Because of this aspect of social exclusion, what positive life chances FIPs might have had through employment become significantly diminished, which increases their chances of recidivism and social exclusion. While DePalma (2005:119) argues that success for immigrants in the United States not only requires work but also luck, the same can be argued for FIPs. Western (2018) noted that improving the social integration of FIPs was key for both eliminating

social exclusion as well as improving public safety. Western (2018) also advocates for public policies that promote increased assistance for FIPs during their first year of reentry, such as housing and health care assistance.

Some individuals simply have more advantages than others, resulting in a greater ability to accumulate even greater advantages that influence quality of life (Merton, 1988), which FIPs often lack. Simply stated, the rich get richer (Merton, 1968), and face fewer obstacles in doing so. These cumulative disadvantages accumulate more quickly for FIPs, leading to a domino-effect that disrupts the life course. For example, employment is widely seen as a stake in conformity (Toby, 1957; Hirschi, 1969 [2002]), and because employment provides a possible pathway to social inclusion, this dataset and analysis will demonstrate how self-reported health for FIPs is impacted by a lack of access to insurance.

II. Literature Review

According to the U.S. Census Bureau, 54.3% of the U.S. population received employer-based health coverage, while 8.3% of the population did not have health insurance at any point of 2021 (Mykyta et al., 2022). Access to affordable and high-quality health care varies widely in the United States due to pervasive inequalities that exist across multiple domains (Lyon et al., 2014:661). Despite the passage of the Affordable Care Act (ACA) in 2010, federal regulations do not allow inmates to receive Medicaid coverage while incarcerated. Medicaid can be an option for those reentering society, however; enrollment and renewal procedures impose documentation requirements that seem almost insurmountable for those reentering society. Most FIPs have no type of medical coverage or health insurance (Cuellar and Cheema, 2012:932). Prior to the rollout of the ACA, participants in Freudenberg and colleagues' (2005:1733) study

found that although half of the participants in their study met income eligibility standards for Medicaid, only about half of their female participants and less than one-fourth of their male respondents had received Medicaid coverage. Visher and colleagues found that only 10% reported having private insurance or belonging to an HMO while less than 5% reported receiving a disability pension, received Medicaid or Medicare, or had VA health insurance (2004:4). Half of respondents in Visher and colleagues' study indicated a desire for help obtaining counseling following their release from prison, and 30 percent wanted help acquiring mental health treatment (2004:4). Even in situations where FIPs qualify for Medicaid, many fear the suspension of their social services due to recidivism or other legal complications (Grodensky et al., 2018).

Individuals with incarceration history are more likely to be uninsured and to experience year-long uninsurance (Zhou, 2023). Those who are most likely to experience incarceration often have disproportionately high rates of many chronic and infectious diseases due to the many other social determinants of health (economic stability, education, neighborhood and built environment, health care access and quality) that differentially affect at-risk populations (Williams et al., 2010; Adler and Rehkopf, 2008; Brinkley-Rubinstein, 2013:2). Research of death row exonerees by Westerveldt and Cook (2012:69-70) shows that chronic ailments such as arthritis, asthma, kidney stones, high blood pressure, hepatitis, skin rashes, dental problems, digestive disorders, and poor vision are common among the incarcerated. The combination of a poor diet, inadequate treatment, poor living conditions, and the stress of a conviction can intensify these otherwise manageable health ailments.

In addition to these chronic ailments and these stressors, the expansion of the prison system of the late 1980s and early 1990s led increased risk for tuberculosis and HIV cases for

prisoners, conditions requiring long-term health care for those affected (Mauer, 1999:200-201). Along with HIV and tuberculosis, Hepatitis C diagnoses are also higher in prisons, which strain prison and public resources even further (Hammet et al., 2002). In addition to the risk of disease, HIV-positive FIPs have lower rates of health-care engagement after release, demonstrating a need for more effective discharge planning (Ammon et al., 2018). Substance abuse and physical injuries, such as stabbings or beatings, are additional ailments requiring continuing treatment after release (Westervelt and Cook, 2012; Mauer, 1999; Sharp, 2014; Western, 2018). Adding to this, Massoglia et al. (2014) use National Longitudinal Survey of Youth, 1978 (NLSY78) data to find that females with a history of incarceration are more likely to have lower life expectancies than females who have not been incarcerated. This finding holds even when controlling for health status prior to incarceration, the availability of health insurance, and other socioeconomic factors.

Discharge Planning is often cited as a critical issue that affects virtually all aspects of the reentry process. Improved management of chronic conditions in prisons and jails may have important implications for community health and in reducing health care disparities, because the vast majority of inmates are eventually released (Wilper et al., 2009:670). Despite Canada's universal health care coverage, a study of Ontario, Canada prisoners found that while the rates of all types of health care utilization were significantly higher in prison and on release for FIPs from their sample, this increase might reflect high morbidity and suboptimal access to quality health care (Kouyoumdjian et al., 2018). Once U.S. states had the option to expand Medicaid in 2014, this expansion provided an opportunity to provide health insurance options to criminal justice-involved populations and engage with them through the U.S. health care system (Shavit et al., 2017). While post-incarceration clinics have emerged to improve access to medical care

during the reentry process, FIPs are still underutilizing health care options despite improved access through the ACA (Fox et al., 2014).

For example, the health of FIPs is an issue that often gets left behind when discussing the reentry and resocialization processes. Case and Deaton (2020:9) state that the current state of the U.S. healthcare system is a calamity that undermines American lives, particularly for those who are socially excluded. Case and Deaton (2020) argue that political leaders, particularly conservatives, sometimes argue that unemployment—or underemployment—cannot have much to do with crime, because the seeds of crime are planted in children who are in part too young to have even encountered the labor market.

Case and Deaton's arguments underestimate the role that poor economic conditions play in fostering crime. Their argument also ignores the fact that the state of the labor market influences family life, and the character of the communities in which children will grow up (Currie, 1998:136-137). Furstenberg (2003) noted that the severe treatment of juvenile offenders and drug-related offenders results in severe treatment by the criminal justice system throughout the life course. This has disproportionately affected people of color and caused these communities not to complete their education and ultimately to suffer in the opportunities available to them in the labor market (Sered and Fernandopulle, 2005:136). Because FIPs are overrepresented in low-wage jobs and unsteady work, lower standards of living, and more difficult lives are the realities that millions of Americans (Case and Deaton, 2020:212), especially the FIPs, face daily. Sered and Fernandopulle (2005) find that people lacking health insurance either ignore minor health conditions that potentially evolve into more serious issues or self-medicate.

In addition, Testa and Jackson (2019) found that FIPs were more than twice as likely as those who have not been incarcerated to report food insecurity, further complicating overall health. Because of the harsh stigma that we place on FIPs, finding reasonable employment becomes more difficult, which prevents access to healthcare through employment (Lyon et al., 2014), which means that FIPs people are likely to become sicker, which means they need to find ways—legal or not—to find life's necessities, including medication (Sered and Fernandopulle, 2005:19). Even with Medicaid expansion, FIPs are not as likely to acquire health care coverage as the general population, despite the fact that many qualify for coverage (Applebaum, 2020). Therefore, FIPs placement in the labor market in a system that ties access to health insurance to one's employment negatively impacts health and overall well-being, and those negative effects are disproportionately felt by people of color.

Case and Deaton (2020:38) also note that lower life expectancies can be found in states with education levels lower than the national average, while midlife mortality rates have only fallen in states with higher levels of education. Schnittker and colleagues (2015:516) found that individuals residing in states with a larger number of FIPs have diminished access to health care, less access to specialists, less trust in physicians, and less satisfaction with the care they receive, creating spillover effects that affect the entire population. As felons are prohibited from receiving financial aid for education in many cases (Looman and Carl, 2015:34), this promoter of better health becomes obstructed. Studies have shown that FIPs are much more likely to have shorter life expectancies, while our jails and prisons have become filled with people who have committed petty, mostly drug-related crime (Sered and Fernandopulle, 2005:19). In this way, those who have been incarcerated for petty crimes may then be blocked from education or economic opportunities for life that promote better health outcomes. Just as criminal behavior

can make things worse, conventional behavior can make one's life circumstances better (Nagin and Paternoster, 2000:119).

This review of relevant literature makes clear that updated research is needed to examine the complex processes and the underlying factors that affect FIPs as they reenter society. To understand them, I posit that we need to consider social inclusion factors, life chances, and health disenfranchisement to understand how opportunities are diminished for FIPs. Previous findings in this area are dated. My research will test and update some of these findings with the NLSY97 dataset.

III. Data, Measures, and Methods

Data: This portion of the dissertation will use a sample from Round 18 of the NLSY97 (n=6,096), collected in 2017, which tracks American youth born between 1980 and 1984 as they progress through the life course. The NLSY97 survey is sponsored and directed by the U.S. Bureau of Labor Statistics and managed by the Center for Human Resource Research (CHRR) at The Ohio State University. Interviews are conducted by the National Opinion Research Center (NORC) at the University of Chicago.

The purpose of this dataset was to study market behavior and educational experiences. The NLSY97 survey has health-related questions asking the respondents to rate their physical health, mental health, medical history, health behavior, and access to health care. The NLSY97 data also gathers data on a respondent's family history, criminal history, sexual history, and experience with substance abuse, all of which may be influential in an individual's health outcomes as they advance through the life course.

The data for this study comes from Round 18 of interviews, collected in 2017 as respondents were aged 32-38. This age group was specifically selected for this project because the majority of incarcerations for most populations have already occurred at this point in life (Bonczar and Beck, 1997), meaning that incarceration and reentry has/is occurring within the sample. Additionally, research from the Blue Cross Blue Shield Association (2019) indicates that this cohort has substantially higher diagnoses rates of eight of the top 10 health conditions than their previous generation, Generation X.

Measures: The dependent variable for this project is self-reported health. Respondents were asked "In general, how is your health?" Respondents reported their health stating excellent, very good, good, fair, or poor health. For this paper, fair and poor health are combined into a fair/poor category due to insufficient sample in each of these categories alone. Self-reported health status has been shown to be a reliable and valid measure of general physical well-being among adults that is highly correlated with objective measures of physical health, including mortality risk (Fosse and Haas, 2009; McGee et al., 1999; Idler et al., 1990). Studies have shown that self-reported health measures have also been linked to positive economic and social outcomes, such as economic status, voter turnout, generosity, and happiness (Yörük, 2016; Smith, 1999; Easterlin, 2003; Matilla et al., 2013; Yörük, 2014).

The key independent variables for this study include whether the respondent has ever been incarcerated, how many times they've been incarcerated, and if they have ever been arrested. From a GST perspective, each of these interventions represent the introduction of a negative stimuli and potentially eliminate positive stimuli such as social inclusion. As previously mentioned, those who have been incarcerated are likely to have experienced the reentry process as most arrests and incarcerations in the U.S. occur before the age of 30 (Bonzcar and Beck,

1997). The sample from the NLSY97 used for this study features individuals aged 32-38, meaning that it is likely that incarceration and reentry have already occurred for FIPs in this sample.

For 'ever been incarcerated' and 'ever been arrested' outcomes, the unit of measurement is binary (no/yes) that measures whether or not the condition applies to the respondent. These measures were created as dummy variables from the 'total number of arrests reported by respondent' and the 'total number of incarcerations' variables.

For the 'number of incarcerations' outcome, I use the same 'total number of incarcerations' variable that I used for the 'ever incarcerated' variable. The unit of measurement for the 'number of incarcerations' variable is categorical (never, once, twice or more) in order to determine if the number of incarcerations respondents have reported has any effect on self-reported health.

This study also utilizes several independent variables which are included in the demographic characteristics models and the social inclusion models. The demographic characteristics models include race/ethnicity and respondent sex. The race/ethnicity variable is recoded into 3 categories: white (0), African American, or Hispanic (2). The NLSY97 contains a fourth race/ethnicity category, 'Other Race/Ethnicity', which is dropped from the sample due to limited number of cases. Respondent sex is treated as a binary variable.

The social Inclusion models include health insurance access, description of financial condition, education, employment status, and marital status. The health insurance variable is treated as a binary variable that asks whether the respondent had health insurance at the time of interview (0 = yes, 1 = no). Financial condition is measured by using the NLSY97's 'description of financial condition' variable. Respondents were asked to identify which of five phrases best

described their financial condition at the time of interview: very comfortable and secure, able to make ends meet without much difficulty, occasionally having some difficulty making ends meet, tough to make ends meet but keeping your head above water, or in 'over your head'. For this study, I rename the categories as 'comfortable,' 'some difficulty,' 'difficult,' and combine 'tough to make ends meet' and 'in over your head' into 'very difficult.' Education is measured with 'master's or professional degree, bachelor's degree, some college, high school, and less than high school. Employment is treated as binary variable that asked whether the respondent was employed at the time of interview. Lastly, marital status is treated as a categorical variable with recoded categories: 'married,' 'never married,' or 'previously married.'

The NLSY97 reported a 75% retention rate from the original sample, resulting in an initial sample of 7,103 respondents. Cases with missing or incomplete information were cut from the sample using listwise deletion, and 'other race/ethnicity' and respondents aged 32 and 38 were cut due to small sample sizes, resulting in a final analytical sample size of 5,853 respondents.

Methods: Following Long and Freese (2001[2014]), the analysis for this project will use an ordinal logistic regression (ORM) model. This model is appropriate since the independent variable, respondent health, is an ordinal categorical variable with responses ranging from 'excellent' to 'poor'. The ORM Model can also be developed as a nonlinear probability model without appealing to an underlying latent continuous variable. First, the odds are defined that as an outcome is less than or equal to m versus greater than m given x:

$$\Omega \leq m \mid > m\ (\mathrm{x}) \equiv \Pr(y \leq m \mid \mathrm{x}) \,/\, \Pr(y \geq m \mid \mathrm{x}) \text{ for } m{=}1,\ J\text{-}1$$

the odds of excellent or poor health ($m \leq 2$) versus good or excellent health ($m > 2$). The log of the odds is assumed to equal:

$$^{\ln\Omega} \leq m \mid m\,(\mathrm{x}) = \mathcal{T}m - \mathrm{x}\beta$$

The βs are the same for all values of *m*.

Models 1, 3, and 6 are main effects models that examine how 'ever incarcerated,' 'number of incarcerations,' and 'ever arrested' affect self-reported health. Models 2, 5, and 7 are demographic models, which add race/ethnicity and respondent sex variables. The social inclusion models (models 3, 6, and 9) add health insurance access, marital status, education, employment, and description of financial condition variables.

Research Aims: Using a nationally representative dataset, the present study examines the extent to which self-health is affected by incarceration through three key independent variables: if the respondent has ever been incarcerated, how many times they have been incarcerated, and if they have ever been arrested. While 'ever incarcerated' measures whether the respondent has been incarcerated or not, the 'number of incarcerations' and 'ever arrested' variables will be used to determine how criminal justice involvement affects reported health through main effects, demographic, and social inclusion models. In particular, this paper addresses the following:

1. Determine whether an individual's self-reported health is affected by incarceration or arrest.
2. Determine if demographic characteristics, such as race/ethnicity or respondent sex, affect respondent health.
3. Determine how/if social inclusion or social exclusion affects health outcomes.

I expect that those with histories of incarceration or arrests will be more likely to report poorer health outcomes. I expect this finding to hold as demographic and social inclusion variables are introduced to the models. I expect that the lack of access to health insurance will lead to respondents reporting lower overall quality of health. I also expect that education and self-

reported financial condition will have a consequential effect on reporting worse health outcomes worse health outcomes. These expectations help to guide the health disenfranchisement hypothesis.

Second, because people of color and females are already more likely to be socially excluded, racial and ethnic health disparities stem from a broader system of stratification that hampers access to resources, opportunities, and promote risk (Phelan and Link, 2015). I expect that people of color, particularly African Americans, will be the most likely to report that their health has been affected by incarceration, further hampering their ability to achieve goals and introducing negative stimuli. Incarceration and criminal justice interaction for any duration ultimately amplifies pre-existing or existing poor health outcomes due to the stressful nature of a conviction, incarceration, and the weight of the stigma attached to FIPs. These expectations combine to form the Social Exclusion Hypothesis.

IV. Results

Results from Ordered logistic regression are presented in Tables 2.2, 2.3. and 2.4 as ordered log-odds (logit) regression coefficients, where a one unit increase in the predictor, the response variable level is expected to change by its respective coefficient in the ordered log-odds scale while the other variables in the model are held consistent (U.C.L.A., n.d.). This paper will convert the ordered long-odds coefficients to odds ratios for ease of interpretation. This is accomplished by exponentiating the ordered logit coefficients ($e^{coef.}$). Following Mustillo and colleagues (2018), this paper will present findings with strong evidence rather than "suggestive" findings. The p-values will be reported on Tables 2.2-2.4.

To varying degrees, each model demonstrates that any criminal justice involvement exposes individuals to worse health outcomes. The models also demonstrate to a varying extent that social inclusion can help mediate these worse health outcomes.

Ever Incarcerated Predicting Worse Health: Table 2.2, which includes models 1-3, tests the relationship between 'ever incarcerated' and self-reported health outcomes. Model 1 represents the influence of incarceration and self-reported health, while model 2 adds demographic controls and model 3 adds social inclusion controls.

Model 1 provides strong evidence of a statistically significant positive relationship between incarceration and self-reported health. For a one unit increase in 'ever incarcerated', the odds of fair/poor health versus the combined good or very good health categories are 1.23 times greater, given the other variables are held consistent. Therefore, model 1 demonstrates that being incarcerated has a significant and positive effect on reporting worse health.

While it was expected that African American were more likely to report worse health than whites, it was not expected that Hispanic FIPs would have greater odds of reporting worse health due to the *Hispanic Paradox* (Markides and Coreil, 1986). Although Hispanics are more likely have lower socioeconomic status than whites, Hispanics report better health and higher life expectancies (Markides and Coreil, 1986; Markides and Eschback, 2005; Palloni and Morenoff, 2006, Franzini et al., 2001; Boen and Hummer, 2019). Model 2 demonstrates that social exclusion affects reporting fair/poor health for this population, despite the paradox. Because people of color have greater odds of reporting worse health after incarceration, these findings for African Americans and Hispanics lend support to the social exclusion hypothesis.

Model 2 also includes respondent sex. Because the odds of males reporting fair/poor health are only 0.79 times greater for males compared to females, model 2 demonstrates that females are more likely to report worse health, supporting the social exclusion hypothesis.

Model 3 introduces social inclusion variables to model 2, adding measures for health insurance status, marital status, education, employment, and financial condition. FIPs reported health is expected to change by -0.21 in the ordered log-odds scale while all other variables in the model are held constant. This result demonstrates that the magnitude and evidence of FIPs reporting worse health outcomes dissipates once social inclusion variables are introduced to the model. This result indicates that by incorporating both demographic and social inclusion, FIPs are more likely to report better health than those who have not been incarcerated. This indicates that socially inclusion somewhat protects FIPs from the full fair/poor health effects of incarceration, specifically if they have access to health insurance, are married, have higher levels of education, are employed, and are financially comfortable. This underlying relationship could be tested, but that is beyond the scope of this current paper.

Also in model 3, being African American is no longer significantly related to worse health, while being Hispanic is still strongly associated with reporting worse health outcomes, compared to whites. Also, to the social inclusion variables bare out as being excluded results in worse health; lack of health insurance, difficult financial condition, limited education, lack of employment, and being unmarried are associated with having worse health. For males, model 3 continues to demonstrate that the health of females is more likely to be affected by social exclusion than males, further supporting the social exclusion hypothesis.

Model 3 also demonstrates that the uninsured are more likely to report better health than those who have not been incarcerated. The uninsured have less odds of reporting worse health,

indicating that social inclusion is beneficial for those without insurance. Although FIPs are extremely unlikely to have health insurance due to loss of access during incarceration (Brinkley-Rubinstein, 2013), the uninsured are likely to obtain access to health care while incarcerated, resulting in better outcomes (Marks and Turner, 2014). This potentially alleviates the effects of a significant negative stimulus, such as fair/poor health, as FIPs rebuild their lives during the reentry process.

Model 3 demonstrates that marriage mediates the health effects of incarceration. Never married respondents are more likely to report fair/poor health versus the combined good and very good health categories. This indicates that a positive turning point, such as marriage, creates social inclusion that those who have not been married cannot take advantage of. This finding further supports the social exclusion hypothesis. The evidence does not support a relationship between previously married respondents and self-reported health

Model 3 provides that as education levels decrease, the odds of reporting worse health increase. Beginning with respondents with some college or an associate's degree, as education levels decrease, the odds of reporting fair/poor increase, as does their statistical significance. Respondents with a high school education have 1.66 times greater odds of reporting fair/poor health, while those with less than a high school education have 2.16 times greater odds. This indicates that higher levels of education, such as a bachelor's degree or higher, mediates the health effects from incarceration. Unemployed respondents (OR=1.29) are also more likely to report fair/poor health outcomes than employed respondents, demonstrating that having higher levels of education and employment protects respondents from fair/poor health outcomes.

Lastly, Model 3 examines how financial condition affects self-reported health outcomes. As the respondent's financial condition becomes more difficult, the odds of reporting worse

health increases. Respondents with some financial difficulty have 2.00 times greater odds of reporting fair/good health versus the combined good or very good health categories. For those with difficult (OR=2.70) or very difficult (OR=5.16) financial conditions, the odds are substantially greater. This indicates that as FIPs financial condition becomes more difficult, the odds of their health being affected by incarceration become much higher. Model 3 demonstrates that social inclusion through health insurance, educational attainment, being employed, and being financially comfortable all moderate respondents reporting fair or poor health outcomes. Those who are socially excluded, however, are more likely to see their health affected by incarceration. The findings from models 1, 2, and 3 all support the social inclusion hypothesis.

Times Incarcerated Predicting Worse Health: Table 2.3, which includes models 4-6, tests the relationship between times incarcerated and self-reported health outcomes. Model 4 represents the influence of times incarcerated and self-reported health, while model 5 adds demographic controls and model 6 adds social inclusion controls.

Model 4 provides evidence of a statistically significant positive relationship between times incarcerated and self-reported health. FIPs who have been incarcerated once have greater odds of reporting fair/poor health, while there is no evidence demonstrating how multiple incarcerations affects self-reported help. In other words, model 4 demonstrates that just being incarcerated has a significant and positive effect on reporting worse health.

Model 5, like model 2, introduces the demographic background variables (race and respondent sex) to the main effects model. Like model 2, model 5 provides evidence that incorporating demographic background variables increases the odds that incarceration will have a negative effect on self-reported health. The self-reported health for FIPs reporting fair/poor health versus the combined good or very good health categories is 1.50 times greater for FIPs

when controlling for race/ethnicity and respondent sex. For respondents who have been incarcerated two or more times, model 5 demonstrates heir health is not significantly affected by multiple incarcerations. As model 4 found, model 5 continues to demonstrate *that* incarceration matters, and not necessarily *how many times* someone is incarcerated when testing times incarcerated on self-reported health.

Model 6, like model 3, introduces the social inclusion variables: health insurance, financial condition, education, employment, and marital status. Model 6 shows that when controlling for the demographic and social inclusion variables, once-incarcerated respondents no longer have a significant change in reporting worse health; however, those with multiple incarcerations are expected to be more likely to report better health outcomes, not worse as was expected. Model 6 provides evidence of a statistically significant positive relationship between two or more incarcerations and self-reported health. This finding demonstrates that respondents with two or more incarcerations are more likely to report better health than respondents who have not been incarcerated. Even though approximately 94% of prisoners will eventually be released (Ositelu, 2019), respondents untreated substance or mental illness or chronic health issues are at a heightened risk of cycling into and out of jail for low-level, nonviolent offenses (Marks and Turner, 2014). As model 6 demonstrates, the self-reported health for respondents with two or more incarcerations is more likely to show improvement because jails and prisons might often the only regular source of health care for those in custody (Marks and Turner, 2014).

Ever Arrested Predicting Worse Health: Models 7-9 of Table 2.4 tests how being arrested affects self-reported health. Model 7 shows that respondents who had previously been arrested are more likely to report fair/poor health compared to those who have not been arrested. Like

‘ever incarcerated’ and ‘times incarcerated,’ this demonstrates that criminal justice involvement affects how you feel about your health.

Once race/ethnicity and respondent sex are introduced in model 8, arrestees’ reported health continues to be affected by arrest, further demonstrating how criminal justice involvement affects self-reported health. Like models 2 and 5, model 8 demonstrates that the combination of arrests with race/ethnicity and respondent sex cause worse health outcomes than not being arrested.

Model 8 also provides evidence of a statistically significant positive relationship between reporting fair/poor and people of color. Hispanics have 1.38 times greater odds of reporting fair/poor health versus the combined good or very good health categories. Further, African Americans have 1.15 times greater odds of reporting fair/poor health, further indicating that people of color are vulnerable to social exclusion. Model 8 also continues to provide evidence of a statistically significant negative relationship between self-report and males. These findings are in line with models 2 and 5, which also support the social exclusion hypothesis.

Lastly, model 9 introduces health insurance, marital status, education, employment, and financial condition to the demographic background model (model 8). As with models 3 (ever incarcerated) and 6 (number of incarcerations), model 9 indicates that arrests do *not* have a significant effect on self-reported health when controlling for demographic characteristics and social inclusion, indicating that demographics and social inclusion together mediate the health effects of an arrest.

Model 9 demonstrates that uninsured respondents have *less* odds of reporting fair/poor health than those with insurance. Model 9 also provides evidence that arrestees who have never been married have higher odds of reporting fair/poor health than those who are married. Never

married arrestees have 1.14 times greater odds of reporting fair/poor health versus the combined good and very good health categories. Like models 3 and 6, marriage is a positive turning point (Sampson and Laub, 1993), which in this case, promotes better health even for those who have been arrested. For those who have never been married, this represents the lack of a positive stimulus which leads to social exclusion. There is not a statistically significant relationship between previously married and self-reported health when 'ever arrested' is the focal predictor.

For those with a bachelor's degree, there is no statistically significant relationship with self-reported health. However, as education levels decrease, the odds of reporting worse health increase. Respondents with some college have 1.04 greater odds of reporting fair/poor health outcomes versus the combined good or very good health categories. Those with a high school education have 1.59 times greater odds, and those without a high school education have 2.05 times greater odds. These results indicate that as education levels for respondents decline, so does their self-reported health. Not only does this indicate a diminished level of life chances, but this also indicates that respondents with lower education levels are more vulnerable to a negative stimulus.

Unemployed respondents have 1.28 times greater odds of reporting fair/poor health outcomes versus the combined good or very good health categories. This pattern continues as respondents reporting more difficult financial conditions have higher odds of reporting fair/poor health outcomes than those who are financially comfortable. As financial condition becomes more difficult, the odds of reporting fair/poor health increase. In addition to the reduced life chances that financial difficulties create, respondents also have an added burden of being more vulnerable to worse health as a result of their social exclusion, further demonstrating the consequences that a negative stimulus has on vulnerable people.

V. Discussion and Conclusion

The analysis from this paper demonstrates not only *that* criminal justice involvement matters, but *why* it matters. There is strong evidence supporting both the social exclusion and health disenfranchisement hypotheses. There is strong evidence demonstrating that incarceration, number of incarcerations, and experiencing an arrest all had strong effects on how respondents felt about their health. There is also strong evidence that demographic characteristics and social inclusion have an impact on self-reported health.

When demographic control variables are included in models 2, 5, and 8, the effects of criminal justice involvement had substantial effects when considering race/ethnicity or respondent sex. Once social inclusion variables were introduced, the overall effect of criminal justice involvement diminished, however, each social inclusion measure indicated that social exclusion causes worse health outcomes while social inclusion protects them. This supports the social exclusion hypothesis, indicating that those with lower levels of social capital are vulnerable to potentially catastrophic health effects that arise from criminal justice involvement.

In line with the race/ethnicity and gender results, there is ample evidence that pathways towards socioeconomic status, such as positive turning points like education, employment, and marital status all moderate how respondents feel about their health (Sampson and Laub, 1993). In each social inclusion model (i.e., model 3, model 6, and model 9, respectively), education, employment, and being married all improved the self-reported health outcomes when measured with criminal justice involvement. In models 2, 4, and 6, Hispanics were the most likely racial/ethnic group to report that their health was affected demographic characteristics and social exclusion, therefore challenging the Hispanic Paradox. Hispanics typically have lower

socioeconomic status but report better health (Markides, 1986) despite the disadvantages related to social exclusion. Once self-reported health is tested with incarceration or arrest, the paradox no longer protects Hispanics.

In conclusion, any involvement with the criminal justice system affects self-reported health through various aspects of our own personal histories and background factors. Social inclusion matters across all 9 models, serving to mediate and improve self-reported health outcomes. Race/ethnicity and gender also matter, as females and nonwhites are more likely to report worse health outcomes. People of color, particularly Hispanics, along with those who have never been married, lack education, are not employed, and experiencing financial difficulties, are all vulnerable to worse health when involved with the criminal justice system. This speaks to the body of research on the challenges of reentry and the micro-level challenges of finding secure employment as females and nonwhites are less likely to secure this pathway during the reentry process. All 9 models from this paper show that there are indeed worse health effects for those who have been incarcerated, but not necessarily those who have been arrested. Because of the health consequences for those who have been incarcerated, health should be a central issue when addressing the deficiencies of the reentry journey that FIPs must navigate.

Chapter 3: The Ability to Work and Criminal Justice Involvement

Abstract:

The stressful nature of incarceration exposes inmates to a myriad of worse health outcomes with consequences that can last far beyond the end of a sentence. While an abundant body of research examines the health effects of incarceration, there is not a significant body of literature that examines whether health effects due to criminal justice involvement adversely affect FIPs' ability to work. This project utilizes logit regression models to test how respondent health has impacted the ability to work with Wave 18 of the National Longitudinal Survey of Youth 1997 (n=5,853), collected in 2017. I find that the respondents' ever being incarcerated, their number of number of incarcerations, and their arrest history share a positive bivariate relationship with reporting that their health affects their ability to work. Once demographic background variables are introduced, the strong association between criminal justice involvement and reporting that health affects the ability to work continues. Once social exclusion variables are introduced, the evidence does not support that incarceration affects the ability to work; however, evidence supports arrests having a strong effect on respondents reporting their health affecting their ability to work.

I. Introduction

Prison inmates suffer from a heavy burden of physical and mental health problems and have considerable need for healthcare and coverage after their release from prison (Grodensky et al., 2018). Incarceration exerts lasting effects on midlife health functioning and plays a role in perpetuating stratified differences in physical health functioning (Massoglia, 2008a). Bixby and colleagues (2022) found that 66% of incarcerated people self-report a disability. Disabled incarcerated people were also more likely to have previously resided in other correctional institutions, such as juvenile detention facilities and psychiatric hospitals (Bixby et al., 2022). With Black, Hispanic, and multiracial disabled males especially overrepresented in prison populations, their ability to fully participate in society becomes greatly diminished and leads to severe levels of social exclusion.

The health effects of incarceration lead to an invisible punishment (Katzen, 2011) that lasts well beyond the end of a jail or prison sentence. The Bureau of Justice Statistics reported that 50% of prisoners have some kind of chronic medical condition, such as diabetes, heart disease, or high blood pressure (Maruschak et al., 2021). The same report also indicated that prisoners had higher rates of physical disabilities such as mobility impairment, hearing loss, and vision loss (Schlanger, 2017:295). This heavier burden of health problems (Grodensky et al., 2018:455) leads to safety and humanitarian issues within the prison system itself by exposing inmates to safety threats, such as extortion, exploitation, threats, and physical and sexual abuse from other prisoners. These safety threats have potential long-term consequences that impact the success or failure of facilitating a pro-social community during the reentry process (Schlanger, 2017:297-98) and beyond.

This paper will focus on how incarceration and arrest history, as well as social exclusion, contribute to how health affects ability to work. The ability to work represents an obstacle affecting the micro-, mezzo-, and macro-level challenges of reentry in a variety of ways. On the micro-level, FIPs already have diminished opportunities for employment because of limited social, financial, and community support (Binswanger et al., 2011), thus blocking a pathway towards employer-provided health coverage. Although many FIPs do qualify for health care benefits under the Affordable Care Act, only half of FIPs will gain access to health insurance coverage (Cuellar and Cheema, 2012). Further complicating job prospects and overall health are factors such as untreated or inadequately treated mental health and substance use disorders, which may also put individuals at risk for homelessness and housing instability (Geller and Curtis, 2011), criminal recidivism (Nally et al., 2014), and mortality (Binswanger et al., 2013).

Considering access to health coverage and formerly incarcerated veterans, it is estimated that 56% of reentering veterans had contact with VA Healthcare during reentry, and 77% of reentering veterans had entered mental health treatment programs within one month of diagnosis after release (Finlay et al., 2017). Treatment participation rates drop once FIPs leave prison compared to their treatment use while in prison (Finlay et al., 2017; Mallik-Kane and Visher, 2008), opening a pathway for their health to adversely affect their ability to work after release. Combined with a lack of discharge planning that links FIPs to health care providers outside of prison or jail, FIPs are often released into less-structured community settings, reenter in communities with a lack of available or easily accessible services and have low motivation to seek treatment (Finlay et al., 2017).

II. Literature Review

Employment is a key feature of American life because it not only provides instrumental benefits associated with an income, but it also serves to structure life, create social relations, and provide fulfillment, which reduces involvement in crime (Decker et al., 2014:1). Many FIPs report positive opinions about their physical health prior to and during their stay in prison, however; prison and jail environments are risky for all people due to the prevalence of mental illness and constant risk for disease and physical stress (Canada et al., 2022). Visher and colleagues (2004:4) found that 40% of inmates reported at least one physical ailment, one in four were taking medication for a chronic health condition during and after incarceration, and 66% were still taking prison-distributed medications after release.

The first two weeks following release from correctional facilities is a critical time to engage FIPs (Fox et al., 2014). It is estimated that 30% of all local corrections budgets are allocated to inmate health care services; however, much of this investment is lost during the reentry process because FIPs are not as likely to continue treatment (Marks and Turner, 2014). The transition from prison to community is characterized by elevated morbidity and mortality, particularly owing to drug overdose (Burns et al., 2022).

Reentry for FIPs is overwhelmingly concentrated to a few communities, usually with above average rates for unemployment, percent of female-headed households, and percent of families living below the federal poverty level (Visher et al., 2004). Disability rates are higher for both pre-trial detainees and post-conviction prisoners in the U.S. criminal justice system (Schlanger, 2017:295), further complicating the reentry process.

The reentry and community reintegration outcomes for FIPs with a disability are bleak compared to peers without disabilities (Unruh et al., 2009). Disabled inmates are among the most

vulnerable populations in a correctional institution and the reentry process for a variety of reasons, including increased exposure to threats of extortion, exploitation, and physical and sexual abuse by other prisoners. On the outside, these same threats make disabled FIPs vulnerable as well.

Because of the physical or emotional limitations that FIPs are likely to encounter both during and after incarceration, being able to successfully reintegrate into society by securing employment, housing, or health care, also becomes much more complicated. In a study of New Yorkers returning home from custody, Freudenberg and colleagues (2005) found that post-release employment and health insurance access were both associated with lower re-arrest rates and drug use; however, only about a third of their participants held formal jobs. This issue is of particular concern for males of color, who are disproportionately overrepresented in the U.S. prison population and disproportionately associated with poor health after prison (Katzen, 2011).

Although employers tend to consider cheaper labor options per Bonachich's split labor market theory (1972), FIPs face considerable challenges in securing jobs after release. This discrimination leads to rising earnings inequality in the U.S. (Sakomoto and Kim, 2010). Pager (2003) found that FIP job candidates were less than half as likely as those without jail or prison histories to receive entry-level job offers, despite having identical work histories. According to the U.S. Justice Department, only 12.5% of employers surveyed stated they would accept a job application from a FIPs (Holzer et al., 2002). Many prisoners have very limited work histories and educational attainment even before their incarceration, with as many as 70% of incarcerated people are high school dropouts (Duwe, 2018).

Further complicating the ability to secure employment are the stereotypes and stigma of incarceration plus the stigma of a lack of education, affecting the views of potential employers or

their former work networks, if they had one (Decker et al., 2014). A collateral consequence of this prejudice is that uneducated African American males are often swept up into this prejudice (Pager, 2003). These concentrated disadvantages serve to eliminate access to decent jobs that potentially provide a pathway towards insurance coverage. Even for FIPs who are able to secure employment, they are often concentrated into five industrial sectors: waste management and remediation services, food service, construction, manufacturing, and retail (Carson et al., 2021); all of which can be physically and emotionally demanding. The stigma faced by FIPs when attempting to find employment represents the introduction of a negative stimulus, thus causing negative affective states for FIPs trying to overcome the micro-, mezzo-, and macro-level challenges of the reentry process.

One micro-level factor that influences successful reentry is effective reentry planning, or discharge planning. Reentry or discharge planning is key to aiding disabled FIPs during the reentry process (Schlanger, 2017; Grodensky et al., 2018). Effective planning starts on the inside and continues upon release for FIPs in getting them access to job opportunities or housing options or assisting FIPs with chronic health problems or disabilities. Decker and colleagues (2014) argue that discharge planning should include resume and interview prep for FIPs. Access to health records is a major issue for inmates, as well as releasing individuals with enough medications to get them to a scheduled appointment with appropriate providers or appointments to secure refills (Shalenger, 2017). As a consequence of political and public obsession with recidivism rates as the primary gauge of what works, programs that improve the quality of life for offenders, both while incarcerated and once they are released, are extremely vulnerable to budget cuts if they cannot demonstrate a measurable direct impact on lower recidivism rates in the short-term (Gottschalk, 2015:107).

Many FIPs reported that they needed help from a family member, a discharge employee of a hospital or correctional facility, or a social worker to gain access to government services such as Medicaid or Social Security (Grodensky et al., 2018). Nolbitt and Nolbitt (2010) noted that the disability determination process can be difficult for individuals who are sick, in pain, stressed, or medicated (27). Despite efforts by the Substance Abuse and Mental Health Services Administration (SAMSA) through their SSI/SSDI Outreach, access, and Recovery (SOAR) Technical Assistance Center to address barriers preventing people from accessing disability benefits, many vulnerable citizens who could benefit from and are eligible for Social Security Income or Social Security Disability Income (SSI/SSDI) never apply for the benefits (McAuley and Samples, 2017). It is estimated that between 85-90% of first-time applicants for benefits without assistance are rejected for SSI/SSDI (Dennis et al., 2014), with those who are incarcerated or suffering from serious mental illness (SMI) experiencing the most difficulties (McAuley and Samples, 2017).

Another factor that influences successful reentry is the care that inmates are receiving while they are in custody, which potentially influences if their health will affect work in the future. Incarcerated individuals who receive SSI/SSDI benefits see their benefits suspended during incarceration, and many FIPs are not automatically eligible to receive them after release (McAuley and Samples, 2017). Many inmates experience suboptimal care while in custody, sometimes dropping to unconstitutional levels as prescribed by the eighth amendment of the U.S. Constitution (Burke et al., 2022:5). Badaracco and colleagues (2021) found that Medicaid coverage within the first month of release from prison is associated with meaningful reductions in the likelihood of reincarceration and improved employment outcomes within the first-year post-incarceration. As of this writing, those who are currently incarcerated are not allowed to buy

a Marketplace plan through the Affordable Care Act; however, incarcerated people can use the Marketplace to apply for Medicaid coverage in their state once they are released from custody (healthcare.gov, n.d.). While Medicaid will not pay for medical care while someone is incarcerated, enrollment through either discharge planning or once released could potentially allow quicker access to care once released (healthcare.gov, n.d.). Senior prisoners and many FIPs eligible for Medicare are unable to access these services because Medicare bars provider payments for covered services for individuals who are "under supervised release, on medical furlough, required to reside in mental health facilities, required to reside in halfway houses, required to live under home detention, or confined completely or partially in any way under a penal statute or rule" (Burke et al., 2022:7).

Unruh and colleagues (2009) studied a sample of 320 youth FIPs who were served by a facility-to-community reentry intervention, finding that the program contributed to reduced recidivism rates. Bullis and colleagues (2004) found that those with disabilities were less likely to be engaged with their study of reentering Oregon juveniles and were more likely to return to the juvenile correctional system than those without disabilities. FIPs face significant obstacles that negatively affect successful reentry and reintegration, which can lead to catastrophic outcomes such as reincarceration, homelessness, or worse.

Adult FIPs with physical or emotional disabilities, such as serious mental illness, face additional barriers that block access to health insurance, securing or maintaining employment, or meeting parole or probation requirements due to their limitations (Dennis et al., 2014; McAuley and Samples, 2017). By providing these simple stakes in conformity (Hirschi, 1969 [2002]), vulnerable individuals are better able to clear a significant hurdle that blocks successful reentry and reintegration, benefiting entire communities along with the individual themselves.

Using general strain theory (GST), I test whether the negative stimuli of criminal justice involvement, being arrested and incarcerated, are related to whether respondents report that their health affects their ability to work. Using GST, I posit that the criminal justice interaction, possibly increasing physical and emotional stress, will influence whether the respondents' health affects their ability to work.

III. Data, Measures, and Methods

Data: Data: This portion of the dissertation will use a sample from Round 18 of the NLSY97 (n=5,853), collected in 2017, which tracks American youth born between 1980 and 1984 as they progress through the life course. The purpose of this dataset was to study market behavior and educational experiences. The NLSY97 survey is sponsored and directed by the U.S. Bureau of Labor Statistics and managed by the Center for Human Resource Research (CHRR) at The Ohio State University. Interviews are conducted by the National Opinion Research Center (NORC) at the University of Chicago.

The NLSY97 survey has health-related questions asking the respondents to rate their physical health, mental health, medical history, health behavior, and access to health care. The NLSY97 data also gathers data on a respondent's family history, criminal history, sexual history, and experience with substance abuse, all of which may be influential in an individual's health outcomes as they advance through the life course.

The data for this study comes from Round 18 of interviews, collected in 2017 as respondents were aged 32-38. This age group was specifically selected for this project because the majority of incarcerations for most populations have already occurred at this point in life (Bonczar and Beck, 1997), meaning that incarceration and reentry has/is occurring within the

sample. Previous studies have demonstrated that crime and delinquency are related to issues related to work, particularly work in the secondary labor market, unemployment, and possibility the failure to achieve economic goals (Agnew, 2001; Agnew et al., 1996). With the physically demanding nature of the secondary labor market, the elimination of life chances caused by criminal justice interactions, and physical and emotional strains that FIPs endure, exploring whether the health of FIPs affects their ability to work is justified utilizing this sample from the NLSY97.

Measures: The dependent variable for this project is 'ability to work'. For the NLSY97, respondents were asked "Have you been limited the amount of work you do on a job for pay because of your health?" respondents responded either no or yes. Of the 5,853 respondents in the sample, 409 respondents, or 6.99%, reported that their health had affected their ability to work. Previous research with this outcome includes how marital status affects work-related limitations (Lo et al., 2015), the ability to work causing marital disruption (Teachman, 2010), and how long work hours affect occupational injuries and illness (Dembe et al, 2005).

The key independent variables for this study include whether the respondent has ever been incarcerated, how many times they've been incarcerated, and if they have ever been arrested. From a GST perspective, each of these interventions represent the introduction of a negative stimuli and potentially eliminate positive stimuli such as social inclusion. Those who have been incarcerated are likely to have experienced the reentry process as most arrests and incarcerations in the U.S. occur before the age of 30 (Bonzcar and Beck, 1997). The sample from the NLSY97 used for this study features individuals aged 33-37[2], meaning that it is likely that incarceration and reentry have already occurred for FIPs in this sample.

[2] Respondents aged 32 and 38 were dropped from the final sample because of a lack of cases in these groups.

For ‘ever been incarcerated’ and ‘ever been arrested’ outcomes, the unit of measurement is binary (no/yes) that measures whether or not the condition applies to the respondent. These measures were created as dummy variables from the ‘total number of arrests reported by respondent’ and the ‘total number of incarcerations’ variables.

For the ‘number of incarcerations’ outcome, I use the same ‘total number of incarcerations’ variable that I used for the ‘ever incarcerated’ variable. The unit of measurement for the ‘number of incarcerations’ variable is categorical (never, once, twice or more) in order to determine if the number of incarcerations respondents have reported has any effect on the ability to work.

This study also utilizes a number of independent variables which are included in the demographic characteristics and social inclusion variables models. Demographic characteristics include race/ethnicity and respondent sex. The race/ethnicity variable is recoded into 4 categories: white, African American, and Hispanic. The NLSY97 offers an ‘Other Race/Ethnicities’ category that includes Asian Americans, Native Americans, Alaskan Natives, and Native Hawaiians/Pacific Islanders; however, this category was dropped because these respondents make up less than 3% of the sample size. Respondent sex is treated as a binary variable in the dataset.

The social inclusion variables include health insurance access, marital status, education, employment, and financial condition. The health insurance variable is treated as a binary variable that asks whether the respondent had health insurance at the time of interview. Marital status is treated as a categorical variable with recoded categories: ‘married,’ ‘never married,’ or ‘previously married.’ Education is measured with ‘master’s or professional degree, bachelor’s degree, some college, high school, and less than high school. Employment is treated as binary

variable that asked whether the respondent was employed at the time of interview. Lastly, financial condition is measured by using the NLSY97's 'description of financial condition' variable. Respondents were asked to identify which of five phrases best described their financial condition at the time of interview: very comfortable and secure, able to make ends meet without much difficulty, occasionally having some difficulty making ends meet, tough to make ends meet but keeping your head above water, or in 'over your head'. For this study, I rename the categories as 'comfortable,' 'some difficulty,' 'difficult,' and combine 'tough to make ends meet' and 'in over your head' into 'very difficult.'

The NLSY97 reported a 75% retention rate from the original sample, resulting in an initial sample of 7,103 respondents. Cases with missing or incomplete information were cut from the sample using listwise deletion, resulting in a final analytical sample size of 5,853 respondents.

Methods: The baseline model for this paper examines how ability to work (Has your health affected your ability to work?) is affected by incarceration, number of incarcerations, and arrests. With a binary outcome, this analysis for this project will use a logit regression model:

$$(Y_i = a + bX)$$

where Y_i = the outcome (the ability to work), X = the explanatory variable, such as arrests in the last 12 months or incarceration, the slope = b, and the intercept = a. While the tables report the coefficients from the regressions, I utilize odds ratio to interpret the results. To accomplish this, I use the following odds ratio equation:

$$\text{Odds} = (p)/(1-p)$$

where *p* represents the probability that an event occurs, divided by the probability that the event does not occur.

Regarding interpretation of the logit models, I expect that at least one set of coefficients will differ across groups. Rather than performing variable-by-group interactions one at a time, I apply the demographic characteristic variables and the social inclusion variables to the model and estimate them all at once. The advantage is equivalent to estimating separate models for each group in each variable (Allison, 1999). Following Mustillo and colleagues (2018), this paper will present the logit regression findings with strong evidence rather than "suggestive" findings. Therefore, the p-values and corresponding odds ratios will be reported on Tables 3.2-3.4.

The dependent variable is self-report data on whether the respondent's health has limited their ability to work. The NLSY97 questionnaire asks respondents are asked if they have been limited in the amount of work they do on a job for pay because of their health. Of the 5,853 respondents in the sample, 409 respondents, or 6.99%, reported that their health had affected their ability to work.

The models in this analysis will center on three key independent variables: incarceration, number of incarcerations, and arrests. There strong evidence supporting the associations between health affecting work and if the respondent has ever been incarcerated, their number of incarcerations, and if they have ever been arrested[3]. Demographic characteristics include race and respondent sex, while social inclusion variables include education, employment, description of financial condition, employment, and marital status.

Research Aims: This research project seeks to answer the following research questions:

1. Does criminal justice involvement, either being on parole or being arrested, influence whether an individual will engage in the negative coping strategies of illicit substance use or opioid misuse?

[3] Pearson's x^2 was found with Stata's 'tabulate' command

2. What role do negative stimuli (such as social exclusion) or positive stimuli (such as social inclusion) play in the ability to work for the formerly incarcerated and arrested?
3. With Medicaid expansion through the Affordable Care Act, does access to health insurance affect whether the formerly incarcerated and arrested report their health affects their ability to work?

I expect that those with histories of incarceration or arrests will have significantly greater odds of reporting that their health has affected the ability to work. I expect this finding to hold as demographic characteristics and social inclusion variables are introduced to the models. I expect that the lack of access to health insurance will lead to respondents reporting higher odds of their health affecting work for those who have been criminal justice involved. I also expect that employment, financial condition, educational attainment, employment status, and marital status to have negative coefficients for the ability to work, meaning that respondents are less likely to report that health affected work.

Criminal justice involvement for any duration ultimately amplifies pre-existing or existing poor health outcomes due to the stressful nature of a conviction, incarceration, and the weight of the stigma attached to FIPs. Because of the numerous challenges that FIPs face during the reentry process as well as the physical and emotional stressors that they are faced with, I expect to find that the ability to work is diminished overall. These expectations help to form both the health disenfranchisement hypothesis and the social exclusion hypothesis.

IV. Results

Tables 3.2 and 3.3 report that incarceration causes a significant increase in the odds of respondent's health affecting their ability to work. Table 3.4, however, provides evidence that the introduction of social inclusion variables causes the odds of reporting that health affected the ability to work to lose magnitude. This finding provides evidence demonstrating the pivotal role social inclusion has for the reentry process.

Ever Incarcerated and Health Affecting the Ability to Work: Table 3.2, which includes the coefficients and odds ratios from models 1-3, tests the effect of respondent health affecting the ability to work and whether the respondent has experienced incarceration. Model 1 tests the relationship between reported ability to and whether the respondent has been incarcerated. FIPs have 2.23 times the odds[4] of reporting that their health had than those who had not been incarcerated, indicating a higher likelihood of incarceration affecting the ability to work for FIPs. This model provides strong evidence that incarceration alone makes FIPs vulnerable to a negative stimulus.

Model 2 introduces basic demographic variables (race/ethnicity and respondent sex) to the baseline model. FIPs report 2.59 times greater odds of reporting that their health affected work, with all other variables held constant. This finding provides evidence that demographic characteristics affect how FIPs feel their health affecting their ability to work. While there is no strong evidence that race/ethnicity affects the ability to work, there is strong evidence that respondent sex does. Model 2 provides strong evidence that females are more likely to report that their health affected their ability to work.

[4] Note that this '2.23 times greater odds' is calculated by exponentiating the coefficient, 0.80, for being formerly incarcerated, in Model 1 of Table 3.2. This paper will report in Odds Ratio. The coefficients and odds ratios can be found on Tables 3.2-3.4.

Model 3 provides evidence that social inclusion plays a substantial role in the respondent's ability to work. Once the social inclusion variables (health insurance, financial condition, education, employed, marital status) are added to model 2, the association between FIPs and their health affecting their ability to work is not supported by strong evidence. While the baseline and demographic characteristic models demonstrated that FIPs are more likely to report that their health affected their ability to work, the introduction of social inclusion to the model demonstrates that inclusion diminishes how respondents feel their health affects their ability to work.

Model 3 does provide evidence that social exclusion causes respondents to report greater odds of their health affecting their ability to work. Compared to married respondents, there is evidence that supports never married (OR=1.38) and previously married respondents (OR=1.43) have greater odds of reporting that their health affects their ability to work. Not only does this finding demonstrate social inclusion with marriage having a positive effect on the life course, but the finding also demonstrates that the lack of this positive stimuli potentially leads to social exclusion.

Similar to marriage, as education levels decrease, there is strong evidence that those with less education will report greater odds that their health affects their ability to work. While there is no evidence that those with a bachelor's or some college are associated with health affecting work, there is strong evidence that having a high school education or less does. High school graduates have 1.98 times greater odds of their health affecting their ability to work, while those with less than a high school equivalency have 3.00 times greater odds. Given that many FIPs are employed in the secondary labor market (Agnew, 2001), this consequence of incarceration

demonstrates not only the introduction of negative stimuli, such as not being able to earn wages, but also the removal of a positive stimuli, such as achieving financial or economic goals.

Further demonstrating the effects of social exclusion, unemployed FIPs have 8.05 times greater odds of reporting that their health affects their ability to work. Further, there is strong evidence demonstrating that those with increased financial difficulty have greater odds of reporting that their health affects their ability to work. Marriage, education, and employment are all linked to positive turning points; however, a more difficult financial condition is an added negative stimulus with far-reaching effects on life

Times Incarcerated and Health Affecting the Ability to Work: Table 3.3 includes the coefficients and odds ratios from models 4-6, which examine how the number of respondent incarcerations affects the ability to work.

Model 4 is a main effects model that tests how the number of incarcerations affect the ability to work. FIPS who report one incarceration have 2.34 times greater odds of reporting that their health affected their ability to work. This finding demonstrates *that* incarceration matters for FIPs' ability to work. Those with two or more incarcerations have 2.09 times greater odds, demonstrating that recidivists are likely to have their health affect their ability to work than those who have successfully reentered society.

Model 5 introduces demographic characteristics to model 4. There is strong evidence in Model 4 that FIPs incarcerated once or twice-plus have greater odds of reporting that their health affects their ability to work. Continuing the finding from model 2, model 5 demonstrates that females are more likely to report that their health has affected their ability to work. There is no strong evidence that race/ethnicity affects how respondents felt their health affecting their ability to work.

The introduction of social inclusion variables in model 6 provides evidence that the relationship between health affecting the ability to work and number of incarcerations is not significant. As demonstrated in model 3, model 6 does provide evidence that higher levels of education, being employed, and being financially comfortable are all associated with lesser odds of health affecting the ability to work. While there is no strong evidence supporting the relationships between a high school diploma or higher education and health affecting work, those with less than high school have 3.01 times greater odds of reporting that their health affected their ability to work. Further, those with some financial difficulty (OR=2.32), a difficult financial condition (OR=3.77), or a very difficult financial condition (OR=5.62) all have greater odds of reporting that their health affects their ability to work. This finding, like model 3, demonstrates that social exclusion promotes poor health outcomes for socially excluded respondents by limiting the ability to work.

Ever Arrested and Health Affecting the Ability to Work: Table 3.4 (models 7-9) tests if being arrested influences the ability to work. Model 7, like models 1 and 4, provides evidence that arrests have a strong relationship with health and the ability to work. Model 7 demonstrates that respondents who reported an arrest had 1.96 times greater odds of reporting that their health affected their ability to work. This finding provides additional evidence that criminal justice involvement such arrests affect how respondents felt about their health and their ability to work.

Once race/ethnicity and sex are introduced in model 8, respondents who have been arrested have 2.24 times greater odds of reporting that their health affected their ability to work. Race/ethnicity and respondent sex does not have strong evidence supporting how arrests affect the ability to work.

Model 9 introduces social inclusion variables. In this model, those who have ever been arrested have 1.32 times greater odds of reporting that their health affected their ability to work. While race/ethnicity continues to have a lack of evidence supporting how people of color are affected, females continue to report that health affects the ability to in Model 9.

Evidence also supports that uninsured respondents have lesser odds of reporting that their health affects their ability to work than those with health insurance. This health insurance relationship runs counter to what I expect. Of the 1,083 respondents who reported that they were uninsured at the time of interview, only 62 reported that their health affected their ability to work. Models 3, 6, and 9 all suggest that more research is needed to understand the full extent that incarceration and arrests have on the unsured and their ability to work.

Further, there is ample evidence that lower educational attainment, unemployment (OR=8.08), and financial difficulty all have significant effects on health affecting the ability to work. Those with a high school diploma (OR=1.88) and those with less than high school (2.78) are strongly associated with reporting that their health affects their ability to work. As financial condition deteriorates, the odds of reporting health affecting the ability to work also begin increasing, demonstrating how the added strain of financial vulnerability exposes those who have been arrested to the effects of a negative stimulus.

V. Discussion and Conclusion

The fulfillment of basic needs drives how respondents view their health affecting their ability work. Initially, this chapter theorized that social exclusion would cause respondents to have higher odds of reporting that their health affected their ability to work. When the social inclusion variables were introduced to the models, those who with difficult financial conditions

or who were unemployed were substantially more likely to report that their health affected their ability to work than those with no criminal justice involvement. This finding demonstrates that those socially excluded have more to lose if their health does not allow them to work. Throughout each model, criminal justice involvement influences how people feel their health affects their ability to work. Those who are socially excluded, such as the unemployed or those in difficult financial conditions, are more likely than those without criminal justice interactions and social inclusion to report their health affected their ability to work.

Overall, the main effects, demographic characteristics, and social inclusion models are all useful to understand whether respondents' health affects their ability to work. While the aims of this paper were accomplished, additional qualitative research would yield more in-depth answers for what this study aimed to answer, particularly of uninsured respondents. Across all 9 models, the coefficients and odds ratios are relatively the same, meaning that it is difficult to discern whether being incarcerated, how many incarcerations, or being arrested are more influential on how health affects the ability to work. Second, once social inclusion variables were introduced, there was no evidence that incarcerations affected the ability to work, indicating that controlling for social inclusion positively affects how FIPs felt about their health. Third, health insurance status demonstrated that the uninsured were more likely to report that their health did not affect their ability to work. Given the potential long-term health risks associated with not having health insurance, this finding warrants further research. Given that many Americans obtain their health care coverage from their employer, this question requires further examination through qualitative or mixed methods.

In conclusion, several dataset limitations necessitate a deeper dive into this model with new data. One aspect that should be considered is using the same NLSY97 dataset but focusing

on older respondents to see if age becomes a significant factor for the reported health of FIPs. While this cohort was specifically selected because the majority of incarcerations have ended and the reentry process was ongoing, the insignificance of age was surprising. Another limitation of the dataset is the binary ‘sex’ variable. By examining multifactor gender identifications, perhaps a more nuanced understanding of the effects of criminal justice interactions on FIPs can be better understood. Last, there is a need to study and understand what factors shape the ability to work for highly educated people. From a life chances perspective, studying the reentry and reintegration process for those with high levels of social and human capital could potentially yield interesting research on how education and status can mitigate the health-related effects of touches with the criminal justice system.

Chapter 4: Negative Coping Strategies and Criminal Justice Involvement

Abstract:

Research shows that incarceration has a significant effect on self-reported health. Guided by Agnew's *General Strain Theory* and an integration of Giddens's *life chances* with his application of Lenoir's *social exclusion*, I use a sample (n=44,469) from the 2022 National Survey of Drug Usage and Health (NSDUH) to test whether having a history of criminal justice involvement is associated with negative coping strategies for those who have been arrested or paroled in the last 12 months. Research shows clear links between incarceration and health; however, jails and prisons tend to accumulate disproportionately higher concentrations of individuals experiencing violence, substance abuse, mental health issues, and other infectious and chronic health issues. Because this population also has a disproportionately higher rate of social exclusion, negative coping strategies serve to not only help an individual alleviate the strain from failing to secure safety and physiological needs, but to also treat chronic health ailments. I find that arrests and parole both influence negative coping strategies, supporting the social exclusion hypothesis. I also find that experiencing arrest has a more powerful effect on negative coping than parole, indicating that any criminal justice interaction can create a domino-effect for negative coping strategies. These findings support both the social exclusion hypothesis and the health disenfranchisement hypothesis.

I. Introduction

Research has consistently demonstrated various ways that formerly incarcerated people (FIPs) face numerous obstacles at the macro-, mezzo-, and micro-level during the reentry process. Borrowing from Maslow's (1943, 1954) Hierarchy of Needs, Looman and Carl (2015) note that safety and physiological needs are the single most important needs for the FIPs. Each challenge that the FIPs face reflects the ability or inability to achieve these basic needs. To achieve these basic needs, an individual's successful reentry can be viewed through how adequately they are able to meet six basic life needs: livelihood, residence, family, health, criminal justice compliance, and social connections (Ferner, 2015). Each of these needs presents unique and interconnected challenges for the FIPs who are reentering society. FIPs, however, often lack the social or human capital (Bourdieu, 1986) required to achieve successful reentry and reintegration, possibly opening a pathway towards the introduction of negative stimuli, the elimination or removal of positive stimuli, and the inability to achieve goals (Agnew, 1985).

To demonstrate this aspect of strain and the effects of social exclusion, I use the 2022 National Survey of Drug Usage and Health (NSDUH) to understand how micro-level reentry challenges, such as negative coping strategies, affect FIPs. This paper will test how strain serves as a pathway for FIPs and arrestees drift towards negative coping strategies, and potentially identify at-risk populations. This paper will utilize demographic variables and social inclusion variables to test how opioid misuse and illicit substance use in the last 12 months are moderated by the introduction of negative stimuli, such as being arrested or paroled in the last 12 months.

II. Literature Review

For those vulnerable to social exclusion, the effects of incarceration expose entire families to devastating collateral consequences (Kirk and Wakefield, 2018). These members of the 'precariat' class (Standing, 2011) are at greater risk of becoming ensnared by a 'death spiral' (Sered and Fernandopulle, 2005), leading vulnerable individuals become exposed to even more risks that could cause downward mobility, such as drug use. Economic downturns, such as the Great Recession or the COVID-19 pandemic, cause labor disruptions such as layoffs or firings, furloughing workers, and in the case of the pandemic, mandated business closings in the name of public health, all potentially leading to a loss of health coverage (Sered and Fernandopulle, 2005:6). That lack of access to health care potentially leads to the chances of health concerns going untreated, which can cause long-term health issues and exasperate employment chances if an individual is left unable to work. Despite the expansion of Medicaid through the Affordable Care Act (ACA) and increased awareness and access to other health care options, only half of FIPs will gain access to health coverage and care (Cuellar and Cheema, 2012). This lack of participation potentially has long-term consequences on the overall health of FIPs.

A major threat to workers has been the transfer of risk and insecurity from businesses to their workers and their families (Standing, 2011:1). Because of the threat of globalization, employers are forced to cut benefits such as pensions or health insurance to remain competitive in the global marketplace (Standing, 2011:41-42). The link between employment and healthcare might have made sense when it was fashioned in the 1940s, however, the link has become counterproductive at best due to the movement of jobs to the low-wage sector that often does not offer full-time benefits such as health insurance (Sered and Fernandopulle, 2005). The Great Recession (2007-2009) alone caused income to drop by 7% and wealth by 44%, destroying 40

years of wealth gains (Cooper and Pugh, 2020). By 2016, even with the financial recovery well underway, median wealth was still 34% below its peak value in 2007 (Cooper and Pugh, 2020), further straining the already precarious classes who struggle to scrape by. The Covid-19 recession (2020-2022) saw an unprecedented 10 million unemployment claims filed by American workers, further straining resources for many Americans (Cox, 2020). In addition to job losses, earning levels dropped, consumer prices increased, and the resources of less-financially secure families became more strained (Kochhar and Moslimani, 2023). These economic consequences are dire for FIPs, affecting not only the individual but their entire social network as a result. While wealthier families are concerned with acquiring more resources and the concerted cultivation of their children (LaReau, 2003), middle- and working-class parents are feeling the pinch of rising costs and stagnant wages, and struggling to stay afloat (Cooper, 2014; Kochhar and Moslimani, 2023). As a result of the financial hardships caused by growing income inequality, two-thirds of individuals who file for bankruptcy cite medical issues as a key contributor to their financial downfall (Konish, 2019).

Those who have been incarcerated are at an even greater disadvantage than those who have not been incarcerated. The nature of incarceration has devastating effects on life chances because of the enduring stigma (Schnittker and John, 2007; Keene et al, 2019) that FIPs and their families and communities face. Prolonged exposure to stress leaves the body in a heightened state of awareness that ultimately taxes the cardiovascular and immune systems (see Massoglia, 2008a; Massoglia, 2008b; Wang et al., 2017; Beaudry et al., 2020). Chronic or severe stress can fundamentally alter the body's ability to respond to additional stress, damaging the body's ability to maintain health (Massoglia, 2008b). The addition of negative coping strategies through substance abuse or not treating minor ailments further damages physical and emotional health

(Mowen et al, 2020). Females are at a particularly high risk because they are more likely to report chronic psychological trauma resulting the effects of youth maltreatment, injuries caused by chronic neglect, physical abuse and assault, and sexual abuse (Severson et al., 2009; Cicchetti and Carlson, 1989; Wolfe, 1999), exposing females to negative stimuli. Visher and colleagues (2004) found that nearly 80% of respondents for their study reported drug use, while 61% reported alcohol use, with most reported arrests caused by illicit substance use. Each of these factors from the failure to successfully achieve goals combine to produce social exclusion, which further expands the disadvantages that FIPs people face.

This research seeks to bridge a gap in the literature by examining how Agnew's General Strain Theory (1985) and the integration of social exclusion are linked to negative coping strategies for respondents. The inability to achieve culturally defined goals potentially leads to the introduction of negative stimuli and the removal of positive stimuli, leading individuals to engage in crime or delinquency. On the micro-level of the reentry process, the inability to secure safety and meet physiological needs hamper each subsequent phase of the reentry process, providing a pathway towards strain. Nearly one-third of FIPs reported missing school and/or work and losing jobs as a result of substance use (Visher et al., 2004:3). This paper will test how various negative coping strategies from the NSDUH, including opioid misuse and illicit substance use in the last 12 months, and how these negative coping strategies are influenced by social exclusion and demographic characteristics.

III. Theoretical Framework

Reentry Challenges through Strain, Stigma, and Social Exclusion: The primary deviance of violating the law leads to the secondary deviance when a negative label or social exclusion is

applied to the offender (Lemert, 1951). Many interactions that FIPs have on a given day, from going to the grocery store, to seeing an old friend, to seeing a parole or probation officer, provides an opportunity for that person to be negatively labeled and rejected, all because of their personal history (Liberman et al., 2014). Each of these seemingly routine interactions means that FIPs do not have as much ability to avoid interactions or environments that create anger, which can lead to higher rates of crime and delinquency through strain (Agnew, 1985). FIPs are among the most heavily stigmatized groups in society, and yet many effects of that stigma are understudied phenomena (Keene et al., 2019).

From the moment FIPs are released from custody, their status as a formerly incarcerated person almost instantly affects the individual, creating opportunities for the introduction of negative stimuli though all kinds of interactions with others. For example, once FIPs are processed through the criminal justice system, they are formally labeled as 'criminal', signifying their 'primary deviance.' Once released, FIPs often face structural, social, and self-stigma through interactions with others as they attempt reintegration, resulting in secondary deviance (Lemert, 1951). These stigmas significantly impact the micro-, mezzo-, and macro-level challenges that they are already attempting to overcome during the reentry process. Stigma impacts these interactions through the individual's behavior through institutional barriers (structural), stereotypes and discrimination from community members (social), and their individual responses to these interactions (self) (Link and Phelan, 2001). Each of these not only promote negative turning points (Sampson and Laub, 1993), but also result in both the loss of positive stimuli and the introduction of negative stimuli (Agnew, 1985).

Stigma is a multi-faceted construct that must be broken down into its specific components and carefully operationalized in research (Moore et al., 2013:527). For this paper, I

will examine how social exclusion potentially leads towards negative coping strategies through the lens of GST. Stigma interacts with all aspects of FIP's reentry journey, which complicates how a specific stigma affects specific reentry challenges. These complications can lead to the introduction of negative stimuli, in this case incarceration or arrest, and the removal of positive stimuli, such as employment, marital status, or health insurance access. Laws, policies, and regulations restrict full participation in society through housing restrictions, blocked employment, the loss of the right to vote, or even blocked access to financial aid for college, which reflect structural stigma (Corrigan et al., 2005). The public shames the FIPs through discrimination, reflecting social stigma (Corrigan et al., 2010).

The self-level of stigma includes how an individual responds to stigma (Corrigan et al., 2010), in this case a negative stimulus (Agnew, 1985) arising from secondary deviance (Lemert, 1951). Akin to Cooley's (1902) "Looking-glass self," FIPs imagine how they appear to others in a social situation, they imagine and react to what we feel their judgement of that appearance, and we develop our sense of self and respond through the perceived judgements of others. At the self-level, the public's reaction to the presence of FIPs forms the individual's perception of their self (Berger et al., 2001). The self-level is also defined to how a person accepts these labels and stereotypes as being true of the self and can lead to people feeling devalued or rejected as a result (Moore et al., 2013; Corrigan, 1998; Ritsher et al., 2003). The fear of rejection can lead to an anticipated stigma, which is the anticipation of being rejected or discriminated against due to a person's identity (Quinn and Chaudior, 2009), thus affecting future events for that individual. This paper will explore how structural and social stigma combine to affect self-stigma, and how that self-stigma can lead to anticipated stigma.

The stigma that formerly incarcerated people face daily takes a toll on all aspects of the reentry process. When FIPs struggle to overcome micro-level challenges, such as finding a job or securing basic needs, this reduces an individual's life chances (Giddens, 1981). Public perceptions of the FIPs through stereotypes such as low socioeconomic status, minority race/ethnicity (Madriz, 1997), or negative personality traits (MacLin and Herrera, 2006), shows that people think negatively about "criminals" incarcerated (Moore et al., 2013). MacLin and Herrera (2006) found that one of the most common words the public associated with "criminal" was "bad," reinforcing the negative attitudes the public has for the FIPs.

Research Aims: Awareness of stigma from society has been consistently linked to poor psychological and social functioning, demonstrating the self-level of stigma. This awareness affects macro-level reentry challenges, such as repairing relationships with friends or family. Perceived stigma has been linked unemployment and income loss (Link, 1987), depression (Markowitz, 1998), poor social functioning (Prince and Prince, 2002), low self-esteem (Link et al., 2001), negative coping strategies (Perlick et al., 2007), and a lower likelihood of seeking treatment (Corrigan and Rusch, 2011). As a result, FIPs have many macro-level challenges to overcome, such as securing employment or maintaining a substance-free lifestyle, thereby jeopardizing their probation or parole, their relationships with family, or even their concept of self, which all can either lead to achieving goals, maintaining positive stimuli, or eliminating negative stimuli.

This project aims to answer two research questions that address gaps in the literature and answer theoretical questions related to criminal justice involvement and negative coping strategies:

1. Does criminal justice involvement, either being on parole or being arrested, influence whether an individual will engage in the negative coping strategies of illicit substance use or opioid misuse?
2. What role do negative stimuli (such as social exclusion) or positive stimuli (such as social inclusion) play in negative coping strategies?

To answer these questions, I will use the 2022 NSDUH and logit (logistic) regression models to determine the extent that negative coping strategies, measured by opioid misuse and illicit substance use in the last 12 months, are affected by criminal justice involvement. To accomplish this, I use demographic characteristic and social inclusion models to test how substance use in the last 12 months is moderated through demographic and social inclusion characteristics of FIPs and arrestees.

IV. Data, Measures, and Methods

Data: This portion of the dissertation will use a sample from the 2022 National Survey on Drug Use and Health (NSDUH), which provides information on the use of illicit drugs, alcohol, and tobacco amongst members of the US civilian, non-institutionalized population aged 12 years old and older. The 2022 NSDUH's target population includes residents of households and institutions such as boarding houses, dormitories, and halfway houses[5]. NSDUH data is collected annually through household face-to-face interviews at the respondents' places of residence (DeLisi et al., 2015) in all 50 states and the District of Columbia. Each respondent who completed a full interview was given $30 in cash as a token of appreciation for their time, provided by the Substance Abuse and Mental Health Services Administration (SAMHSA)

[5] Residents of institutions such as correctional facilities or long-term health care facilities are excluded from the 2022 NSDUH dataset.

through the U.S. Department of Health and Human Services (DeLisi et al., 2015; Center for Behavioral Health Statistics and Quality, 2023). After controlling for missing cases through listwise deletion, the final sample includes 44,469 total cases.

Measures: In the original NSDUH questionnaire, respondents were asked to identify when the last time they used a variety of illicit substances, including cocaine, heroin, methamphetamine, crack, and hallucinogens. Respondents were allowed to answer 'never,' '12 months plus ago,' 'more than 30 days ago,' or 'within the last 30 days.' For this paper, I created dummy variables for each illicit substance use in the last 12 months and opioid misuse in the last 12 months resulting a dichotomous outcome for each negative coping strategy. I combined each of these variables into a single variable using Stata 18's 'egen' command to create a new variable (illicit drug use) that captures the use and non-use of each illicit substance variable (heroin, cocaine, methamphetamine, crack, hallucinogens) in the last 12 months. A second dependent variable asks respondents "Have you misused opioids in the past year?" The definition of misuse for this study comes from questions related to opioids in the NSDUH define 'misuse' as 'ever used pain relievers in a way not directed by a doctor? (Center for Behavioral Health Statistics and Quality, 2023)." These outcomes were specifically chosen to demonstrate the differences in FIPs' substance use for illegal substances, which place FIPs at risk for parole or probation violation, and the use of legal substances such as opioids, which are prescribed for pain relief but can lead to dependency. In the final sample, 19.05% of respondents reported they had used an illicit substance in the last 12 months, while 3.32% of respondents had reported an opioid misuse in the last 12 months.

The five substances used for this study (heroin, cocaine, crack, methamphetamine, and opioids), along with marijuana, are the six most commonly used substances by inmates and

parolees according to a Bureau of Justice Statistics survey (Bronson et al., 2017). Substance use was chosen as an outcome because many employ coping strategies that are intended to alleviate the negative emotions that result from strain (Agnew, 2001). For FIPs, relapse to substance use is common, and for opioid users, tolerance is drastically reduced making them vulnerable to overdose (Fox et al., 2014). The transition from incarceration to community is characterized by exposure to substantial negative stimulus, causing drug overdose to be the leading cause of death for FIPs within their first two weeks of the reentry process (Binswanger et al., 2007; Burns et al., 2022; Fox et al., 2014).

Key Independent Variables: The NSDUH does not have questions related to jail or prison as it only collects data on the non-institutionalized population; however, the dataset does include data on arrests and parole. To identify FIPs, I use the 'parolel' variable from the NSDUH, which asks respondents if they have been on parole or supervised release in the last 12 months. I use the same method to create the 'arrests last 12 months' variable using the 'nobooky2' variable from the NSHUD. For these measures, those who have not been arrested or paroled in the last 12 months are the reference category. The 'parole' and 'arrested' models will test how reentry moderates substance abuse in the last 12 months through demographic characteristics and social inclusion models. The 'arrested' and 'paroled' in the last 12 months variables represent the introduction of a negative stimuli, in this case the secondary deviance that occurs once FIPs or arrestees have been labeled by society. The 'illicit drug use' and 'opioid misuse' in the last 12 months variables represent negative coping strategies employed to alleviate the effects of a negative affective state, such as an arrest or parole in the last 12 months.

Independent Variables: This paper will utilize demographic characteristics and social inclusion models to demonstrate how the negative stimulus of arrests and parole in the last 12

months moderate substance use in the last 12 months. The demographic characteristics model features the following variables: race/ethnicity, age at interview, and respondent sex. The social inclusion models feature the following variables: health insurance access, total family income, education, employment status, and marital status. Each of these variables in the demographic characteristics and social inclusion models are associated with both health outcomes and the effects of criminal justice involvement (Schnittker and John, 2007).

The race/ethnicity variable is recoded into 4 categories: white, African American, Hispanic, and Other Races. For the Other Races category, racial/ethnic groups such as Asian Americans, Native Americans, Alaskan Natives, and Native Hawaiians/Pacific Islanders are included in 'other races' due to limited number of cases in these respective categories. Respondent sex is treated as a binary variable (Female/Male). Age at interview was treated as a continuous variable during the initial collection of the 2022 NSDUH. For this study, I use Konigsberg's (2015) example by collapsing age into ordinal categories, including 18-25, 26-34, 35-49, 50-64, and 65+ to examine the substance use traits for each group.

The health insurance variable is treated as a binary variable that asks whether the respondent had health insurance at the time of interview. Total family income is measured as an ordinal categorical variable, including less than $20,000, $20,000-49,999, $50,000-74,999, and $75,000 or more. Education is measured as an ordinal categorical variable, including 'less than high school', high school or GED, some college or associate's degree, and college graduate and higher. Marital status (married, previously married, never been married), and employment (full-time, part-time, unemployed, not employed) are also treated as ordinal categorical variables. Unemployed respondents are defined as able to work but not working, and not employed are defined as lacking the ability to work.

Analytical Strategy: The first goal is to determine how arrests and parole moderates negative coping strategies. To assess this, given that the substance use outcomes are binary variables, the model choice comes down to a Logit Model or Probit Model, with the Logit Model demonstrating the best fit[6]. The Logit Link Function below demonstrates the regressions that this paper utilizes:

$$\text{Logit (NCOPE)} = \beta_0 + \beta_1 CJI + \beta_2 S + \beta_3 R + e$$

For example, the outcomes (NCOPE) for the demographic characteristics model is predicted by summing the intercept or cell mean for respondents plus criminal justice involvement (arrest or parole in the last 12 months, or CJI), plus respondent sex (S), race/ethnicity (R), and the individual-level error term (*e*). Tables 4.2-4.4 report the coefficients of each model used in this study, organized by each main effects, demographic characteristics, and social inclusion models.

The tables are presented in coefficients, which show how outcomes differ under specific conditions (Long and Mustillo 2018). This paper will report odds ratios because odds ratios demonstrate statistical significance and magnitude as social exclusion accumulates, which is substantively more informative (Long and Mustillo, 2018). This allows for a deeper dive into the relationship between substance abuse and arrests or parole. Tables 4.2 and 4.3 will report the coefficients, odds ratios, and p-values.

Regarding interpretation of the logit models, I expect that at least one set of coefficients will differ across groups. Rather than performing variable-by-group interactions one at a time, I apply the demographic characteristic variables and the social inclusion variables to the model and estimate them all at once. The advantage is equivalent to estimating separate models for each

[6] This was determined by looking at Logit and Probit models, which are suited for binary outcomes. The AIC, BIC, and Logged Likelihood all indicated that the Logit model was the best fit for this analysis.

group in each variable (Allison, 1999). Following Mustillo and colleagues (2018), this paper will present the logit regression findings with strong evidence rather than "suggestive" findings. Therefore, the p-values and corresponding odds ratios will be reported on Tables 4.2 and 4.3.

V. Results

Tables 4.2-4.4 demonstrate how arrests and parole in the last 12 months affect illicit substance use and opioid misuse in the last 12 months. While arrestees had higher odds of reporting illicit substance use, parolees had odds of opioid misuse more than two times higher than arrestees, demonstrating how parolees are particularly vulnerable to turning to opioids as a coping strategy.

Parole and Illicit Substance Use: Table 4.2, which contains models 1-3, tests how parole in the last 12 months predicts illicit substance use in the last 12 months. Parolees have 4.63 times greater odds of using illicit substances than respondents who are not on parole, demonstrating how those on parole turn to negative coping upon the presentation of a negative stimulus.

Once model 2 incorporates demographic background variables, parolees have 4.51 times greater odds of using illicit substances. Model 2 also provides evidence that whites, not people of color, are more likely to use illicit substances. The strongest association between age and illicit substance use are 35-to-49-year-old respondents, demonstrating that the introduction of a negative stimulus during this point in life results in higher odds of negative coping through illicit substance use. This finding also demonstrates how those aged 35-to-49 are the most vulnerable to social exclusion.

Model 3 incorporates the social inclusion variables to the model. As a result, the introduction of social inclusion moderates the odds that parolees will turn to illicit substance use

to cope with negative stimuli. While there is no strong evidence that a lack of health insurance access moderates illicit substance use, there is ample evidence that marriage, education, employment, and income all moderate illicit substance use. Measures associated with social inclusion, such as being married and higher income, protect respondents from illicit substance use while lower levels of each category indicate that socially excluded individuals are more vulnerable. For example, never married (OR=1.67) and previously married (OR=1.82) respondents have greater odds of reporting illicit substance use in the last 12 months than married respondents. Lastly, as income levels increase, the odds of utilizing negative coping strategies through illicit substance use decline as income increases, with respondents earning less than $20,000 vulnerable to this strategy. The findings in Models 1-3 suggest that social inclusion moderates the effects of parole on illicit substance use; however, the health disenfranchisement hypothesis has mixed support.

Arrests and Illicit Substance Use: Those who have been arrested in the last 12 months have substantially higher odds of illicit substance use than parolees, demonstrating how the introduction of a positive stimuli for parolees, such social inclusion, potentially moderates illicit substance use.

Model 4 provides strong evidence that those who have been arrested in the last 12 months are vulnerable to illicit substance use in the last 12 months. Those who have been arrested have 5.30 times greater odds of utilizing negative coping strategies through illicit substance use.

Once demographic characteristics are included, there is strong evidence African Americans, Hispanic, and other racial/ethnic groups each have lower odds of illicit substance use than whites. This means that white arrestees are the most vulnerable to illicit substance use. This

finding does not support the racial/ethnic aspect of the social exclusion hypothesis in that whites typically have stronger association with social inclusion.

Male arrestees also have greater odds of illicit substance use in the last 12 months than females. Males have 1.17 times greater odds of reporting illicit substance use than females, providing evidence that males are more likely to turn to negative coping when presented with a negative stimulus like an arrest in the last 12 months.

Younger respondents also have greater odds of turning to illicit substance use if they have been arrested in the last 12 months. Arrestees aged 26-34 (OR=1.23) and 35-49 (OR=1.13) have greater odds of utilizing negative coping than arrestees aged 18-25, demonstrating that secondary deviance resulting from criminal justice involvement has a substantial effect on negative coping strategies for these groups. As respondents get older, age protects respondents from the effects of negative coping through illicit substance use. While the evidence does not support the relationship between illicit substance use and those aged 50-64, there is evidence supporting that arrestees aged 65 and older have lesser odds of utilizing negative coping than their younger peers. This finding demonstrates further how people tend to desist from criminal and delinquent activities as we get older while utilizing other coping strategies.

Model 6 introduces social inclusion variables to the model. While there is no evidence that health insurance moderates illicit substance use, evidence from model 6 mostly supports social inclusion protecting respondents from negative coping through illicit substance use. Being married, being employed, and earning higher income levels not only promote social inclusion, but these variables also somewhat protect arrestees from illicit substance use. Being unmarried or previously married, not employed, and earning lower income levels have greater odds of causing arrestees to be vulnerable to illicit substance use if they have been arrested in the last 12 months.

Education, however, does not protect respondents from illicit substance use, demonstrating how the presentation of a negative stimulus can cause social exclusion for even those who have cultivated greater life chances through education. The evidence does not support the relationship between a high school education and illicit substance use, however, those with some college or college graduates and higher are vulnerable to illicit substance use. Respondents with some college (OR=1.53) and those who are college graduates or higher (OR=1.37) all have greater odds of utilizing negative coping strategies through illicit substance use than those with less than a high school diploma. This evidence strongly demonstrates that even theoretically protective factors like education are not strong enough to protect against the presentation of negative stimuli. This finding provides support for the social exclusion hypothesis.

Parole and Opioid Misuse: Opioid misuse in the last 12 months was chosen as an outcome to demonstrate how access to legal but controlled substances, opioid pain relievers, can be misused when introducing negative stimuli like parole or arrest in the last 12 months. The National Center for Health Statistics (2024) reported that the U.S. had an estimated 81,083 overdose deaths involving opioids in 2023.

Models 7-9 on Table 4.4 provide strong evidence that parolees have greater odds of turning to opioids as a means to cope with negative stimuli. Parolees have 8.46 times greater odds of turning to opioids if they have been paroled in the last 12 months. Once demographic background is introduced in model 8, the evidence does not support parolees of color or male parolees having a strong association with opioids as a negative coping strategy. Model 8 does provide evidence that age protects parolees from opioid misuse. Once respondents reach age 50, age does offer protection against opioid misuse. However, respondents aged 35-49 are the most vulnerable to opioid misuse, having 1.22 times greater odds of turning to opioids for coping than

those aged 18-25. As with illicit substances, those aged 35-49 are more likely to suffer the consequences of social exclusion resulting from incarceration than younger and older respondents.

Model 9 introduces social inclusion variables to the model. While the evidence continues to not support the role health insurance has in moderating negative coping, social inclusion through being married, having higher levels of education, being employed, and earning higher income levels does protect respondents from coping with opioids. As levels of social exclusion appear, such as lower income and less education, parolees become more vulnerable to coping with opioid misuse. Those never married (OR=1.55) and previously married (OR=1.44) demonstrate how marriage causes desistence from utilizing negative coping through opioid misuse. As education levels increase, the odds of negative coping through opioids decline. Further, this pattern holds when income levels increase. These findings do support the social exclusion hypothesis in that arrestees who are socially excluded are more vulnerable to the dangers of negative coping than those with higher levels of social capital.

Arrests and Opioid Misuse: As table 4.3 demonstrated with arrests and illicit substance use, arrestees are more vulnerable to opioid misuse than those who are on parole, suggesting that parole provides pathways towards social inclusion. Model 10 provides evidence that those who have been arrested in the last 12 months have 3.72 times greater odds of opioid misuse than those who have not been arrested.

Model 11 introduces demographic background variables to the model. Arrestees can expect a slight increase in the odds of utilizing opioids as a negative coping strategy (OR=3.76), while there is no strong evidence that race or respondent sex protects respondents. Continuing the findings from previous models, increases in age continue to demonstrate that arrestees are

less likely to utilize negative coping strategies than younger arrestees. While the evidence for those aged 26-34 and 35-49 is not strong, the evidence does support a negative association for opioid misuse for those aged 50-64 and 65 and older.

Lastly, model 12 introduces social inclusion variables to the model, causing a slight decline of the odds of arrestees turning to opioid misuse as a coping strategy (OR=3.08), in line with the previous models. While health insurance access is not a strong factor in predicting opioid misuse, social exclusion continues to cause respondents to be more vulnerable to negative coping through opioid misuse. Never married (OR=1.41) and previously married (OR=1.35) arrestees demonstrate how being married protects arrestees from opioid misuse as a coping strategy. Being a high school diploma, some college, or a college degree or higher also protects arrestees from opioid misuse. The evidence from model 12 also demonstrates that employment, and higher income levels are protective factors for opioid misuse, indicating that social inclusion offers a protective barrier that lessens the chances of negative coping, while social exclusion causes arrestees to become more vulnerable to negative coping through opioids.

Across all 12 models, the findings provide support for the social exclusion hypothesis by indicating that relationships with others allow arrestees and parolees to become more integrated within society, thus improving their life chances and reintroducing positive stimuli to aid with coping after release. These findings also continue to support how social inclusion in general offers some protection against utilizing negative coping strategies, while social exclusion promotes drift towards negative coping. These findings also generally support the health disenfranchisement hypothesis, as illicit drug use or opioid misuse makes socially excluded populations that much more vulnerable to the effects of negative stimuli.

VI. Discussion and Conclusion

Social inclusion serves to mediate the effects of substance use by providing positive stimuli for parolees and arrestees. Without these stimuli, parolees and arrestees are more exposed to negative stimuli, leading to significantly higher odds of negative coping through illicit substance use and opioid misuse. Each of the negative coping strategies carry significant health risks if abused, such as fatal overdoses, or exposure to serious risk both in terms of overall health and social exclusion thanks to the negative labels associated with substance use. While parolees and arrestees had greater odds of turning to opioid misuse as a negative coping strategy, parolees and arrestees did have greater odds of turning to illicit substances but lesser odds of opioid misuse. Higher educational attainment groups are often associated with social inclusion, which demonstrates how the negative stimuli of an arrest or parole in the last 12 months can provide a pathway for negative coping.

While access to health insurance, employment, income, education, or even marital status are associated with dissociating with crime and delinquency, this research demonstrates how arrestees and parolees are at risk of negative coping despite the presence of positive stimuluses. While males are often considered to be more likely to engage in risky or delinquent behavior, which the models demonstrate as males had the highest odds of negative coping across the illicit substance and opioid misuse models. While substance use issues are commonly stereotyped against those without access to education or resources, several negative coping strategies were strongly associated with those with education. White respondents had the greatest odds of using illicit substances and misusing opioids, which exposes users to fatal overdoses or significant long-term health issues. Overall, social inclusion caused a desistance from negative coping

throughout each of the 12 models in this paper, while social exclusion made the socially excluded more vulnerable to negative coping.

With these considerations in mind, criminal justice interactions matter in terms of how people cope with negative stimuli. The dependent and key independent variables measured substance use and criminal justice interaction within 12 months of the interview for the 2022 NSDUH, demonstrating how parolees and arrestees cope with the negative stimuluses that are generated by criminal justice involvement. Each of these models demonstrate to various extents that social exclusion matters in terms of mediating negative coping strategy rates.

The shame and stigma generated by criminal justice involvement makes clear that as a society, we can do better to ensure that those involved with the criminal justice system get a chance to successfully reenter and reintegrate back into society, and that they do not bear the consequences of a punishment beyond sentencing.

Chapter 5: Discussion and Conclusion

The prior three analytical chapters demonstrate how incarceration, arrest, and parole can all create disparate outcomes for FIPs, who face significant obstacles in every aspect of daily life as they reintegrate and reenter society. The prior three chapters also demonstrated the role that social inclusion plays in mediating the effects of self-reported health, health affecting the ability to work, and utilizing negative coping strategies.

Because of the shame and stigma we assign to those who have been involved or touched by the criminal justice system, the formerly incarcerated, in effect, serve a punishment that lasts far beyond their original sentence in that entire lives are ruined due to the label applied to them. This label represents secondary deviance (Lemert, 1951) introduces negative stimuli to FIPs, exposing them to worse health outcomes, higher likelihoods that their health will affect their ability to work, and expose them to negative coping strategies through substance use.

Chapter 2 addressed self-reported health outcomes for FIPs. The aim of the study was to (1) determine the extent that self-reported health was affected by incarceration or arrest, (2) to determine if demographics affected self-reported health, and (3) determine how and if social inclusion/exclusion affected self-reported health. Being incarcerated alone was shown to have a significant effect on the self-reported health for FIPs; however, once social inclusion variables such as insurance, financial condition, and education were controlled for, the effects of incarceration on reported health were mediated.

For the demographic background models in Chapter 2, I tested how race/ethnicity, and respondent sex influences self-reported health for those who have been incarcerated, been arrested, and how many times they have been incarcerated. Despite the Hispanic Paradox, the models provided evidence that Hispanics were vulnerable to reporting fair/poor health outcomes.

The demographic background models also demonstrated that the reported health of females would be affected by criminal justice involvement more substantially than males.

The social inclusion models demonstrated the effects of health insurance access, self-described financial condition, employment, education, and marital status on reported health. These models not only demonstrated that social inclusion protects against worse health outcomes, but they also demonstrate how social exclusion makes FIPs and arrestees more vulnerable to the effects of negative stimuli.

Models 5-7 in chapter 2 tested how multiple incarcerations affect self-reported health. The introduction demographic background and social inclusion variables demonstrate *that* criminal justice involvement affects health, and not necessarily *how many* incarcerations respondents report. Once demographic variables were introduced, the self-reported health of Hispanics continued to be affected by how many times they have been incarcerated, thereby demonstrated that the Hispanic Paradox does not protect the health of Hispanic FIPs. Female FIPs are also still more likely to report worse health than males. Once I introduce social inclusion in model 9, self-reported health is not significantly affected by incarceration. Of all of the measures included with social inclusion, access to health insurance was the most robust when tested with incarceration or arrest variables, demonstrating that access to health insurance for can alleviate the potentially catastrophic effects of health caused social exclusion.

Chapter 2's research aims were to determine how self-reported health was affected by criminal justice involvement, to determine if race/ethnicity or respondent sex had any meaningful effects on self-reported health. Chapter 2 also sought to determine if social inclusion or exclusion affected health outcomes. Models 3, 6, and 9 each demonstrated that there was no longer a significant health effect associated with incarceration or arrests once social inclusion

variables were introduced to the model. This demonstrates that social inclusion does mediate the effects of health, and the baseline models and the demographic models showed that arrests and incarceration both have significant effects on the self-reported health of respondents. Although the evidence was not as strong demonstrating the relationship between aspects of social inclusion and arrest or incarceration, Models 3, 6, and 9 do demonstrate that inclusion itself mediates the health effects of criminal justice involvement. This indicates support for how the presence of positive stimuli, such as marriage, employment, or health insurance access, can have positive effects on those exposed to negative stimuli.

Like Chapter 2, Chapter 3 demonstrated that criminal justice involvement and social exclusion matter in terms of how people felt about their health affecting their ability to work. Overall, the odds of incarceration or the number of incarcerations respondents reported were greater for how health affected the ability to work. Once social inclusion variables like education and financial condition were incorporated into the models, the evidence did not support criminal justice involvement affecting how health work became nonsignificant and lost considerable magnitude, demonstrating that the presence of health insurance, a comfortable financial condition, education, employment, and marriage combined have a positive impact leading to social inclusion. The findings from Chapter 3 also imply that for respondents with positive stimuli in their lives, the health effects of incarceration or arrest can become less severe, demonstrating the positive impact of social inclusion and the consequences of social exclusion.

Chapter 4 demonstrates how arrests, parole, and social exclusion can influence negative coping strategies. Chapter 4 demonstrates how Agnew's *negative affective states* (1985) integrated with Giddens's *social inclusion* (2007), and *life chances* (1981), and Lemmert's *secondary deviance* (1951) all amplify the negative effects of social exclusion, while the

promotion life chances or positive labels have the potential to protect against negative stimuli to respondents, leading them to reject negative coping strategies. Through most of the models, being arrested had a much more substantial effect on the odds of negative coping strategies than even parole did, indicating that the presence of this negative stimuli has severe consequences. Although the NSDUH does not offer a variable that captures incarceration, parole data is captured, which means that these respondents are either active in the reentry process or have been through it. Flipping the outcomes for arrestees in Chapters 2 and 3, Chapter 4 demonstrated that arrestees were far more likely to partake in negative coping strategies. This finding demonstrates how parolees might have more surveillance over them during the reentry process, which moderates illicit substance use. Chapter 4 also demonstrates how socially included arrestees and parolees were not immune to negative coping strategies.

Limitations: While this study demonstrates the role that criminal justice interaction has on various health outcomes, this study does have its limitations. The NSDUH, while offering a substantial number of cases in a cross-sectional dataset, is not a longitudinal dataset. Therefore, the ability to utilize this dataset with time-series analysis cannot be undertaken. Another weakness of this dataset is that there is no clear 'incarceration' variable like what is found in the NLSY97. While the 'arrest' variables were identical in each dataset, the NLSY97 afforded the opportunity to evaluate incarceration and the number of incarcerations, while the NSDUH only allowed the former.

A weakness of the NLSY97 is the income variable, however, self-described financial condition might be a more accurate way to describe financial security than income categories do. Another weakness was that the NLSY97 did not offer a way to test the differences between full-time and part-time employment, which showed significance in Chapter 4 through negative

coping strategies. The attrition rate was also a slight weakness in that the dataset only captures data from the non-institutionalized population, making it near-impossible to study the health effects of current incarcerated persons.

Policy Implications: Perhaps the biggest policy implication involves what can be done with discharge planning. Looman and Carl's (2015) application of Maslow's Hierarchy of Needs demonstrates that FIPs need basic psychological needs met to fully reintegrate back into society. In addition to food, water, warmth, and rest, social inclusion provides a substantial mediator in the health effects of incarceration and arrest. Throughout each model, the inclusion of social capital demonstrated that the most consequential health effects of incarceration can be mediated if FIPs are made aware of the risks or given tools to address potential issues as they reenter and reintegrate back into society. Substance-related issues can cause debilitating health conditions that can ultimately lead to the loss of security that food, water, warmth, and rest can provide for FIPs. FIPs are already at a higher risk for death within the first two weeks of reentry, particularly due to the threat of drug overdose (Binswanger et al., 2007). Because inmates lose access to vital lifelines like Medicaid, which many qualify for, or other health-related benefits, this severely limits the life chances for inmates before they ever step back into society. By improving how we provide health care access before, during, and after an incarceration, the resultant benefits could have significant benefits for every single member of our society by improving our economic output and improving the physical and emotional health of our workforce.

Another significant policy implication is the role that financial security played in Chapters 2 and 3. How respondents felt about their health was influenced by how they felt about their financial condition. As communities with concentrated and cumulative disadvantages tend to have higher rates of FIPs, how you feel about your status can provide social and emotional

benefits not just on the micro-level, but the mezzo- and macro-levels as well. This can also be said about negative coping strategies. Although arrests and parole nearly universally contributed to increases in the odds of negative coping strategies, simply having access to education, income, or even marital status can mediate the risks of becoming involved in these negative coping strategies. By promoting social inclusion, many issues at each unit of analysis regarding the reentry and reintegration process can be improved simply by promoting the life chances of those who have paid their debt to society. Being incarcerated matters in terms of how FIPs can live the rest of their life. Being arrested has dramatic consequences for the entire population. Yet because of the shame and stigma we apply to offenders and ex-offenders alike, we as a society have given them a punishment beyond sentencing.

Future Research: I plan to expand the scope of this research by cultivating additional projects based on findings from Chapters 2, 3, and 4. While the aims of each chapter of this dissertation were largely met, a mixed-methods approach might be well-suited to untangle why some of the expectations of the research were not found, and why I had findings that I had not expected. While the *Hispanic Paradox* is a widely studied phenomena, the effects of the paradox are not widely studied in the incarceration, criminal justice, or social justice literatures. A qualitative study utilizing ethnographic or extended case study methods could help unravel why this population reports worse health outcomes in spite of the Hispanic Paradox.

Second, future research should interrogate why the findings from Chapters 2 and 3 flipped in Chapter 4. For example, females were more likely to report worse health outcomes in Chapter 2 and 3, however, males were more likely to use illicit substances and misuse opioids. Research should target formerly incarcerated male and females but should also include those

who do not conform to traditional gender or respondent sex groups due to their association with social exclusion.

Next, interaction effects could tease out some of the nuances with the findings. Because FIPs and arrestees tend to be overrepresented in populations with high levels of social exclusion, my future research seeks to utilize interaction effects to test exactly how different racial/ethnic groups, different financial conditions, and age groups, are affected by negative stigma through criminal justice involvement.

Third, a qualitative study focusing on states like Oklahoma could yield results that demonstrate the effectiveness of Medicaid Expansion for FIPs. In 2018, Oklahoma voters authorized a medical marijuana program that legalized the licensed use, sale, and growth of marijuana in Oklahoma for medicinal purposes. While Texas does allow the use of cannabidiol (CBD), Texas is just one of eleven states that have not legalized marijuana for recreational or medicinal use in the U.S. Because of the substantial differences in legalization between Oklahoma and Texas, this creates conditions for a natural experiment to explore how these differences in the law manifest through the reentry process. In addition to the differences in laws regulating marijuana in Oklahoma and Texas, Oklahoma voters approved the expansion of Medicaid benefits under the Affordable Care Act, while Texas has not yet done so. Between the different attitudes on crime, deviance, and health care policy in both states, combined with their cultural similarities, this environment provides fertile ground for such a study.

Lastly, I hope to build a quantitative scale that scores social inclusion and exclusion. By creating an index that combines each of the factor related to social inclusion, a standardized unit of measurement can be applied to determine how any population is affected by the promotion or elimination of life chances. Utilizing this scale with the interaction effects could help disentangle

the full extent of how access to resources and positive turning points can help protect against negative health outcomes and eliminate negative coping strategies.

In conclusion, this project is a start for an expansive research agenda that will help launch my career in academia. This project and the future work that comes from these pages will hopefully have an impact on students in the classroom, readers, community stake holders, legislative and judicial leaders, and most importantly, the public. By studying the effects of social inclusion on self-reported health, health affecting the ability to work, and social exclusion affecting negative coping strategies, hopefully the insight this dissertation provides can be the springboard for positive change in Oklahoma and throughout the U.S.

References

Adler, Nancy E. and David H. Rehkopf. 2008. "U.S. Disparities in Health: Descriptions, Causes, and Mechanisms." Pp. 235-252 in *Annual Review of Public Health*, Vol. 29.

Agnew, Robert. 1985. "A Revised Strain of Delinquency." Pp. 151-167 in *Social Forces*, Vol. 64, No. 1.

Agnew, Robert. 1989. "A Longitudinal Test of the Revised Strain Theory." Pp. 373-387 in *Journal of Quantitative Criminology*, Vol. 5, No. 1.

Agnew, Robert. 1992. "Foundation for a General Strain Theory of Crime and Delinquency." Pp. 47-88 in *Criminology*, Vol. 30, No. 1.

Agnew, Robert. 2001. "Building on the Foundation of General Strain Theory: Specifying the Types of Strain Most Likely to lead to Crime and Delinquency." Pp. 319-361 in *Journal of Research in Crime and Delinquency*, Vol. 38, No. 4.

Agnew, Robert and Helene Raskin White. 1992. "An Empirical Test of General Strain Theory. "p. 475-500 in *Criminology*, Vol. 30, No. 4.

Agnew, Robert, Francis T. Cullen, Velmer S. Burton, Jr., T. David Evans, and R. Gregory Dunaway. 1996. "A New Test of Classic Strain Theory." Pp. 681-704 in *Justice Quarterly*, Vol. 13, No. 4.

Ahmed, Beenish. 2022. "People in Detroit Jails Say the Cost of Phone Calls is Prohibitive." [online] Available at: https://ww.ualrpublicradio.org/2022-12-06/people-in-detroit-jails-say-the-cost-of-phone-calls-is-prohibitive [Accessed 13 October, 2023].

Allison, Paul D. 1999. "Comparing Logit and Probit Coefficients Across Groups." Pp. 186-208 in *Sociological Methods and Research*, Vol. 28, No. 2.

Ammon, Benjamin, Princess Iroh, Yordanos Tiruneh, Xilong Li, Briant t. Montague, Josiah D. Rich, and Ank E. Nijhawan. 2018. "HIV Care after Jail: Low Rates of Engagement in a Vulnerable Population." Pp. 488-498 in *Journal of Urban Health*, Vol. 95, No. 1.

Applebaum, Paul S. 2020. "Discharge Planning in Correctional Facilities: A Constitutional Right?" Pp. 409-411 in *Psychiatric Services*, Vol. 71, No. 4.

Badaracco, Nico, Marguerite Burns, and Laura Dague. 2021. "The Effects of Medicaid Coverage on Post-Incarceration Employment and Recidivism." Pp. 24-25 in *Health Services Research*, Vol. 56, Issue S2.

Baffour, Frank Darkwa, Abraham P. Francis, Mark David Chong, Nonie Harris, and Portia Darkwa Baffour. 2021. "Perpetrators at First, Victims at Last: Exploring the

Consequences of Stigmatization on Ex-Convict's Mental Well-Being." Pp. 304-325 in *Criminal Justice Review*, Vo. 46, No. 3.

Beaudry, Gabrielle, Shaoling Zhong, Daniel Whiting, Babak Javid, John Frater, and Seena Fazel. 2020. "Managing Outbreaks of Highly Contagious Diseases in Prisons: A Systematic Review." Pp. 1-16 in *BMJ Global Health*, Vol. 5, No. 1.

Benecchi, Liz. 2021. "Recidivism Imprisons American Progress." [online] Available at: https://harvardpolitics.com/recidivism-american-progress/ [Accessed 12 October 2023].

Berger, Barbara E., Carol Estwing Ferrans, and Felissa R. Lashley. 2001. "Measuring Stigma in People with HIV: Psychometric Assessment of the HIV Stigma Scale. Pp. 518-529 in *Research in Nursing and Health*, Vol 24, No. 6.

Binswanger, Ingrid A., Marc F. Stern, Richard A. Deyo, Patrick J. Heagerty, Allen Cheadle, Joann G. Elmore, and Thomas D. Koespell. 2007. Release from Prison-A High Risk of Death for Former Inmates." Pp. 157-165 in *The New England Journal of Medicine*, Vol. 356, No. 2.

Binswanger, Ingrid A., Carolyn Nowels, Karen F. Corsi Jeremy Long, Robert E. booth, Jean Kutner, and John F. Steiner. 2011. "From the Prison Door Right to the Sidewalk, Everything Went Downhill," A Qualitative Study of the Health Experiences of Recently Released Inmates. Pp. 249-255 in International Journal of Law and Psychiatry, Vol, 34.

Binswanger, Ingrid A., Patrick J. Batchford, Shane R. Meuller, and Marc F. Stern. 2013. "Mortality after Prison Release: Opioid Overdose and Other Causes of Death, Risk Factors, and Time Trends From 1999 to 2009. Pp. 592-600 in *Annals of Internal Medicine*, Vol. 159, No. 9.

Bixby, Laurin, Stacey Vevan, and Courtney Boen. 2022. "The Links between Disability, Incarceration, and Social Exclusion. Pp. 1460-1469 in *Health Affairs*, Vol. 41, No. 10.

Blue Cross Blue Shield. 2019. "The Health of Millennials: A Focus on Millennial Health Trends." [online] Available at: https://www.bcbs.com/the-health-of-america/reports/the-health-of-millennials [Accessed 19 October 2023].

Boen, Courtney E. and Robert A. Hummer. 2019. "Longer—but Harder—Lives?: The Hispanic Health Paradox and the Social Determinants of Racial, Ethnic, and Immigrant—Native Health Disparities from Midlife through Late Life." Pp. 432-454 in *Journal of Health and Social Behavior*, Vol. 60, No. 4.

Bonachich, Edna. 1972. "A Theory of Ethnic Antagonism: The Split Labor Market." Pp. 547-559 in *American Sociological Review*, Vol. 37, No. 5.

Bonczar, Thomas P. and Allen J. Beck. 1997. "Lifetime Likelihood of Going to State or Federal Prison." Pp. 1-17 in *Bureau of Justice Statistics: Special Report*, U.S. Department of Justice, Office of Justice Programs NCJ:160092.

Bourdieu, Pierre. 1986. "The Forms of Capital." Pp. 241-258 in *Handbook of Theory of Research for the Sociology of Education*, John G. Richardson, ed. New York, NY: Greenwood Press.

Breen, Richard. 2005. "Foundations of a new-Weberian Class Analysis." Pp. 31-50 in *Approaches to Class Analysis*, ed. Eric Olin Wright. Cambridge, UK: Cambridge University Press.

Brinkley-Rubinstein, Lauren. 2013. "Incarceration as a Catalyst for Worsening Health." Pp. 1-17 in *Health and Justice*, Vol. 1, No. 3.

Bronson, Jennifer, Jessica Stroop, Stephanie Zimmer, and Marcus Berzofsky. 2017. "Drug Use, Dependence, and Abuse Among State Prisoners and Jail Inmates, 2007-2009." Pp. 1-27 in *Jureau of Justice Statistics: Special Report*, U.S. Department of Justice, Office of Justice Programs NCJ: 250546.

Bullis, Michael, Paul Yovanoff, and Emily Havel. 2004. "The Importance of Getting Started Right: Further Examination of the Facility-to-Community Transition of Formerly Incarcerated Youth." Pp. 80-94 in *The Journal of Special Education*, Vol. 38, No. 2.

Bureau of Labor Statistics, U.S. Department of Labor. National Longitudinal Survey of Youth 1997 cohort, 2017 (round 18). Produced and distributed by the Center for Human Resource Research (CHRR), The Ohio State University. Columbus, OH: 2019

Burke, Georgia, Patti Prunhuber, Trinh Phan, and Sahar Takshi. 2022. "Reducing Barriers to Reentry for Older Adults Leaving Incarceration." [online] Available at: https://justiceinaging.org/wp-content/uploads/2022/05/Reducing-Barriers-to-Reentry-for-Older-Adults-Leaving-Incarceration.pdf [Accessed 19 October, 2023].

Burns, Marguerite E., Steven Cook, Lars M. Brown, Laura Dague, Steve Tyska, Karla Hernandez Romero,Cici McNamara, and Ryan P. Westergaard. 2022. "Association Between Assistance with Medicaid Enrollment and Use of Health Care after Incarceration Among Adults with a History of Substance Use." Pp. 1-12 in *JAMA Network Open*, Vol. 5, No. 1, e2142688.

Bushway, Shawn D., and Justin T. Pickett. 2023. *Direct Incentives May Increase Employment of People with Criminal Records*. Sant Monica, CA: The RAND Corporation.

Canada, Kelli, Stacey Barrenger, Casey Bohrman, Anthony Banks, and Punita Peketi. 2022. "Multi-level Barriers to Prison Mental Health and Physical Health Care for Individuals with Mental Illness." Pp. 1-11 in *Frontiers in Psychiatry*, Vol. 13, No. 1.

Cano, Manuel, Sehun Oh, Chrostopher P. Salas-Wright, and Michael G. Vaughn. 2020. "Cocaine Use and Overdose Mortality in the United States: Evidence from Two National Data

Sources, 2002-2018." Article 108148 in *Drug and Alcohol Dependency*, Vol. 214, September 2020.

Carson, E. Ann, Renuka Bhaskar, Leticia E. Fernandez, and Sonya R. Porter. 2021. "Employment of Persons Released from Federal Prison in 2010." Pp. 1-34 in *Bureau of Justice Statistics: Special Report*, U.S. Department of Justice, Office of Justice Programs NCJ:303147.

Case, Anne and Angus Deaton. 2020. Deaths of Despair and the Future of Capitalism. Princeton, NJ: Princeton University Press.

Center for Behavioral Health Statistics and Quality. 2023. *2022 National Survey on Drug Use and Health Final Analytic File Codebook*. Rockville, MD: Substance Abuse and Mental Health Services Administration.

Cicchetti, Dante and Vicki Carlson, eds. 1989. *Child Maltreatment Theory and Research on the Causes and Consequences of Child Abuse and Neglect*. Cambridge, UK: Cambridge University Press.

Clear, Todd R. 2007. *Imprisoning Communities: How Mass Incarceration Makes Disadvantaged Neighborhoods Worse*. Oxford, UK: Oxford University Press.

Collins, Patricia Hill. 2015. "Intersectionality's Definitional Dilemmas." Pp. 1-20 in Annual Review of Sociology, Vol. 41.

Cooley, Charles Horton. 1902. *Human Nature and the Social Order*. New York, NY: Scribner's.

Cooper, Marianne. 2014. *Cut Adrift: Families in Insecure Times*. Berkeley, CA: University of California Press.

Cooper, Marianne, and Allison J. Pugh. 2020. "Families Across the Income Spectrum: A Decade in Review," Pp. 272-299 in *Journal of Marriage and Family*, Vol. 82, No. 1.

Corrigan, Patrick W. 1998. "The Impact of Stigma on Severe Mental Illness." Pp. 201-222 in *Cognitive and Behavioral Practice*, Vol. 5, No. 2.

Corrigan, Patrick W., Amy C. Watson, Gabriela Garcia, Natalie Slopen, Kenneth Rasinski, and Laura L. Hall. 2005. "Newspaper Stories as Measures of Structural Stigma." Pp. 551-556 in *Psychiatric Services*, Vol. 56, No. 5.

Corrigan, Patrick W., and Nicolas Rusch. 2011. "Mental Illness Stereotypes and Clinical Care: Do People avoid Treatment because of Stigma?" Pp. 312-33 in *Psychiatric Rehabilitation Skills*, Vol. 6, No. 3.

Corrigan, Patrick W., Scott Morris, Jon Larson, Jennifer Rafacz, Abigail Wassel, Patrick Mihaels, Sandra Wilkniss, Karen Batia, and Nicholas Rusch. 2010. "Self-Stigma an Coming Out about One's Mental Illness." Pp. 259-275 in *Journal of Community Psychology*, Vol. 38, No. 3.

Couloute, Lucius. 2018. "Getting Back on Course: Educational Exclusion and Attainment among Formerly Incarcerated People." [online] Available at: https://www.prisonpolicy.org/reports/education.html [Accessed 13 November, 2023].

Cox, Jeff. 2020. "Jobless Claims Jump, Hitting Highest Level since Mid-August." [online] Available at: https://www.cnbc.com/2020/10/15/weekly-jobless-claims.html [accessed 30 May, 2024].

Cuellar, Alison Evans and Jehanzeb Cheema. 2012. "As Roughly 700,000 Prisoners are Released Annually, About Half will Gain Health Coverage and Care under Federal Laws." Pp. 931-938 in *Health Affairs*, Vol. 31, No. 5.

Currie, Elliott. 1998 [2013]. Crime and Punishment in America: A Revised and Updated Edition with a New Preface and Afterword. New York, NY: Picador.

Dahrendorf, Ralf. 1979. *Life Chances: Approaches to Social and Political Theory*. London, UK: Orion Publishing Group, Limited.

Datchi, Corinne C. and Julie R. Ancis, eds. 2017. *Gender, Psychology, and Justice: Mental Health of Women and Girls in the Legal System.* New York, NY: New York University Press.

Decker, Scott H, Cassia Spohn, Natalie R. Ortiz, and Eric Hedberg. 2014. *Criminal Stigma, Race, Gender, and Employment: An Expanded Assessment of the Consequences of Imprisonment for Employment*. Phoenix, AZ: Arizona State University School of Criminology and Criminal Justice.

Delaney, Ruth, Ram Subramanian, Alison Sharries, and Nicholas Turner. 2018. *Reimagining Prison*. Brooklyn, NY: Vera Institute.

Delisi, Matt, Michael G. Vaughn, Christopher P. Salas-Wright, and Wesley G. Jennings. 2015. "Drugged and Dangerous: Prevalence and Variants of Substance Abuse Comorbidity among Seriously Violent Offenders in the United States." Pp 232-248 in *Journal of Drug Issues*. Thousand Oaks, CA: Sage Publishing

Dembe, AE, JB Erickson, RG Delbos, and SM Banks. 2005. "The Impact of Overtime and Long Work Hours on Occupational Injuries and Illnesses: New Evidence from the United States." Pp. 588-597 in *Occupational and Environmental Medicine*, Vol. 62, No. 9.

Dennis, Deborah, Dazara Ware, and Henry J. Steadman. 2014. "Best Practices: Best Practices for Increasing Access to SSI and SSDI on Exit from Criminal Justice Settings. Pp. 1081-1083 in *Psychiatric Services*, Vol. 65, No. 9.

DePalma, Anthony. 2005. "Fifteen Years on the Bottom Rung." Pp. 111-133 in *Class Matters: Correspondents of the New York Times*. New York, NY: Times Books.

Durkheim, Emile. 1897 [1952]. Suicide: A Study in Sociology, Edited by George Simpson, Translated by John A. Spaulding & George Simpson. New York, NY: The Free Press.

Duwe, Grant. 2018. *The Effectiveness of Education and Employment Programming for Prisoners*. Washington, D.C.: American Enterprise Institute.

Easterlin, Richard A. 2003. Explaining Happiness. Pp. 11176-11183 in Proceedings of the National Academy of Sciences, Vol. 100, No. 19.

Ferner, Matt. 2015. "These Programs are Helping Prisoners Live Again on the Outside." [online] Available at: https://www.huffpost.com/entry/if-we-want-fewer-prisoners-we-need-more-compassion-when-they-re-enter-society_n_55ad61a5e4b0caf721b39cd1 [Accessed 12 October, 2023]

Finlay, Andrea K., Matthew Stimmel, Jessica Blue-Howells, Joel Rosenthal, Jim McGuire, Ingrid Binswanger, David Smelson, Alex H. S. Harris, Susan M. Frayne, Tom Bowe, and Christine Timko, 2017. "Use of Veterans Health Administration Mental Health and Substance Use Disorder Treatment after Exiting Prison: The Health Care for Reentry Veterans Program." Pp. 177-187 in *Administration and Policy in Mental and Mental Health Services Research*, Vol. 44.

Fosse, Nathan E. and Steven A. Haas. 2009. "Validity and Stability of Self-Reported Health Among Adolescents in a Longitudinal, Nationally Representative Survey." Pp. e496-501 in Pediatrics, Vol. 123, No. 3.

Foucault, Michel, 1961. *Folie et Déraison: Histoire de la Folie à l'âge Classique*. London, UK: Routledge.

Foucault, Michel. 1976 [1995]. Discipline and Punish: The History of the Prison. New York, NY: Vintage Press.

Fox, Aaron D., Matthew R. Anderson, Gary Bartlett, John Valverde, Joanna L. Starrels, and Chinazo O. Cunningham. 2014. "Health Outcomes and Retention in Care Following Release from Prison for Patients of an Urban Post-incarceration Transitions Clinic." Pp. 1139-1152 in *Journal of Health Care for the Poor and Underserved*, Vol. 25.

Franzini, Luisa, John C. Ribble, and Arlene M. Keddie. 2001. "Understanding the Hispanic Paradox." Pp. 496-518 in *Ethnicity & Disease*, Vol. 11, No. 3.

Freudenberg, Nicholas, Jessie Daniels, Martha Crum, Tiffany Derkins, and Beth E. Richie. 2005. "Coming Home from Jail: The Social and Health Consequences of Community Reentry for Women, Male Adolescents, and Their Families and Communities." Pp. 1725-1736 in *American Journal of Public Health*, Vol. 95, No. 10.

Furstenberg, Frank F. 2003. "Growing Up in American Society: Income, Opportunities, and Outcomes." In *Social Dynamics of the Life Course: Transitions, Institutions, and Interrelations*, edited by Walter R. Heinz and Victor W. Marshall, pp. 211-233. New York: Aldine de Gruyter.

Geller, Amanda and Mariah Curtis. 2011. "A Sort of Homecoming: Incarceration and the Housing Security of Urban Men." Pp. 1196-1213 in *Social Science Research*, Vol. 40, No. 4.

Giddens, Anthony. 1981. *The Class Structure of the Advanced Societies*, Second Edition. London, UK: Hutchinson University Library.

Giddens, Anthony. 2007. *Europe in the Global Age*. Cambridge, UK: Polity.

Goger, Annelies, David J. Harding, and Howard Henderson. 2021. "Rethinking Prisoner Reentry. Pp. 46-51 in *Contexts*, Vol. 20, No. 4.

Gottschalk, Marie. 2015. *Caught: The Prison State and the Lockdown of American Politics*. Princeton, NJ: Princeton University Press

Grodensky, Catherine A., David L. Rosen, Colleen M. Blue, Anna R. Miller, Steve Bradley-Bull, Wizdom A. Powell, Marisa E. Domino, Carol E Golin, and David A. Wohl. 2018. "Medicaid Enrollment among Prison Inmates in a Non-expansion State: Exploring Predisposing, Enabling, and Need Factors Related to Enrollment Pre-incarceration and Post-Release." Pp. 454-466 in *Urban Health*, Vol. 95.

Hairston, Creasie Finney. 1988. "Family Ties During Imprisonment: Do They Influence Future Criminal Activity? Pp. 48-52 in *Federal Probation, Vol. 52, No. 1.*

Hammett, Theodore, Marh Patricia Harmon, and Willia Rhodes. 2002. The Burden of Infectious Disease Among Inmates of and Releasees from U.S. Correctional Facilities, 1997. Pp. 1789-1794 in *American Journal of Public Health*, Vol. 92, No. 11.

Harker, Laura and Breanna Sharer. 2024. "Medicaid Expansion: Frequently Asked Questions." [online] Available at: https://www.cbpp.org/research/health/medicaid-expansion-frequently-asked-questions-0#:~:text=The%20Affordable%20Care%20Act%20(ACA,dramatically%20lowered%20their%20uninsured%20rates. [Accessed 21 May 21, 2024].

Healthcare.gov. N.D. "Health Coverage for Incarcerated People." [online] Available at: https://www.healthcare.gov/incarcerated-people/#:~:text=If%20you're%20in%20jail,or%20prison%20serving%20a%20sentence. [Accessed 23 October, 2023].

Hernstein, Richard J. and Charles Murray. 1994. *The Bell Curve: Intelligence and Class Structure in American Life.* New York, NY: The Free Press.

Hirschi, Travis. 1969 [2002]. Causes of Delinquency. Transaction Publishers: New Brunswick, NJ.

Holzer, Harry J., Steven Raphael, and Michael A. Stoll. 2003. "Perceived Criminality, Criminal Background Checks, and the Racial Hiring Practices of Employers. Pp. 451-480 in *Journal of Law and Economics*, Vol. XLIX.

Idler, Eric L., Stanislav V. Kasl, and Jon H. Lemke. 1990. Self-Evaluated Health and Mortality among the Elderly in New Haven, Connecticut, and Iowa and Washington Counties, Iowa, 1982-1986. Pp. 91-103 in American Journal of Epidemiology, Vol 131, No. 1.

Katzen, Amy L. 2011. "African American Men's Health and Incarceration: Access to Care upon Reentry and Eliminating Invisible Punishments." Pp. 221-252 in *Berkeley Journal of Gender, Law, and Justice*, Vol. 26, No. 2.

Keene, Danya E., Amy B. Smoyer, and Kim M. Blankenship. 2018. "Stigma, Housing and Identity After Prison." Pp. 799-815 in *The Sociological Review*, Vol. 66, No. 4.

Kim, Juliana. 2023. "Biden Signs a Bill to Fight Expensive Prison Phone Call Costs." [online] Available at: https://www.npr.org/2023/01/01/1146370950/prison-phone-call-cost-martha-wright-biden [Retrieved October 23, 2023].

Kirk, David S. and Sara Wakefield. 2018. Collateral Consequences of Punishment: A Critical Review and Path Forward. Pp. 171-194 in *Annual Review of Criminology*, Vol. 1.

Kochhar, Rakesh and Mohamad Moslimani. 2023. "Wealth Surged in the Pandemic, but Debt Endures for Poorer Black and Hispanic Families." [online] Available at: https://www.pewresearch.org/race-and-ethnicity/2023/12/04/wealth-surged-in-the-pandemic-but-debt-endures-for-poorer-black-and-hispanic-families/ [Retrieved 30 May 2024].

Konigsberg, Lyle W. 2015. "Multivariate Cumulative Probit for Age Estimation Using Ordinal Categorical Data." Pp. 366-376 in *Annals of Human Biology*, Vol 42, No. 4.

Konish, Lorie. 2019. "This is the Real Reason Most Americans File for Bankruptcy." [online] Available at: https://www.cnbc.com/2019/02/11/this-is-the-real-reason-most-americans-file-for-bankruptcy.html [Retrieved 30 May 2024].

Kouyoumdjian, Fiona G., Stephanie Y. Cheng, Kinwah Fung, Aaron M. Orkin, Kathryn E. McIsaac, Claire Kendall, Lori Kiefer, Flora I. Matheson, Samantha E. Green, and Stephen W. Hwang. 2018. "The Health Care Utilization of People in Prison and After Prison Release: A Population-Based Cohort Study in Ontario, Canada." Pp. 1-14 in *PLOS One*, Vol. 13, No. 8.

Kurbin, Charles E., Thomas D. Stucky, & Marvin D. Krohn. 2009. *Researching Theories of Crime and Deviance*. New York, NY: Oxford University Press.

Lareau, Annette. 2003. *Unequal Childhoods: Class, Race, and Family Life*. Berkeley, CA: University of California Press.

Lemert, Edwin M. 1951. *Social Pathology: A Systematic Approach to the Theory of Sociopathic Behavior.* New York, NY: McGraw Hill.

Lenoir, Rene. 1974. *Les exclus: un Français sur dix.* Paris, FR: Seuil.

Liberman, Akiva M., Davis S. Kirk, and Kideuk Kim. 2014. "Labeling Effects of First Juvenile Arrests: Secondary Deviance and Secondary Sanctioning. Pp. 345-370 in *Criminology*, Vol. 52, No. 3.

Link, Bruce G. 1987. "Understanding Labeling Effects in the Area of Mental Disorders: An Assessment of the Effects of Expectations of Rejection." Pp. 96-112 in *American Sociological Review,* Vol. 52, No. 1.

Link, Bruce G. and Jo C. Phelan. 2001. "Conceptualizing Stigma." Pp. 363-385 in *Annual Review of Sociology*, Vol. 27.

Link, Bruce G., Elmer L. Struening, Sheree Neese-Todd, Sara Asmussen, and Jo C. Phelan. 2001. "Stigma as a Barrier to Recovery: The Consequences of Stigma for the Self-Esteem of People with Mental Illness." Pp. 1621-1626 in *Psychiatric Services*, Vol. 52, No. 12.

Lo, Celia C, Tyrone C. Cheng, and Gaynell M. Simpson. 2015. "Marital Status and Work-Related Health Limitation: A Longitudinal Study of Young Adult and Middle-Aged Americans." Pp. 91-100 in *International Journal of Public Health*, Vol. 61, No. 1.

Long, J. Scott and Jeremy Freese. 2001 [2014]. *Regression Models for Categorical Dependent Variables using Stata*. College Station, TX: Stata Press.

Long, J. Scott and Sarah A. Mustillo. 2018. "Using Predictions and Marginal Effects to Compare Groups in Regression Models for Binary Outcomes." Pp. 1284-1320 in *Sociological Research*, Vol. 50, No. 3.

Looman, Mary D. and John D. Carl. 2015. A Country Called Prison: Mass Incarceration and the Making of a New Nation. New York, NY: Oxford University Press.

Lyon, Sarah M., Ivor S. Douglas, and Colin R. Cooke. 2014. "Medicaid Expansion under the Affordable Care Act: Implications for Insurance-related Disparities in Pulmonary, Critical Care, and Sleep." Pp. 661-667 in *Annual American Thoracic Society*, Vol. 11, No. 4.

MacLin, M. Kimberly, and Vivian Herrera. 2006. "The Criminal Stereotype." Pp. 197-208 in *North American Journal of Psychology*, Vol. 8, No. 2.

Madriz, Esther I. 1997. “Images of Criminals and Victims: A Study on Women’s Fear and Social Control.” Pp. 342-356 in *Gender & Society*, Vol. 11, No. 3.

Mallik-Kane, Kamala, and Christy A. Visher. 2008. *Health and Prisoner Reentry: How Physical, Mental, and Substance Abuse Conditions Shape the Process of Reintegration.* Washington, DC: Urban institute Justice Policy Center.

Markides, Kyriakos S. and Jeannine Coreil. 1986. “The Health Consequences of Hispanics in the Southwestern United States: An Epidemiologic Paradox. Pp. 253-265 in *Public Health Report*, Vol. 101, No. 3.

Markides, Kyriakos S. and Karl Eschbach. 2005. “Aging, Migration, and Mortality: Current Status of Research on the Hispanic Paradox.” Pp. S568-S75 in *The Journals of Gerontology: Series B*, Vol. 60, Special Issue No. 2.

Markowitz, Fred E. 1998. “The Effects of Stigma on the Psychological Well-Being and Life Satisfaction of Persons with Mental Illness.” Pp. 335-347 in *Journal of Health and Social Behavior*, Vol, 39, No. 4.

Marks, James S. and Nicholas Turner. 2014. “The Critical Link between Health Care and Jails.” Pp. 443-447 in *Health Affairs*, Vol. 33, No. 3.

Martin, Eric. 2017. “Hidden Consequences: The Impact of Incarceration on Dependent Children.” [online] Available at: https://nij.ojp.gov/topics/articles/hidden-consequences-impact-incarceration-dependent-children [Accessed 23 March, 2024].

Maruschak, Laura M., Jennifer Bronson, and Mariel Alper. 2021. “Medical Problems Reported by Prisoners.” Pp. 1-12 in *Bureau of Justice Statistics*, U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics: NCJ 252644.

Maslow, Abraham H. 1943. “A Theory of Human Motivation.” Pp. 370-396 in *Psychological Review*, Vol. 50.

Maslow, Abraham H. 1954. *Motivation and Personality*. New York, NY: Harper & Row Publishers.

Massoglia, Michael. 2008a. “Incarceration, Health, and Racial Disparities in Health.” Pp. 275-307 in *Law & Society Review*, Vol. 42, No. 2.

Massoglia, Michael. 2008b. “Incarceration as Exposure: The Prison, Infectious Disease, and other Stress-Related Illnesses.” Pp. 56-71 in *Journal of Health and Social Behavior*, Vol. 49, No. 1.

Massogolia, Michael, and William Alex Pridemore. 2015. “Incarceration and Health.” Pp. 291-310 in *Annual Review of Sociology*, Vol. 41, No. 1.

Massoglia, Michael, Paul-Philippe Pare, Jason Schnittker, and Alain Gagnon. 2014. "The Relationship between Incarceration and Premature Adult Mortality: Gender Specific Evidence." Pp. 142-154 in *Social Science Research*, Vol. 46, No. 1.

Matilla, Mikko, Peter Söderlund, Hanna Wass, and Lauri Rapeli. 2013. "Healthy Voting: The Effect of Self-Reported Health on Turnout in 30 Countries." Pp. 886-891 in Electoral Studies, Vol. 32, No. 4.

Mauer, Marc. 1999. *Race to Incarcerate: The Sentencing Project*. New York, NY: The New Press.

Mauer, Marc. 2005. "Thinking about Prison and its Impact in the Twenty-First Century." Pp. 606-618 in *Ohio State Journal of Criminal Law*, Vol. 2, No. 2.

McAuley, Erin and Leah Samples. 2017. "Navigating the Disability Determination Process from the Perspective of Incarcerated Adults with Serious Mental Illnesses." Pp. 905-915 in *Community Mental Health Journal*, Vol. 53, No. 8.

McCullough, Jolie. 2018. "Texas Prisons Dramatically Cuts Cost of Inmate Phone Calls." [online] Available at: https://www.texastribune.org/2018/08/24/texas-prison-system-dramatically-cuts-cost-inmate-phone-calls/ [Accessed 12 October, 2023].

McGee, Daniel Lee, Youlian Liao, Guichan Cao, and Richard S. Cooper. 1999. "Self-Reported Health Status and Mortality in a Multiethnic U.S. Cohort. Pp. 41-46 in American Journal of Epidemiology, Vol. 149. No. 1.

Merton, Robert K. 1938. "Social Structure and Anomie." Pp. 672-682 in American Sociological Review, Vol. 3, No. 5.

Merton, Robert. K. 1968. "The Matthew Effect in Science." Pp. 56-63 in *Science*, Vol. 159, No. 3810.

Merton, Robert K. 1988. "The Matthew Effect in Science, II: Cumulative Advantage and the Symbolism of Intellectual Property." Pp. 606-623 in *Isis*, Vol. 79, No. 4.

Moore, Kelly, Jeffrey Stuewig, and June Tangney. 2013. "Jail Inmates' Perceived and Anticipated Stigma: Implications for Post-release Functioning. Pp. 527-547 in *Self Identity*, Vol. 12, No. 5.

Mowen, Thomas J., John H. Bowman IV, and Kimberly Schweitzer. 2020. "Strain and Depression following Release from Prison: The Moderating Role of Social Support Mechanisms on Substance Use." Pp 750-764 in *Deviant Behavior*, Vol. 41, No. 6.

Mustillo, Sarah A., Omar A. Lizardo, and Rory M. McVeigh. 2018. "Editor's Comment: A Few Guidelines for Quantitative Submissions." Pp. 1281-1283 in *American Sociological Review,* Vol. 83, No. 6.

Mykyta, Laryssa, Katherine Keisler-Starkey and Lisa Bunch. 2022. "More Children were Covered by Medicaid and CHIP in 2021." [online] available at: https://www.census.gov/library/stories/2022/09/uninsured-rate-of-children-declines.html [accessed 12 Dec, 2023].

Nagin, Daniel and Ray Paternoster. 2000. "Population Heterogeneity and State Dependence: State of the Evidence and Directions for Future Research." Pp. 117-144 in *Journal of Quantitative Criminology*, Vol. 16, No. 2.

Nally, John M., Susan Lockwood, Taiping Ho, and Katie Knutson. 2014. "Post-Release Recidivism and Employment among Different Types of Released Offenders: A 5-Year Follow-up Study in the United States. Pp. 16-34 in *International Journal of Criminal Justice Sciences*, Vol. 9, No. 1.

National Center for Health Statistics. 2024. "U.S. Overdose Deaths Decrease in 2023, First Time Since 2018." [online] Available at: https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2024/20240515.htm#:~:text=The%20new%20data%20show%20overdose,psychostimulants%20(like%20methamphetamine)%20increased. [accessed 18 June 2024].

Nolbitt, Randy and Pamela Perskin Nolbitt. 2010. "Psychologists and the Economics of Social Security Disability Programs. Pp. 274-279 in *Processional Psychology: Research and Practice*, Vol. 41, No. 3.

Ositelu, Monique O. 2019. "Equipping Individuals for Life Beyond Bars: The Promise of Higher Education & Job Training in Losing the Gap in Skills for Incarcerated Adults." [online] available at: https://www.newamerica.org/education-policy/reports/equipping-individuals-life-beyond-bars/results/ [accessed 26 May, 2024].

Pager, Devah, 2003. "The Mark of a Criminal." Pp 937-975 in *American Journal of Sociology*, Vol. 108, No. 5.

Pager, Devah. 2007. *Marked: Race, Crime, and Finding Work in an Era of Mass Incarceration*. Chicago IL, University of Chicago Press.

Palloni, Alberto and Jeffrey D. Morenoff. 2006. "Interpreting the Paradoxical in the Hispanic Paradox." Pp. 140-174 in *Annals of the New York Academy of Sciences*, Vol. 954, No. 1.

Perlick, Deborah A., David J. Miklowitz, Bruce G. Link, Elmer Struening, Richard Kaczynski, Jodi Gonzalez, Lauren N. Manning, Nancy Wolff, and Robert a Rosenheck. 2007. "Perceived Stigma and Depression among Caregivers of Patients with Bipolar Disorder." Pp. 535-536 in *British Journal of Psychiatry*, Vol. 190.

Peters, Michael A, and Tina A.C. Beasley. 2014. "Social Exclusion/Inclusion: Foucault's Analytics of Exclusion, the Political Ecology of Social Inclusion and Legitimation of Inclusive Education." Pp. 99-115 in *Open Review of Educational Research,* Vol, 1, No. 1.

Phelan, Jo C., and Bruce G. Link. 2015. "Is Racism a Fundamental Cause of Inequalities in Health?" Pp. 311-330 in *Annual Review of Sociology,* Vol 41.

Prince, Pamela N., and Christopher R. Prince. "Perceived Stigma and Community Integration among Clients of Assertive Community Treatment." Pp. 323-331 in *Psychiatric Rehabilitation Journal,* Vol. 25, No. 4.

Quinn, Diane M. and Stephenie R. Chaudoir. 2009. "Living with a Concealable Stigmatized Identity: The Impact of Anticipated Stigma, Centrality, Salience, and Cultural Stigma on Psychological Distress and Health. Pp. 634-651 in *The Journal of Personality and Social Psychology*, Vol. 97, No. 4.

Quinones, Sam. 2015. *Dreamland: The True Tale of America's Opiate Epidemic*. New York, NY: Bloomsbury Press.

Rayasam, Renuka. 2023. "Reentry Programs to Help Former Prisoners Obtain Health Care Are Often Underused." [online] Available at: https://kffhealthnews.org/news/article/prison-reentry-programs-former-inmates-health-care/ [Accessed 11 March, 2024].

Ritsher, Jennifer Boyd, Poorni G. Otilingam, and Monica Grajales. 2003. "Internalized Stigma of Mental Illness: Psychometric Properties of a New Measure." Pp. 31-49 *in Psychiatry Research,* Vol. 121, No. 1.

Ross, Catherine E, and Chia-ling Wu. 1995. "The Links Between Education and Health." Pp. 719-745 in *American Sociological Review,* Vol. 60, No. 5.

Sakomoto, Arthur and Changhwan Kim. 2010. "Is Rising Earnings Inequality Associated With Increased Exploitation? Evidence for U.S. Manufacturing Industries, 1971-1996." Pp. 19-43 in *Sociological Perspectives*, Vol. 53, No. 1.

Sampson, Robert J. and John H. Laub. 1993. *Crime in the Making: Pathways and Turning Points through Life.* Cambridge, MA: Harvard University Press.

Sampson, Robert J., Jeffrey D. Morenoff, and Felton Earls. 1999. "Beyond Social Capital: Spatial Dynamics of Collective Efficacy for Children." Pp. 633-660 in *American Sociological Review,* Vol. 64, No. 5.8

Schlanger, Margo. 2013. "Plata v. Brown and Realignment: Jails, Prisons, Courts, and Politics." Pp. 165-215 in *Harvard Civil Rights-Civil Liberties Law Review,* Vol. 48, No. 1.

Schlanger, Margo. 2017. “Prisoners with Disabilities.” Pp. 295-323 in *Reforming Criminal Justice: Punishment, Incarceration, and Release*, Edited by E. Luna. Phoenix, AZ: Academy for Justice.

Schnittker, Jason and Andrea John. 2007. “Enduring Stigma: The Long-Term Effects of Incarceration on Health.” Pp. 115-130 in *Journal of Health and Social Behavior*, Vol. 48, No. 6.

Schnittker, Jason, Christopher Uggen, Sarah K.S. Shannon, and Suzy Maves McElrath. 2015. “The Institutional Effects of Incarceration: Spillovers from Criminal Justice to Health Care.” Pp. 516-560 in *The Milbank Quarterly*, Vol. 93, No. 3.

Sered, Susan and Rushika Fernandopulle. 2005. *Uninsured in America: Life and Death in The Land of Opportunity*. Los Angeles, CA: University of California Press.

Severson, Margaret, Judy L. Postmus, and Marianne Berry. 2009. “Women’s Experiences of Victimization and Survival.” Pp. 145-167 in *Journal of Sociology and Social Welfare*, Vol. 36, No. 2.

Sharp, Susan F. 2014. *Mean Lives, Mean Laws: Oklahoma’s Women Prisoners*. Rutgers University Press: New Brunswick, NJ.

Shavit, Shira, Jenerius A. Aminawung, Nathan Birnbaum, Scott Greenberg, Timothy Berthold, Amie Fishman, Susan H. Busch, and Emily A. Wang. 2017. “Transitions Clinic Network: Challenges and Lessons in Primary Care for People Released from Prison.” Pp. 1006-1015 in *Health Affairs*, Vol. 36, No. 6.

Smith, James P. 1999. “Healthy Bodies and Thick Wallets: The Dual Relation between Health and Economic Status.” Pp. 145-166 in Journal of Economic Perspectives, Vol. 13, No. 2.

Standing, Guy. 2011. *The Precariat: The New Dangerous Class*. London, UK: Bloomsbury Academic.

Teachman, Jay. 2010. “Work-Related Health Limitations, Education, and the Risk of Marital Disruption. Pp. 919-932 in *Journal of Marriage and Family*, Vol. 72, No. 4.

Testa, Alexander and Dylan B. Jackson. 2019. “Food Insecurity among Formerly Incarcerated Adults.” Pp. 1493-1511 in *Criminal Justice and Behavior*, Vol 46, No. 10.

Thompson, Anthony C. 2004. “Navigating the Hidden Obstacles of Ex-Offender Reentry. Pp. 255-306 in *Boston College Law Review*, Nol. 45, No. 2.

Toby, Jackson, 1957. “Social Disorganization and Stake in Conformity. Complimentary Factors in the Predatory Behavior of Hoodlums.” Pp. 12-17 in *Journal of Criminal Law & Criminology*, Vol. 48, No. 1.

Travis, Jeremy, Elizabeth Cincotta McBride, and Amy L. Solomon. 2005. "Families Left Behind: The Hidden Costs of Incarceration and Reentry." Pp. 1-12 in *Urban Institute Justice Policy Center,* Report number CPR03 0105.

U.C.L.A. Advanced Research Computing, Statistical Methods and Data Analytics. N.d. "Ordered Logistic Regression: Stata Annotated Output." [online] Available at: https://stats.oarc.ucla.edu/stata/output/ordered-logistic-regression/ [Accessed 13 June 2024].

Unruh, Deanne K., Jeff M. Gau, and Miriam G. Waintrup. 2009. "An exploration of factors reducing recidivism rates of formerly incarcerated youth with disabilities participating in a re-entry intervention." Pp. 2840283 in *Journal of Child and Family Studies*, Vol. 18.

Vacak, Valerio, Lars H. Andersen, & Jason Schnittker. 2019. "The Effect of Timing of Incarceration on Metal Health: Evidence from a Natural Experiment." Pp 303-328 in Social Forces, Vol. 98, No. 1.

Vail, William Lee, Anjali Niyogi, Norris Henderson, and Ashley Wennerstrom. 2017. "Bringing it all Back Home: Understanding the Medical Difficulties Encountered by Newly Released Prisoners in New Orleans, LA – a Qualitative Study." Pp. 1448-1548 in *Health and Social Care in the Community*, Vol. 25, No. 4.

Visher Christy, Nancy LaVigne, and Jeremy Travis. 2004. *Returning Home: Understanding the Challenges of Prisoner Reentry*. Washington, DC: Urban institute Justice Policy Center.

Wang, Emily A., Nicole Redmond, Cheryl R. Dennison Hammelfarb, Becky Pettit, Marc Stern, Jue Chen, Susan Shero, Erin Iturriaga, Paul Sorlie, and Ana V. Diez Roux. 2017. "Cardiovascular Disease in Incarcerated Populations." Pp. 2967-2976 in *Journals of the American College of Cardiology,* Vol. 69, No. 24.

Wang, Leah and Wanda Bertram. 2022. "New Data on Formerly Incarcerated People's Employ Reveal Labor Market Injustices." [online] available at: https://www.prisonpolicy.org/blog/2022/02/08/employment/ [Accessed 13 November, 2023].

Weber, Max. 1920 [1964]. The Theory of *Social and Economic Organization*, Edited by Talcott Parsons. The Free Press: New York, NY.

Welch, Michael. 2011. "Counterveillance: How Foucault and the Groupe d'Information sur les Prisons reversed the optics." Pp. 301-313 in *Theoretical Criminology*, Vol. 15, No. 3.

Western, Bruce. 2018. *Homeward: Life in the Year after Prison*. Russell Sage Foundation: New York, NY.

Westervelt, Saundra D. and Kimberly J. Cook. 2012. *Life after Death Row: Exonerees' Search for Community and Identity*. Rutgers University Press: New Brunswick, NJ.

Williams, William Huw, Giray Cordan, Avril J. Mewse, James Tonks, and Crispin N.W. Burgess. 2010. Self-Reported Traumatic Brain Injury in Male Young Offenders: A Risk Factor for Re-Offending, Poor Mental Health, and Violence?" Pp. 801-812 in *Neuropsychological Rehabilitation*, Vol. 20, No. 6.

Wilper, Andrew P, Steffie Woolhandler, J. Wesley Boyd, Karen E. Lasser, Danny McCormick, David H. Bor, and David U. Himmelstein. 2009. "The Health and Health Care of U.S. Prisoners: The Results of a Nationwide Survey." Pp. 666-672 in *American Journal of Public Health*, Vol. 99, No. 4.

Winkelman, Tyler N.A., Hwajung Choi, and Matthew M. Davis. 2017. "The Affordable Care Act, Insurance Coverage, and Health Care Utilization of Previously Incarcerated Young Men: 2008-2015." Pp. 807-811 in *American Journal of Public Health,* Vol. 107, No. 5.

Wolfe, David A. 1999. *Child Abuse: Implications for Child Development and Psychopathology*. Thousand Oaks, CA: Sage Publications.

Yörük, Bariş. 2014. "Does Giving to Charity Lead to Better Health? Evidence from Tax Subsidies for Charitable Giving." Pp. 71-83 in Journal of Economic Psychology, Vol. 45.

Yörük, Bariş. 2016. "Health Insurance Coverage and Self-Reported Health: New Estimates from the NLSY97. Pp. 285-195 in International Journal of Health and Economic Management, Vol. 16, No. 3.

Zhou, Jingxuan, Xuesong Han, Zhiyuan Zheng, Qinjin Fan, Kewei Shi, Stacey Fedewa, K. Robin Yabroff, and Leticia Nogueria. 2023. "Incarceration History and Health Insurance and Coverage Changes in the U.S." Pp. 334-342 in *American Journal of Preventative Medicine*, Vol. 64, No. 3.

Appendix A: Measures and Full Tables for Chapter 2

Table 2.1. Chapter 2 Descriptive Statistics

	Frequency	Percent
Self-Reported Health		
Excellent (Ref)	1,270	21.70
Very Good	2,113	36.10
Good	1,823	31.15
Fair / Poor	647	11.05
Ever Incarcerated?		
Not Incarcerated (Ref)	5,263	89.92
Incarcerated	590	10.08
Times Incarcerated		
Not Incarcerated	5,263	89.92
Once	331	5.66
Two or more	259	4.43
Ever Arrested?		
No (Ref)	3,775	64.50
Yes	2,078	35.50
Race		
White (Ref)	3,062	52.32
African American	1,563	26.70
Hispanic	1,228	20.98
Respondent Sex		
Female (Ref)	3,057	52.23
Male	2,796	47.77
Health Insurance?		
Insured (Ref)	4,770	81.50
Uninsured	1,083	18.50
Description of Financial Condition		
Comfortable (Ref)	3,733	63.78
Some Difficulty	1,242	21.22
Difficult	697	11.91
Very Difficult	181	3.09

Table 2.1. Chapter 2 Descriptive Statistics (continued)

	Frequency	Percent
Education		
Master's/Professional (Ref)	642	10.97
Bachelor's	17	21.94
Some College	727	12.42
High School	2,741	46.86
Less than High School	459	7.84
Employment		
Employed (Ref)	4,400	75.18
Not Employed	1,453	24.82
Marital Status		
Married (Ref)	2,752	47.02
Never Married	2,377	40.61
Previously Married	724	12.37
Observations	5,853	

Source: NLSY97, Round 18 (2017)

Table 2.2 Ordered Logistic Regressions--Ever Incarcerated Predicting Worse Health Outcomes

	Model 1: Main Effects			Model 2: Demographic Background			Model 3: Social Inclusion		
	B	OR	*SE*	β	OR	*SE*	β	OR	*SE*
Ever Incarcerated? (R=No)									
Incarcerated	0.21*	1.24	0.08	0.28***	1.31	0.08	-0.21*	0.81	0.02
Race (R=White)									
Black				0.15**	1.16	0.06	-0.02	0.98	0.06
Hispanic				0.33***	1.39	0.06	0.25***	1.28	0.05
Respondent Sex (R=Female)									
Male				-0.24***	0.79	0.05	-0.18***	0.84	0.05
Health Ins. (R=Insured)									
Uninsured							-0.23***	0.79	0.07
Marital Status (R=Married)									
Never Married							0.15**	1.56	0.06
Previously Married							0.14	1.15	0.09
Education (R=Master's/Professional)									
Bachelor's							0.04	1.03	0.09
Some College							0.32**	1.37	0.1
High School							0.49***	1.64	0.08
Less than HS							0.76***	2.16	0.12
Employment (R=Employed)									
Not Employed							0.26***	1.29	0.06
Financial Condition (R=Comfortable)									
Some Difficulty							0.69***	2.00	0.06
Difficult							0.99***	2.67	0.08
Very Difficult							1.64***	5.16	0.15
Cut 1	-1.26***		0.03	-1.27*		0.30	-0.70		0.08
Cut 2	0.33***		0.03	0.33**		0.30	1.00***		0.08
Cut 3	2.11***		0.04	2.12***		0.31	2.91***		0.09
Observations	5,853			5,853			5,853		

Source: NLSY97, Round 18 (2017)

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

R=Reference; OR=Odds Ratio; *SE*=Standard Errors

Table 2.3. Ordered Logistic Regressions -- Times Incarcerated Predicting Worse Health

	Model 4: Main Effects Model			Model 5: Demographic Background			Model 6: Social Inclusion Variables		
	β	OR	*SE*	β	OR	*SE*	β	OR	*SE*
Times Incarcerated (R=None)									
Once	0.34**	1.42	0.11	0.41***	1.50	0.11	-0.02	0.98	0.11
Twice +	0.04	1.04	0.12	0.12	1.12	0.12	-0.45***	0.64	0.13
Race (R=White)									
Black				0.15**	1.16	0.06	-0.02	0.98	0.06
Hispanic				0.33***	1.39	0.06	0.25***	1.28	0.06
Respondent Sex (R=Female)									
Male				-0.24***	0.79	0.05	-0.17***	0.84	0.05
Health Ins. (R=Insured)									
Uninsured							-0.23***	0.79	0.07
Marital Status (R=Married)									
Never Married							0.16**	1.16	0.06
Previously Married							0.14	1.15	0.08
Education (R=Master's/Professional)									
Bachelor's							0.04	1.04	0.09
Some College							0.31**	1.36	0.10
High School							0.49***	1.64	0.08
Less than HS							0.77***	2.17	0.12
Employment (R=Employed)									
Not Employed							0.26***	1.30	0.06
Financial Condition (R=Comfortable)									
Some Difficulty							0.69***	2.00	0.06
Difficult							1.00***	2.72	0.08
Very Difficult							1.64***	5.17	0.15
Cut 1	-1.27***		0.03	0.01		0.60	0.49		0.62
Cut 2	0.33***		0.03	1.62***		0.61	2.19***		0.62
Cut 3	2.11***		0.04	3.41***		0.61	4.11***		0.62
Observations	5,853			5,853			5,853		

Source: NLSY97, Round 18 (2017)

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

R=Reference; OR=Odds Ratio; *SE*=Standard Errors

Table 2.4 Ordered Logistic Regressions -- Ever Arrested Predicting Worse Health

	Model 7: Main Effects			Model 8: Demographic Background			Model 9: Social Inclusion		
	β	OR	*SE*	β	OR	*SE*	β	OR	*SE*
Ever Arrested? (R=No)									
Arrested	0.30***	1.34	0.05	0.36***	1.43	0.05	0.06	1.06	0.06
Race (R=White)									
Black				0.14*	1.15	0.06	-0.02	0.98	0.06
Hispanic				0.32***	1.39	0.06	0.25***	1.29	0.06
Respondent Sex (R=Female)									
Male				-0.30***	0.74	0.05	-0.21***	0.81	0.05
Health Ins. (R=Insured)									
Uninsured							-0.26***	0.77	0.07
Marital Status (R=Married)									
Never Married							0.14*	1.14	0.06
Previously Married							0.12	1.13	0.08
Education (R=Master's/Professional)									
Bachelor's							0.04	1.04	0.09
Some College							0.30**	1.36	0.10
High School							0.47***	1.59	0.08
Less than HS							0.72***	2.05	0.12
Employment (R=Employed)									
Not Employed							0.25***	1.28	0.06
Financial Condition (R=Comfortable)									
Some Difficulty							0.69***	1.99	0.06
Difficult							0.97***	2.63	0.08
Very Difficult							1.59***	4.91	0.15
Cut 1	-1.18***		0.04	-1.21***		0.05	-0.71***		0.08
Cut 2	0.42***		0.03	0.40***		0.04	0.98***		0.08
Cut 3	2.19***		0.05	2.20***		0.06	2.90***		0.09
Observations	5,853			5,853			5,853		

Source: NLSY97, Round 18 (2017)

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

R=Reference; OR=Odds Ratio; *SE*=Standard Errors

Appendix B: Measures and Full Tables for Chapter 3

Table 3.1. Chapter 3 Descriptive Statistics

	Frequency	Percent
Health Affect Work?		
No (Ref)	5,444	93.01
Yes	409	6.99
Ever Incarcerated?		
Not Incarcerated (Ref)	5,263	89.92
Incarcerated	590	10.08
Times Incarcerated		
Not Incarcerated	5,263	89.92
Once	331	5.66
Two or More	259	4.43
Ever Arrested?		
No (Ref)	3,775	64.50
Yes	2,078	35.50
Race		
White (Ref)	3,062	52.32
African American	1,563	26.70
Hispanic	1,228	20.98
Respondent Sex		
Female (Ref)	3,057	52.23
Male	2,796	47.77
Health Insurance?		
Insured (Ref)	4,770	81.50
Uninsured	1,083	18.50
Description of Financial Condition		
Comfortable (Ref)	3,733	63.78
Some Difficulty	1,242	21.22
Difficult	697	11.91
Very Difficult	181	3.09

Table 3.1. Chapter 3 Descriptive Statistics (continued)

	Frequency	Percent
Education		
Master's/Professional (Ref)	642	10.97
Bachelor's	17	21.94
Some College	727	12.42
High School	2,741	46.86
Less than High School	459	7.84
Employment		
Employed (Ref)	4,400	75.18
Not Employed	1,453	24.82
Marital Status		
Married (Ref)	2,752	47.02
Never Married	2,377	40.61
Previously Married	724	12.37
Observations	5,853	

Source: NLSY97, Round 18 (2017)

Table 3.2 Logit Regressions--Incarceration Affecting the Ability to Work

	Model 1: Main Effects			Model 2: Demographic Background			Model 3: Social Inclusion		
	β	OR	*SE*	β	OR	*SE*	β	OR	*SE*
Ever Incarcerated? (R=No)									
Incarcerated	0.80***	2.23	0.13	0.95***	2.59	0.14	0.15	1.16	0.16
Race (R=White)									
Black				0.22	1.24	0.12	-0.03	0.97	0.14
Hispanic				0.03	1.02	0.14	-0.18	0.84	0.15
Respondent Sex (R=Female)									
Male				-0.50***	0.61	0.11	-0.22***	0.80	0.12
Health Ins. (R=Insured)									
Uninsured							1.10	0.33	0.16
Marital Status (R=Married)									
Never Married							0.32*	1.37	0.13
Previously Married							0.36*	1.43	0.18
Education (R=Master's/Professional)									
Bachelor's							-0.15	0.86	0.32
Some College							0.33	1.39	0.32
High School							0.68*	1.99	0.29
Less than HS							1.10***	3.00	0.32
Employment (R=Employed)									
Not Employed							2.09***	8.05	0.12
Financial Condition (R=Comfortable)									
Some Difficulty							0.84***	2.13	0.14
Difficult							1.33***	3.77	0.15
Very Difficult							1.72***	5.89	0.22
Constant	-2.70***		0.06	-2.57***		0.09	-4.51***	4.51	0.29
Observations	5,853			5,853			5,853		

Source: NLSY97, Round 18 (2017)

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

R=Reference; OR=Odds Ratio; *SE*=Standard Errors

Table 3.3 Logit Regressions-- Number of Incarcerations Affecting the Ability to Work

	Model 4: Main Effects Model			Model 5: Demographic Background			Model 6: Social Inclusion Variables		
	β	OR	*SE*	β	OR	*SE*	β	OR	*SE*
Number of Incarcerations (R=None)									
One	0.85***	2.34	0.17	0.98***	2.68	0.17	0.25	1.29	0.20
Twice or More	0.74***	2.09	0.20	0.91***	2.48	0.20	0.02	1.02	0.23
Race (R=White)									
Black				0.22	1.24	0.12	-0.03	0.97	0.14
Hispanic				0.03	1.03	0.14	-0.18	0.83	0.15
Respondent Sex (R=Female)									
Male				-0.50***	0.61	0.11	-0.22	0.8	0.12
Health Ins. (R=Insured)									
Uninsured							-1.09***	0.34	0.16
Marital Status (R=Married)									
Never Married							0.32*	1.37	0.13
Previously Married							0.36*	1.44	0.18
Education (R=Master's/Professional)									
Bachelor's							-0.15	0.86	0.32
Some College							0.33	1.40	0.32
High School							0.68*	1.98	0.29
Less than High School							1.10***	3.01	0.32
Employment (R=Employed)									
Not Employed							2.09***	8.06	0.12
Financial Condition (R=Comfortable)									
Some Difficulty							0.84***	2.32	0.14
Difficult							1.33***	3.77	0.15
Very Difficult							1.73***	5.62	0.22
Constant	-2.70***		0.06	-2.57***		0.09	-4.51***		0.29
Observations	5,853			5,853			5,853		

Source: NLSY97, Round 18 (2017)

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

R=Reference; OR=Odds Ratio; *SE*=Standard Errors

Table 3.4 Logit Regressions -- Arrests Affecting the Ability to Work

	Model 7: Main Effects			Model 8: Demographic Background			Model 9: Social Inclusion		
	β	OR	*SE*	β	OR	*SE*	β	OR	*SE*
Ever Arrested? (R=No)									
Arrested	0.67***	1.96	0.10	0.81***	2.24	0.11	0.28*	1.33	0.12
Race (R=White)									
Black				0.22	1.25	0.12	-0.02	0.98	0.14
Hispanic				0.02	1.02	0.14	-0.17	0.85	0.15
Respondent Sex (R=Female)									
Male				-0.55***	0.58	0.11	-0.26*	0.77	0.12
Health Ins. (R=Insured)									
Uninsured							-1.11***	0.32	0.16
Marital Status (R=Married)									
Never Married							0.30*	1.35	0.13
Previously Married							0.33	1.39	0.18
Education (R=Master's/Professional)									
Bachelor's							-0.16	0.85	0.32
Some College							0.31	1.35	0.32
High School							0.63*	1.88	0.29
Less than High School							1.02**	2.78	0.32
Employment (R=Employed)									
Not Employed							2.09***	8.09	0.12
Financial Condition (R=Comfortable)									
Some Difficulty							0.83***	2.29	0.15
Difficult							1.31***	3.70	0.15
Very Difficult							1.68***	5.38	0.22
Constant	-2.87***			-2.76***		0.09	-4.54***		0.29
Observations	5,853			5,853			5,853		

Source: NLSY97, Round 18 (2017)

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

R=Reference; OR=Odds Ratio; *SE*=Standard Errors

Appendix C: Measures and Tables for Chapter 4

Table 4.1. Chapter 4 Descriptive Statistics

	Frequency	Percent
Illicit substance use last 12 months		
No (R)	35,996	80.95
Yes	8,473	19.05
Arrested last 12 months		
Arrested		
Paroled last 12 months		
Paroled		
Opioid misuse last 12 months		
No (R)	44,992	96.68
Yes	1,477	3.32
Respondent Sex		
Females (R)	24,806	55.78
Males	19,663	44.22
Race/Ethnicity		
White (R)	27,037	60.80
African American	5,074	11.41
Hispanic	7,563	17.01
Other	4,795	10.78
Age		
18-25 (R)	13,439	30.22
26-34	9,063	20.38
35-49	11,893	26.74
50-64	5,102	11.47
65+	4,972	11.18
Health Insurance		
Insured (R)	40,131	90.24
Uninsured	4,338	9.76
Marital Status		
Married (R)	18,559	41.73
Previously Married	5,634	12.67
Never been Married	20,276	45.60
Education		
Less than HS (R)	4,418	9.94
High School / GED	11,222	25.24
Some College / Associate's	13,252	29.80
College Grad or Higher	15,577	35.03
Employment Status		
Full-Time (R)	22,307	50.16
Part-Time	6,674	15.01
Unemployed	2,328	5.24
Not Employed	13,160	29.59
Income		
> $20K (R)	7,572	17.03
$20K-50K	11,917	26.80
$50K-75K	6,528	14.68
$75k+	18,452	41.49
Observations	44,469	

R=reference

Table 4.2 Logit Regressions – Paroled in Last 12 Months Predicting Illicit Substance Use Last 12 Months

	Model 1: Main Effects			Model 2: Demographic Background			Model 3: Social Inclusion		
	β	OR	*SE*	β	OR	*SE*	β	OR	*SE*
Paroled Last 12 Months (R=No)									
Yes	1.53***	4.63	0.12	1.51***	4.51	0.13	1.38***	3.96	0.13
Race (R=White)									
African American				-0.93***	0.40	0.05	-1.12***	0.33	0.05
Hispanic				-0.54***	0.58	0.04	-0.59***	0.55	0.04
Other				-0.37***	0.69	0.04	-0.40***	0.67	0.04
Respondent Sex (R=Female)									
Male				0.35***	1.42	0.03	0.36***	1.44	0.03
Age (R=18-25)									
26-34				0.37***	1.45	0.04	0.61***	1.83	0.04
35-49				0.38***	1.46	0.03	0.76***	2.13	0.04
50-64				0.17***	1.18	0.04	0.57***	1.77	0.05
65 and older				-0.46***	0.63	0.05	0.03	1.03	0.06
Health Ins. (R=Insured)									
Uninsured							0.00	1.00	0.04
Marital Status (R=Married)									
Never Married							0.52***	1.67	0.04
Previously Married							0.60***	1.82	0.03
Education (R=Less than High School)									
High School							0.06	1.05	0.05
Some College or Associate's							0.34***	1.40	0.05
College Graduate or Higher							0.08	1.00	0.05
Employment (R=Employed)									
Part-Time							-0.01	0.99	0.04
Unemployed							0.15*	1.16	0.06
Not Employed							-0.24***	0.79	0.03
Income (R=Less than $20,000)									
$20,000-$49,999							-0.086*	0.92	0.04
$50,000-$74,999							-0.22***	0.80	0.05
$75,000 or more							-0.26***	0.77	0.04
Constant	-1.46***		0.01	-1.58***		0.03	-2.09***		0.07
Observations	44,469			44,469			44,469		

Source: NSDUH, 2022

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

R=Reference; OR=Odds Ratio; *SE*=Standard Errors

Table 4.3 Logit Regressions – Arrested in Last 12 Months Predicting Illicit Substance Use Last 12 Months

	Model 4: Main Effects			Model 5: Demographic Background			Model 6: Social Inclusion		
	β	OR	*SE*	β	OR	*SE*	β	OR	*SE*
Arrested Last 12 Months (R=No)									
Yes	1.67***	5.30	0.03	1.64***	5.16	0.03	1.61***	4.99	0.03
Race (R=White)									
African American				-1.06***	0.35	0.05	-1.16***	0.31	0.05
Hispanic				-0.53***	0.59	0.04	-0.52***	0.60	0.04
Other				-0.34***	0.71	0.04	-0.36***	0.70	0.04
Respondent Sex (R=Female)									
Male				0.16***	1.17	0.03	0.18***	0.98	0.03
Age (R=18-25)									
26-34				0.21***	1.23	0.04	0.37***	1.45	0.04
35-49				0.13***	1.13	0.03	0.41***	1.51	0.04
50-64				-0.05	0.95	0.05	0.29***	1.30	0.05
65 and older				-0.55***	0.58	0.05	-0.13*	0.88	0.06
Health Ins. (R=Insured)									
Uninsured							-0.03	0.97	0.05
Marital Status (R=Married)									
Never Married							0.40***	1.50	0.04
Previously Married							0.54***	1.71	0.04
Education (R=Less than High School)									
High School							0.09	1.10	0.05
Some College or Associate's							0.42***	1.53	0.05
College Graduate or Higher							0.32***	1.37	0.05
Employment (R=Employed)									
Part-Time							0.01	1.01	0.04
Unemployed							0.11	1.12	0.06
Not Employed							-0.22***	0.80	0.04
Income (R=Less than $20,000)									
$20,000-$49,999							-0.06	0.94	0.04
$50,000-$74,999							-0.15**	0.86	0.05
$75,000 or more							-0.17***	0.85	0.04
Constant	-1.76***		0.01	-1.64***		0.03	-2.24***		0.07
Observations	44,469			44,469			44,469		

Source: NSDUH, 2022

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

R=Reference; OR=Odds Ratio; *SE*=Standard Errors

Table 4.4 Logit Regressions -- Paroled in Last 12 Months Predicting Opioid Misuse Last 12 Months

	Model 7: Main Effects			Model 8: Demographic Background			Model 9: Social Inclusion		
	β	OR	*SE*	β	OR	*SE*	β	OR	*SE*
Paroled Last 12 Months (R=No)									
Yes	2.14***	8.46	0.15	2.07***	7.90	0.15	1.71***	5.53	0.15
Race (R=White)									
African American				0.14	1.15	0.08	-0.23**	0.80	0.08
Hispanic				0.03	1.03	0.07	-0.21**	0.81	0.08
Other				-0.12	0.89	0.09	-0.20*	0.82	0.09
Respondent Sex (R=Female)									
Male				0.06	1.06	0.05	0.09	1.10	0.06
Age (R=18-25)									
26-34				0.10	1.11	0.08	0.38***	1.46	0.08
35-49				0.20**	1.22	0.07	0.57***	1.77	0.08
50-64				0.02	1.02	0.09	0.30**	1.34	0.11
65 and older				-0.62***	0.54	0.12	-0.46**	0.63	0.14
Health Ins. (R=Insured)									
Uninsured							-0.0010	1.00	0.08
Marital Status (R=Married)									
Never Married							0.44***	1.55	0.09
Previously Married							0.36***	1.44	0.08
Education (R=Less than High School)									
High School							-0.24**	0.78	0.08
Some College or Associate's							-0.23**	0.79	0.09
College Graduate or Higher							-0.71***	0.49	0.10
Employment (R=Employed)									
Part-Time							0.03	1.03	0.09
Unemployed							0.59***	1.81	0.10
Not Employed							0.26***	1.30	0.07
Income (R=Less than $20,000)									
$20,000-$49,999							-0.27***	0.77	0.07
$50,000-$74,999							-0.45***	0.64	0.10
$75,000 or more							-0.54***	0.58	0.08
Constant	-3.41***		0.03	-3.47***		0.06	-3.31***		0.14
Observations	44,469			44,469			44,469		

Source: NSDUH, 2022

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

R=Reference; OR=Odds Ratio; *SE*=Standard Errors

Table 4.5 Logit Regressions – Arrested in Last 12 Months Predicting Opioid Misuse Last 12 Months

	Model 10: Main Effects			Model 11: Demographic Background			Model 12: Social Inclusion		
	β	OR	*SE*	β	OR	*SE*	β	OR	*SE*
Arrested Last 12 Months (R=No)									
Yes	1.31***	3.72	0.06	1.33***	3.76	0.06	1.13***	3.08	0.06
Race (R=White)									
African American				0.11	1.11	0.08	-0.19*	0.83	0.08
Hispanic				0.08	1.09	0.07	-0.11	0.90	0.08
Other				-0.07	0.93	0.09	-0.16	0.85	0.09
Respondent Sex (R=Female)									
Male				-0.10	0.90	0.06	-0.04	0.96	0.06
Age (R=18-25)									
26-34				-0.06	0.95	0.08	0.19*	1.21	0.08
35-49				-0.03	0.97	0.07	0.30***	1.35	0.08
50-64				-0.19*	0.83	0.10	0.06	1.06	0.11
65 and older				-0.68***	0.51	0.12	-0.55***	0.58	0.14
Health Ins. (R=Insured)									
Uninsured							-0.0017	1.00	0.08
Marital Status (R=Married)									
Never Married							0.34***	1.41	0.09
Previously Married							0.30***	1.35	0.08
Education (R=Less than High School)									
High School							-0.24**	0.79	0.08
Some College or Associate's							-0.22*	0.80	0.09
College Graduate or Higher							-0.58***	0.56	0.10
Employment (R=Employed)									
Part-Time							0.03	1.03	0.09
Unemployed							0.58***	1.78	0.10
Not Employed							0.27***	1.31	0.07
Income (R=Less than $20,000)									
$20,000-$49,999							-0.26***	0.77	0.07
$50,000-$74,999							-0.40***	0.67	0.10
$75,000 or more							-0.48***	0.62	0.08
Constant	-3.67***		0.03	-3.54***		0.06	-3.37***		0.14
Observations	44,469			44,469			44,469		

Source: NSDUH, 2022

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

R=Reference; OR=Odds Ratio; *SE*=Standard Errors