Summer 2020

The Impact of Race/Ethnicity on Sentencing: A Matching Approach

Travis Jones

THE IMPACT OF RACE/ETHNICITY ON SENTENCING: A MATCHING APPROACH

by

Travis Jones

Bachelor of Arts
University of South Carolina, 2009

Master of Arts
University of South Carolina, 2011

Submitted in Partial Fulfillment of the Requirements

For the Degree of Doctor of Philosophy in

Criminology and Criminal Justice

College of Arts and Sciences

University of South Carolina

2020

Accepted by:

Robert Brame, Major Professor

John Burrow, Major Professor

Barbara Koons-Witt, Committee Member

Kirk Randazzo, Committee Member

Cheryl L. Addy, Vice Provost and Dean of the Graduate School

Abstract

The purpose of this study is to study the direct impact of race/ethnicity on sentencing of federal drug offenders. In order to accomplish this goal, an exact matching approach is utilized to generate strata containing white, black and Hispanic offenders who are matched based on relevant legal and extra-legal factors derived from focal concerns theory. The total sentences (i.e. fines, probation, incarceration, etc.) of matched offenders are then compared pairwise to determine which offender received the more severe sentence. The findings overall do not suggest that black and Hispanic offenders receive more severe sentences to comparable white offenders; however, drug types where I expect greater disparities suffer from low numbers of matches. This finding suggests an incomparability of the racial/ethnic groups in terms of the primary drug type. The findings are interpreted through the lens of focal concerns theory. In addition, the methodological appropriateness of using regression analysis when groups appear to be incomparable is discussed.

Table of Contents

List of tables

Chapter 1

Introduction

Due to the history of the US, concern over potential racial bias in the court system has resulted in a large body of research investigating racial disparity in sentencing. Much of this literature suggests that when compared to white offenders, black and Hispanic offenders receive more severe treatment in both form and length of the sentence (Albonetti, 1997; Steffensmeier & Demuth, 2001; Albonetti, 2002; Burch, 2015). Furthermore, recent studies of the topic find that both gender and age moderate the relationship between race and sentence (Ulmer et al., 2016; Steffensmeier et al., 2017). Findings from these studies suggest that offenders who are black, male, and young receive the harshest penalties, while those who are elderly and/or female receive sentences that are more lenient (Spohn & Holleran, 2000; Spohn & Sample, 2013). Despite the nature of the findings, there is little agreement among researchers as to why racial disparities exist, with some suggesting that the difference is primarily due to legal considerations, while others propose systemic bias as the cause (Stolzenberg et al., 2004; Ulmer & Johnson, 2004; Bales & Piquero, 2012; Baumer, 2013). The focal concerns perspective attempts to reconcile these two causes by arguing that judges operate within bounded rationality, and thus use shorthand and stereotypes to make decisions in the absence complete, legally relevant information (Steffensmeier et al., 1998; Albonetti, 2017b).

The focal concerns perspective states that judges focus on three things: blameworthiness, dangerousness/community protection, and the practical constraints

associated with the punishment when making decisions (Steffensmeier et al., 1998; Albonetti, 2010). Given enough information and time, judges give the longest sentences to offenders who commit crimes that cause significant harm and whose character indicates high likelihood of reoffending; however, judges rarely have enough information or time to make accurate determinations about offenders (Steffensmeier et al., 1998; Sharp et al., 2000; Johnson, 2005). Instead, focal concerns theory asserts that decision-makers rely on stereotypes, which govern how defendant characteristics relate to the aforementioned focal concerns. Furthermore, though the focal concerns are universal, how they are applied is not. The community's demographic characteristics and culture (i.e. community context) affects how judges appraise various factors in relation to the focal concerns, with factors varying in importance from community to community (Ulmer & Johnson, 2004). The perspective hypothesizes that minority offenders receive more severe sentences than similarly situated white offenders because on average judges appraise minority offenders as more blameworthy, dangerous, and sinister (i.e. likely to continue criminal activity). If this proves true, it lends credence to the idea that minorities continue to suffer under a discriminatory system of justice that punishes them more harshly, in part, because of their minority status.

In a racially neutral justice system, sentences derive their severity from legally relevant offender and offense characteristics. In pursuit of such a system, the US implemented the Federal Sentencing Guidelines in 1984 with the purpose of creating a sentencing system that is uniform, consistent, and that reduces the sentencing disparity between white and minority offenders that had occurred under indeterminate sentencing. Initially, the guidelines were mandatory, and set a sentence range based on the offense and

the offender's criminal history. Supporters of the guidelines believed that reducing judicial discretion would produce racially neutral sentences, and thus reduce racial disparities. However, there remains concern that mandatory guidelines have not eliminated the discretionary decision-making of judges. Instead, some suggest that discretion has shifted from judges to prosecutors as prosecutors ultimately decide the charges and exercise control over avenues to lenient sentencing (e.g. Substantial Assistance) (Nagel & Schulhofer, 1992). Further complicating the matter, *US v. Booker* (2005) and *Kimbrough v. US* (2007) held that the Federal Guidelines are advisory rather than mandatory. Therefore, federal judges are free to depart from guidelines, which opens the door to racially biased sentencing decisions. Though if a judge departs, they are expected give a written explanation. In light of these issues, research in the focal concerns tradition seeks to explain the continued existence of racial disparities under the guidelines.

Sentencing studies in the focal concerns tradition have generally found that minority status is associated with more severe sentencing outcomes. They find that defendants who are young, black and male have the highest probability of incarceration and receive the longest sentences (Albonetti, 1997; Steffensmeier et al., 1998; Doerner & Demuth, 2010). These studies also indicate that Hispanic defendants receive more severe sentences than white defendants, but more lenient sentences than black defendants. There are differing opinions as to whether the disparities are the result of sentencing stage discretion or indirect relationships mediated by other factors (Spohn, 2000; Mitchell, 2005; Fischman & Schanzenbach, 2012; Ulmer, 2012; Baumer, 2013; Bushway & Forst, 2013).

Many sentencing studies use regression analysis in order to determine the relative impact of race on sentence severity when accounting for other legal and extra-legal factors

(e.g. Spohn, 2000; Steffensmeier et al., 1998) . This strategy is somewhat problematic because the size of Federal sentencing data greatly increases the likelihood of finding a significant result due to large sample size, even if the magnitude of the effect is insignificant in an absolute sense (Lang et al., 1998). Another problem with using regression analysis is that this methodology necessitates creating a sentence severity scale. Sentencing severity scales typically compare sentences based on the number of months of imprisonment a defendant receives and is usually used in conjunction with a dependent variable that measures the likelihood of being sentenced to incarceration (Steffensmeier et al., 1998). At first glance, this does not appear to be a problem, but sentence severity scales require questionable decisions between sentences that are not easily comparable. For instance, a scale that only compares the number of months of imprisonment cannot capture mandatory terms of parole, fines, home confinement, etc. ordered in addition to imprisonment. One way to avoid these problems is to utilize a direct matching design. Direct matching designs seek to approximate an experimental design by matching individuals by a number of relevant characteristics (Shadish et al., 2002; Pina-Sanchez & Linacre, 2014; Franklin, 2015). Thus, instead of controlling statistically, this approach attempts to control by ensuring the similarity of individuals in the comparison and control groups. Such an approach allows for real differences to become apparent both between the groups as a whole as well as between individual members of the group. In addition, a matching approach does not preclude one from later utilizing other statistical techniques if appropriate (e.g. regression).

The current study seeks to add to the sentencing literature by utilizing an individual matching design to assess the degree of sentencing disparity between similarly situated

white, black, and Hispanic defendants. In order to accomplish this task, federal drug offender sentencing data will be utilized. This study represents the first examination of federal sentencing data using an individual matching approach to analyze racial disparity. This is important because studies utilizing propensity score matching have produced different results compared to those utilizing regression techniques (Franklin, 2013; Higgins et al., 2013). In addition, some research suggests that individual matching is a worthwhile approach for examining sentence consistency in data that is non-hierarchical and non-experimental (Pina-Sanchez & Linacre, 2014). Second, this study will examine whether the disparity between white and Hispanic offenders remains when matched by citizenship status (Ulmer et al., 2016). In order to accomplish these goals, offenders will be matched on several relevant legal and extralegal factors.

It is believed that black defendants will on average receive more severe sentences than both white and Hispanic defendants. In addition, it is likely that Hispanic defendants will receive more severe sentences on average than white defendants, but more lenient sentences when compared to black defendants. In order to establish the relevance and appropriateness of this study, the proposal is organized as follows. First, a review of the literature will be presented in order to establish the nature and significance of the problem. This chapter will discuss the relevant theoretical traditions that have been used to discuss racial disparity, their strengths and weaknesses, and empirical evidence. Next, the third chapter includes a discussion of the methodology that will be used. This chapter will describe the data, the criteria for the matching process, outline the analytic approach, and develop relevant hypotheses.

Chapter 2

Historical Context

2.1 The race crime link

Throughout US history, racial stereotypes have been used as justification for various forms of oppression. The association of black people to criminal stereotypes began in the US's earliest days as a justification for slavery (Fredrickson, 1989). The common knowledge of the time period suggested that black people were violent, brutish, and dangerous by nature (Cantor, 1963; Luse, 2008). It was this nature that justified the white slave owner control over black slaves as it was only through control by white people that the negative aspects of the black race's nature could adequately be controlled (Brown, 1982). The view of black slaves as inherently dangerous is further exemplified by Fredrickson (1989) as he notes that the thought of abolition raised fears of rape, plunder, murder, and an inevitable race war among white southerners.

The view of black people as fundamentally different from white people was bolstered by the scientific thought of the time period. For example, studies by physicians in the early 19th century suggested that black people were inherently less intelligent than white people due to differences in cranial capacity and brain weight (Fredrickson, 1989). Furthermore, researchers found the same differences between ancient Egyptians and their black slaves. The finding that the difference in cranial capacity extended back to the time

of ancient Egypt suggested to the researchers that not only were black people inferior, they had no hope of ever catching up to the mental capacity of white people (Fredrickson, 1989). The theory of the era attributed these differences to the fact that the races had evolved independently. This theory was known as polygenesis, and it suggested that the races were never genetically connected at all (Fredrickson, 1989; Luse, 2008). Though by the turn of the 20th century polygenesis had fallen out of favor among scientists, it was supplanted by Social Darwinism which suggested that the position of black people within society was justified due to their lack of fitness compared to the white majority (Bannister, 2010). Thus, the evidence and scientific thought available seemed to confirm the prejudices of the general public.

By the time of the Civil Rights Movement, views about black people began to change. Though previously black people were seen as dangerous and barbaric they were not seen as predatory. Instead, their criminal behavior stemmed from a lack of ability to control themselves. As the Civil Rights Movement began to change the laws of society, there was a shift in stereotypes about black people from simply brutish due to a flaw in their biology to viewing them as predatory. Thus, black offenders began to be seen as criminal predators rather than petty criminals at the mercy of their biology (Drummond, 1990; Welch, 2007). The idea of the "criminal blackman" was well entrenched by the 1980's as well as the idea that black people commit the majority of crime (Gilens, 1996; Russell, 1995). Thus, despite developments in science which dismantled the scientific justification for white views of black people, the view of black people as prone to criminal behavior not only failed to recede from society, but actually developed to portray black people as more threatening.

2.2 Link between race/ethnicity and drugs

The US relationship with drugs is one of various periods of widespread tolerance of intoxicants and other periods where there is widespread intolerance for the same (Tonry, 1994). Typically, periods of widespread intolerance coincide with the association of drug use with the lower ranks of society, particularly racial and ethnic minority groups (Tonry, 1994; Musto, 1999). Examples of this process can be seen throughout US history with myriad racial/ethnic groups. For example, the first drug law in the US was passed in California in the 1870's. The law banned opium dens and relied on the association of the use of the drug with Chinese migrants and fears that opium dens would result in white women being lured in and violated by Chinese people. This same stereotype was utilized during passage of the Harrison Act despite the reality that women were the mainstream users of opium (Tonry, 1994). Thus, the aforementioned example illustrates that the association between the race and the drug need not be true. The Harrison Act also covered cocaine and relied on antiblack sentiments in the South as it was believed that cocaine might make black users, "oblivious of their prescribed bonds and attack white society" (Musto, 1987; Tonry, 1994).

Later in the 20th century the same process appears to occur with the Marijuana Tax Act of 1937. In this era, anti-marijuana movements tied the use of the drug to Mexican migrants. Anti-marijuana advocates also routinely suggested that the drug could make users insane, which suggested that Mexicans might also be dangerous (Bonnie & Whitebread, 1974; Tonry, 1994). For example, in 1937, US Narcotics Commissioner Henry Anslinger included the following quote from a city newspaper editor in his testimony to Congress:

> I wish I could show you what a small marihuana cigaret can do to one of our degenerate Spanish-speaking residents. That's why our problem is so great; the greatest percentage of our population is composed of Spanish-speaking person, most of who are low mentally, because of social and racial conditions (US Congress, 1975; Thompson, 2013).

Anslinger's statement reflected the prevailing sentiment of the US in the lead up to the 1937 act. As far back 1917 there were government concerns about the risk to upper class white women if Mexicans were allowed to smoke marijuana for pleasure (Dufton, 2017).

In the 1980's, the same processes appears during the crack epidemic and the subsequent passage of 100 to 1 ratio. Crack cocaine came to represent the ills of the inner city and black people in particular (Tonry, 1994). In addition, the news media of the era publicized the idea that there is a causal link between a mother's use of cocaine during pregnancy and serious problems in their children (Lyons & Rittner, 1998). Though further research found that negative outcomes are more likely the result of other environmental factors, the mothers remained stigmatized and, in some cases, criminalized for their use (Lyons & Rittner, 1998). For instance, the media described one of the effects of crack as destruction of the maternal instinct in women, and thus were incapable of caring for children (Logan, 1999). Simultaneously, the media also characterized the children unfixable and destined for criminal behavior (Neuspiel et al., 1994; Hawley et al., 1995; Logan, 1999). Characterizing crack as a drug of the inner city and describing its effects in a way that leads directly to violent crime allowed the public to view crack users as unsavable, which justified severe punishment (Hartman & Golub, 1999; Hawley et al., 1995). Thus, throughout US history there is a clear attempt by drug prohibitionists to tie

use of drugs to an "other" that is frequently a racial or ethnic minority. It is due to this history that drug offenders represent a good choice when seeking to identify racial/ethnic disparities in sentencing.

2.3 History of Federal Sentencing Guidelines

Concenrs regarding fairness in the US sentencing system began to take hold by the late 1970's. The most influential criticism of the system originated from Judge Marvin Frankel. Frankel published his book titled *Criminal Sentences: Law Without Order* (1972), and in it he criticized the very powers he wielded with distinction as a New York City judge (Stith & Koh, 1993). Within the text of his book, Frankel advocated for the creation of a commission on sentencing that would create binding guides for the court to follow in order to reduce disparity in sentencing. Frankel's criticism was not limited to the discretion exercised by judges, but also indicated the need for standardizing parole as well. Frankel's views formed the cornerstone of the legislation that was meant to curtail judicial discretion.

Early implementation guideline like ideas came in 1976 when Congress sought to reduce backend sentencing disparities by directing the Parole Commission to create a set of guidelines to govern which offenders are eligible for release (Stith & Koh, 1993; Newton & Sidhu, 2017). Despite Congress's intent, the Parole Commission's guidelines created new problems as judges tried to predict when the Parole Commission would release an offender. The judges would then adjust sentences accordingly to achieve the length of punishment they desired (Hoffman, 2003; Newton & Sidhu, 2017). However, judges were sometimes inaccurate in their predictions which resulted in offenders serving much more or much less time than the sentencing judge intended. Thus, the initial goal of the Parole Commission failed resulting in the need for further reforms.

Research of US Federal sentencing practices in 1983 found additional backend disparities in the use of good time allowances. The system used at the time allowed for a variety of potential good time allowances contingent not only on good behavior, but also "exceptionally meritorious service" such as performing prison work. Thus, some prisoners received good time allowances that allow them to exit prison having severed less than half the sentence imposed. As the granting of good time allowances was handled directly by individual facilities the result was an unpredictable system which often disadvantaged minority offenders (Hoffman, 2003; Newton & Sidhu, 2017).

Though the backend concerns related to parole and good time allowances were of interest to Congress, so too were frontend disparities. The initial US Sentencing Commission (USSC) was concerned that an offender in one courtroom could receive a completely different sentence than an offender convicted of a similar crime for no other reason than they had different sentencing judges. This reality was a result of the unconstrained nature of judicial decision-making. The 1974 study published by the Federal Judicial Center highlighted this issue by presenting 20 cases to 50 federal judges. The results showed significant disparities. For example, the first case had a sentencing range of 3 to 20 years of imprisonment. Furthermore, in 1981 the Department of Justice (DOJ) produced a study which found substantial variation in sentencing recommendations among 208 judges (Newton & Sidhu, 2017).

Further analysis through multiple regression in the 1980s found that race and gender contributed to sentencing disparities (Spohn et al., 1981; Petersilia, 1983). The USSC also conducted their own multiple regression analyses of federal criminal cases from 1984 to 1985 and found racial and gender disparities in sentencing (Newton & Sidhu,

2017). Thus, the results of various analyses and the developing understanding of racial disparities in the justice system led to the passage of the Sentencing Reform Act, which had as one of its goals to reduce the racial/ethnic disparity in federal sentencing.

Chapter 3

Literature Review

The topic of racial/ethnic disparity has been a concern within the research literature since the early 20th century. Of concern was whether observed racial/ethnic disparities in the composition of the prison population were indicative of discrimination or not (Sellin, 1935; Bullock, 1961; Zatz, 1987). Their concern derived from what researchers saw as an unavoidable reality: Society's laws exist based on the beliefs and values of the dominant social group (Sellin, 1935). Prior to the Civil Rights Movement, this reality could be seen in myriad laws and practices meant to ensure the second-class citizenship of minorities such as Jim Crow and school segregation. Researchers suggested that the values and beliefs that gave rise to such laws would also mold judges and result in discriminatory bias (Lemert & Rosberg, 1948; Bullock, 1961; Wolfgang et al., 1962). A judge's statement during the sentencing of a Hispanic defendant in 1969 presents an extreme example:

> We ought to send you back to Mexico. You belong in prison for the rest of your life for doing things of this kind. You ought to commit suicide. That's what I think of people of this kind. You are lower than animals and haven't the right to live in organized society--just miserable, lousy, rotten people...Maybe Hitler was right (Hernandez, Haug & Wagner, 1976, pp. 62-63).

While this is an extreme example and the offending judge received a censure, he also won reelection in 1972 with double the votes of his opponent (Zatz, 1987). This demonstrates

the level of tolerance for prejudiced views even after the passage of the Civil Rights Act of 1964. A modern example of potentially bigoted views occurred in Colorado where a state appeals court judge was ultimately removed over incidents where she privately referred to another judge as, “the little Mexican” and an indigenous American person as, “the squaw” (Mitchell, 2019). The earliest studies of racial disparity in sentencing took place prior to the gains of the Civil Rights Movement, and found substantial overt discrimination against minorities (e.g., Sellin, 1935; Lemert & Rosberg, 1948; Johnson, 1957; Bullock, 1961; Wolfgang et al., 1962; Bedau, 1964). Though these early studies suffered from methodological issues, they led to the development of a rich research literature. In this section, I highlight the key developments in this literature related to theory, empirical findings, and development of punishment severity scales.

3.1 Theory

The earliest studies on racial/ethnic disparities in sentencing focused on the direct effect of race on the sentence. The idea was that overt discrimination was the likely source of the observed disparities. Indeed, the earliest research suggested that this idea was correct; however, as the laws and culture surrounding race changed, the observed disparities persisted, and the question of why remained (see Zatz, 1987 for review of early waves of research). There are several mutually compatible perspectives that attempt to explain sentencing disparities. Prominent among them are the racial threat hypothesis, court community context, and focal concerns theory. Though they are compatible only focal concerns theory encompasses aspects of all three while also having strong support in the extant literature. In this section, I discuss these theories and their predictions.

Racial Threat. The racial threat hypothesis proposes that the disproportionate use of social control against minorities is the result of the desire of the dominant group to maintain its position. In other words, the dominant group utilizes state resources such as arrest and incarceration against minorities in order to maintain the status quo when they perceive minorities as a threat (Blalock, 1967; Turk, 1969). Blalock (1967) argues that the US white majority increasingly perceives black people as a threat to their political and economic dominance as the black population increases and the white majority must compete with black people for resources (e.g. jobs and political power). The suggested relationship is curvilinear, whereby the majority group utilizes social control resources against the minority group up to a tipping point. Once the tipping point is reached the disproportionate use of social control against minorities decreases. Thus, those areas with the greatest increase in relative minority population should also experience the most intense use of social control measures (e.g. increases in police force size, arrests, use of incarceration, etc.) up to a point. It is suggested that this relationship is most pronounced when there is perceived or actual competition for coveted, limited resources like jobs and political offices.

Historically, racial threat is operationalized based on the size of the black population in each location. Such studies have found mixed support for racial threat. For instance, research has found that states with a larger black population have higher incarceration rates even when controlling for other factors such as crime and unemployment rates (Myers, 1990; Greenberg & West, 2001; Jacobs & Carmichael, 2001). Similarly, other studies suggest that a larger black population is associated with increases in the size of the police force as well as increases in criminal justice expenditures overall

(Jackson & Carrol, 1981; Jackson, 1989; King & Wheelock, 2007). In addition, studies have also found that community demographics affect public opinions about crime and punishment. Individuals living in areas with higher proportions of black people are more likely to perceive higher crime rates and support more punitive punishments (Jacobs & Helms, 1999; Qullian & Pager, 2001; Baumer, Messner, & Rosenfeld, 2003). Together these findings suggest support for the racial threat theory, at least as applied to the black population.

The research pertaining to Hispanic people is limited and somewhat mixed. Wang and Mears (2010) found that as the county-level Hispanic population increases the probability of receiving a prison sentence decreased for violent, property, and drug offenses, but increased for other offenses. Further analysis indicated that growth in the Hispanic population disproportionately increased the probability of a prison sentence when the baseline Hispanic population was already 30% or higher. Wang and Mears (2009) also found that in contrast to how increases in the black population appear to increase the probability of being sentenced to prison, increases in the Hispanic population are associated with increased probability of receiving a jail sentence and decreased probability of a prison sentence. Wang and Mears (2015) also found partial support for an ethnic threat effect associated with Hispanics. They found that the state-level Hispanic population is positively associated with the probability of incarceration; however, it was not associated with increased sentence length. Furthermore, the authors found no evidence of county-level population effects on either the incarceration decision or the length of sentences. These findings suggest that a Hispanic ethnic threat effect is present; however, it may be

associated with less severe outcomes than the racial threat effect associated with the black population.

Though these studies support racial threat, others call into question the explanatory potential of the theory. For instance, a recent study of federal judicial districts found that race/ethnicity effects vary across federal districts, but not as predicted by racial threat. Contrary to the predictions of the theory, the sentences of black defendants were not found to be related to the size of the black population within the district. Even more problematic, Hispanic defendants received the longest sentences when they accounted for the smallest share of the district population and received the shortest sentences when their population was larger (Feldmeyer & Ulmer, 2011). A similar study conducted at the state level found support for racial threat for black defendants, but not for Hispanic defendants (Feldmeyer et al., 2015). Other studies find that the racial composition of the population has no effect on the racial differences in state sentencing (Britt 2000; Weidner & Frase, 2003). One study also found that increased exposure of white populations to black populations reduced racial differences in arrests for violent crime (Ousey & Lee, 2008). Taken together, these findings raise questions about the ability of racial threat to explain observed racial disparities present in the criminal justice system; however, some suggest this is the result of deficiencies in how the theory is operationalized. Specifically, most of the extant research tests for a linear relationship between the minority population size and sentencing. In actuality, the theory proposes a curvilinear effect with a tipping point for both increased punitive sanctions followed by a tipping point for decreased use of punitive sanctions (Blalock, 1967). Furthermore, recent research suggests that specific measures of economic threat and political threat beyond minority population size may be warranted (Valenty &

Sylvia, 2004; Wang & Mears, 2009). Finally, some research suggests that the percentage change in the minority population may be as relevant as the minority population percentage itself (Wang & Mears, 2010; Wang & Mears, 2015).

Some researchers suggest that racial threat works best when operationalized based on measures of economic, political, and "fear of crime" dimensions that make up the threat posed by minorities (Jacobs & Wood, 1999; Eitle, D'Alessio, & Stolzenberg, 2002). The argument is that greater racial competition for these resources coupled with a fear of crimes associated with the minority group is the impetus for the deployment of greater social control rather than simply growth of the population. Thus, growth of the minority population relative to the white population is only relevant if it brings these groups into greater contact and competition. For instance, when the gap between black and white unemployment narrows there may be greater competition for jobs, which results in anger and resentment from the dominant group (Olzak, 1992; Jacobs & Wood, 1999; Kane, 2003). Similarly, a minority occupying a position of political power may also be perceived as a threat by the dominant group (Jacob & Wood, 1999; Jacobs & Carmichael, 2002; Parker et al., 2005). It is in response to these real or imagined threats that the dominant group deploys greater social control measures.

In circumstances where the minority group remains segregated from the dominant group, the dominant group may not feel threatened and thus does not deploy any measures of social control. This is referred to as benign neglect (Liska & Chamlin, 1984; Liska, Chamlin & Reed; 1985; Liska, 1992). It is proposed that this occurs both because the dominant group is not in direct competition with the growing minority group and because less value is placed on dealing with the intraracial crime of the minority group (Liska &

Chamlin, 1984; Stolzenberg, D'Alessio, & Eitle, 2004). Instead, the focus of official resources is placed on crime that typifies dominant group fears (i.e. minorities targeting the dominant group). This explanation of how the theory operates may explain the mixed empirical findings; however, it also underlines a significant deficiency in the current use of racial threat theory. Numerous studies have failed to account for the predicted curvilinear effect predicted by the theory (Blalock, 1967; Wang & Mears, 2009; Wang & Mears, 2015). Others have relied only on the raw population size of the minority population when the change in population size may be as relevant (Blalock, 1967; Valenty & Sylvia, 2004; Wang & Mears 2010). Furthermore, numerous studies have failed to include variables meant to capture political and economic threat as well as segregation effects (Blalock, 1967; Liska, 1992; Wang & Mears, 2009). These deficiencies in the extant research suggest that other approaches may be required to properly test racial/ethnic threat.

At its core, racial threat is a micro-level phenomenon reliant on the emergent beliefs and attitudes of individuals within the dominant group. In other words, individuals must perceive the supposed threat posed by minorities and push the state to act. However, use of the theory in empirical work mostly relies on macro-level ecological data in order to draw its conclusions (King & Wheelock, 2007). This in turn may explain the very mixed findings of studies, as it is possible that a variety of social factors prevent some communities from perceiving a growing minority population as a threat. While some of those factors, such as segregation, are possible to glean from ecological data; others, such as individual attitudes or increased positive contact, are impossible to determine from macro-level data alone. Thus, racial threat may not be appropriate to use with large

ecological datasets even if it makes similar predictions to other potential explanations of racial disparities in the criminal justice system.

Court Community Context. The court community perspective argues that differences arise between sentencing practices in individual courts due to the nature of the cultural and political forces that influence the courts actors in those locations. Court actors (i.e. prosecutors, defense attorneys, and judges) are expected to be sensitive to the norms, desires, and fears of the communities they serve within. This creates a situation where geographic differences in case processing can arise due to the preferences of the local population and how the court actors respond to those preferences. The perspective asserts that local community factors such as city size, level of bureaucratization, political characteristics, crime rate, economic characteristics, and racial composition affect sentencing decisions both directly at the aggregate level and indirectly at the individual level through case-level characteristics (Eisenstein et al., 1988; Nardulli et al., 1992; Ulmer & Kramer, 1996). Based on this perspective courts can be viewed as distinctive social worlds that develop their norms based on community factors, interorganizational relationships, and pragmatic concerns (e.g. need for efficiency, prison/jail space, etc.) (Hagan, 1977; Ulmer, 1994; Ulmer & Kramer, 1996).

Eisenstein and colleagues (1988) laid the foundation for research in this field. They studied 9 courts in Michigan, Illinois, and Pennsylvania and relied on the metaphor of courts as a community. They found evidence of the interdependence of the courtroom workgroup that ultimately manifests itself through the formation of local legal cultures that include traditions, informal norms, court actor reputations, and communication networks. They found that where workgroups were more stable; familiarity allowed for the

establishment of sentencing norms. These norms known as "going rates" aided in plea negotiation and reduced the likelihood of a trial. Those courts characterized by less stability and therefore less familiarity had increased likelihood of trials, open pleas, and contentious plea negotiations (Eisenstein et al., 1988; Flemming et al., 1992). Furthermore, negotiations were also influenced by local politics and administrative court practices related to calendaring and judge assignment policies. For instance, differences in policies sometimes allow defendants to shop for a judge known for more lenient sentencing, which results in prosecutors being more receptive to a plea than if a case remains with a single judge upon assignment. (Flemming et al., 1992). These findings identified the utility of the court as community metaphor in explaining variation between courts.

Further studies of court community context initially focused on the direct effects of community factors on aggregate outcomes, specifically imprisonment rates. These studies have, in general, supported the community context perspective based on a variety of different community factors. For instance, some studies have found the degree of urbanization (i.e. city size and density) to exert a small but significant positive direct effect on the imprisonment rate (Kramer & Steffensmeier, 1993; Myers & Talarico, 1987; Steffensmeier et al., 1993). Similarly, research has found that both the level of unemployment and racial income inequality (i.e. economic factors) are positively associated with the imprisonment rate (Myers & Talarico, 1987). Finally, studies have also identified a positive association between conservative political party association and the crime rates with the imprisonment rate (Huang et al., 1996; Kramer & Steffensmeier, 1993; Steffensmeier et al., 1993; Crawford et al., 1998; Myers & Talarico, 1987). These findings suggest that community factors warrant further investigation; however, examining only the

direct effects does not account for potential indirect effects which the court community perspective implies.

Due to the reality that the court community perspective implies indirect effects, there is a body of research which attempts to assess the indirect effect of community characteristics on sentencing. This body of literature assumes that sentencing reflects a wide variety of community factors that court actors are supposed to be sensitive to. Thus, the decision-makers in the court should process cases in light of the concerns of the community. In addition to the concerns of the community, practices are influenced by how the courtroom workgroup itself interacts (i.e. the judge, prosecution, and defense), which itself is influenced by their attitudes, the stability of the group, their familiarity with one another, and their similarity (Eisenstein et al., 1988; Ulmer, 1997). In practice, studies in this tradition compare either a small number of jurisdictions or a single jurisdiction through successive time periods in order to ascertain how differences in community characteristics affect sentencing outcomes in relation to offender characteristics (Eisenstein et al, 1988; Peterson & Hagan, 1984; Miethe & Moore, 1985). The findings from these studies generally suggest that community context may condition the effects of offender characteristics on sentence. For instance, Peterson and Hagan's (1984) study found a pattern of differential leniency favoring white defendants that was linked to changes in the public's perception of drug offenses in the time period from the 1960's to the 1970's. In a similar vein, Crawford et al., (1998) found that the punishment of black property offenders varied based on the county-level racial composition, racial income inequality, and violent crime rate. The findings from these studies suggest that community context may affect

racial disparities in sentencing; however, the statistical techniques used to reach these conclusions call into question the reliability of the findings.

Early studies in this field all utilized either OLS or logistic regression techniques, which suffer from at least two primary deficiencies when dealing with court community variables. First, cross-jurisdictional studies allow detail rich comparisons; however, the small number of jurisdictions analyzed risks an interpretation of results which are the product of unique characteristics of those jurisdictions and thus not generalizable (Britt, 2000; Ulmer & Johnson, 2004; Fearn, 2005). On the other hand, large scale studies which analyze the direct effects of community variables across a large number of jurisdictions are inadequate to fully capture the multilayered nature of sentencing decisions. In other words, this sort of analysis cannot account for the possibility that the effect of *individual* level variables vary by community context variables at the *jurisdiction* level (Britt, 2000; Ulmer & Johnson, 2004; Fearn, 2005). In order to address the deficiencies of previous studies, researchers have relied on multilevel analysis. Multilevel analysis addresses the deficiencies of previous studies by appropriately accounting for both the direct and indirect effects of community level variables in a single model (Britt, 2000). Studies utilizing this technique have produced more mixed results than both indirect and direct models. For instance, most multilevel models have not found community conservative political ideology to be a significant predictor of sentencing outcomes (Fearn, 2005; Johnson, 2005; Ulmer & Johnson, 2004; Weidner et al., 2005). Similarly, much of the extant literature suggests that crime rates may not be a significant predictor of sentencing outcomes (Britt, 2000; Crow & Gertz, 2008; Ulmer & Johnson, 2004; Wang & Mears, 2010; Hester & Sevigny, 2016). However, a minority of studies indicate a small positive effect for

incarceration decisions, but not sentence length (Fearn, 2005). A study of federal court context indicates that factors such as caseload pressure and district racial composition are significantly related to sentencing departures (Johnson et al., 2008). However, a separate study of federal court context with regard to drug offenders found punishment varied by district and circuit but nearly none of the explored contextual variables explained the variation (Kautt, 2002). These findings suggest the court community perspective has potential to explain variation; however, the mixed findings indicate that the relevant contextual variables may not yet be fully identified, and they vary in effect.

While the extant research primarily focuses on explaining variations between courts, little research has investigated the reasons for uniformity across courts. Hester (2017) found that South Carolina's (SC) practice of judicial rotation created a situation that results in open judge shopping. This process results in where sentencing becomes more uniform because defendants and defense attorneys will attempt to wait for a lenient sentencing judge known as a "plea judge," while prosecutors use the threat of forcing a trial under a harsh sentencing judge to attempt to negotiate plea agreements. This process results in the establishment of going rates acceptable to both parties. Furthermore, traveling allows for the cross-pollination of ideas across the state due to the increased interaction of judges with each other and attorneys from various counties. This process helps create a statewide legal culture as opposed to the local legal cultures typically studied by researchers. Though the work focuses on the factors which produce more uniformed sentencing, the counties within SC still exhibit variation. For instance, wealthier counties generally allowed more punitive sentences because they have the resources (i.e. money and jail/prison space) to effectively carry out those sentences. On the other hand, rural and poor

counties tended to be slightly more lenient due to the lack of resources. These findings underscore the importance of cultural factors to produce uniformity instead of guidelines which local actors often find ways to circumvent in order to produce their preferred outcomes (Engen & Steen, 2000; Johnson et al., 2008).

Focal concerns theory. The work of Miller (1958) marks the beginnings focal concerns theory. In this work, the author attempts to explain the behaviors of lower-class delinquents through the focal concerns of trouble, toughness, smartness, excitement, fate and autonomy. Miller (1965) states that these focal concerns represent areas that command high levels of attention and emotional involvement. In identifying these areas, the author suggests that deviant behavior is part of learned culture rather than caused by outside forces. Though the work focuses on delinquent boys, the idea that the cultural education an individual receives directly impacts decision making is at the core of modern focal concerns theory. Steffensmeier (1980) first applied this idea to judges with regard to the male-female sentencing disparity. Though the author does not use the term "focal concerns," he does outline five interrelated factors that might explain the male-female sentencing disparity. They are practicality, chivalry, naiveté, perceived permanence of behavior, and perception of dangerousness. Practicality refers to the idea that female incarceration is more disruptive to the community than male incarceration; therefore, women receive sentences that are more lenient. The reasoning is that judges see females as primarily responsible for child rearing, and thus reason that removing a female from the community would displace those responsibilities to someone less suited to them. Chivalry refers to the general protective attitude toward women common within US culture, while naiveté refers to the idea that women are not naturally criminal like men are. Instead,

naiveté suggests forces or people influence women to commit crime. Both of these concepts are rooted in stereotypical views of women and their role in society. These same stereotypes lead to a view of women that allows for their rehabilitation. Thus, the relative permanence of female behavior might justify a more lenient sentence. Finally, perception of dangerous might explain the gender disparity because US culture perceives the male offender as more dangerous and volatile, while perceiving the female offender as someone who erred or is misguided.

Steffensmeier and colleagues (1993) further refined the theory in their study on the impact of gender on imprisonment decisions. In reviewing the reasons given for departures from Pennsylvania's sentencing guidelines, they found that judges viewed female defendants as less dangerous, less culpable, and as having more ties to the community. Taken together with the five factors Steffensmeier (1980) discussed, these articles accomplish two things. First, they establish the focal concerns of dangerousness, blameworthiness, and community factors. Second, they identify how perceptual shorthand related to identity (i.e. stereotypes) affect how judges appraise individuals with regard to those concerns. Though the previous articles focus on gender, researchers applied similar ideas to issues of race. For instance, Albonetti and colleagues (1989) draw on similar ideas in their study of criminal justice as a stratified process. In this article, the authors include indicators of dangerousness, blameworthiness, and community factors (e.g. Community ties, type of crime, education, prior convictions, etc.) as well as race in their predictions of pretrial release decisions and found that prior record interacts with race to disadvantage minorities in bail decisions; however, they also note that increases in offense severity impacted white defendants more negatively than black defendants. The application of

similar ideas to race as well as inconsistent findings with regard to the impact of race on decision-making led to research that ultimately influenced modern understanding and usage of focal concerns theory.

In order to understand how focal concerns, affect decision-making, it is necessary to acknowledge the uncertain environment of judges. In order to be fully rational, decision-makers must have knowledge of all possible alternatives and outcomes; however, decision-makers rarely have complete information. Instead, they must rely on methods that reduce uncertainty and allow the decision-maker to reach satisfying outcomes (Simon, 1957). To overcome a lack of information, structural organization theory posits that decision-makers rely on operating procedures, hierarchical authority, training, and indoctrination to absorb uncertainty and produce what has been termed a "bounded rationality" (March & Simon, 1958). The result is decisions derived from patterned responses developed based on experience, prejudice, and stereotypes in lieu of complete information (Clegg & Dunkerley, 1980). Furthermore, researchers suggest that uncertainty regarding the nature of cause and effect relationships are crucial to understanding the use of discretion in the criminal justice system because they relate to factors like offender characteristics and the goal of reducing recidivism (Thompson, 1967; Albonetti, 1991). Albonetti (1986) first suggested the use of a shorthand in justice system decision-making with regard to prosecutors. Building on the research from the field of structural organization theory, Albonetti (1986) suggested that prosecutors attempt to reduce the uncertainty in their decision-making by using patterned responses derived from their experience and stereotypes, which resulted in decisions that disproportionately disadvantaged minorities. Albonetti (1991) expanded this idea to judges. In short, both articles suggest that routines,

organizational structure, and formal training produce a system of patterned responses that rely on experiences, stereotypes, and prejudices to produce a satisfying outcome rather than an ideal, and that what qualifies as a satisfying solution is driven in part by community considerations (Albonetti, 1991; Ulmer, 1996; Ulmer, 1997).

While bounded rationality explains, in part, why judges rely on stereotypes, it does not explain on its own why certain characteristics might lead to more harsh sentences. For this, Albonetti (1991) draws on the theoretical framework of causal attribution. Causal attribution asserts that individuals determine causality based on both personal and environmental factors that they believe to affect behavior. In other words, because judges cannot know what really caused a crime, they rely on patterns identified based on offender characteristics and case processing outcomes (e.g. pretrial incarceration) to aid in selecting a satisfactory punishment (Bodenhausen & Wyer, 1985; Hewstone, 1990; Albonetti, 1991; Albonetti, 1997). Early work in this area by Bodenhausen and Wyer (1985) indicates that stereotypes are used to explain behavior even when other information is available. They found that other relevant information was only considered when a stereotype-based explanation was not available. Their study also suggests that once a stereotype-based association is made individuals review available information in order to confirm their beliefs. Bodenhausen and Lichtenstein (1987) support the previous finding and suggest that stereotype-attributions are more common when judgments are more complex. Thus, those situations with limited information and a difficult decisions result in more reliance on stereotype-based attributions. In further investigation of this phenomenon, Hewstone (1990) found that stereotype-based attributions favor ingroup members over outgroup members. Specifically, members of the ingroup are more likely to perceive outgroup failure

as a result of lack of ability and outgroup success as the result of good luck or an easy task. Thus, membership in certain social classes or groups may result in more severe punishments due to the attribution of crime causation to that group membership, while members of other groups either have no association with crime or have associations which make rehabilitation appear more likely (Jones, 1982; Hewstone, 1990; Bodenhausen & Wyer, 1985; Bodenhausen & Lichtenstein, 1987; Albonetti, 1991). Taken together the concepts of bounded rationality and causal attribution form an integrated theory of judicial uncertainty avoidance (Albonetti, 1991; Albonetti, 1997).

With the specification of Albonetti's theory of judicial uncertainty avoidance, the primary components of modern focal concerns theory existed but not as a single theory. Ulmer (1997) first accomplished this within an overarching study of the social world of sentencing. In this study, Ulmer integrated the previously explored ideas and applied them both to race and gender to form a single explanation of disparities in sentencing. Importantly, Ulmer (1997) suggested how judicial uncertainty avoidance and the focal concerns of judges combined to produce racial disparities even in the absence of any overt racial animus on the part of judges. Building on this prior work, Steffensmeier and colleagues (1998) integrated the concepts of bounded rationality and causal attribution to form modern focal concerns theory. The authors formally identified the focal concerns of blameworthiness, perception of dangerousness, community protection, and the practical implications of the sentence as central to the sentencing process. Though these focal concerns are not the same as the five factors identified by Steffensmeier (1980) with regard to male-female sentencing disparities, it is clear how those factors influenced the conception of the focal concerns. For example, the concept of naiveté as it pertains to

women undercuts the potential blameworthiness of female offenders. The concept of chivalry positions the protection of women as part of the protection of society, and thus may lead to lesser sentences for women to protect them from the dangers of prison. The concepts of perception of dangerousness and perceived permanence of the behavior have implications for how judges perceive protection of the community. Finally, practicality relates to issues such as resources, (e.g. prison bed space), impact on the community/family (e.g. primary wage earner and/or caregiver considerations), and the ability of the person to endure the sentence.

Steffensmeier and colleagues (1998) also note that race, gender, and age interact to influence how a judge perceives an offender in relation to focal concerns. Rather than sentencing an offender based on a single stereotype, the authors suggest that the interaction of several stereotypes produces the most severe sentences. Stereotypes surrounding offenders who are young, black, and male result in the most severe sentences because each characteristic has a well-known stereotypical association with offending on its own. Together they create an image of an offender that is especially blameworthy and dangerous. Thus, focal concerns theory suggests that judges interpret stereotypes developed from experience and social structure while considering universal focal concerns to arrive at a satisfying sentence. This process produces more severe sentences for racial/ethnic minorities when judges attribute criminal causality to the minority status. Furthermore, minority status can interact with other characteristics judges associate with criminality to produce more severe sentences than either would alone.

Focal concerns theory has proven itself a versatile theory as it has been used to understand outcomes related to police, juvenile justice, and prosecutors and has been

utilized to understand systems other than US (e.g. Kurlychek & Johnson, 2004; Harris, 2009; Shermer & Johnson, 2010; Johnson et al., 2010; Crow & Adrion, 2011). For example, Crow and Adrion (2011) utilized focal concerns theory in their examination of police Taser use. As predicted by the theory, they found evidence for the use of a race and gender influenced perceptual shorthand in the decision to use a Taser on a suspect. Kurlychek and Johnson (2004) utilized focal concerns to study the sentencing of juveniles that have been waived to adult court and found that they are sentenced more harshly than their young adult counterparts, which suggests juveniles waived to adult court are viewed as more culpable and dangerous. The reason for this view is not yet clear; however, notions of the "juvenile super-predator" within the public (Zimring, 1998), or the view of transfer itself as a sign of a lack of potential for rehabilitation are possibilities. Studies of prosecutors that utilize focal concerns suggest that extralegal offender characteristics (i.e. race, gender, and age) influence the likelihood of a prosecutor offering charge reductions (Shermer & Johnson, 2010; Kutateladze et al., 2014). Further support for the theory was found in research of sentencing in the Netherlands. Using focal concerns theory, this study found that age, nationality, and gender disparities are apparent in the expected directions within a sample of Dutch homicide offenders; however, they did not find evidence of an interaction between these characteristics (Johnson et al., 2010). The studies provide examples of the range of issues that focal concerns theory is used to study, which provides some support for the ubiquity of focal concerns within the criminal justice system.

3.2 Empirical Literature.

For the purpose of this review the empirical literature relating to racial disparity in sentencing is divided into several categories based on the statistical techniques used to

generate the core results. The categories are 1) single level regression (e.g. OLS, logistic, tobit, etc.), 2) hierarchical models (i.e. HLM/HGLM), and 3) matching techniques. In the following section I review studies in each of the categories.

Single Level Models. Single level regression equations are utilized by researchers to identify differences in both the type and length of sentence a person is assigned without regard to a potentially nested data structure. Typically, researchers use logistic regression, or similar technique, to test the effect of variables of interest on the type of sentence received (i.e. incarceration or not). This is known as the "in-out" decision. When analyzing the effect of variables on sentence length, researchers often utilize ordinary least squares (OLS) or a similar technique designed for a continuous dependent variable. The extant literature indicates a consensus that black defendants are more likely to be sentenced to incarceration than white defendants even when controlling for legally variables such as offense type, criminal history, and sentencing guidelines as well as offender characteristics (Steffensmeier et al., 1998; Everett & Nienstedt, 1999; Spohn & Holleran, 2000; Steffensmeier & Demuth, 2000; Mustard, 2001; Steffensmeier & Britt, 2001; Curry & Corral-Camacho, 2008) Steffensmeier and colleagues (1998) represent an early example. They found that race, gender, and age significantly impact the decision to incarcerate using data from the Pennsylvania Commission on Sentencing from 1989 to 1992. Specifically, they found that the odds of incarceration for blacks were 1.5 times those of whites. Importantly, they found that race interacts with age and gender to uniquely disadvantage defendants that are young, black, and male. A similar study by Bloch and colleagues (2013) found that being black increased the odds of incarceration even when controlling for relevant legal variables. Furthermore, they found that race interacts with gender to

especially disadvantage black males. A similar study undertaken utilizing data from the South Carolina Sentencing commission by Koons-Witt and colleagues (2012) also indicates that black defendants have a higher probability of being incarcerated than white defendants. Specifically, their study found that black male defendants had a .45 probability of receiving incarceration compared to .38 for white male defendants. Their findings for women show a similar difference of .38 probability for black females compared to a .33 probability for white females. This study differs from Bloch and colleagues (2013) in that Koons-Witt and colleagues (2012) did not find evidence of an interaction effect between gender and race as is evidenced by the near identical difference between the simple effects for both men and women. These examples suggest that black defendants are more likely to be sentenced to prison than white defendants; however, there is some question as to whether race interacts with other variables in all court contexts.

Though there is strong evidence to suggest that the odds of being sentenced to incarceration are higher for black defendants, the research relating to the sentencing of Hispanic defendants is both sparse and mixed (Spohn & Holleran, 2000; Steffensmeier & Demuth, 2000; Steffensmeier & Demuth, 2001; Demuth & Steffensmeier, 2004; Stolzenberg et al., 2013). For example, some research suggests that the odds of incarceration for Hispanic defendants are higher than white defendants, but still lower than the odds of incarceration for black defendants (Spohn & Holleran, 2000; Demuth & Steffensmeier, 2004). On the other hand, Stolzenberg and colleagues (2013) failed to find evidence to support the idea that Hispanic defendants have greater odds of being incarcerated than white defendants in data drawn from the State Court Processing data set. This finding is supported by research which suggests that the sentencing effect of Hispanic

ethnicity sometimes observed at the federal level is really the effect of citizenship status (Light et al., 2014; Ulmer et al., 2016). Thus, the observed association between Hispanic ethnicity and incarceration is explained by the higher proportion of Hispanic defendants that lack citizenship. Spohn and Holleran (2000) found some support for the notion that Hispanics have greater odds of imprisonment net of controls but suffered from low numbers of Hispanic defendants within the study. Still others find that Hispanic defendants have the greatest odds of incarceration (Steffensmeier & Demuth, 2000; Steffensmeier & Demuth, 2001). The variety of findings suggests that there is not yet a consensus about how Hispanic ethnicity impacts the probability of being sentenced to incarceration, and thus the relationship warrants further investigation.

Expanding beyond analyzing how race/ethnicity impacts the decision to incarcerate, researchers also utilize single level regressions to determine the effect of race/ethnicity on the length of sentence imposed when a defendant is sentenced to incarceration. Research in this area frequently finds that net of control variables, black defendants receive longer sentences than white defendants (Steffensmeier et al., 1998; Sharp et al., 2000; Steffensmeier & Demuth, 2000; Mustard, 2001; Albonetti, 1997; Albonetti, 2002); however, these findings are not universal as some find that race does not impact sentence length (Engen & Gainey, 2000); Kautt & Spohn, 2002; LaFrentz & Spohn, 2006;). For example, Albonetti (1997) used Federal drug offender sentencing data from 1991 to 1992 and found evidence for both the direct and indirect impact of race/ethnicity on sentence length. The author found that being black or Hispanic is directly associated with a longer prison sentence when compared to white defendants. Furthermore, she found that race/ethnicity interacts with the guideline offense level to disadvantage minority

defendants. Like the findings of Steffensmeier and colleagues (1998), Albonetti (1997) also found that race interacts with gender and age to disadvantage black defendants; however, she did not find a similar interaction related to Hispanic ethnicity. Nowacki (2015) in a study of federal sentencing after the *Booker* decision found that both black and Hispanic defendants are sentenced more harshly than white defendants; however, the effect is reduced for longer sentences. The author also found that black and Hispanic defendants were sentenced more harshly post-*Booker*. Burch (2015) found further support for the notion that race is associated with sentence length using data from the Georgia Department of Corrections. The author found that black defendants received sentences that are 4.25% higher than those of white defendants net of relevant controls.

In contrast to supportive findings, Engen and Gainey (2000) found that by controlling for presumptive sentence the effect of being black is virtually eliminated in data from the Georgia Department of Corrections. This means that in their study, the authors conclude that being black has no direct effect on sentence length. Similarly, by controlling for presumptive sentence, the authors find that the coefficients for the effect of sex and Hispanic ethnicity are also substantially reduced. A different study by Spohn and Kautt (2002) also calls into question the suggested association between race/ethnicity and sentence length. In this study the authors use sentencing data for drug offenders from the US Sentencing Commission from 1997 to 1998. They analyzed the interaction of drug type and race, and drug amount and race on sentence length, expecting that black offenders' race would interact with drug type and amount to produce longer sentences; however, they found that there was minimal difference in the treatment of drug offenders by race. In addition, when there was a difference in treatment, it appeared to favor black defendants.

Though the authors note that the results were surprising and potentially the result of indirect effects, they were unable to explain their original findings.

Hierarchical Models. Though the use of single level regression is common in sentencing research, it is not without criticism. The chief criticism levied is that studies in the above tradition either ignore community variables that affect sentence, or they aggregate data from multiple jurisdictions at both the group and individual level to model individual outcomes in a cross-sectional model (Britt, 2000; Crow & Johnson, 2008). It is problematic to ignore the community context, as research suggests the court community context may impact sentencing (Ulmer & Kramer, 1996; Steffensmeier et al., 1998; Ulmer & Johnson, 2004). However, when one aggregates community context variables and individual-level variables, tests of statistical significance are improperly based on the number of individual cases and violate the independence of observations assumption of most single level techniques (Ulmer & Johnson, 2004; Crow & Johnson, 2008). Therefore, researchers turn to hierarchical models which are capable of simultaneously analyzing individual level and group level variables properly (Raudenbush & Bryk, 2002).

The findings from studies which utilize multilevel models generally support the notion that black defendants receive more severely sentences than their white counterparts. These studies also suggest that the effect of race on sentence varies by jurisdiction (Britt, 2000; Ulmer & Johnson, 2004; Wang & Mears, 2010). For example, Britt (2000) utilized data from the Pennsylvania Commission on Sentencing and found evidence of racial disparity as well its variation by court jurisdiction. However, he found that his measures of community ethnic heterogeneity, racial income inequality and urbanization did not explain the variation between jurisdictions. Similarly, Ulmer and Johnson (2004) found evidence

that race/ethnicity interacts with the level of minority concentration in the community resulting in more severe sentences for black and Hispanic defendants in contexts with higher concentrations of black or Hispanics respectively. However, the authors did not find that effect extends to the decision to incarcerate. Johnson (2005) also found that black and Hispanic defendants are disadvantaged in sentencing due to the reduced likelihood of receiving a downward departure and increased likelihood of receiving an upward departure. Furthermore, evidence of the importance of community context was found as caseload pressure, the guidelines compliance rate, and the percent of the population that is Hispanic were all significant explanations for differences observed across jurisdictions.

Johnson (2006) in a study of the interaction of judicial, community, and offender characteristics found that the race of the judge conditioned the influence of the offender's race/ethnicity on sentence such that minority judges were significantly less likely to sentence black and Hispanic defendants to incarceration than white judges. Johnson also found evidence that sentence severity varied across both judges and county courts which provides further evidence for the importance of court community context in understanding sentencing. Wang and Mears (2015) represent another study which supports the notion that black defendants receive more harsh sentences. They found that race interacts with the racial composition of the county and state to disadvantage of black defendants. The greatest difference in predicted sentence occurs when a county is 60% black in a state that is 30% black. In such states, black defendants receive sentences that average 90 months compared to the 53-month average of similar white defendants. The study did not find a similar effect for Hispanic defendants.

There is broad support for the notion that race, and court community context affects sentencing among multilevel studies; however, this support is not universal. For instance, Feldmeyer and Ulmer (2011) found that racial disparity in sentencing exists and varies across federal jurisdictions. Specifically, black defendants received longer sentences than white defendants while Hispanic defendants were sentenced similarly to white defendants. Furthermore, Hispanic defendants received the harshest sentences when they make up the smallest share of the population and the most lenient sentences when they make up more than 27% of the population. Finally, black offender sentences were not significantly conditioned by the size of the district's black population. This calls into question notions of how researchers believe court community context variables affect sentencing (i.e. the racial threat hypothesis). Wooldredge's (2007) study of neighborhood effects on incarceration found that a defendant's race was unrelated to the probability of imprisonment and that being black was associated with shorter terms than White defendants.

Based on the extant multilevel literature, there is strong evidence that race effects sentence severity and that sentence severity varies across court community contexts. Furthermore, the literature suggests that it is unclear which factors within the court community are significantly related to sentence variation; however, arguments can be made for demographic make-up, income inequality, case processing, and court resources. Regardless, it seems to be clear that it is necessary to account for community effects in pursuit of understanding how race/ethnicity impacts sentencing.

Matching. To date, there is only one study that utilizes a direct matching approach instead of some form of regression. Bales and Piquero (2012) conducted a study which

attempted to determine whether the findings of black and Hispanic disadvantage at the sentencing stage depends on the use of traditional regression techniques. In order to accomplish this goal, they used Florida offender data from 1994 to 2006 and employed both methodologies and compared the results. They found that black defendants are more likely to be incarcerated regardless of the variables used to match them to white defendants. Furthermore, they found that Hispanics also had a slightly higher probability of being incarcerated compared to white defendants. The authors note that as they matched on more variables, the incarceration and non-incarceration groups became more equivalent on unmatched variables, which suggests that direct matching can produce more precise comparison groups. Though the findings were encouraging, the authors note that their study lacked other measures relevant to sentencing such as a measure of court community context and judicial characteristics. Thus, further research in this area is required.

The extant literature suggests that the method utilized impacts the conclusions researchers draw. In light of the findings of multilevel models, one and their relative disunity with findings from standard regression, it remains an open question whether minorities are disadvantaged in both sentence severity and the decision to incarcerate or solely in the decision to incarcerate. Studying the problem with additional techniques may help bridge gap by creating unity in the findings across different study designs. If findings can be reproduced across multiple designs, there can be greater confidence in the conclusions drawn.

Chapter 4
Method

4.1 Hypotheses

Drawing on focal concerns theory, the current project suggests three hypotheses. First, the theory predicts that black defendants receive more severe sentences than white defendants due to the impact of race on judicial perception of focal concerns. In short, the theory predicts that judges perceive black defendants as more blameworthy, dangerous, and see their incarceration as less problematic due to practical considerations than comparable white defendants. The theory suggests that this difference is due to the interplay between stereotypes, insufficient information, and court community context. Furthermore, the extant literature suggests support for the theory's predictions.

Past research has focused primarily on the decision to incarcerate and sentence length and has considered these issues separately. This approach was taken for two reasons. First, research suggests that judges consider the decision to incarcerate independently of length of incarceration decision. Second, it avoids the problem of directly comparing the relative severity of sentences of different types. Thus, researchers model the decision to incarcerate and length of incarceration separately and discard other punishments imposed. This approach ignores the true complexity of sentences which may include large financial penalties, post-release supervision, and home confinement in addition to a sentence of probation or incarceration. Therefore, previous studies fail to capture racial sentencing disparity that may arise from sentencing decisions other than the

decision to incarcerate and length of incarceration. The current study seeks to address this gap by comparing entire sentences rather than only the decision to incarcerate and/or the length of incarceration. Hypothesis 1 is formulated as follows:

> *H_1: Black defendants receive more severe total sentences than comparable white defendants*

The second hypothesis predicts that defendants with Hispanic ethnicity receive more severe sentences than comparable white defendants due to how judges perceive Hispanic ethnicity in relation to focal concerns. Past research on this topic is limited and often mixed. In some studies, Hispanic defendants fare worse than white defendants and black defendants (see e.g. Steffensmeier & Demuth, 2001). In other studies, there appears to be no difference between the treatment of Hispanic defendants and comparable white defendants (e.g. Demuth & Steffensmeier, 2004). Still other studies find that Hispanic defendants receive more severe sentences than white defendants, but more lenient sentences compared to black defendants (Ulmer et al., 2016). These findings suffer from the same methodological shortcomings as those pertaining to black defendants. In addition, many of these findings failed to account for the higher degree of correlation between Hispanic ethnicity and lack of citizenship. Those studies which control for citizenship find that the sentencing of Hispanic defendants either does not differ from comparable white defendants or that sentences are more severe than white defendants but less severe than the sentences of black defendants (Light et al., 2004). Thus, drawing on focal concerns theory hypothesis 2 and hypothesis 3 are formulated as follows:

> *H_2: Hispanic defendants receive more severe sentences than comparable white defendants.*

H_3: Hispanic defendants receive more lenient sentences than comparable black defendants.

In order to test these hypotheses, I will utilize the United States Sentencing Commission (USSC) data from the years 2016 to 2018 and employ a precision (or exact) matching design.

4.2 Data

The public USSC individual offender datasets are a yearly record that contains information about offender characteristics, case disposition, and other administrative information relating to federal offenders. The public data is restricted in that it contains no information that could be used to identify individual offenders, attorneys, or judges. Therefore, there is a potential criticism of the use of this data because it is missing crucial case-level information that may impact the sentence imposed. Of potential importance to focal concerns theory is the strength of evidence available to the judge at sentencing. As the theory states that judges may rely on stereotypical racial associations in the absence of relevant information, it follows that those cases with more complete information may have less racial sentencing disparity. However, such information is not available in other databases which can be merged with USSC data (BJS, 2014; NACJD, 2019). Furthermore, previous studies which included measures relating to the strength of evidence at trial have not found this information to be associated sentence severity (Bushway & Redlich, 2012; Miller, McDonald, & Cramer, 1978; Rossman, McDonald, & Cramer, 1980; Bushway & Redlich, 2014). Therefore, the use of USSC data does not represent a crucial limitation to the study despite the absence of information relating to the strength of evidence available at sentencing.

The current study uses only those offenders that were convicted of a drug crime as their primary offense. Specifically, cases where the primary conviction is for drug trafficking/manufacture or simple possession are included. This approach is taken because the data contains information that allows one to be reasonably sure that offenders are similar such as offense type, drug type, and drug amount (Sevigny, 2009). These measures are integral to drug sentencing. In contrast, the data does not contain information relevant to the sentencing of other offenses such as offender relationship to victim or race of victim (McCormick et al., 1998; Curry et al., 2004). Therefore, in the interest of ensuring that matched observations are as similar as possible the analysis is limited to those convicted of drug crimes. This approach reduces the number of observations that can potentially be matched. Precision matching is known to be demanding in terms of the number of observations; therefore, data from the years 2016, 2017, and 2018 is used in order to increase the number of observations in the hopes of generating more matches for comparison.

In order to create the initial dataset, datafiles for the years the 2016, 2017, and 2018 were downloaded from the USSC website. The datafiles initially contained 60000 to 70000 observations each. Working with one datafile at a time, two procedures were undertaken. First, all observations that did not have a primary offense of drug trafficking or possession were dropped. Next, in each datafile all observations that are missing a value for the race variable are dropped. Once each individual datafile was prepared, they were merged using *Stata 14.2*.

4.3 Variables

The variables for the proposed study are divided into the following categories: variable of interest, outcome variables, and matching variables. In the following sections I define each of the variables to be used, their possible values, and the justification for their inclusion in this study.

Variable of interest. Race is the variable of interest in the current study. The datafiles capture this variable as *newrace*. *Newrace* is coded so that white offenders=1, black offenders=2, Hispanic offenders=3, and others=6.

Outcome variables. The outcome variables together form the total sentence of the offender. In other words, a given offender will have values on one or more of these variables. These variables are meant to capture the full range of options available to judges when they sentence an offender. Therefore, the current study includes the following outcome measures which encompass all a judge's sentencing options including alternative incarceration (e.g. home confinement), financial penalties, probation, incarceration, community service, and post-release supervision.

Alternative incarceration. Alternative incarceration is measured by the variable *altmo*. Altmo measures the total number of months an offender is ordered to serve, and ranges from 0 to 96. A value of 97 indicates that the offender was ordered to serve alternative incarceration, but the exact sentence length is unknown. The USSC defines alternative incarceration as home confinement, community confinement, and intermittent confinement. Sentences of this type represent an increase in sentence severity from probation but are less severe than traditional incarceration.

Financial penalties. Financial penalties encompass all the negative financial outcomes the court imposes upon the offender. This is measured by the variable *amttotal*.

Amttotal is defined as the sum of the imposed dollar amounts for fines, cost of supervision, and restitution. It ranges from 0 to $9,999,999,996.

Probation. Probation refers to a community sanction where the offender has a variable level of monitoring by the criminal justice system but can remain in the community. This is measured by *probatn*, which reports the number of months an offender is ordered to serve on probation. It is a continuous variable and it ranges from 0 to 996 months. If it is coded 997 it means that probation was ordered, but the term was not specified.

Incarceration. Incarceration refers to sentences of confinement within a prison or jail. It is measured in months by the variable *senttot*. *Senttot* ranges from 0.01 to 9997. If coded 470 it represents a life sentence. All other values represent the number of months the offender was ordered to serve in prison or jail. The value also includes credit for time served both pretrial and in state custody if authorized.

Community service. Community service refers to those sentences that require the offender perform work for their community. It is measured in hours by the variable *hrcomsrv*. It ranges from 0 to 9996.

Post-release supervision. Post-release supervision refers to an order of mandatory supervision after the completion of incarceration. It is measured in months by the variable *suprel*. It ranges from 0 to 997. If equal to 996 the offender received a life term of supervised release. If coded 997 the offender was ordered supervised release, but the term was not specified.

Matching variables. Matching variables are the variables used to ensure that matched observations are as similar as possible except for on the variable of interest

newrace. The following sections identify the matching variables that I use and briefly describes the justification of its use. The variables are generally ordered so that those variables that legally impact the sentence are presented before variables which should legally have no effect on the sentence.

Guideline Manual Year. This refers to the year of the guideline manual that was used to calculate the offender's sentencing range. This is captured by the variable *amendyr* which ranges from 1987 to 2018. It is necessary to include this variable as the guidelines change from year to year which affects sentencing of same type offenses.

Offense type. Offense type is captured by the variable *offtypsb* in the 2016 and 2017 datafiles and by *offguide* in the 2018 datafile. In order to ensure that offenders found in the 2018 datafile are matched with appropriate offenders from 2016 and 2017, *offguide* is renamed *offtypsb* and recoded to match the *offtypsb* variable found in the 2016 and 2017 datafiles. Once completed all observations are coded as 10=drug trafficking and 12=drug possession. Matching on this variable ensures that only offenders that have the same primary offense are compared.

Offense level. Offense level refers to the seriousness of the offense. The higher the offense level, the more serious the offense is under federal law. Offense level is calculated based on the primary offense and is adjusted based the presence of aggravating and mitigating factors to arrive at a final offense level. The final offense level is captured by the variable *xfolsor*. *Xfolsor* ranges from 1 to 99. As the federal guidelines chart treats all offense levels 43 and above equally a new variable named *effective_level* was generated that has a range of 1 to 43. It is included because it is integral to determining the appropriate sentence for the offender.

***Criminal history*.** Criminal history refers to prior criminal behavior that is known to the court. There are three potential variables which capture an aspect of criminal history. The most specific measure is the total number of criminal history points applied to the offender which is captured by the variable *totchpts*. *Totchpts* ranges from 0 to 99. If *totchpts* makes it difficult to achieve an acceptable number of matches, the variable *xcrhissr* can be used in its place. *Xcrhissr* is a measure of the offender's criminal history category, which is based on the number of points applied to the offender. It ranges from 1 to 6, and in conjunction with *xfolsor* identifies the presumptive sentencing range. Another variable related to criminal history is *crimhist*. It is a dummy variable that indicates whether an offender has any criminal history regardless of whether that history resulted in the application of criminal history points. This variable is included to differentiate between those offenders with no criminal history and no points and offenders with some criminal history but no points.

Substantial assistance. Substantial assistance refers to downward sentencing departures that are the result of the offender aiding the government that aids in the capture and/or conviction of another offender. It is captured via a dummy variable named *substan*. *Substan* equals 1 when offender receives a substantial assistance departure. This variable was generated from *bookercd* in the 2016 and 2017 datafiles and *sentrnge* in the 2018 datafile. In the 2016 and 2017 datafile *substan* is equal to 1 if *bookercd* equals 5 and is coded 0 for all other values of *bookercd*. In the 2018 datafile, *substan* is equal to 1 if *sentrnge* is equal to 2 and is coded 0 for all other values of *sentrnge*. This variable is included to ensure that differences by race and/or ethnicity are not the result of differences in their ability to secure substantial assistance departures.

Sentencing table zone. Sentencing table zone refers to the group in the federal sentencing table the offender belongs to. This is captured by the variable *zone*. The sentencing table zone determines eligibility for probation and alternative incarceration sentences. *Zone* is coded A, B, C, or D where A indicates the least severe guidelines and D indicates the most severe guidelines.

Presumptive incarceration sentence. This refers to the sentencing range that an offender can expect based on guidelines calculations and mandatory minimums. This is captured by two separate but similar variables. The first is *glmax* which is the guidelines maximum considering all mandatory minimums and other calculations. The second is *glmin* which is the guidelines minimum sentence considering all relevant calculations. Both variables range from 0 to 9996 where 9996 indicates a life sentences and all other values indicate the length of incarceration in months.

Miscellaneous legal. These variables legally affected the sentence, but that effect is already captured in the prior legal variables. Instead, these variables are included because they may affect how judges perceive an offender when considering focal concerns. The first variable is whether the case includes a weapon enhancement or conviction. An offender with weapon enhancement can reasonably be perceived as more dangerous than another offender with a similar primary offense and presumptive sentence. Therefore, offenders should be matched on this factor. This information is captured by the variable *weapon* and is coded 0 if there is no weapons conviction or enhancement and 1 if there is a weapons conviction or enhancement. Another potentially relevant perceptual factor is whether the government perceives the offender as having a mitigating role in the offense.

This is indicated by the *mitcap* variable. It is coded 1 when a mitigating role cap provision is applied to the offender and 0 when it is not applied.

***Case contextual characteristics*.** These variables relate to the case characteristics, how it was resolved, and other contextual factors that might affect a judge's perception of the defendant. The primary drug type of an offender's case is one such variable. Judges may perceive different drugs as presenting different levels of danger and/or harm to the community. Primary drug type is found in the variable *combdrg2*. *Combdrg2* is coded 1=cocaine, 2=crack, 3=heroin, 4=marijuana, 6=methamphetamine, and 77=other. A related variable is the number of drugs involved in the case. This is indicated by the variable *nodrug* and ranges from 1 to 99. Another variable potentially relevant to a judge's perception of the defendant is the number of counts in the conviction. This is contained in the variable *nocounts* which ranges from 1 to 99. Both *nodrug* and *nocounts* are continuous variables which frustrate the matching process if used as is; therefore, I generate the dummy variables *multidrug* and *multicount* instead. I create dummy variables rather than ordinal variables because relatively few offenders have more than 2 drugs or counts. In the case of *nodrug* fewer than 6.5% of observations have a value of 3 or more. Similarly, fewer than 5.5% of observations have a value of 3 or more counts. In contrast, over 80% of observations have a value of 1 for both *nocounts* and *nodrug*. Thus, in the interest of maintaining groups large enough to facilitate matching dummy variables are used.

Another relevant factor is whether the offender was convicted by plea or trial which is indicated by *newcnvtn*. *Newcnvtn* is coded 0 if the case was resolved with a guilty plea and 1 if the case went to trial. Similarly, the offender's detention status is included via the variable *detention* and is coded 0 if not in custody and 1 if in custody. It is generated from

the variable *present* where *detention* is coded 1 when *present*=1 (i.e. In Custody) and *detention*=0 for all other values of *present.* Finally, the district of the offender's conviction is necessary to include because of the effect that community context has on the focal concerns of judges. The district of conviction is indicated in the variable *circdist* which ranges from 1 to 94. This variable was used to create the variables *state* and *circuit* which represent increasingly large community areas. These variables may be used if *circdist* proves inhibits the matching procedure.

Offender characteristics. This refers to offender characteristics that have been found to affect sentencing. First is age which is captured by the variable *age*. *Age* is the offender's age in years based on the date of birth provided to the court. It ranges from 15 to 105. Due to the range of the variable, I generated a new variable named *years*_1 that recodes *age* into 4 categories where 1=age ≤29; 2=age of 30 to 39; 3=age 40 to 49; and 4=age ≥50 (Nagin et al., 2009; Bales & Piquero, 2012). It is included because focal concerns theory suggests that age affects notions of rehabilitative and reoffence potential. Next is the offender's sex which is measured by the variable *monsex*. *Monsex* is coded 0=male and 1=female. Another relevant offender characteristic is citizenship status. *Newcit* is a dummy variable for citizenship status where 0=US and 1=Non-US. Education is another area that has the potential to affect a judge's perception of the offender. Education is present within the dataset in the variable *neweduc*. *Neweduc* is coded 1=Less than H.S. graduate, 3=H.S. graduate, 5=Some college, 6=College graduate. A final offender characteristic that could affect sentence is the number of dependents that rely on the offender for support. This is one of many practical consequences that focal concerns theory suggests judges consider when sentencing offenders. This is found in the variable

numdepen and ranges from 0 to 97. If it is coded 97 then the offender has some dependents, but the exact number is unknown. Because relatively few defendants reported three or more children, I generated new variable, *dependents. Dependents* is code 0 for no children, 1 for one or two children, and 2 for three or more children.

4.4 Analytic Strategy

Analysis is conducted using precision matching. Precision matching attempts to control for the impact of variables other than the variable of interest by ensuring that observations are matched on as many other relevant factors as possible. Once matched one can be reasonably sure that differences observed in outcomes between groups are not due to the variables used for matching. A side effect of this approach is that those observations with no match on the relevant variables cannot be used in the analysis. While some suggest this is a weakness of the approach because it discards information, it is also its strength as one can be sure that cases are only compared to those that similar on the relevant measures (Nagin et al., 2009). In contrast regression models must ensure that assumptions are met before interpreting results because the model does not have the ability to determine whether it is an appropriate fit for the data. However, when appropriately used regression models discard minimal data which increases one's certainty that the result is generalizable (Hair et al., 2010). The relative strengths and weaknesses between precision matching and regression models illustrate the tradeoff that exists between internal validity and external validity.

The internal validity of a precision matched study is high if observations are matched on enough relevant variables. This is because one can be sure that the compared observations are the same on the relevant variables except the variable of interest. This reality can suggest an association between the variable of interest and the outcome

variables provided the researcher selects appropriate matching variables (Nagin et al., 2009; Bales & Piquero, 2012). However, because matching necessitates excluding cases, a precision matched study's external validity is threatened (Nagin et al., 2009). Furthermore, precision matched studies must also contend with the reality that increases in the number of variables used for matching increases the number of excluded observations. Thus, a researcher must balance the interests of ensuring that enough matches are identified for analysis, but also that they are matched on enough relevant variables to ensure the observations are similar enough to justify the comparison. This process is aided due the phenomenon of convergence (Nagin et al., 2009). In short, convergence is when matched cases become more similar on unmatched variables as more variables are utilized in the matching process. Therefore, an appropriately matched sample does not require an exhaustive list of matching variables (Bales & Piquero, 2012).

In consideration of the concerns outlined above, the process begins by using the previously described matching variables to match offenders and divide them into strata. In order to accomplish this, the *cem* package in *Stata 14.2* is used. *Cem* stands for coarsened exact matching. The current study does not use the package's coarsening abilities. Instead, exact matches are forced through the command: *cem varname(#0)* where *(#0)* informs the program to only find exact matches on the variable value rather than creating its own categories for matching (Iacus et al., 2012). Once the command is given the program divides observations into different strata based on the matching variables and outputs the number of strata, number of matched observations, and the number of unmatched observations. The program also adds the variables *cem_strata* and *cem_matched*. *Cem_strata* is a whole number integer that represents the strata the observation belongs to.

Cem_matched is a dummy variable coded 0 if the observation has no matches and 1 if the observation has one or more matches. If there are enough matches and no concerns about discarded data, the analysis proceeds. If there are not enough matches, the process of determining which variables reduce the number of matches the most begins. This process starts with continuous variables as they have the greatest potential to reduce matches.

The proposed analysis is simple. All white offenders are compared to all matched black and Hispanic offenders in each stratum on the previously defined outcome variables (i.e. pairwise comparison). It is assumed that with enough variables used in the matching process, that each stratum will have relatively few matches. Thus, the procedure is simply to directly compare each individual observation to all its matches and count the number of times each group receives the more severe sentence compared to their matches from the other racial group. Thus, if a stratum contains 4 white offenders and 7 black offenders each of the 4 white offenders will be compared to each of the 7 black offenders resulting in 28 total comparisons. By including multiple measures of sentence, there will be situations where it is difficult or impossible to ascertain which sentence is more severe (e.g. comparing short incarceration to long term supervision). In those cases, the intent is to acknowledge the ambiguity and tabulate the number of times it was impossible to determine the more severe sentence alongside the number of times white offenders and black offenders received the more severe sentence. The same sort of comparisons are also done between white and Hispanic offenders and black and Hispanic offenders. If it appears that there are too many matches to manually perform direct comparisons, randomized matched pairs from each stratum for the previously described groups are used instead.

In addition, linear and logistic regressions are done in the manner normally done in research of this topic. This is undertaken in order to serve as a comparison to the proposed technique. By comparing the results, the hope is to identify unique information obtained through the matching analysis. Linear regression assumes a continuous dependent variable, continuous or categorical predictor variables, a linear relationship between dependent and predictor variables, normal distribution of errors, no significant outliers, independent observations, multicollinearity, and homoscedasticity. The logistic model is appropriate given a binary dependent variable, independent observations, minimal multicollinearity, and linearity of association between independent variables and log odds. In addition, I also estimate an experimental ordered logit that considers the entire sentence. This is an attempt to create an approach directly comparable to my matching

Linear regression diagnostics. The normality of errors was ascertained by checking the normality of residuals. Figures A.1 to A.3 display the kdensity, pnorm, and histogram of residual plots respectively. These figures show an approximately normal distribution of residuals though there is some variation. After checking the normality of residuals, outliers were identified. In order do this, stem-and-leaf plot with studentized residuals was utilized. This process shows 10 outliers in each tail, which were removed from the analysis. Next, as the units of observation are offenders themselves, there is no reason to believe they are correlated with each other. Multicollinearity does not appear to present a problem in the analysis, as the VIF mean is equal to 1.28 and no single value is above 3.78. I test the assumption of homoscedasticity via the rvfplot with a y=0 line imposed. This plot suggests that heteroscedasticity is a problem in the analysis; therefore, robust standard errors are employed.

Logistic regression diagnostics. To assess the collinearity, the *collin* command in Stata was used. The result do not suggest multicollinearity is a problem. Finally, the primary predictor variables are dichotomous; therefore, there is no concern regarding the linearity of association between independent variables and log odds. The results of the diagnostic tests are found in the appendix. In addition, the parallel slopes assumptions in the experimental ordered logistic regression was tested. The result of the test finds that the matrix does not converge on a maximum likelihood due to flat or discontinuous regions. Thus, the model does not appear viable due to violated assumptions. Attempts at using a generalized logit similarly fail indicating the difficulty and potential folly of using an order logistic regression to capture the full sentence. The model is presented in the results section; however, it should be viewed with the knowledge that it violates fundamental assumptions.

Chapter 5

Results

5.1 Matched Sample Characteristics

The sample was generated by matching offenders of different races on a list of relevant legal and extralegal characteristics[1]. The matched sample contains 314 offenders sentenced for either drug trafficking or possession across 22 strata. The characteristic with the single greatest impact on the number of matched offenders is the circuit district. The addition of circuit district as a matching criterion alongside sex, guidelines year, offense type, offense level, criminal history category, sentencing zone, guidelines minimum and maximum sentence, and whether the offender provided substantial assistance results in 39,539 unmatched offenders compared to 14,585 for the latter variables alone. The high number of unmatched offenders gives pause as the unmatched offenders may differ in some way from those that are matched. Indeed, examination of the matched sample's characteristics reveals that the matched sample differs from the full data on at least offense and drug types. Though the lack of matches damages external validity, it also highlights the extreme incomparability of the groups due to structural differences in the data.

[1]This matching variables are sex, age category, guidelines year, offense type, offense level, criminal history category, sentencing zone (determines eligibility for alternative sentences), guidelines maximum sentence, guidelines minimum sentence, whether the offender provided substantial assistance, the circuit district, drug type, mode of conviction, citizenship status, whether the offense involves multiple counts, whether the offense involves multiple drugs, number of dependents, and whether there was a weapons enhancement. Detention status was not used for matching because the resulting data was missing for all offenders in the resulting match.

Table 5.1 shows the racial demographics of the 22 matched strata. The total matched sample contains 62 white offenders, 73 black offenders, and 179 Hispanic offenders. All offenders are male. As is apparent from the table, race in not equally distributed through the strata; therefore, the different races are involved in different numbers of comparisons overall. Thus, aggregation of overall results must account for this difference. Tables 5.2 and 5.3 compare the matched sample's racial demographics and offense type to the full dataset respectively. Table 5.4 shows the gender demographics of the matched and full data. These comparisons show that the matched sample has similar racial characteristics to the full data, but that it is heavily biased towards possession offenses rather than trafficking.

Regarding the primary drug type of the offense both cocaine and crack are unrepresented in the matched sample. The lack of representation in these groups indicates that no three offenders of different races within a single circuit district are similar enough to match and compare. As seen in Table 5.5 the matched sample is mostly composed of marijuana offenders with methamphetamine offenses representing the second most numerous drug type. In contrast, in the full data a plurality of cases involve methamphetamine, while marijuana is second most common closely followed by cocaine in third. Thus, the composition of drug type within the matched sample is not like the composition of the overall dataset.

In the matched sample, offenders aged less than 29 years are overrepresented compared to the full data. Table 5.6 displays a full comparison of age groups in the matched sample and full data. Nine of the 90 circuit districts (excluding territories) are represented in the matched data. Table 5.7 displays the frequency table for the circuit districts in the

matched sample. As a result of the number of missing districts, the matched sample does not resemble the full data in terms of circuit district distribution In addition, the underrepresentation of multiple drugs and/or charges represents another way that the matched sample deviates from the full data in the matched sample compared to the full data. This is seen in Tables 5.8 and 5.9 respectively.

The legal and extralegal characteristics of the matched sample do not closely resemble those of the full data. However, despite the lack of overall similarity the matched sample does resemble the full data in terms of demographics. The matched sample is also biased toward low level, young offenders which is not characteristic of federal offenders. Thus, interpretation of the results must keep in mind that the matched sample is not representative of the whole, but instead is high on internal validity due to the similarity of matched offenders.[2]

5.2 Matched Results

In order to interpret the matched results, it is necessary to group them in some manner rather than displaying the comparisons for each individual stratum. Therefore, I present the results of the comparisons in three ways in the following sections. First, the overall results are presented. These results display the aggregated results from all comparisons. This approach gives an overview of the findings. Next, I present the results by the district where the offenders were convicted. This approach allows for the identification of regional variation in sentencing approach. Third, I present the results by

[2] Internal validity refers to the extent to which a study's evidence can rule out alternative explanations for an observed phenomenon. Matching increases internal validity by inducing equality among groups by ensuring compared individuals share the same values on chosen characteristics. By ensuring equality between compared individuals one can be sure that observed differences are not the result of matched characteristics (Shadish et al., 2002).

the primary drug of the offense which allows for the detection of racial sentencing disparity associated with specific drugs.

Overall Results. The results are grouped by the type of comparison. Therefore, there are three sets of results: comparisons between white and black offenders, between white and Hispanic offenders, and black and Hispanic offenders. The full totals for the comparisons are found in Table 5.10. Overall, white offenders receive the more severe sentence more frequently than either black or Hispanic offenders, while black offenders receive the harsher sentence more frequently than Hispanic offenders. Specifically, white offenders receive the more severe sentence in 37.7% and 48% of comparisons when compared to black and Hispanic offenders respectively. The equivalent values for black and Hispanic offenders are 22.8% and 23.4% respectively. These findings do not support hypothesis one or two as it is predicted by focal concerns theory that minority offenders will receive more severe sentences than comparable white offenders. However, this result is not definitive. Comparisons between white and Black offenders are unclear in 35.8% of comparisons[3]. Within that subset, black offenders are sentenced to incarceration more than double the number of times as white offenders (64 times vs. 25 times). This finding suggests support for hypothesis one. Specifically, this finding supports the notion that black offenders are disadvantaged in the decision to incarcerate While comparisons between white and Hispanic offenders are unclear less frequently (11.1% of comparisons), the

[3] It is important to note that unclear comparisons primarily take two forms. The first is when the sentence is not clearly recorded in the original data. The second form is when the sentences of the two offenders take radically different forms and it is unclear which an offender would consider more severe.

results of analysis suggest that Hispanic offenders are disadvantaged in the decision to incarcerate (101 times vs. 37 times) which support hypothesis two.

Regarding comparisons between black and Hispanic offenders, Hispanic offenders receive the more severe sentence more frequently than comparable black offenders (40.9% vs. 35.5%). This finding does not support the third hypothesis. Comparisons between black and Hispanic offenders are not especially likely to be equal or unclear (13.7% and 9.8% respectively). Furthermore, among the small amount of unclear comparisons Hispanics are sentenced to prison more times than black offenders (14 times vs. 8 times). Thus, the findings fail to support hypothesis three.

Results by district. ***Arizona.*** In the Arizona district there are 1276 total comparisons. There are 34 comparisons between white and black offenders, 1034 between white and Hispanic offenders, and 208 comparisons between black and Hispanic offenders. It is clear from the number of comparisons in each group that there is a lack of comparable offenders who are black. Black offenders number only five people compared to 18 and 111 for white and Hispanic offenders respectively. This lack of matches suggests that there are a lack of comparable black and white offenders convicted and sentenced within the district. Thus, the attempt to factors related to geography reveals that small numbers of offenders have similar legal and extralegal characteristics across racial/ethnic groups.

Though the small numbers of offenders suggest caution in interpreting results, the results clearly suggest that white offenders receive the more severe sentence more frequently than either black or Hispanic offenders. White offenders receive the more severe sentence in 52.9% and 49.1% of comparisons when compared to black and Hispanic offenders respectively. The two groups are equal 9 times, and the result is unclear three

times. These findings fail to support hypothesis one and hypothesis two; however, like the full matched sample this is not a definitive result.

Kentucky west. The Kentucky West district has a total of 16 comparisons. There are eight comparisons between white and black offenders, three comparisons between white and Hispanic offenders, and six between black and Hispanic offenders. Thus, like most districts it has minimal numbers of offenders in the three racial/ethnic groups with similar legal and extralegal characteristics. Unlike the overall matched data, white offenders do not receive the more severe sentence than black offenders. Instead, 75% of comparisons between white and black offenders are equal, while the other 25% are unclear. Similarly, black and Hispanic offenders receive equal sentence in 66.7% of comparisons. In contrast, comparisons between white and Hispanic suggest that white offenders receive the harsher sentence more often; however, the strength of this finding is undermined due to the law number of offenders compared. Therefore, the findings from the KY West district fail to support any of the three proffered hypotheses. Instead, they suggest parity among sentences in different racial groups.

Virginia east. In the Virginia East district there are 580 total comparisons. There are 412 comparisons between white and black offenders, 62 between white and Hispanic offenders. The VA district generally mirrors the results of the overall matched data. White offenders receive the more severe sentence more frequently than comparable black and Hispanic offenders (36.7% vs. 23.1% & 40.3% vs. 32.3% respectively). However, VA east is unique in that large percentages of the comparisons are unclear. This is especially true of comparisons between white and black offenders where 39.8% of comparisons are unclear. This is most of the unclear comparisons in the matched data and also represents a

plurality of the results in the VA East District. The data suggests that there may be a difference in how judges sentence white and black offenders regarding the decision to incarcerate or employ alternative sanctions.

New York South. The NY South district contains nine total comparisons. There are three comparisons between white and black offenders, three between white and Hispanic offenders, and three between black and Hispanic offenders. The NY south district does not parallel the results of the overall data. In contrast to the other districts, white offenders never receive the more severe sentence than either white or black offenders. Instead, in comparisons between white offenders and both groups, minority offenders received the more severe sentence in 66.7% of comparisons. These findings suggest support for hypotheses one and two because offenders with stronger stereotypical associations to crime (i.e. minorities) receive harsher sentences more frequently than comparable white offenders. The NY South district also highlights the difficulty in identifying matches across racial/ethnic groups even in a large city. The NY South district covers Manhattan in addition to other parts of NY which makes it one of the most active courts in the US. Despite the volume of activity, matching offenders remains difficult which highlights the fundamental differences that exist between offenders of different racial/ethnic backgrounds.

Connecticut. The Connecticut district contains five total comparisons. There are two comparisons between white and black offenders, one between white and Hispanic offenders, and two between black and Hispanic offender. The findings do not mirror the full findings. It differs in that black offenders receive the harsher sentence more frequently than white offenders. However, the rest of the findings mirror the full results in that both

white and black offenders receive the harsher sentence more frequently than comparable Hispanic offenders. However, because there are only five total comparisons it is difficult to draw strong conclusions.

North Carolina East. The North Carolina East district contains 17 total comparisons. There are 10 comparisons between white and black offenders, two between white and Hispanic offenders, and five between black and Hispanic offenders. The results in NC east mirror the overall results. White offenders receive the more severe sentence more frequently when compared to both black and Hispanic offenders (70% vs. 20% and 100% vs. 0% respectively). Furthermore, black offenders also receive the harsher sentence more often than Hispanic offenders similar to the overall matched data (60% vs. 40%). There were not large amount of equal or unclear results in the data. Thus, the results from this district do not support hypotheses one or two, but they do support hypothesis three.

California South. The CA South district is located in San Diego which is the second largest city in California. There are 121 total comparisons in the California South district. There are four comparisons between white and black offenders, 47 between white and Hispanic offenders, and 73 between black and Hispanic offenders. The results of the California south district are like the results of the AZ district, which further supports the notion that community characteristics mediate the impact of race on sentence. Just as in the AZ district, Hispanic offenders receive the harsher sentence more frequently when compared to both white and black offenders (51.1% vs. 31.9% and 82.2% vs. 11.0% respectively). In contrast, white offenders receive the more severe sentence more frequently than comparable black offenders. This suggests a difference in the treatment Hispanic offenders relative to white and black offenders, which suggests support for

hypothesis two. The results from this analysis once again highlights the difficulty in matching offenders within districts even when population is large.

Texas West. The Texas West district covers El Paso as well as San Antonio among other areas of Texas. In the Texas West district there are 13 total comparisons. There are three comparisons between white and black offenders, six between white and Hispanic offenders, and four between black and Hispanic offenders. The results from the TX west district do not mirror the results of the full data, as black offenders receive the more severe sentence than white offenders (66.7% vs. 0%). Other than this difference the results mirror the overall matched data. White offenders receive the more severe sentence more frequently than comparable Hispanic offenders (66.7% vs. 33.3%). This is unexpected give the geographic location and area demographics; however, the small number matches means that strong conclusions cannot be drawn. However, the available evidence suggests support for hypotheses two and three, but not hypothesis two.

New Jersey. In the New Jersey district, there are five total comparisons. There are two comparisons between white and black offenders, two between white and Hispanic offenders, and one between black and Hispanic offenders. The results of the comparisons in the NJ district do not resemble the overall matched results. White offenders do not receive the harsher sentence more frequently than either black or Hispanic offenders. In fact, white offenders did not receive the more severe sentence in any comparison. Black offenders receive the more severe sentence in 100% of comparisons with white offenders and Hispanic offenders. In contrast White and Hispanic offenders are equal in 100% of comparisons. This finding suggests that black offenders are treated differently while white and Hispanic offenders are treated the same. However, the small number of matches

precludes strong conclusions. Tables 5.11 to 5.19 present the full data for the comparisons in each district.

Results by primary drug. Next, I present the results by the primary drug type. The drug types present in the analysis are marijuana, methamphetamine, heroin and other. The drugs cocaine and crack did not find any full strata for comparison. Thus, the drugs which historically have the strongest racial associations are missing, which suggests either a strong racial divide in the perpetrators of offenses involving these drugs, differences in the characteristics of offenders between races, or a combination of the two. The relevance of the lack of cocaine and crack matches is expanded upon in the discussion chapter. Tables 5.20 to 5.23 show the data for the comparisons by drug types.

Marijuana. Marijuana is the most numerous drug type in the matched sample. This contrasts with the full data where the largest drug type by number of offenders is methamphetamine. Thus, the matched sample overrepresents marijuana and underrepresents all other drug types. Comparisons involving marijuana total 1903: 466 between white and black offenders, 1108 between white and Hispanic offenders, and 329 between black and Hispanic offenders. Like the full data, white offenders receive the more severe sentence more frequently than either black or Hispanic offenders (37.6% vs. 22.7% and 48.6% vs. 22.2% respectively). Because marijuana comparisons represent the majority of all comparisons in the analysis, the results are similar to results of the overall matched data. Thus, over a third of white and black comparisons are unclear and, in those comparisons, black offenders are more likely to receive a prison sentence. Similarly, Hispanic offenders are more likely to be sentenced to incarceration in unclear comparisons with white offenders; however, unclear comparisons make up only 10.9% of comparisons

between white and Hispanic offenders. Regarding comparisons between black and Hispanic offenders, black offenders receive the more severe sentence 40.4% of the time compared to 32.5% for Hispanic offenders. Thus, the results suggest limited support for hypothesis one, two and three.

Methamphetamine. There are 125 total comparisons among methamphetamine offenders: 4 between white and black offenders, 47 between white and Hispanic offenders, and 73 between black and Hispanic offenders. The results from methamphetamine offenders do not mirror the overall results. Though white offenders do receive the more severe sentence more frequently than comparable black offenders, the same is not true of comparisons between white and Hispanic offenders. Hispanic offenders receive the more severe sentence 51% of the time compared to 31.9% of the time for white offenders. This suggests support for hypothesis two; however, it is unclear whether this finding is associated with the drug itself or factors related of the circuit district (CA south) the offenders were convicted in.

Heroin and other drugs. Though there are comparisons present for both heroin and other drugs, there are not enough comparisons to warrant drawing strong conclusions. Heroin exists in only one stratum and is limited to five total comparisons: 2 between white and black offenders, 1 between white and Hispanic offenders, and 2 between black and Hispanic offenders. The results do not mirror the overall matched data. Black offenders receive the more severe sentence in 100% of the comparisons with white and Hispanic offenders. The white offender receive the more severe sentence in the sole comparison with the Hispanic offender. These findings support hypotheses one and three; however, the evidence is weak due to the limited number of comparisons.

5.3 Regression Results

Linear and logistic regression are frequently utilized to analyze the impact of race/ethnicity on sentencing; therefore, it is appropriate to include results from such an analysis as a comparison to the what is gleaned from a matching approach. Thus, in this section the results of linear and logistic analysis are presented in this section. How these results compare to matching results is detailed in the discussion chapter.

Linear regression. Multiple linear regression assesses the independent effect of several predictor variables on one dependent variable. Thus, before specifying the model it is important to check that the assumptions of the regression are met. First, the dependent variable is the prison sentence in months (*senttot*) which ranges from 0 to 605 where a value of 605 represents a life sentence. It is a bounded continuous variable as values are not only comprised of whole numbers, but instead include measures between full months (e.g. 1.03 months is a valid value); however, there are lower and upper limits (i.e. 0 and life imprisonment). The measure chosen for prison sentences do not include 0 values; therefore, within the analysis no observation will hit the lower boundary. In order to meet the assumption of continuous or categorical independent variables dummy variables I created a dummy variable for each district. I use circuit district 70 as the reference category in the analysis because it is the largest single district. This was done because circuit district is not a continuous variable, but rather represents discrete categories which should not exhibit a linear relationship with sentence length. Second, the linear relationship between predictor and dependent variables is satisfied given that the primary variables of interest are dichotomous.

The results of the analysis are presented in Table 5.26. In the model both black and Hispanic status are significant ($p>.05$). There are numerous other significant variables

including age, sex, and many legal variables. These can be seen in Table 5.24. Being black is associated with an increase in sentence length of 2.59 months which supports hypothesis one. Being Hispanic is associated with an increase in prison sentence of 5.61 months, which supports hypothesis one, but does not support hypothesis three. Other variables of note include citizenship status, primary drug, and the number of dependents. Marijuana is included as the reference category that drugs are compared against. All drugs are significant, and their signs are in the expected direction; however, the magnitude of effect for crack is lower than cocaine (coefficient=22.68 versus 20.53 respectively). Though this is the case, the 95% confidence interval shows substantial overlap between the two drugs (crack=18.42-22.64; cocaine=21.27-24.10). In contrast, the independent impact of methamphetamine is higher than either with a coefficient of 45.00 and a confidence interval of 43.63-46.38. While the number of dependents (*numdepen*) is significant, the magnitude of the effect is small and the sign is positive, suggesting an increase of 1.47 months for each additional dependent. Overall, the model explains 54.8% of the variance found in the data.

Logistic regression. I turn now to the logistic regression, in order to determine whether race impacts the probability of an offender receiving a sentence that involves incarceration. The dependent variable in this analysis is a dummy for whether an offender was sentenced to prison called *prisdum*. Next, as previously noted the unit of observation is offenders and they are not expected to be correlated. The results of the logistic regression are displayed in Table 5.25.

As seen in Table 5.25, being black is significant and associated with 21.73% increase in the odds of being sentenced to prison compared to white offenders. The confidence interval in odds ratios is approximately 1.031 to 1.44. This is consistent with my first hypothesis. In contrast, being Hispanic is not significant. Though the reported odds ratio is in the expected direction, the 95% confidence interval is approximately .96 to 1.35. As the confidence interval crosses one, it indicates that one cannot be sure whether being Hispanic increases or decreases the odds of incarceration when compared to white offenders. Another interesting result is that the number of dependents an offender has is associated with a slight increase in the odds of incarceration. In addition, sex is also significant indicating that being male is associated with greater odds of incarceration with is in line with other studies. Importantly, pretrial detention is also a significant predictor of a sentence of incarceration, which is also aligns with other studies.

Ordered logistic regression. The above presented linear and logistic regression models, are meant to reflect the current standard approach to this analysis. However, because my approach utilizes the full sentence of an offender neither a linear regression nor a logistic regression represent a direct comparison to a simple matching approach. Therefore, I next utilize ordered logistic regression with an ordinal variable with 10 categories[4]. Table 5.26 displays the results of the analysis. The results suggest that neither black nor Hispanic status is significantly associated with categories on the dependent

[4] The categories are divided as follows based on the sentence receive: 1) fines only; 2) community-based sanction only; 3) fines and a community-based sanction; 4) alternative incarceration alone; 5) fines and alternative incarceration; 6) alternative incarceration and a community-based sanction; alternative incarceration, fines, and a community-based sanction; 7) prison alone; 8) prison and fines; 9)prison and a community sanction; 10) prison, a community-based sanction, and a fine.

variable. This is not surprising because most of the offenders of all races are sentenced to the prison alone category. Furthermore, the resulting model explains only 16.51% of the observed variation. Therefore, I conclude that a model devised to be more comparable to the direct matching technique is not a viable option.

5.4 Second Matched Sample

As previously noted, the number of matches quickly approaches zero as more matching characteristics are added due to the tyranny of dimensionality[5]. Thus, the previous matched sample includes relatively few cases in order to achieve the best matches possible. However, due to the phenomenon known as convergence[6] one need not match on every potential variable that may impact the outcome. Instead, one should include only as many characteristics as necessary for the values of variables not included as matching dimensions to begin to approximate each other while simultaneously preserving enough observations for meaningful analysis. In other words, it is a balancing process that relies on the judgment of the researcher. Considering this reality, I created a second matched sample to represent trafficking offenders because the previous match was heavily biased towards possession offenses. In order to achieve this, I remove several variables that greatly reduce total matches.

To achieve a greater number of matches, I first removed circuit district as a matching characteristic. I removed this variable because each district has relatively few offenders; therefore, the potential for matches is also low in each district. Removing circuit district is potentially acceptable because some prior research indicates that community

[5] "Tyranny of dimensionality" refers to the exponential loss of cases as more matching criteria are added (Iacus, King, & Porro, 2012)
[6] Convergence refers to the increasing similarity of matched individuals on unmatched variables as more matching criteria are added (Iacus, King & Porro, 2012).

factors like racial composition of the district did not condition variation between federal court districts (Barkan & Cohn, 2005; Feldmeyer & Ulmer, 2011). Furthermore, district itself is too specific a control as relevant factors for consideration like racial composition, political makeup, and economic conditions may be similar in different districts, which means that offenders in different districts may be comparable (Johnson, Ulmer, & Kramer, 2008). Finally, one can control for circuit district after matching by combining matching with regression. Therefore, it is appropriate to remove circuit district from the matching process.

Next, I removed the offense level. This is justified because it is adequately captured via guidelines minimum and maximum as well as the criminal history category. Third, I removed the guideline year as well as all observations without a guideline year of 2015 or 2016. This is justifiable because the guidelines for drug offenders were unchanged between these years. Finally, I removed the weapon enhancement dummy. Much of the impact of this variable is likely captured by offense level and guideline maximum and minimum; however, the risk does exist that a weapon uniquely inflames judges. The loss of information must be balanced against the number of observations lost by including weapon as a matching characteristic. The inclusion of weapon reduces the number of matched observations by 981 offenders. In contrast, not including weapon results in only 603 matched offenders with a weapons enhancement. In order to preserve more matches, I proceed with a sample that does not include weapon enhancement as a matching criterion. In the following sections, I present the findings from including sample characteristics, overall results, results by primary drug, and results limited to young offender strata.

Sample characteristics. The sample consists of 3714 offenders spread across 485 different strata. As in the previous sample, each stratum contains at least one individual from each race/ethnicity. In Tables 5.27 to 5.29, the demographic characteristics of the sample are shown and compared to the equivalent full data percentages. Racially, the matched and full data are similar; however, white offenders are overrepresented by approximately 9% while Hispanic offenders are underrepresented by roughly the same amount. Regarding gender, the matched sample contains only 226 female offenders which limits the ability to draw conclusions pertaining to female offenders. In both the matched and full data, the single largest age group is 30 to 39. Regarding the distribution of drug types, the matched sample overrepresents methamphetamine offenses by over 20%. The methamphetamine offenses comprise more than half of the entire matched sample. This is important to note because methamphetamine does not have the historic racial associations of other drug types (e.g. crack and cocaine). If race interacts with drug type to produce the greatest disparities, the impact might not be apparent in the overall results due to the prominence of methamphetamine offenses.

The overrepresentation of methamphetamine offenders relative to the others is a symptom of the problems encountered matching offenders of different races in different drug types. These problems become more apparent when comparing the distribution of races on drug type of the matched sample to the full data. For example, matches among crack offenders total 1.48% of the matched sampled or 55 offenders. The low number of matches is the result of the small number of white and Hispanic individuals convicted crack trafficking. A similar problem exists for cocaine offenses, except that it is only the number of white offenders that is lacking. Finally, the same problem exists in the marijuana

category as few black and white individuals are convicted of a primary offense in this category relative to Hispanics. Thus, the drugs offenses with the strongest historic racial associations have the smallest number of matches. The difficulty generating matches of reasonably similar offenders within each drug group highlights the racial differences in drug convictions at the federal level. Convictions for crack trafficking are largely limited to black offenders, cocaine to black and Hispanic offenders, and marijuana to Hispanic offenders. Thus, there are not enough offenders spread between the ethnic groups in these three drug categories to expect many matches. This highlights the difficulty of knowing the independent impact of race and drug type in a regression because, the comparison groups may differ fundamentally.

Considering the underrepresentation of matches in drug categories with historic racial associations and overrepresentation of methamphetamine offenses overall, I divide the presentation of results by whether they aggregated (i.e. overall results) or disaggregated by drug type. This approach allows for the identification of trends in other drug types that are overshadowed by the results in the methamphetamine category. Thus, the next section presents overall results for the full matched sample as well as the overall results for the young offender subset.

Overall results. To begin, it is important to note that due to the differences in the numbers of matched white, black, and Hispanic offenders each group is involved in a different number of comparisons overall. Though each paired group has the same number of direct comparisons (e.g. White compared to Black), the individual ethnic groups have different numbers of average comparisons per offender. Therefore, when interpreting the results, it is important make note of these differences. First, white offenders are in a total

of 7246 comparisons. The 7246 comparisons are composed of 2992 comparisons with black offenders and 4254 comparisons with Hispanic offenders. Hispanics are similar as they are in 7129 total comparisons. This includes 4254 comparisons when compared to white offenders and 2875 comparisons when compared to black offenders. In contrast, black offenders are part of 5867 comparisons. This total includes 2992 comparisons with white offenders and 2875 with . Table 5.32 display the results by each comparison pair and the percentages for each comparison pair.

Regarding comparisons between white and black offenders, white offenders received the more severe sentence 1433 times compared to 1166 times for black offenders. The groups were equal 303 times, and the result was unclear 90 times. When converted to percentages white offenders were sentenced more harshly 47.89% and black offenders 38.97% of the time. These percentages suggest that in equal circumstances white offenders receive the more severe sentence more often than black offenders. This finding suggests that judges ascribe greater blameworthiness and/or dangerousness to matched white offenders if focal concerns theory operates as proffered. However, it is important to note that the differences in sentence between offenders is frequently small (i.e. <6 months incarceration) and/or differ in the length of supervised release. Similarly, white offenders also receive the more severe sentence more frequently than comparable Hispanic offenders. In comparisons between white and Hispanic offenders, white offenders receive the more severe sentence 2300 times compared to 1622 times for Hispanics. The comparisons are equal 195 times and unclear 137 times. When converted to percentages the groups are sentenced more severely in 54.07% and 38.13% of comparisons respectively. Thus, the

findings fail to support hypothesis two as Hispanic offenders are expected to fare worse overall.

Regarding comparisons between black and Hispanic, black offenders are sentenced more harshly 1558 times compared to 1055 time for Hispanic offenders. The groups are equal 130 times and unclear 132 times. When converted to percentages the groups are sentenced more severely in 54.19% and 36.67% of comparisons respectively. Thus, the evidence suggests that black offenders are sentenced more severely than comparable Hispanic offenders which supports my third hypothesis. Additionally, review of the equal and unclear percentages show that white and black offenders are equal in more than double the number of comparisons when compared to the other comparison pairs. This further suggests the increasing parity of sentences between white and black drug offenders overall.

The evidence from the matching analysis does not strongly support the predictions of focal concerns theory overall; however, the literature suggests that the race interacts with age and gender to produce the most severe sentences among those who are young, a minority, and male. Thus, further analysis of the data is required to ascertain whether the predicted effect is present.

Overall results: young & male. Young and male subset consists of 1148 offenders: 238 white, 219 black, and 691 Hispanic. There are 417 comparisons between white and black offenders, 1462 between white and Hispanic offenders, and 1016 between black and Hispanic offenders. Table 5.33 shows the full total and percentages for the comparisons. The results of this analysis are similar but not identical to the full data. For example, comparisons between white and black offenders result in white offenders receiving the more severe sentence 46.77% of the time compared to 39.56% of the time for

black offenders, which is nearly identical to the results in the full data. Regarding comparisons between white and Hispanic offenders, the percentage of comparisons where Hispanics receive the more severe sentence increased to 40.24% while the same value for white offenders decreased to 50.55%. Despite these changes, white offenders still receive the more severe sentence more than half the time when compared to Hispanic offenders. Thus, just as in the full data, the results fail to support hypothesis 1 or 2 because overall white offenders receive the more severe sentence more frequently when compared to either black or Hispanic offenders. Regarding hypothesis 3, the percentage the percentage of times the black offender is sentenced more severely than Hispanic offenders grew to 57.58% while the Hispanic percentage shrank to 28.83%. This finding suggests that offenders who are young, black and male are sentenced more severely than comparable Hispanic offenders. These findings align with those of Albonetti (1997, 1998, 2002) and support my third hypothesis.

Thus far, the results consistently suggest that white offenders receive the harsher sentence more often than black or Hispanic offenders when they are compared, while the same is true of black offenders when compared to Hispanic offenders. However, because methamphetamine offense compose over half of the matched sample, it is possible other relationships are hidden in the comparisons within specific drug categories. Therefore, in the following section I present the results of the analysis by drug type.

Overall results: female offenders. There are only 226 total female offenders in the sample. The majority of offenders were convicted of an offense involving methamphetamine. Overall there are 18 offenders convicted cocaine offenses, 35 convicted of heroin offenses, 46 convicted of marijuana offenses, 122 convicted of methamphetamine

offenses, and 5 convicted of other offenses. Racially, the sample contains 56 white offenders, 45 black offenders, and 125 Hispanic offenders. The results resemble the overall results except that Hispanic offenders receive the more severe sentence more frequently than black offenders (55.56% vs. 37.20%); however, this result is similar to findings from the methamphetamine drug type discussed in the following section. Given that the majority of offenders and comparisons derive from the methamphetamine drug category, it appears that overall the results of analysis of the female subsample resemble the full results. In other words, white offenders receive the more severe sentence more frequently than either black or Hispanic offenders (55.26% vs 32.89% & 60.00% vs. 27.30% respectively).

Results by drug type. ***Methamphetamine.*** As previously noted, methamphetamine offenders make up 58.21% of the matched sample or 2162 offenders. The results in this category mirror the results of the full data. As in the full data white offenders receive the more severe sentence more frequently than black or Hispanic offenders when they are compared (51% & 56.64% of the time respectively). This result is not surprising given that there are more comparisons among methamphetamine offenders than all other drug types combined.

Cocaine. There are 481 cocaine offenders of which 80 are white, 155 are black, and 246 are Hispanic. Comparisons among cocaine offenders do not exactly mirror the full results. For example, black offenders receive the more severe sentence slightly more times than white offenders, 68 times to 66 times. This represents a nearly identical percentage of 41.21% for black offenders and 40% for white offenders while there is an increase in unclear and equal results (10.3% and 8.48% respectively). Despite this difference, the rest of the results mirror those of the full data where both white and black offenders receive the

more severe sentence more frequently when compared to Hispanic offenders. Though black offenders are sentenced more harshly slightly more frequently than white offenders, white offenders are still sentenced to the harsher sentence more frequently than Hispanic offenders. Furthermore, the small number of comparisons between white and black offenders precludes one from interpreting the results strongly.

Crack. Crack offenders represent the single smallest group of offenders in the data totaling only 55 individuals: 8 white, 36 black, and 11 Hispanic. As is apparent from this sample, it is difficult to find matches among crack offenders despite that 25% of all black drug offenders in the full data were convicted of an offense involving crack. The problem derives from the small numbers of white and Hispanic offenders convicted of the same. This alone suggest problems in disentangling the effects of black racial status and conviction of an offense involving crack as the groups convicted appear to be distinct on relevant legal and/or extralegal characteristics. With these issues in mind, the results for all groups are close. White offenders receive the more severe sentences two more times than black offenders when they are compared. Hispanic offenders receive the more severe sentence 4 more times than comparable white offenders. Finally, Hispanic offenders receive the more severe sentence 2 more times than comparable black defendants; however, once again the small number of comparisons precludes strong interpretation.

Heroin. There are 554 heroin offenders in the matched sample making them the second largest groups of offenders after methamphetamine. There are 120 white, 243 black, and 191 Hispanic offenders. These results mirror the full results just as methamphetamine did. White offenders receive the more severe sentence more frequently than both black and Hispanic offenders when they are compared (55.09% vs. 35.48% and

52.67% vs. 38.33% respectively). Like the full data, black offenders also receive the harsher sentence more frequently than Hispanic offenders when they are compared (62.12% vs 33.6%).

Marijuana. There are 364 marijuana offenders comprised of 54 white, 50 black, and 260 Hispanic offenders. Like the crack category, there are concerns regarding the number of matches identified among this drug type as it is heavily biased toward Hispanic offenders. Like crack, the lack of matches suggests fundamental differences between offenders in this category belonging to different racial/ethnic groups. In contrast to the findings within the other drug groups, Hispanic offenders receive harsher sentences than both white and black offenders when they are compared (50.13% vs. 37.53% and 41.96% vs. 31.85% respectively). This finding is particularly important, as marijuana offenses among Hispanics are mostly geographically isolated to the border regions of the southwest which may produce the conditions most likely to influence judicial decision-making according to focal concerns theory.

Other. Offenders convicted of other drug offenses total 98 individuals: 33 white, 34 black, and 31 Hispanic. The number of comparisons is small; therefore, the results must be interpreted cautiously. The results do no minor the full results. For example, black offenders receive the harsher sentence more frequently than both white and Hispanic offenders when they are compared (55.36% vs. 30.35% and 54% vs. 24% respectively). Also, white offenders receive the more severe sentence more frequently than Hispanic offenders (52.83% vs. 26.42%). These findings suggest support the first hypothesis that black offenders receive the more severe sentence more frequently than comparable white

offenders. However, the findings do not support the second hypothesis because Hispanic offender are not sentenced more harshly than white offenders.

Overall the findings by drug type mostly resemble full results; however, findings in the categories cocaine, other, crack and marijuana provide limited support for hypotheses one and two. Hypothesis three is supported nearly universally throughout the analysis. Though the larger sample allowed a more detailed analysis, this came at the expense of both geographic matching (i.e. by circuit district) and matching on weapons enhancement. Furthermore, though the analysis shows that overall white offenders receive the more severe sentence more often than other groups, the individual comparisons were frequently quite close, and the overall totals are also close to one another. Thus, though it appears clear that minority sentences are not generally more severe than the sentences of white offenders it is unclear whether white offenders receive significantly longer sentences. With this in mind, I draw on the flexibility of matching approach and perform a linear regression on the matched data. By using the matched data for the linear regression, I ensure that the groups are truly comparable to one another. In following section, I present the results from this regression.

Matched sample regression. In order to perform the regression, I created a new dependent variable. I undertook this approach for two reasons. First, the detailed comparison approach I utilize compares the total sentence rather than the number of months sentenced to incarceration. Thus, if I use only the prison sentence, I may encounter results that differ greatly from my analysis. In order to combat this, I created a summed measure that includes prison and supervised release. This value is the sum of the number of months in prison and half the months sentenced to supervised release if the total number of months

sentenced to incarceration is greater than half of supervised release. This approach prioritizes prison sentences over the months sentenced to supervised release, however, it excludes alternative incarcerations, hours of community service, and probation sentences. I exclude these sentences because only 109 offenders in the sample are eligible for non-prison sentences. Thus, the majority of the sample's sentences are defined primarily by prison sentences and supervised release.

Table 5.32 displays the results of the regression analysis. The resulting model explains 62.5% of the observed variance. Neither black nor Hispanic status is significant in the model. Instead, the variables with the greatest magnitude of effect are the included drug types, whether the offender provided substantial assistance, and the presence of a weapons enhancement. Cocaine, crack, heroin, methamphetamine, and other drugs are all significant and result in increases in the dependent variable ranging from 24.843 to 71.469 compared to marijuana offenses. Substantial assistance is associated with a decrease of 22.53 in the dependent variable. Finally, the presence of a weapon's enhancement is associated with 18.458 increase in the dependent variable. These findings suggest that the racial effect observed in the full regression may in fact result from structural issues in the data that relate to the comparability of the research groups. Furthermore, the results suggest that legal factors. In the discussion section, I further expand upon the interpretation of these findings.

Table 5.1 Strata Racial Demographics

Strata	Race			Total
	White	*Black*	*Hispanic*	
15	1	1	1	3
44	1	5	2	8
45	13	27	3	43
55	1	4	1	6
57	11	2	88	101
84	1	3	1	5
2675	1	1	1	3
5046	1	1	1	3
5185	1	2	1	4
8807	1	1	21	23
11467	2	5	1	8
33543	1	1	1	3
36107	7	4	1	12
38829	1	1	1	3
40974	5	6	3	14
40979	2	2	1	5
41005	3	1	8	12
42214	2	1	1	4
43219	1	2	25	28
43675	1	1	2	4
43722	3	1	13	17
45036	2	1	2	5
TOTAL	62	73	179	314

Table 5.2 Racial Demographics: Matched Data versus Full Data

Race	Matched *n*	Matched %	Full Data *n*	Full Data %
White	62	19.75	13648	23.61
Black	73	23.25	14054	24.31
Hispanic	179	57.01	30110	52.08
Total	314	100.00	57812	100.00

Table 5.3 Primary Offense: Matched Data versus Full Data

Offense	Matched *n*	Matched %	Full Data *n*	Full Data %
Trafficking	72	22.93	54191	93.74
Possession	242	77.07	3621	6.26
Total	314	100.00	57812	100.00

Table 5.4 Gender Demographics: Matched Data vs. Full Data

Gender	Matched *n*	Matched %	Full Data *n*	Full Data %
Male	224	71.34	48789	84.39
Female	90	28.66	9023	15.61
Total	314	100.00	57812	100.00

Table 5.5 Drug Type Frequency: Matched Data versus Full Data

Drug Type	Matched n	Matched %	Full Data n	Full Data %
Cocaine	0	0	10465	18.13
Crack	0	0	4311	7.47
Heroin	4	1.27	7891	13.67
Marijuana	250	79.62	11027	19.10
Meth	54	17.20	20085	34.80
Other	6	1.91	3940	6.83
Total	314	100	57719	100

Table 5.6 Age Demographics: Matched Data versus Full Data

Age Group	Matched	Matched %	Full Data n	Full Data %
Less than 29	266	84.71	19250	33.30
30 to 39	30	9.55	20550	35.55
40 to 49	3	0.96	12010	20.77
50+	15	4.78	6002	10.38
Total	314	100.00	57812	100.00

Table 5.7 Circuit District Frequency for Matched Sample

Circuit District	Frequency	Percent
CT	4	1.27
NY South	6	1.91
NJ	4	1.27
NC East	8	2.55
VA East	82	26.11
TX West	12	3.82
KY West	11	3.50
AZ	133	42.36
CA South	54	17.20
Total	314	100.00

Table 5.8 Multiple Drugs: Matched versus Full Data

Multiple Drugs?	Matched n	Matched %	Full Data n	Full Data %
No	291	92.68	46197	79.91
Yes	23	7.32	11615	20.09
Total	314	100.00	57812	100.00

Table 5.9 Multiple Counts: Matched versus Full Data

Multiple Counts?	Matched	Matched %	Full Data	Full Data %
No	291	92.68	47107	81.48
Yes	23	7.32	10705	18.52
Total	314	100.00	57812	100.00

Table 5.10 Overall comparison results by dyad

Comparison	1st Race Severe	2nd Race Severe	Equal	Unclear
White & Black	180 (37.7%)	109 (22.8%)	18 (3.8%)	171 (35.8%)
White & Hispanic	557 (48.0%)	271 (23.4%)	203 (17.5%)	129 (11.1%)
Black & Hispanic	145 (35.5%)	167 (40.9%)	56 (13.7%)	40 (9.8%)

*Totals do not sum to 314 because each individual is involved in more than one comparison.

** The first race is the left most race in the dyad (e.g. in the White & Black dyad the first race is white).

Table 5.11 AZ comparison results by dyad

Comparison	1st Race Severe	2nd Race Severe	Equal	Unclear
White & Black	18 (52.9%)	4 (11.8%)	9 (26.5%)	3 (8.8%)
White & Hispanic	508 (49.1%)	223 (21.6%)	199 (19.2%)	104 (10.1%)
Black & Hispanic	86 (41.3%)	63 (30.3%)	46 (22.1%)	13 (6.3%)

Table 5.12 KY West comparison results by dyad

Comparison	1st Race Severe	2nd Race Severe	Equal	Unclear
White & Black	0	0	6 (75%)	2 (25%)
White & Hispanic	2 (66.6%)	0	1 (33.3%)	0
Black & Hispanic	1 (16.7%)	0	4 (66.7%)	1 (16.7%)

Table 5.13 VA East comparison results by dyad

Comparison	1st Race Severe	2nd Race Severe	Equal	Unclear
White & Black	151 (36.7%)	95 (23.1%)	2 (0.5%)	164 (39.8%)
White & Hispanic	25 (40.3%)	20 (32.3%)	0	17 (27.4%)
Black & Hispanic	41 (38.7%)	40 (37.7%)	3 (2.8%)	22 (20.8%)

Table 5.14 NY South comparison results by dyad

Comparison	1st Race Severe	2nd Race Severe	Equal	Unclear
White & Black	0	2 (66.7%)	0	1 (33.3%)
White & Hispanic	0	2 (66.7%)	0	1 (33.3%)
Black & Hispanic	1 (33.3%)	1 (33.3%)	0	1 (33.3%)

Table 5.15 CT comparison results by dyad

Comparison	1st Race Severe	2nd Race Severe	Equal	Unclear
White & Black	0	2 (100%)	0	0
White & Hispanic	1 (100%)	0	0	0
Black & Hispanic	2 (100%)	0	0	0

Table 5.16 NC East comparison results by dyad

Comparison	1st Race Severe	2nd Race Severe	Equal	Unclear
White & Black	7 (70%)	2 (20%)	1 (10%)	0
White & Hispanic	2 (100%)	0	0	0
Black & Hispanic	3 (60%)	2 (40%)	0	0

Table 5.17 CA South comparison results by dyad

Comparison	1st Race Severe	2nd Race Severe	Equal	Unclear
White & Black	3 (75%)	0	0	1 (25%)
White & Hispanic	15 (31.9%)	24 (51.1%)	1 (2.1%)	7 (14.9%)
Black & Hispanic	8 (11.0%)	60 (82.2%)	2 (2.7%)	3 (4.1%)

Table 5.18 TX West comparison results by dyad

Comparison	1st Race Severe	2nd Race Severe	Equal	Unclear
White & Black	0	2 (66.7%)	0	1 (33.3%)
White & Hispanic	4 (66.7%)	2 (33.3%)	0	0
Black & Hispanic	2 (50%)	1 (25%)	1 (25%)	0

Table 5.19 NJ comparison results by dyad

Comparison	1st Race Severe	2nd Race Severe	Equal	Unclear
White & Black	0	2 (100%)	0	0
White & Hispanic	0	0	2 (100%)	0
Black & Hispanic	1 (100%)	0	0	0

Table 5.20 Marijuana comparison results by dyad

Comparison	1st Race Severe	2nd Race Severe	Equal	Unclear
White & Black	175 (37.6%)	106 (22.7%)	16 (3.4%)	169 (36.3%)
White & Hispanic	539 (48.6%)	246 (22.2%)	202 (18.2%)	121 (10.9%)
Black & Hispanic	133 (40.4%)	107 (32.5%)	54 (16.4%)	35 (10.6%)

Table 5.21 Methamphetamine comparison results by dyad

Comparison	1st Race Severe	2nd Race Severe	Equal	Unclear
White & Black	3 (75%)	0	0	1 (25%)
White & Hispanic	15 (31.9%)	24 (51.0%)	1 (2.1%)	7 (14.9%)
Black & Hispanic	8 (11.0%)	60 (82.2%)	2 (2.7%)	3 (4.1%)

Table 5.22 Other comparison results by dyad

Comparison	1st Race Severe	2nd Race Severe	Equal	Unclear
White & Black	0	1 (50%)	0	1 (50%)
White & Hispanic	0	1 (50%)	0	1 (50%)
Black & Hispanic	1 (50%)	0	0	1 (50%)

Table 5.23 Heroin comparison results by dyad

Comparison	1st Race Severe	2nd Race Severe	Equal	Unclear
White & Black	0	2 (100%)	0	0
White & Hispanic	1 (100%)	0	0	0
Black & Hispanic	2 (100%)	0	0	0

Table 5.24 Linear Regression Table

Linear regression				Number of obs	=	49892
				F(115, 49776)	=	367.76
				Prob>f	=	0.0000
				R-squared	=	0.5480
				Root mse	=	45.909

Senttot	Coef	Robust Std. Err.	T	P>|t|	95% Confidence Interval	
Black	2.588	0.768	3.370	0.001	1.081	4.096
Hispanic	4.619	0.733	6.300	0.000	3.183	6.056
Age	0.420	0.020	20.630	0.000	0.380	0.459
Sex	17.941	0.527	34.040	0.000	16.908	18.974
Zone_1	17.202	0.475	36.150	0.000	16.269	18.135
Glmax	0.014	0.000	32.160	0.000	0.013	0.015
Glmin	0.015	0.001	15.020	0.000	0.013	0.017
Detention	25.220	0.506	49.780	0.000	24.226	26.213

Trafficking	5.127	2.969	1.730	0.084	-0.692	10.946
Neweduc	-0.383	0.136	-2.820	0.005	-0.650	-0.117
Mitcap	-23.223	0.584	-39.720	0.000	-24.369	-22.077
Cocaine	22.683	0.723	31.370	0.000	21.265	24.100
Crack	20.530	1.076	19.070	0.000	18.419	22.640
Heroin	22.727	0.814	27.890	0.000	21.129	24.324
Meth	45.007	0.701	64.140	0.000	43.632	46.382
Other	16.009	1.062	15.070	0.000	13.927	18.091
Substan	-18.005	0.512	-35.150	0.000	-19.009	-17.001
Weapon	25.167	0.700	35.910	0.000	23.793	26.540
Monaccep	4.066	0.629	6.460	0.000	2.833	5.300
Newcit	-6.902	0.549	-12.560	0.000	-7.979	-5.825
Newcnvtn	50.951	3.012	16.910	0.000	45.046	56.857
Numdepen	1.468	0.125	11.700	0.000	1.222	1.714
Nocounts	0.440	0.169	2.600	0.009	0.108	0.773
Nodrug	3.853	0.342	11.250	0.000	3.182	4.524
Nocomp	2.596	0.615	4.220	0.000	1.391	3.802
Amendyr	0.225	0.355	0.630	0.525	-0.470	0.921

Table 5.25 Logistic Regression Table

Logistic regression	Number of obs	=	53,128
	LR chi2 (115)	=	10589.07
	Prob > chi2	=	0.0000
Log likelihood= -4272.216	Pseudo R2	=	0.5534

Prisdum	**Odds ratio**	**Std. Err.**	**Z**	**P>|z|**	**95% Confidence Interval**	
Black	1.217	0.103	2.330	0.020	1.031	1.437
Hispanic	1.138	0.100	1.470	0.142	0.958	1.353
Age	1.005	0.003	1.870	0.061	1.000	1.010
Sex	1.852	0.116	9.880	0.000	1.639	2.093
Zone_1	2.487	0.127	17.880	0.000	2.251	2.748
Glmax	1.000	0.000	-0.770	0.441	0.999	1.001
Glmin	1.025	0.002	16.530	0.000	1.022	1.028
Detention	37.440	3.943	34.400	0.000	30.457	46.023
Trafficking	0.884	0.146	-0.750	0.455	0.640	1.221
Neweduc	0.946	0.017	-3.040	0.002	0.912	0.980
Mitcap	1.191	0.160	1.300	0.194	0.915	1.549
Cocaine	1.514	0.159	3.940	0.000	1.232	1.861
Crack	0.941	0.139	-0.410	0.679	0.705	1.256
Heroin	1.355	0.151	2.730	0.006	1.089	1.686
Meth	0.907	0.100	-0.890	0.374	0.732	1.125

Other	0.559	0.057	-5.660	0.000	0.457	0.684
Substan	0.494	0.036	-9.760	0.000	0.429	0.569
Weapon	1.066	0.121	0.560	0.572	0.854	1.331
Monaccep	1.239	0.096	2.760	0.006	1.064	1.443
Newcit	4.432	0.654	10.090	0.000	3.319	5.918
Newcnvtn	1.568	0.784	0.900	0.369	0.588	4.178
Numdepen	1.054	0.020	2.820	0.005	1.016	1.093
Nocounts	1.011	0.015	0.730	0.467	0.981	1.042
Nodrug	1.111	0.054	2.170	0.030	1.010	1.222
Nocomp	1.093	0.260	0.380	0.707	0.687	1.741
Amendyr	1.059	0.039	1.570	0.116	0.986	1.139

Note: 0 failure and 336 successes completely determined.

Table 5.26 Experimental Logistic Regression Table

Logistic regression				Number of obs=		51,412
				LR chi2 (115) =		8517.20
				Prob > chi2 =		0.0000
Log likelihood= -21538.312				Pseudo R2 =		0.1651
Sanctions	**Coef.**	**Std. Err.**	**z**	**P>|z|**	**[95% Confidence**	**Interval]**
Black	0.054	0.049	1.110	0.268	-0.042	0.150
Hispanic	0.039	0.049	0.800	0.426	-0.057	0.134
Age	0.005	0.001	3.280	0.001	0.002	0.008
Monsex	-0.455	0.044	-10.260	0.000	-0.541	-0.368
Detention	1.125	0.045	24.770	0.000	1.036	1.214
Glmax	0.000	0.000	1.040	0.298	0.000	0.000
Glmin	0.000	0.000	1.130	0.260	0.000	0.000
Trafficking	-0.353	0.141	-2.510	0.012	-0.628	-0.077
Zone_1	1.204	0.032	37.120	0.000	1.141	1.268
Cocaine	0.275	0.059	4.660	0.000	0.160	0.391
Crack	-0.176	0.079	-2.240	0.025	-0.330	-0.022
Heroin	0.102	0.064	1.590	0.112	-0.024	0.229
Meth	0.138	0.056	2.450	0.014	0.027	0.248
Other	0.229	0.075	3.040	0.002	0.081	0.376
Neweduc	0.040	0.010	4.050	0.000	0.021	0.059
Mitcap	-0.213	0.067	-3.190	0.001	-0.344	-0.082
Monaccep	0.124	0.030	4.120	0.000	0.065	0.183
Substan	0.056	0.038	1.460	0.143	-0.019	0.131
Weapon	0.071	0.039	1.810	0.071	-0.006	0.149
Newcit	-0.627	0.044	-14.280	0.000	-0.713	-0.541
Newcnvtn	-0.212	0.125	-1.700	0.089	-0.457	0.033
Numdepen	-0.006	0.009	-0.700	0.486	-0.023	0.011
Nocounts	0.013	0.004	2.990	0.003	0.004	0.021

Nocomp	0.059	0.019	3.170	0.002	0.023	0.096
Amendyr	-0.169	0.019	-8.970	0.000	-0.206	-0.132

Table 5.27 Racial Demographics: 2nd Matched Data versus Full Data

Race	**Matched *n***	**Matched%**	**Full Data *n***	**Full Data%**
White	1257	33.84	11681	24.12
Black	942	25.36	12243	25.29
Hispanic	1515	40.79	24496	50.59
Total	3714	100.00	48420	100.00

Table 5.28 Gender Demographics: 2nd Matched Data versus Full Data

Gender	**Matched *n***	**Matched %**	**Full Data *n***	**Full Data%**
Male	3488	93.91	40777	84.22
Female	226	6.09	7643	15.78
Total	3714	100.00	48420	100.00

Table 5.29 Gender Demographics: 2nd Matched Data versus Full Data

Age	**Matched *n***	**Matched %**	**Full Data *n***	**%**
<=29	1295	34.87	15526	32.07
30-39	1624	43.73	17463	36.07
40-49	620	16.69	10339	21.35
>=50	175	4.71	5092	10.52
Total	3714	100.00	48420	100.00

Table 5.30 2nd Matched sample: Overall comparison results by dyad

Comparison	**1st race severe**	**2nd race severe**	**Equal**	**Unclear**
White vs Black	1433 (50.0%)	1166 (40.7%)	175 (6.1%)	90 (3.1%)
White vs Hispanic	2300 (54.1%)	1622 (38.1%)	195 (4.6%)	137 (3.2%)
Black vs Hispanic	1558 (54.2%)	1055 (36.7%)	130 (4.5%)	132 (4.6%)

Table 5.31 Young male subsample comparison results by dyad

Comparison	**1st race severe**	**2nd race severe**	**Equal**	**Unclear**
White vs black	195 (46.8%)	165 (39.6%)	28 (6.7%)	29 (7.0%)
White vs Hispanic	739 (50.5%)	591 (40.4%)	71 (4.9%)	61 (4.2%)
Black vs Hispanic	585 (57.6%)	293 (28.8%)	44 (4.3%)	94 (9.3%)

Table 5.32 Matched Sampled Linear Regression Table

Linear regression		Number of obs	=	2,561
		F(115, 49776)	=	39.54
		Prob>f	=	0.0000
		Adj R-squared	=	0.6214

Sentextra	Coef.	Std. Err.	t	P>|t|	[95% Confidence	Interval]
Black	1.170	2.623	0.450	0.656	-3.973	6.313
Hispanic	2.605	2.531	1.030	0.303	-2.358	7.569
Age	0.406	0.109	3.740	0.000	0.193	0.619
Monsex	-17.837	4.072	-4.380	0.000	-25.822	-9.853
Glmax	0.013	0.002	7.440	0.000	0.010	0.016
Glmin	0.024	0.004	6.490	0.000	0.017	0.032
Totchpts	3.060	0.146	20.900	0.000	2.773	3.347
Cocaine	35.103	4.192	8.370	0.000	26.883	43.323
Crack	55.525	8.452	6.570	0.000	38.951	72.099
Heroin	36.974	4.617	8.010	0.000	27.920	46.029
Meth	71.469	3.937	18.150	0.000	63.749	79.188
Other	24.843	8.001	3.110	0.002	9.154	40.533
Substan	-22.530	3.703	-6.090	0.000	-29.791	-15.270
Weapon	18.458	2.533	7.290	0.000	13.492	23.424
Mitcap	-17.977	3.481	-5.160	0.000	-24.803	-11.151
Newcit	6.873	4.015	1.710	0.087	-1.000	14.745
Numdepen	2.179	0.570	3.830	0.000	1.062	3.296
Nocounts	8.049	2.751	2.930	0.003	2.655	13.444
Nocomp	13.764	14.690	0.940	0.349	-15.042	42.570

Chapter 6

Discussion

The purpose of the present study was to test the predictions of focal concerns theory using a matching method that is uncommon in the extant literature. Furthermore, the results of the approach were compared to results from more common regression techniques with the hope that the comparison can identify the unique benefits of matching. The results of this analysis and comparison suggest that federal drug offender data suffers from comparability problems across race/ethnicity and that regression techniques alone are insufficient to address the fundamental issue. In the following section I discus the results of the analysis, how they relate to the literature and my hypotheses, and conclude with suggestions for future research.

The central finding of the study is that there is limited comparability across race/ethnicity among federal drug offenders because they differ substantially on variables of interest. This reality is most apparent in the first set of matching comparison results. When one attempts to match on the sentencing district along with other relevant characteristics only 314 offenders are matched across 22 strata. Furthermore, most matched offenders were convicted of a possession offense rather than more common trafficking offenses. Even within large districts that contain major cities like NY South and CA South, there are limited matches which highlights the lack of comparability between groups. The reality of limited comparisons is highlighted in Tables 5.11 to 5.19 where several states have zero comparisons that fall into various categories due to the limited number of

comparisons in the district. These findings suggest that trafficking offenders differ across race on relevant characteristics. If groups of offenders are fundamentally dissimilar on variables of interest, it is dubious to believe that regression can identify the unique impact of each because the effect may differ by race or interact with race. Standard regression techniques are not designed to identify or address these issues. For example, results from the VA East district suggest that judges employ different sentencing techniques when sentencing black offenders compared to white offenders, while the same is true for Hispanic offenders compared to white offenders in the AZ district. While these findings support hypotheses 1 and 2, the fact that these results are not consistent across district suggests that the impact of race varies by district which cannot be captured in a standard regression. Though multilevel regression provides some protection and allows for interaction, it cannot create comparable units where there are none. Thus, in samples with substantial differences in the makeup of the comparison groups it may still give an erroneous result. Furthermore, the large sample sizes common in sentencing research increase the likelihood of identifying a significant effect regardless of whether sample characteristic issues are identified or addressed. Thus, the current study identifies a potential pitfall that may impact myriad sentencing studies.

Other important results from the study derive from the comparisons rather than from what the matched sample reveals about the comparability of groups. Within the first matched sample, the findings overall suggest that white offenders receive the more severe sentence more frequently when compared to both black and Hispanic offenders; however, with the important caveat that both black and Hispanic offenders are sentenced to prison more frequently in unclear comparisons. Therefore, the overall results of the first sample

do not support hypotheses 1 and 2; however, the results of the unclear comparisons suggest that minorities are disadvantaged in the decision to incarcerate. For example, comparisons between white and Hispanic offenders in AZ are unclear in 10.1% of comparisons or 104 comparisons. Thus, the AZ districts contains most of the unclear comparisons between white and Hispanic offenders (104 of 129). The findings in AZ suggest there is variation in how judges choose to sentence white and Hispanic offenders, with judges preferring incarceration more often for Hispanic than white offenders. When Hispanic offenders are compared to black offenders, black offenders receive the more severe sentence 41.3% of time compared to 30.3% for Hispanic offenders. This result supports hypothesis three generally; however, it calls into question aspects of focal concerns theory. Focal concerns theory posits, in part, that offenders will receive more severe sentences where they represent collective fears about crime. Hispanic offenders in Arizona likely fit stereotypes of the area; however, the data suggests that black offenders still receive harsher sentences more frequently. Thus, it remains an open question whether local culture and concerns mediate the effect of race on sentencing in federal courts. Further study of the impact of courtroom communities on federal sentencing may answer this question in the future.

The impact of factors related to geography are also observed in the results from VA East. Like AZ contains most of the unclear comparison between white and Hispanic offenders, VA East contains most of the unclear comparisons between white and black offenders (164 of 171). Within these unclear comparisons there appears to be a preference for imprisoning black offenders compared to white offenders. Given the history of the southeastern US, black offenders may more closely reflect the areas fears regarding crime. As discussed in chapter 2, black offenders have traditionally been associated with violent

predation and drugs as these were used as justifications for their treatment under slavery and Jim Crow. The evidence for geographic variation from AZ and VA East is bolstered by findings from CA South and NY South which both show signs of disparities between white and minority offenders; however, the small number of comparisons in each group precludes strong conclusions. Though no predictions were made regarding geographic variation, the results suggest support that for the notion that geography impacts sentencing; however, because geography is used as a proxy for community factors it is unclear whether it is community context or some other factor correlated with geography that causes the observed variation (Kane, 2003; Fearn, 2005; Rodriguez, 2007). The findings thus far suggest that white offenders fare worse than minorities in sentence severity, while minorities appear disadvantaged in the decision to incarcerate. Though white offenders receive the more severe sentence more frequently than comparable minority offenders, it is important to note that most of the sentences were similar. Thus, my findings mirror previous studies which failed to find minority disadvantage in sentence severity but find disparities in the decision to incarcerate (e.g. Demuth & Steffensmeier, 2004).

When disaggregated by drug type, the predicted impact of race on sentencing does not manifest among offenders in the first matched sample. This is because the drugs types with the strongest historic links to race (cocaine and crack) generate no matched strata. Though the results fail to support the notion that race interacts with drug type to produce move severe sentences, the results underscore the reality that there is a lack of comparability across race on numerous characteristics. The lack of matches highlights the difficulty in assessing associations of "dangerousness" with black offenders convicted of crack or cocaine crimes. However, the results from the methamphetamine drug type

suggest that the principle may operate on Hispanic offenders when compared to white offenders, which supports hypothesis 2 but not hypothesis 3. Though the results from the methamphetamine drug type suggests that Hispanics may be disadvantaged in sentencing compared to white and black offenders, they must be interpreted cautiously because the methamphetamine drug group is essentially the same as the CA South group. Therefore, it is impossible to determine whether the impact of race is mediated by community context (i.e. circuit district) or by drug type. This finding once again highlights the difficulties that result from the lack of matches across both drug types and districts.

The results overall suggest that black and Hispanic offenders do not fare worse than white offenders in terms of sentence severity; however, the unclear comparisons suggest that minority offenders are more likely to receive a prison sentence in certain jurisdictions. These results align some findings from the extant literature which find that race impacts the decision to incarcerate, but not the sentence length (Mitchell, 2005; Jordan & Freiburger, 2015). Furthermore, the results suggests that black offenders fare worse than Hispanic offenders which is consistent with some prior studies (e.g. Wang & Mears, 2010). In order to determine what additional information, if any, was produced by matching, a comparative analysis was done utilizing linear and logistic regression. The linear regression results suggest that both black and Hispanic offenders receive longer sentences than white counterparts; however, the finding suggests that Hispanic ethnicity has a greater magnitude of effect than the black racial category. These findings contrast with the results of the matching analysis which suggests that white offenders receive the more severe sentence more frequently than minorities and that black offenders fare worse than Hispanic offenders. Therefore, the results appear contingent on the method of analysis which

suggests that they should be interpreted with caution. Regarding the logistic regression, the black racial category is significant, and odds ratio is in the expected direction. In contrast, Hispanic ethnicity is not significant. Thus, the findings from both the linear and logistic regression deviate from the first matched sample findings. The observed differences may be the result of the incomparability of units in the regression analyses, the overrepresentation of possession offenses in the first matched sample, the lack of representative drug types, or even the differences in distribution among drug types. Furthermore, the low number of matches in the matching analysis does not inspire confidence in the observed relationships. Despite the limitations presented by the low number of matches, the matched sample results suggest that there may be internal validity problems within the regression analysis.

The lack of matches in the first sample necessitated a second matched sample which dropped some variables in order to achieve a greater number of matches among trafficking offenders. In particular, circuit district and potentially redundant case offense severity measures were dropped. This process reduced some of the control of variance gained by the more extensive matching that produced the first sample; however, the loss is counterbalanced by an increase in sample size which increases one's ability to draw conclusions. Furthermore, the matching approach allows for use of regression on the matched sample which means that additional controls can be utilized in analysis on a sample that is more comparable across variables of interest (Iacus, King, & Porro, 2012). Using regression and matching together allows for familiar measures such as regression coefficients and significance levels to be utilized which creates a result directly comparable to regressions done on unmatched data. However, the use of regression eliminates some of

the nuance available when direct pairwise comparisons are used. Therefore, I conducted both the pairwise comparisons and regression analysis on the second matched sample. Additionally, in order to assess predictions of an interactive effect between race, age, and gender I conduct pairwise comparisons on a subset of the sample consisting of only offenders who are young and male.

The overall results from the second matched sample mirror the first matched results in that white offenders receive the more severe sentence more frequently when compared to both minority groups. Furthermore, black offenders appear to fare worse than Hispanic offenders just as they did in the first matched sample. The similarity of the first and second matched sample's overall results suggests that the impact of race is similar in both samples, which increases confidence in the results overall. However, unlike the first sample, the second sample's increased size and distribution of offenders allows for an analysis of all drug types and an analysis of a subset of young male offenders.

The first drug type is methamphetamine where the results mirror the full data. This is unsurprising as over 58% of offenders in the second matched sample have a conviction for a methamphetamine offense. The overrepresentation of methamphetamine offenses is important because focal concerns theory posits that in general minority offenders will receive the more severe sentence because of judicial reliance on stereotypes in the absence of information (Hewstone, 1990; Albonetti, 1991). Furthermore, this relationship is believed to be stronger when the relationship between the offense and offender reinforce stereotypes about offenses and offenders. Methamphetamine does not have a strong historic association with either minority group. Thus, focal concerns theory suggests that the relationship between race/ethnicity is less likely to be strong among offenders in this

category. However, one must also consider that race/ethnicity may also serve as an indicator of dangerousness which may increase sentence severity (Crow & Bales, 2006; Albonetti, 2017). The findings do not support this conclusion. Instead, as has been previously suggested, the ascribing of these characteristics to minority offenders may only occur when the present offense overlaps with community beliefs/fears related to crime (Barkan & Cohn, 2005). Therefore, though the findings do not support my hypotheses, it is possible that stronger support exist among other drug types more closely associated with minority groups.

Comparisons within the cocaine drug type do not exactly mirror the overall results. Instead, black offenders receive the more severe sentence two more times than comparable white offenders, which does not strongly suggest that black offenders are disadvantaged. Both black and white offenders receive the more severe sentence more often than Hispanic offenders which is similar to the overall results. However, the cocaine drug category suffers from relatively low numbers of unique offenders, which demonstrates once again that the offenders who commit offenses within the different drug categories are quite different. Despite eliminating the need for offenders to be from the same district only 481 of the 9220 cocaine offenders were matched. The lack of matches is driven by the fact that there are only 592 white cocaine offenders available. Thus, even in the raw numbers it is apparent that offenders differ substantially on variables of interest. Therefore, while the results suggest some support for hypotheses 1 and 3, they must be considered in light of the structural problems in the data.

The crack sample similarly suffers from a low number of matched offenders. Of the 55 individuals the majority were black. The distribution mirrors the full data as 3149

of the 3795 crack offenders are black. Thus, the crack sample further exemplifies the sort of fundamental differences that exist in the structure of the data regarding race. The results of the comparisons suggest that white offenders are sentenced more severely more often than black offenders but less frequently compared to Hispanic offenders. In contrast, Hispanic offenders receive the more severe sentence more often than comparable white offenders. Thus, the results within the crack category suggest support for hypothesis 2 but not hypotheses 1 and 3. This is despite the well-known historic association between black offenders and crack; however, the small number of comparisons and the greater issue regarding the data's structure precludes generalization to crack offenders overall. Instead, the results call into question how one could know the independent impact of race on the sentencing of federal crack offenders when federal crack offenses are so closely tied to the race of the defendant.

Within the heroin drug category, the results mirror the full results. Though heroin has some historical association with black offenders, the results do not suggest that black offenders fare worse than white offenders at sentencing (). Focal concerns theory predicts that minority status is most associated with increased sentence severity when the offense and offender represent the stereotypical criminal element the court sees regularly. Thus, the findings do find support for this notion when comparing black and white offenders. However, the results do indicate that black offenders fare worse than Hispanic offender. Therefore, the results within the heroin drug category fail to support hypotheses one and two but do support hypothesis three.

Unlike other drug types, the findings from marijuana suggest that Hispanic offenders fare worse than both white and black offenders. As marijuana offenses are

primarily located in the southwestern border states and are most common among Hispanic offenders, the results suggests support for focal concerns theory. In particular, the results within the marijuana drug type suggest that Hispanics are sentenced more severely in places where their population is high, and where Hispanic offenders have high involvement in a common crime. Thus, the findings support hypothesis 2; however, hypothesis 1 and 2 are unsupported. The results also find potential support for the racial threat hypothesis; however, the analysis lack specific indicators of minority population size which prevents strong support for the theory. This category once again shows the structural problems of the data due to the small numbers of matched white and black offenders. Thus, the results of the comparisons should be interpreted with caution. However, even with caution the analysis of marijuana offenders provide support for focal concerns theory and suggests that the geographic component of the theory remains relevant in federal court despite the reduction of local pressures on judicial decision-making.

The last category of drugs is "other" which serves as a catchall category. Therefore, there is no expectation, nor could there be a clear association between race/ethnicity and drug type. The results in this category differ from the overall results in that black offenders are sentenced more severely more frequently than both white and Hispanic offenders. In contrast, white offenders receive the more severe sentence more frequently than Hispanic offenders. Thus, the findings within the "other" drug category suggest support for hypothesis 1 and 3 but not hypothesis 2. However, there were only 98 matched individuals which precludes drawing strong conclusions and highlights the stark differences that must exist across race within the category.

The final portion of the pairwise analysis focused on the only those offenders who are both young and male. This analysis was undertaken because previous research suggests that the most severe sentencing disparities occur when minority offenders are both young and male (e.g. Spohn & Holleran, 2000). The results from the analysis still suggest that white offenders receive the more severe sentence more frequently than either black or Hispanic offenders; however, the results are closer than the overall analysis. Thus, overall the pairwise matched comparison analysis of both the first matched sample, the second matched sample, and the young, male subset of the second sample support hypothesis 3 and fail to support hypotheses 1 and 2. In contrast, the results of the pairwise comparisons suggest that white offenders actually fare worse than either black or Hispanic offenders; however, closer examination of the results indicates that even when white offenders receive the more severe sentence the difference is small. Frequently, the difference in sentence is a less than a month. Therefore, in the final part of the analysis, I performed a linear regression on the matched sample.

In addition to determining whether the sentences of black and Hispanic offenders differ significantly from the sentences imposed on white offenders, the regression also allowed me to control for weapon's enhancements which was dropped as a matching characteristic in the second matched sample. The resulting regression explains 62.14% of the observed variation and finds that neither the black nor Hispanic variables are significant in the analysis. However, it does find that crack is significant and has a large coefficient. The strength of the crack variable is important due to the high degree of association that crack offenses have with the black racial category. Though other drug types are significant with high coefficients as well, only crack has such a high degree of association with single

racial group. These findings further highlights the structural issues in the data and the difficulty in ascertaining the independent impact of race/ethnicity on sentence severity.

Considering all the results from the present study suggests that race/ethnicity does significantly impact sentence severity among federal drug offenders. However, the more relevant finding from this study relates to the structural issues within the federal drug sentencing data. The structure of the data and results from matching suggests differences between the three racial groups which calls into question their comparability when the entire data is used for regression analysis. As the current study demonstrates, the results of the analysis differ when the groups are matched. In other words, the differences observed when a regression analysis is performed on the full data disappear when analysis is performed on the matched data. However, this finding does not mean that there is no disparity. Indeed, sentencing disparity may be hidden among offenders that exemplify stereotypes of their racial/ethnic group but have no direct comparable unit among the other groups. This reality ultimately limits the generalizability of the study. However, this approach ensures the comparability of the groups and thus allows me to be sure of the relationships identified. Due to the low numbers of matched offenders it is premature to suggest that prior studies reach erroneous conclusions. The current study instead suggests that researchers must consider the fundamental comparability issues that may exist in sentencing data and employ methods to identify and address these problems.

The findings of the current study should also be considered in light of the critique of the Heckman two-step which also attempts to deal with the problems of nonrandom samples (Bushway et al., 2007). As Bushway and colleagues note (2007), the problems of nonrandom samples are primarily substantive rather than technical. In terms of sentencing

research, it is difficult to conceive of a variable use as an exclusion restriction due to the reality that outcomes across all stages that lead to sentencing are correlated. An exclusion restriction must have a nonzero coefficient in the selection equation but must not appear in the equation of interest. For example, consider arrest as the first stage and sentencing as the last stage. In order to properly employ the Heckman correction, one must find a variable that impacts arrest, but has no impact on sentencing. However, in reality all characteristics that criminologists suggest impact arrest also impact sentence. This harkens back to the idea that the difficulties of the Heckman correction are substantive rather than technical. Without knowledge of the sources of bias at each stage, it is difficult to correct for sample selectivity and one cannot have confidence in the estimates generated. In other words, without understanding of the sources of bias one can still use the Heckman correction; however, one cannot be reasonably confident in the generated results. It is this reality that led Bushway and colleagues to the criticism of the technique as applied in criminal justice research.

Thus, parametric solutions like the two-step are best used when researchers have a clear understanding of how and why bias enters the sample. When this information is missing or unclear the Heckman two-step may be worse than the nonrandom sample itself. Until there is greater understanding of the source and magnitude of sample bias, it is prudent to utilize nonparametric solutions when possible in an attempt to adjust for the problems of nonrandom samples. This is not to suggest that matching does not come with its own pitfalls. It is apparent from the present study that extensive matching results in the loss large portions of the sample. Though this increases internal validity, it imposes severe restrictions on the generalizability of the study. Thus, it is important to note that there is a

balance that must be struck between preserving the generalizability of the analysis. The current study focuses on detailed comparisons of sentences between rigorously matched offenders; however, future research need not be as restrictive in its approach. For example, because of the lack of comparability within drug groups it may be more appropriate to forego matching on that characteristic and instead utilize drug type as a control in a regression on the matched sample. Similar decisions can be made in pursuit of a sample large enough to preserve generalizability, but with groups of interest that are comparable enough to produce confidence in estimates.

Though the study set out to assess the impact of race on sentencing outcomes, it is important to note that this analysis only deals with one decision in a long line of decisions. Therefore, the current study is not capable of controlling for prior potentially biased decisions (e.g. bail and charging decisions) which may impact sentencing. Therefore, though study does not find support for racially disparate sentencing it does not rule out sources of disparity at other stages of the process. Indeed, recent research finds that there are other sources of disparity at earlier stages of the of the sentencing process (e.g. Metcalf & Chiricos, 2018). In addition to not accounting for bias at other stages, the current study also lacks information regarding the strength of the prosecution's evidence against the offender. Focal concerns theory states that judges rely on stereotypes in the absence of relevant information; therefore, the theory predicts that the disparities are most likely when information is lacking. Though the extant research does not find support for this notion, the limited number of studies on the topic and the difficulty quantifying evidence strength should give researchers pause before dismissing the relevance of case information (Rossman et al., 1980; Bushway et al., 2014;). However, despite these limitations the

central finding of this study relating to the potential comparability problems across race are not affected by this limitation. Thus, future research should consider incorporating matching techniques into study designs in order to address comparability issues across racial groups.

Overall, the current study attempts to contribute to the literature by utilizing a novel methodological technique on a common problem: sentencing disparities. The findings overall, do not appear to support focal concerns theory. Instead, the findings suggest near parity among similarly situated offenders of different racial/ethnic backgrounds. However, the results also expose the relative incomparability of different racial/ethnic groups of offenders. The incomparability of groups raises old concerns regarding how social science researchers approach analysis of nonrandom samples. In light of Bushway and colleagues (2004) critiqued of the improper use of the Heckman two-step, my study explores a nonparametric approach to adjusting the sample not subject to the identified pitfalls. Though my approach does not attempt to account for the bias that may impact the full data, it does allow the researcher to be sure that analyzed groups are comparable at the expense of generalizability. By using this technique in conjunction with traditional methods researchers may begin to find some consistency in the results. Future research should utilize this technique on state sentencing data to ascertain whether the same patterns develop. Researchers ought to think carefully about the level of disaggregation to utilize in the matching. Though matching within geographic areas is an easy control, it is highly restrictive. Instead, future research should focus on distinct measurable characteristics of places such as demographic makeup, rural vs. urban, and political makeup. Doing so will allow offenders from different locations with similar contexts to be matched. This approach

will also allow for hypotheses from other theories, like racial threat, to be fully considered alongside those from focal concerns theory.

References

Abrams, D. S., Bertrand, M., & Mullainathan, S. (2012). Do judges vary in their treatment of race? *The Journal of Legal Studies, 41*(2), 347-383.

Albonetti, C. A. (1991). An integration of theories to explain judicial discretion. *Social Problems, 38*(2), 247-266.

Albonetti, C. A. (1997). Sentencing under the federal sentencing guidelines: Effects of defendant characteristics, guilty pleas, and departures on sentence outcomes for drug offenses, 1991-1992. *Law and Society Review*, 789-822.

Albonetti, C. A. (1998). Direct and indirect effects of case complexity, guilty pleas, and offender characteristics on sentencing for offenders convicted of a white-collar offense prior to sentencing guidelines. *Journal of Quantitative Criminology, 14*(4), 353-378.

Albonetti, C. A. (2002). The joint conditioning effect of defendant's gender and ethnicity on length of imprisonment under the federal sentencing guidelines for drug trafficking/manufacturing offenders. *J. Gender Race & Just., 6*, 39.

Albonetti, C. A. (2011). Judicial discretion in federal sentencing: An intersection of policy priorities and law. *Criminology & Pub. Pol'y, 10*, 1151.

Albonetti, C. A. (2017). Sentencing of Federal Cocaine Trafficking/Manufacturing Defendants: Assessing Direct and Conditioning Effects of Defendant's

Albonetti, C. A. (2017). Theoretical perspectives and empirical assessments of race/ethnicity disparities in federal sentencing *Race, Ethnicity and Law* (pp. 95-114): Emerald Publishing Limited.

Albonetti, C. A., & Baller, R. D. (2010). Sentencing in federal drug trafficking/manufacturing cases: a multilevel analysis of extra-legal defendant characteristics, guidelines departures, and continuity of culture. *J. Gender Race & Just.*, *14*, 41.

Albonetti, C. A., Hauser, R. M., Hagan, J., & Nagel, I. H. (1989). Criminal justice decision making as a stratification process: The role of race and stratification resources in pretrial release. *Journal of Quantitative Criminology, 5*(1), 57-82.

Allen, R. B., & Anson, R. H. (1985). Development of a Punishment Severity Scale: The Item Displacement Phenomenon. *Criminal Justice Review, 10*(2), 39-44.

Bales, W. D., & Piquero, A. R. (2012). Racial/ethnic differentials in sentencing to incarceration. *Justice Quarterly*, *29*(5), 742-773.

Bannister, R. (2010). *Social Darwinism: Science and myth in Anglo-American social thought*. Temple University Press.

Barkan, Steven and Steven Cohn. 2005. ―Why Whites Favor Spending More Money to Fight Crime: The Role of Racial Prejudice. Social Problems52:300-14.

Baumer, E. P. (2013). Reassessing and redirecting research on race and sentencing. *Justice Quarterly, 30*(2), 231-261.

Baumer, E. P., Messner, S. F., & Rosenfeld, R. (2003). Explaining spatial variation in support for capital punishment: A multilevel analysis. *American Journal of Sociology, 108*(4), 844-875.

Blalock, H. M. (1967). *Toward a theory of minority-group relations* (Vol. 325): New York: Wiley.

Bloch, K. R., Engen, R. L., & Parrotta, K. L. (2014). The intersection of race and gender: an examination of sentencing outcomes in North Carolina. *Criminal Justice Studies, 27*(4), 419-438.

Bodenhausen, G. V., & Lichtenstein, M. (1987). Social stereotypes and information-processing strategies: The impact of task complexity. *Journal of personality and social psychology, 52*(5), 871.

Bodenhausen, G. V., & Wyer, R. S. (1985). Effects of stereotypes in decision making and information-processing strategies. *Journal of personality and social psychology, 48*(2), 267.

Bonnie, R. J., & Whitebread, C. H. (1974). The marihuana conviction: A history of marihuana prohibition in the United States.

Bontrager, S., Barrick, K., & Stupi, E. (2013). Gender and sentencing: A meta-analysis of contemporary research. *J. Gender Race & Just., 16*, 349.

Bradley-Engen, M. S., Damphousse, K. R., & Smith, B. L. (2009). Punishing terrorists: a re-examination of US federal sentencing in the post guidelines era. *International Criminal Justice Review, 19*(4), 433-455.

Britt, C. L. (2000). Social context and racial disparities in punishment decisions. *Justice Quarterly, 17*(4), 707-732.

Burch, T. (2015). Skin Color and the Criminal Justice System: Beyond Black-White Disparities in Sentencing. *Journal of Empirical Legal Studies, 12*(3), 395-420.

Burton, S. E., Finn, M., Livingston, D., Scully, K., Bales, W. D., & Padgett, K. (2004). Applying a crime seriousness scale to measure changes in the severity of offenses by individuals arrested in Florida. *Justice Research and Policy, 6*(1), 1-18.

Bushway, S. D., & Forst, B. (2013). Studying discretion in the processes that generate criminal justice sanctions. *Justice Quarterly, 30*(2), 199-222.

Bushway, S., & Smith, J. (2007). Sentencing using statistical treatment rules: What we don't know can hurt us. *Journal of Quantitative Criminology, 23*(4), 377-387.

Bushway, S., Johnson, B. D., & Slocum, L. A. (2007). Is the magic still there? The use of the Heckman two-step correction for selection bias in criminology. *Journal of Quantitative Criminology, 23*(2), 151-178.

Cantor, M. (1963). The Image of the Negro in Colonial Literature. *New England Quarterly*, 452-477.

Chen, E. Y. (2008). The liberation hypothesis and racial and ethnic disparities in the application of California's Three Strikes law. *Journal of Ethnicity in Criminal Justice, 6*(2), 83-102.

Clair, M., & Winter, A. S. (2016). How judges think about racial disparities: Situational decision-making in the criminal justice system. *Criminology, 54*(2), 332-359.

Crawford, C., Chiricos, T., & Kleck, G. (1998). Race, racial threat, and sentencing of habitual offenders. *Criminology, 36*(3), 481-512.

Crouch, B. M. (1993). Is incarceration really worse? Analysis of offenders' preferences for prison over probation. *Justice Quarterly, 10*(1), 67-88.

Crow, M. S., & Adrion, B. (2011). Focal concerns and police use of force: Examining the factors associated with Taser use. *Police Quarterly, 14*(4), 366-387.

Crow, M. S., & Bales, W. (2006). Sentencing guidelines and focal concerns: The effect of sentencing policy as a practical constraint on sentencing decisions. *American Journal of Criminal Justice, 30*(2), 285-304.

Crow, M. S., & Johnson, K. A. (2008). Race, ethnicity, and habitual-offender sentencing: A multilevel analysis of individual and contextual threat. *Criminal Justice Policy Review, 19*(1), 63-83.

Curry, T. R., & Corral-Camacho, G. (2008). Sentencing young minority males for drug offenses: Testing for conditional effects between race/ethnicity, gender and age during the US war on drugs. *Punishment & Society, 10*(3), 253-276.

Curry, T. R., Lee, G., & Rodriguez, S. F. (2004). Does victim gender increase sentence severity? Further explorations of gender dynamics and sentencing outcomes. *Crime & Delinquency, 50*(3), 319-343.

Demuth, S., & Steffensmeier, D. (2004). Ethnicity effects on sentence outcomes in large urban courts: Comparisons among White, Black, and Hispanic defendants. *Social Science Quarterly, 85*(4), 994-1011.

Doerner, J. K., & Demuth, S. (2010). The independent and joint effects of race/ethnicity, gender, and age on sentencing outcomes in US federal courts. *Justice Quarterly*, *27*(1), 1-27.

Drummond, W. J. (1990). About Face: From Alliance to Alienation. Blacks and the News Media. *The American Enterprise*, *1*(4), 22-29.

Dufton, E. (2017). *Grass roots: The rise and fall and rise of marijuana in America*. Basic Books.

Edkins, V. A. (2011). Defense attorney plea recommendations and client race: Does zealous representation apply equally to all? *Law and human behavior*, *35*(5), 413-425.

Eisenstein, J., Flemming, R. B., & Nardulli, P. F. (1988). *The contours of justice: Communities and their courts*: Little, Brown Boston, MA.

Eitle, D., & Monahan, S. (2009). Revisiting the racial threat thesis: The role of police organizational characteristics in predicting race-specific drug arrest rates. *Justice Quarterly*, *26*(3), 528-561.

Eitle, D., D'Alessio, S. J., & Stolzenberg, L. (2002). Racial threat and social control: A test of the political, economic, and threat of black crime hypotheses. *Social Forces*, *81*(2), 557-576.

Engen, R. L., & Gainey, R. R. (2000). Modeling the effects of legally relevant and extralegal factors under sentencing guidelines: The rules have changed. *Criminology*, *38*(4), 1207-1230.

Engen, R. L., Gainey, R. R., Crutchfield, R. D., & Weis, J. G. (2003). Discretion and disparity under sentencing guidelines: The role of departures and structured sentencing alternatives. *Criminology, 41*(1), 99-130.

Everett, R. S., & Nienstedt, B. C. (1999). Race, remorse, and sentence reduction: Is saying you're sorry enough? *Justice Quarterly, 16*(1), 99-122.

Everett, R. S., & Wojtkiewicz, R. A. (2002). Difference, disparity, and race/ethnic bias in federal sentencing. *Journal of Quantitative Criminology, 18*(2), 189-211.

Fearn, N. E. (2005). A multilevel analysis of community effects on criminal sentencing. *Justice Quarterly, 22*(4), 452-487.

Feldmeyer, B., & Ulmer, J. T. (2011). Racial/ethnic threat and federal sentencing. *Journal of Research in Crime and Delinquency, 48*(2), 238-270.

Feldmeyer, B., Warren, P. Y., Siennick, S. E., & Neptune, M. (2015). Racial, ethnic, and immigrant threat: Is there a new criminal threat on state sentencing? *Journal of Research in Crime and Delinquency, 52*(1), 62-92.

Fischman, J. B., & Schanzenbach, M. M. (2012). Racial disparities under the federal sentencing guidelines: The role of judicial discretion and mandatory minimums. *Journal of Empirical Legal Studies, 9*(4), 729-764.

Flemming, R. B., Nardulli, P. F., & Eisenstein, J. (1992). *The craft of justice: Politics and work in criminal court communities*: University of Pennsylvania Press Philadelphia, PA.

Flory, C. M., May, D. C., Minor, K. I., & Wood, P. B. (2006). A comparison of punishment exchange rates between offenders under supervision and their supervising officers. *Journal of Criminal Justice, 34*(1), 39-50.

Franklin, T. W. (2010). The intersection of defendants' race, gender, and age in prosecutorial decision making. *Journal of Criminal Justice, 38*(2), 185-192.

Franklin, T. W. (2015). Race and ethnicity effects in federal sentencing: A propensity score analysis. *Justice Quarterly, 32*(4), 653-679.

Fredrickson, G. M. (1989). The arrogance of race: Historical perspectives on slavery, racism, and social inequality.

Freiburger, T. L. (2009). Race and the Sentencing of Drug Offenders: An Examination of the Focal Concerns Perspective. *Southwest Journal of Criminal Justice, 6*(2).

Freiburger, T. L., & Hilinski, C. M. (2013). An examination of the interactions of race and gender on sentencing decisions using a trichotomous dependent variable. *Crime & Delinquency, 59*(1), 59-86.

Frenzel, E. D., & Ball, J. D. (2008). Effects of individual characteristics on plea negotiations under sentencing guidelines. *Journal of Ethnicity in Criminal Justice, 5*(4), 59-82.

Gainey, R. R., Steen, S., & Engen, R. L. (2005). Exercising options: An assessment of the use of alternative sanctions for drug offenders. *Justice Quarterly, 22*(4), 488-520.

Gibbons, D. C. (1997). Review essay: Race, ethnicity, crime, and social policy. *Crime & Delinquency, 43*(3), 358-380.

Gilens, M. (1996). "Race coding" and white opposition to welfare. *American Political Science Review, 90*(3), 593-604.

Graf, E. K. (1998). Causal attributions for crime involving Aboriginal and non-Aboriginal juvenile offenders.

Greenberg, D. F., & West, V. (2001). State prison populations and their growth, 1971–1991. *Criminology, 39*(3), 615-654.

Guevara, L., Herz, D., & Spohn, C. (2006). Gender and juvenile justice decision making: What role does race play? *Feminist Criminology, 1*(4), 258-282.

Hagan, J. (1977). Criminal justice in rural and urban communities: A study of the bureaucratization of justice. *Social Forces, 55*(3), 597-612.

Harris, A. (2009). Attributions and institutional processing: How focal concerns guide decision-making in the juvenile court. *Race and Social Problems, 1*(4), 243-256.

Hartley, R. D., Maddan, S., & Spohn, C. C. (2007). Concerning Conceptualization and Operationalization: Sentencing Data and the Focal Concerns Perspective--A Research Note. *Southwest Journal of Criminal Justice, 4*(1).

Hartley, R. D., Maddan, S., & Spohn, C. C. (2007). Prosecutorial discretion: An examination of substantial assistance departures in federal crack-cocaine and powder-cocaine cases. *Justice Quarterly, 24*(3), 382-407.

Hartman, D. M., & Golub, A. (1999). The social construction of the crack epidemic in the print media. *Journal of Psychoactive drugs, 31*(4), 423-433.

Hawley, T. L., Halle, T. G., Drasin, R. E., & Thomas, N. G. (1995). Children of addicted mothers: effects of the 'crack epidemic'on the caregiving environment and the development of preschoolers. *American Journal of Orthopsychiatry, 65*(3), 364-379.

Haynes, S. H., Ruback, B., & Cusick, G. R. (2010). Courtroom workgroups and sentencing: The effects of similarity, proximity, and stability. *Crime & Delinquency, 56*(1), 126-161.

Hester, R. (2017). Judicial rotation as centripetal force: Sentencing in the court communities of South Carolina. *Criminology, 55*(1), 205-235.

Hester, R., & Hartman, T. K. (2017). Conditional race disparities in criminal sentencing: a test of the liberation hypothesis from a non-guidelines state. *Journal of Quantitative Criminology, 33*(1), 77-100.

Hester, R., & Sevigny, E. L. (2016). Court communities in local context: a multilevel analysis of felony sentencing in South Carolina. *Journal of Crime and Justice, 39*(1), 55-74.

Hewstone, M. (1989). *Causal attribution: From cognitive processes to collective beliefs*: Basil Blackwell.

Hewstone, M. (1990). The 'ultimate attribution error'? A review of the literature on intergroup causal attribution. *European Journal of Social Psychology, 20*(4), 311-335.

Higgins, G. E., Ricketts, M. L., Griffith, J. D., & Jirard, S. A. (2013). Race and juvenile incarceration: a propensity score matching examination. *American Journal of Criminal Justice, 38*(1), 1-12.

Hofer, P. J., & Allenbaugh, M. H. (2003). The reason behind the rules: Finding and using the philosophy of the federal sentencing guidelines. *Am. Crim. L. Rev., 40*, 19.

Hoffman, P. B. (1997). History of the federal parole system: Part 2 (1973-1997). *Fed. Probation, 61*, 49.

Huebner, B. M., & Bynum, T. S. (2006). An analysis of parole decision making using a sample of sex offenders: A focal concerns perspective. *Criminology, 44*(4), 961-991.

Iacus, S.M., King, G., & Porro, G. (2012) Causal inference without balance checking: Coarsened exact matching. *Political Analysis 20*(1), 1-24.

Jackson, P. I. (1989). *Minority group threat, crime, and policing: Social context and social control*: Greenwood Publishing Group.

Jackson, P. I., & Carroll, L. (1981). Race and the war on crime: The sociopolitical determinants of municipal police expenditures in 90 non-southern US cities. *American sociological review*, 290-305.

Jacobs, D., & Carmichael, J. T. (2001). The politics of punishment across time and space: A pooled time-series analysis of imprisonment rates. *Social Forces, 80*(1), 61-89.

Jacobs, D., & Carmichael, J. T. (2002). Subordination and violence against state control agents: Testing political explanations for lethal assaults against the police. *Social Forces, 80*(4), 1223-1251.

Jacobs, D., & Helms, R. (1999). Collective outbursts, politics, and punitive resources: Toward a political sociology of spending on social control. *Social Forces, 77*(4), 1497-1523.

Jacobs, D., & Wood, K. (1999). Interracial conflict and interracial homicide: Do political and economic rivalries explain white killings of blacks or black killings of whites? *American Journal of Sociology, 105*(1), 157-190.

Johnson, B. D. (2003). Racial and ethnic disparities in sentencing departures across modes of conviction. *Criminology, 41*(2), 449-490.

Johnson, B. D. (2005). Contextual disparities in guidelines departures: Courtroom social contexts, guidelines compliance, and extralegal disparities in criminal sentencing 1. *Criminology, 43*(3), 761-796.

Johnson, B. D. (2006). The multilevel context of criminal sentencing: Integrating judge- and county-level influences. *Criminology, 44*(2), 259-298.

Johnson, B. D., & DiPietro, S. M. (2012). The power of diversion: Intermediate sanctions and sentencing disparity under presumptive guidelines. *Criminology, 50*(3), 811-850.

Johnson, B. D., Ulmer, J. T., & Kramer, J. H. (2008). The social context of guidelines circumvention: The case of federal district courts. *Criminology, 46*(3), 737-783.

Jordan, K. L., & Freiburger, T. L. (2015). The effect of race/ethnicity on sentencing: Examining sentence type, jail length, and prison length. *Journal of Ethnicity in Criminal Justice, 13*(3), 179-196.

Kagan, D. (1989). How America lost its first drug war. *Insight, 5*(47), 8-17.

Kamalu, N. C., Coulson-Clark, M., & Kamalu, N. M. (2010). Racial disparities in sentencing: Implications for the criminal justice system and the African American community. *African Journal of Criminology and Justice Studies: AJCJS, 4*(1), 1.

Kane, R. J. (2003). Social control in the metropolis: A community-level examination of the minority group-threat hypothesis. *Justice Quarterly, 20*(2), 265-295.

Kautt, P. M. (2002). Location, location, location: Interdistrict and intercircuit variation in sentencing outcomes for federal drug-trafficking offenses. *Justice Quarterly, 19*(4), 633-671.

Kautt, P., & Spohn, C. (2002). Crack-ing down on black drug offenders? Testing for interactions among offenders' race, drug type, and sentencing strategy in federal drug sentences. *Justice Quarterly, 19*(1), 1-35.

Kim, B., Spohn, C., & Hedberg, E. (2015). Federal sentencing as a complex collaborative process: Judges, prosecutors, judge–prosecutor dyads, and disparity in sentencing. *Criminology, 53*(4), 597-623.

King, N. J., Soulé, D. A., Steen, S., & Weidner, R. R. (2005). When process affects punishment: Differences in sentences after guilty plea, bench trial, and jury trial in five guidelines states. *Colum. L. Rev., 105*, 959.

King, R. D., & Wheelock, D. (2007). Group threat and social control: Race, perceptions of minorities and the desire to punish. *Social Forces, 85*(3), 1255-1280.

Kolber, A. J. (2009). The subjective experience of punishment. *Colum. L. Rev., 109*, 182.

Koons-Witt, B. A. (2002). The effect of gender on the decision to incarcerate before and after the introduction of sentencing guidelines. *Criminology, 40*(2), 297-328.

Koons-Witt, B. A., Sevigny, E. L., Burrow, J. D., & Hester, R. (2014). Gender and sentencing outcomes in South Carolina: Examining the interactions with race, age, and offense type. *Criminal Justice Policy Review, 25*(3), 299-324.

Kramer, J. H., & Ulmer, J. T. (1996). Sentencing disparity and departures from guidelines. *Justice Quarterly, 13*(1), 81-106.

Kramer, J. H., & Ulmer, J. T. (2002). Downward departures for serious violent offenders: Local court "corrections" to Pennsylvania's sentencing guidelines. *Criminology, 40*(4), 897-932.

Kramer, J. H., & Ulmer, J. T. (2009). *Sentencing guidelines: lessons from Pennsylvania*: Lynne Rienner Publishers Boulder, CO.

Kurlychek, M. C., & Johnson, B. D. (2004). The juvenile penalty: A comparison of juvenile and young adult sentencing outcomes in criminal court. *Criminology, 42*(2), 485-515.

Kutateladze, B. L. (2018). Tracing charge trajectories: A study of the influence of race in charge changes at case screening, arraignment, and disposition. *Criminology, 56*(1), 123-153.

Kutateladze, B. L., Andiloro, N. R., Johnson, B. D., & Spohn, C. C. (2014). Cumulative disadvantage: Examining racial and ethnic disparity in prosecution and sentencing. *Criminology, 52*(3), 514-551.

LaFrentz, C. D., & Spohn, C. (2006). Who is punished more harshly in federal court? The interaction of race/ethnicity, gender, age, and employment status in the sentencing of drug offenders. *Justice Research and Policy*, *8*(2), 25-56.

Lang, J. M., Rothman, K. J., & Cann, C. I. (1998). That confounded P-value.

Leclerc, C., & Tremblay, P. (2016). Looking at Penalty Scales: How Judicial Actors and the General Public Judge Penal Severity. *Canadian Journal of Criminology and Criminal Justice, 58*(3), 354-384.

Lee, J. G., & Richardson, R. L. (2018). Race, Ethnicity, and Trial Avoidance: A Multilevel Analysis. *Criminal Justice Policy Review*, 0887403418812998.

Leiber, M. J., & Blowers, A. N. (2003). Race and misdemeanor sentencing. *Criminal Justice Policy Review*, *14*(4), 464-485.

Leifker, D., & Sample, L. L. (2010). Do judges follow sentencing recommendations, or do recommendations simply reflect what judges want to hear? An examination of one state court. *Journal of Crime and Justice, 33*(2), 127-151.

Light, M. T. (2014). The new face of legal inequality: Noncitizens and the long-term trends in sentencing disparities across US district courts, 1992–2009. *Law & Society Review, 48*(2), 447-478.

Light, M. T., Massoglia, M., & King, R. D. (2014). Citizenship and punishment: The salience of national membership in US criminal courts. *American sociological review, 79*(5), 825-847.

Liska, A. E. (1992). *Social threat and social control*: Suny Press.

Liska, A. E. (1997). Modeling the relationships between macro forms of social control. *Annual review of Sociology, 23*(1), 39-61.

Liska, A. E., Chamlin, M. B., & Reed, M. D. (1985). Testing the economic production and conflict models of crime control. *Social Forces, 64*(1), 119-138.

Logan, E. (1999). The Wrong Race, Committing Crime, Doing Drugs, and Maladjusted for Motherhood: The Nation's Fury over" Crack Babies". *Social Justice, 26*(1 (75), 115-138.

Logan, M. W., Dulisse, B., Peterson, S., Morgan, M. A., Olma, T. M., & Paré, P.-P. (2017). Correctional shorthands: Focal concerns and the decision to administer solitary confinement. *Journal of Criminal Justice, 52*, 90-100.

Lovegrove, A. (2001). Sanctions and Severity: To the Demise of Von Hirsch and Wasik's Sanction Hierarchy. *The Howard Journal of Criminal Justice, 40*(2), 126-144.

Luse, C. (2008). 'The offspring of infidelity': Polygenesis and the defense of slavery.

Lyons, P., & Rittner, B. (1998). The construction of the crack babies phenomenon as a social problem. *American Journal of Orthopsychiatry, 68*(2), 313-320.

Manski, C. F., & Pepper, J. V. (2013). Deterrence and the death penalty: Partial identification analysis using repeated cross sections. *Journal of Quantitative Criminology, 29*(1), 123-141.

McCormick, J. S., Maric, A., Seto, M. C., & Barbaree, H. E. (1998). Relationship to victim predicts sentence length in sexual assault cases. *Journal of Interpersonal Violence, 13*(3), 413-420.

Metcalfe, C., & Chiricos, T. (2018). Race, plea, and charge reduction: An assessment of racial disparities in the plea process. *Justice Quarterly, 35*(2), 223-253.

Mitchell, K. (2019, January 10). Colorado appeals judge who called colleague "the little Mexican" in email resigns amid allegations of racism, impropriety. *The Denver Post*. Retrieved from https://www.denverpost.com/

Mitchell, O. (2005). A meta-analysis of race and sentencing research: Explaining the inconsistencies. *Journal of Quantitative Criminology, 21*(4), 439-466.

Mitchell, O., & MacKenzie, D. L. (2004). The relationship between race, ethnicity, and sentencing outcomes: A meta-analysis of sentencing research. *Final Report Submitted to the National Institute of Justice*.

Munoz, E. A., & Freng, A. B. (2008). Age, racial/ethnic minority status, gender and misdemeanor sentencing. *Journal of Ethnicity in Criminal Justice, 5*(4), 29-57.

Mustard, D. B. (2001). Racial, ethnic, and gender disparities in sentencing: Evidence from the US federal courts. *The Journal of Law and Economics, 44*(1), 285-314.

Musto, D. F. (1999). The American disease: Origins of narcotic control.

Myers, M. A. (1990). Black threat and incarceration in postbellum Georgia. *Social Forces, 69*(2), 373-393.

Myers, M. A., & Talarico, S. M. (1986). The social contexts of racial discrimination in sentencing. *Social Problems, 33*(3), 236-251.

Myers, M. A., & Talarico, S. M. (2012). *The social contexts of criminal sentencing*: Springer Science & Business Media.

Nagel, I. H., & Schulhofer, S. J. (1992). A tale of three cities: An empirical study of charging and bargaining practices under the federal sentencing guidelines. *S. Cal. L. Rev., 66*, 501.

Nagin, D. S., Cullen, F. T., & Jonson, C. L. (2009). Imprisonment and reoffending. *Crime and justice, 38*(1), 115-200.

Nardulli, P. F., Flemming, R. B., & Eisenstein, J. (1985). Criminal courts and bureaucratic justice: Concessions and consensus in the guilty plea process. *J. Crim. L. & Criminology, 76*, 1103.

Nowacki, J. S. (2015). Race, ethnicity, and judicial discretion: The influence of the United States v. Booker decision. *Crime & Delinquency, 61*(10), 1360-1385.

Olzak, S. (1992). *The dynamics of ethnic competition and conflict*: Stanford University Press.

Ortiz, A. T., & Briggs, L. (2003). The Culture of Poverty, Crack Babies, and Welfare Cheats: The Making of the" Healthy White Baby Crisis". *Social Text, 21*(3), 39-57.

Ousey, G. C., & Lee, M. R. (2008). Racial disparity in formal social control: An investigation of alternative explanations of arrest rate inequality. *Journal of Research in Crime and Delinquency, 45*(3), 322-355.

Parker, K. F., Stults, B. J., & Rice, S. K. (2005). Racial threat, concentrated disadvantage and social control: Considering the macro-level sources of variation in arrests. *Criminology, 43*(4), 1111-1134.

Petersilia, J. (1983). Racial disparities in the criminal justice system.

Petersilia, J., & Deschenes, E. P. (1994). Perceptions of punishment: Inmates and staff rank the severity of prison versus intermediate sanctions. *The Prison Journal, 74*(3), 306-328.

Peterson, R. D., & Hagan, J. (1984). Changing conceptions of race: Towards an account of anomalous findings of sentencing research. *American sociological review*, 56-70.

Pina-Sánchez, J., & Linacre, R. (2014). Enhancing consistency in sentencing: Exploring the effects of guidelines in England and Wales. *Journal of Quantitative Criminology, 30*(4), 731-748.

Pina-Sánchez, J., & Linacre, R. (2016). Refining the measurement of consistency in sentencing: A methodological review. *International Journal of Law, Crime and Justice, 44*, 68-87.

Pratt, T. C. (1998). Race and sentencing: A meta-analysis of conflicting empirical research results. *Journal of Criminal Justice, 26*(6), 513-523.

Quillian, L., & Pager, D. (2001). Black neighbors, higher crime? The role of racial stereotypes in evaluations of neighborhood crime. *American Journal of Sociology, 107*(3), 717-767.

Race/Ethnicity and Gender on Length of Imprisonment. *J. Gender Race & Just., 21*, 1.

Rodriguez, N. (2007). Juvenile court context and detention decisions: Reconsidering the role of race, ethnicity, and community characteristics in juvenile court processes. *Justice Quarterly, 24*(4), 629-656.

Russell, K. K. (1995). The racial hoax as crime: The law as affirmation. *Ind. LJ, 71*, 593.

Ryberg, J. (2010). Punishment and the measurement of severity *Punishment and Ethics* (pp. 72-91): Springer.

Sacks, M., & Ackerman, A. R. (2014). Bail and sentencing: Does pretrial detention lead to harsher punishment? *Criminal Justice Policy Review, 25*(1), 59-77.

Sacks, M., Sainato, V. A., & Ackerman, A. R. (2015). Sentenced to pretrial detention: A study of bail decisions and outcomes. *American Journal of Criminal Justice, 40*(3), 661-681.

Savelsberg, J. J. (1992). Law that does not fit society: Sentencing guidelines as a neoclassical reaction to the dilemmas of substantivized law. *American Journal of Sociology, 97*(5), 1346-1381.

Schiff, M. F. (1997). Gauging the intensity of criminal sanctions: Developing the Criminal Punishment Severity Scale (CPSS). *Criminal Justice Review, 22*(2), 175-206.

Sevigny, E. L. (2009). Excessive uniformity in federal drug sentencing. *Journal of Quantitative Criminology, 25*(2), 155-180.

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). Experimental and quasi-experimental designs for generalized causal inference.

Sharp, S. F., Braley, A., & Marcus-Mendoza, S. (2000). Focal concerns, race & sentencing of female drug offenders. *Free Inquiry in Creative Sociology*, *28*(2), 3-16.

Spelman, W. (1995). The severity of intermediate sanctions. *Journal of Research in Crime and Delinquency, 32*(2), 107-135.

Spohn, C. (2013). The effects of the offender's race, ethnicity, and sex on federal sentencing outcomes in the guidelines era. *Law and Contemporary Problems*, *76*(1), 75-104.

Spohn, C. (2015). Evolution of sentencing research. *Criminology & Pub. Pol'y, 14*, 225.

Spohn, C., & Beichner, D. (2000). Is preferential treatment of female offenders a thing of the past? A multisite study of gender, race, and imprisonment. *Criminal Justice Policy Review*, *11*(2), 149-184.

Spohn, C., & Fornango, R. (2009). US attorneys and substantial assistance departures: Testing for interprosecutor disparity. *Criminology*, *47*(3), 813-846.

Spohn, C., & Holleran, D. (2000). The imprisonment penalty paid by young, unemployed black and Hispanic male offenders. *Criminology, 38*(1), 281-306.

Spohn, C., & Sample, L. L. (2013). The dangerous drug offender in federal court: Intersections of race, ethnicity, and culpability. *Crime & Delinquency, 59*(1), 3-31.

Spohn, C., Gruhl, J., & Welch, S. (1981). The effect of race on sentencing: A re-examination of an unsettled question. *Law & Soc'y Rev., 16*, 71.

Steen, S., Engen, R. L., & Gainey, R. R. (2005). Images of danger and culpability: Racial stereotyping, case processing, and criminal sentencing. *Criminology, 43*(2), 435-468.

Steffensmeier, D. J. (1980). Assessing the impact of the women's movement on sex-based differences in the handling of adult criminal defendants. *Crime & Delinquency, 26*(3), 344-357.

Steffensmeier, D., & Britt, C. L. (2001). Judges' race and judicial decision making: Do black judges sentence differently? *Social Science Quarterly, 82*(4), 749-764.

Steffensmeier, D., & Demuth, S. (2000). Ethnicity and sentencing outcomes in US federal courts: Who is punished more harshly? *American sociological review*, 705-729.

Steffensmeier, D., & Demuth, S. (2001). ETHNICITY AND JUDGES'SENTENCING DECISIONS: HISPANIC-BLACK-WHITE COMPARISONS. *Criminology, 39*(1), 145-178.

Steffensmeier, D., & Demuth, S. (2006). Does gender modify the effects of race–ethnicity on criminal sanctioning? Sentences for male and female white, black, and Hispanic defendants. *Journal of Quantitative Criminology, 22*(3), 241-261.

Steffensmeier, D., Feldmeyer, B., Harris, C. T., & Ulmer, J. T. (2011). Reassessing trends in black violent crime, 1980–2008: Sorting out the "Hispanic effect" in Uniform

Crime Reports arrests, National Crime Victimization Survey offender estimates, and US prisoner counts. *Criminology, 49*(1), 197-251.

Steffensmeier, D., Kramer, J., & Streifel, C. (1993). Gender and imprisonment decisions. *Criminology, 31*(3), 411-446.

Steffensmeier, D., Kramer, J., & Ulmer, J. (1995). Age differences in sentencing. *Justice Quarterly, 12*(3), 583-602.

Steffensmeier, D., Painter-Davis, N., & Ulmer, J. (2017). Intersectionality of race, ethnicity, gender, and age on criminal punishment. *Sociological perspectives, 60*(4), 810-833.

Steffensmeier, D., Ulmer, J., & Kramer, J. (1998). The interaction of race, gender, and age in criminal sentencing: The punishment cost of being young, black, and male. *Criminology, 36*(4), 763-798.

Stemen, D., Rengifo, A. F., & Amidon, E. (2015). The focal concerns of sentencing and mandatory sentencing laws: circumvention in the context of mandatory probation and treatment. *Journal of Crime and Justice, 38*(2), 183-203.

Stith, K., & Koh, S. Y. (1993). The politics of sentencing reform: The legislative history of the federal sentencing guidelines. *Wake Forest L. Rev., 28*, 223.

Stolzenberg, L., D'Alessio, S. J., & Eitle, D. (2013). Race and cumulative discrimination in the prosecution of criminal defendants. *Race and Justice, 3*(4), 275-299.

Stolzenberg, L., D'ALESSIO, S. J., & Eitle, D. (2004). A multilevel test of racial threat theory. *Criminology, 42*(3), 673-698.

Sweeney, L. T., & Haney, C. (1992). The influence of race on sentencing: A meta-analytic review of experimental studies. *Behavioral Sciences & the Law, 10*(2), 179-195.

Thompson, M. (2013). The Mysterious History of 'Marijuana'. *National Public Radio*.

Tillyer, R., & Hartley, R. (2016). The use and impact of fast-track departures: Exploring prosecutorial and judicial discretion in federal immigration cases. *Crime & Delinquency, 62*(12), 1624-1647.

Tillyer, R., & Hartley, R. D. (2010). Driving racial profiling research forward: Learning lessons from sentencing research. *Journal of Criminal Justice, 38*(4), 657-665.

Tonry, M. (1994). Race and the War on Drugs. *U. Chi. Legal F.*, 25.

Turk, A. T. (1969). *Criminality and legal order*: Rand McNally.

Ulmer, J. T. (1994). Trial judges in a rural court community: Contexts, organizational relations, and interaction strategies. *Journal of Contemporary Ethnography, 23*(1), 79-108.

Ulmer, J. T. (1997). *Social worlds of sentencing: Court communities under sentencing guidelines*: SUNY Press.

Ulmer, J. T. (2012). Recent developments and new directions in sentencing research. *Justice Quarterly, 29*(1), 1-40.

Ulmer, J. T., & Johnson, B. (2004). Sentencing in context: A multilevel analysis. *Criminology, 42*(1), 137-178.

Ulmer, J. T., & Kramer, J. H. (1996). Court communities under sentencing guidelines: Dilemmas of formal rationality and sentencing disparity. *Criminology, 34*(3), 383-408.

Ulmer, J. T., & Laskorunsky, J. A. (2016). The role of juvenile adjudications in the disproportional incarceration of African-American and Hispanic defendants. *Journal of Crime and Justice, 39*(1), 9-27.

Ulmer, J. T., Bader, C., & Gault, M. (2008). Do moral communities play a role in criminal sentencing? Evidence from Pennsylvania. *The Sociological Quarterly, 49*(4), 737-768.

Ulmer, J. T., Light, M. T., & Kramer, J. H. (2011). Racial disparity in the wake of the Booker/Fanfan decision: An alternative analysis to the USSC's 2010 report. *Criminology & Pub. Pol'y, 10*, 1077.

Ulmer, J., Light, M. T., & Kramer, J. (2011). The "liberation" of federal judges' discretion in the wake of the Booker/Fanfan decision: Is there increased disparity and divergence between courts? *Justice Quarterly, 28*(6), 799-837.

Ulmer, J., Painter-Davis, N., & Tinik, L. (2016). Disproportional imprisonment of Black and Hispanic males: Sentencing discretion, processing outcomes, and policy structures. *Justice Quarterly, 33*(4), 642-681.

US Congress. (1975). MARIJUANA DECRIMINALIZATION-HEARING BEFORE THE SENATE SUBCOMMITTEE TO INVESTIGATE JUVENILE

DELINQUENCY, 94TH CONGRESS, 1ST SESSION-INVESTIGATION OF JUVENILE DELINQUENCY IN THE UNITED STATES-S 1450, MAY 14, 1975.

Valenty, L. O., & Sylvia, R. D. (2004). Thresholds for tolerance: the impact of racial and ethnic population composition on the vote for California propositions 187 and 209. *The Social Science Journal, 41*(3), 433-446.

van Ginneken, E. F., & Hayes, D. (2017). 'Just'punishment? Offenders' views on the meaning and severity of punishment. *Criminology & Criminal Justice, 17*(1), 62-78.

Wang, X. (2012). Undocumented immigrants as perceived criminal threat: A test of the minority threat perspective. *Criminology, 50*(3), 743-776.

Wang, X., & Mears, D. P. (2010). A multilevel test of minority threat effects on sentencing. *Journal of Quantitative Criminology, 26*(2), 191-215.

Wang, X., & Mears, D. P. (2010). Examining the direct and interactive effects of changes in racial and ethnic threat on sentencing decisions. *Journal of Research in Crime and Delinquency, 47*(4), 522-557.

Wang, X., & Mears, D. P. (2015). Sentencing and State-Level Racial and Ethnic Contexts. *Law & Society Review, 49*(4), 883-915.

Warren, P., Chiricos, T., & Bales, W. (2012). The imprisonment penalty for young Black and Hispanic males: A crime-specific analysis. *Journal of Research in Crime and Delinquency, 49*(1), 56-80.

Weidner, R. R., & Frase, R. S. (2003). Legal and extralegal determinants of intercounty differences in prison use. *Criminal Justice Policy Review, 14*(3), 377-400.

Weidner, R. R., Frase, R. S., & Schultz, J. S. (2005). The impact of contextual factors on the decision to imprison in large urban jurisdictions: A multilevel analysis. *Crime & Delinquency, 51*(3), 400-424.

Welch, K. (2007). Black criminal stereotypes and racial profiling. *Journal of contemporary criminal justice, 23*(3), 276-288.

Welch, M. (2007). Immigration lockdown before and after 9/11: Ethnic constructions and their consequences. *Race, gender, and punishment: From colonialism to the war on terror*, 149-63.

Wood, P. B., & Grasmick, H. G. (1999). Toward the development of punishment equivalencies: Male and female inmates rate the severity of alternative sanctions compared to prison. *Justice Quarterly, 16*(1), 19-50.

Wooldredge, J. (2007). Neighborhood effects on felony sentencing. *Journal of Research in Crime and Delinquency, 44*(2), 238-263.

Wooldredge, J. (2012). Distinguishing race effects on pre-trial release and sentencing decisions. *Justice Quarterly, 29*(1), 41-75.

Wooldredge, J., Frank, J., Goulette, N., & Travis III, L. (2015). Is the impact of cumulative disadvantage on sentencing greater for Black defendants? *Criminology & Public Policy, 14*(2), 187-223.

Wu, J. (2016). Racial/ethnic discrimination and prosecution: A meta-analysis. *Criminal Justice and Behavior, 43*(4), 437-458.

Wyatt-Brown, B. (1982). Modernizing Southern Slavery: The Proslavery Argument Reinterpreted.". *Region, Race and Reconstruction*, 27

Yan, S. (2018). Does Criminal Specialization Predict Case Processing? *Crime & Delinquency*, 0011128718765123.

Zatz, M. S. (1987). The changing forms of racial/ethnic biases in sentencing. *Journal of Research in Crime and Delinquency, 24*(1), 69-92.

Zatz, M. S., & Hagan, J. (1985). Crime, time, and punishment: An exploration of selection bias in sentencing research. *Journal of Quantitative Criminology, 1*(1), 103-126.

Appendix A

Diagnostics & District Coefficients

Table A.1 VIF logistic regression

Variable	VIF	Sqrt VIF	Tolerance	R-Squared
black	2.25	1.5	0.4441	0.5559
hispanic	2.85	1.69	0.3506	0.6494
age	1.11	1.05	0.9002	0.0998
sex	1.12	1.06	0.892	0.108
detention	1.26	1.12	0.7953	0.2047
glmax	1.87	1.37	0.5355	0.4645
glmin	1.81	1.35	0.5518	0.4482
trafficking	1.33	1.1	0.7540	0.246
zone_1	1.75	1.32	0.5698	0.4302
cocaine	2.61	1.62	0.3828	0.6172
crack	2.11	1.45	0.4731	0.5269
heroin	2.45	1.56	0.4089	0.5911
meth	3.52	1.88	0.28	0.7158
other	1.81	1.34	0.5531	0.4469
neweduc	1.17	1.08	0.858	0.142
mitcap	1.31	1.14	0.7628	0.2372
monaccep	2.22	1.49	0.4508	0.5492
substan	1.17	1.08	0.8553	0.1447
weapon	1.15	1.07	0.8729	0.1271
newcit	1.67	1.29	0.5987	0.4013
newcnvtn	2.06	1.44	0.4848	0.5152
numdepen	1.08	1.04	0.9255	0.0745
nocounts	1.1	1.05	0.9109	0.0891
nocomp	1.03	1.02	0.9683	0.0317
amendyr	1.04	1.02	0.9621	0.0379
district1	2.07	1.44	0.482	0.518
district2	1.92	1.39	0.5199	0.4801
district3	3.02	1.74	0.3316	0.6684
district4	1.71	1.31	0.5831	0.4169
district5	1.41	1.19	0.7087	0.2913
district6	2.82	1.68	0.354	0.646
district7	3.77	1.94	0.2655	0.7345
district8	2.18	1.48	0.4585	0.5415

district10	2.89	1.7	0.3459	0.6541
district9	6.9	2.63	0.145	0.855
district11	2.28	1.51	0.4394	0.5606
district12	1.3	1.14	0.7711	0.2289
district13	2.97	1.72	0.3366	0.6634
district14	2.98	1.73	0.3355	0.6645
district15	2.5	1.58	0.4007	0.5993
district16	2.85	1.69	0.3508	0.6492
district17	3.67	1.92	0.2724	0.7276
district18	2.99	1.73	0.335	0.665
district19	2.38	1.54	0.4208	0.5792
district20	2.93	1.71	0.3413	0.6587
district21	3.56	1.89	0.2812	0.7188
district22	3.61	1.9	0.277	0.723
district23	2.69	1.64	0.3723	0.6277
district24	2.32	1.52	0.4311	0.5689
district25	2.33	1.53	0.4289	0.5711
district26	2.26	1.5	0.4418	0.5582
district27	1.51	1.23	0.6608	0.3392
district28	1.86	1.36	0.5377	0.4623
district29	1.44	1.2	0.6922	0.3078
district30	1.97	1.41	0.5065	0.4935
district31	5.11	2.26	0.1957	0.8043
district32	7.32	2.71	0.1365	0.8635
district33	12.47	3.53	0.0802	0.9198
district34	17.31	4.16	0.0578	0.9422
district35	3.38	1.84	0.2956	0.7044
district36	2.13	1.46	0.4698	0.5302
district37	3.13	1.77	0.3195	0.6805
district38	1.96	1.4	0.5108	0.4892
district39	3.15	1.78	0.3173	0.6827
district40	3.25	1.8	0.3077	0.6923
district41	4.95	2.22	0.2021	0.7979
district42	1.81	1.34	0.5535	0.4465
district43	2.57	1.6	0.3887	0.6113
district44	1.95	1.4	0.5116	0.4884
district45	2.98	1.73	0.3354	0.6646
district46	2.38	1.54	0.4208	0.5792
district47	1.85	1.36	0.5412	0.4588
district48	2.49	1.58	0.4016	0.5984
district49	1.9	1.38	0.5256	0.4744
district50	1.49	1.22	0.6731	0.3269
district51	2.94	1.72	0.3399	0.6601
district52	2.16	1.47	0.4619	0.5381
district53	2.46	1.57	0.406	0.594

district54	2.96	1.72	0.3383	0.6617
district55	2.42	1.56	0.4134	0.5866
district56	3.26	1.81	0.3065	0.6935
district57	4.39	2.1	0.2278	0.7722
district58	3.42	1.85	0.2925	0.7075
district59	2.38	1.54	0.4195	0.5805
district60	1.62	1.27	0.6191	0.3809
district61	1.61	1.27	0.6228	0.3772
district62	11.15	3.34	0.0897	0.9103
district63	3.93	1.98	0.2545	0.7455
district64	3.11	1.76	0.3213	0.6787
district65	2.25	1.5	0.4453	0.5547
district66	10.52	3.24	0.0951	0.9049
district67	1.29	1.14	0.774	0.226
district68	2.31	1.52	0.432	0.568
district69	2.21	1.49	0.4516	0.5484
district71	2.2	1.48	0.4546	0.5454
district72	2.17	1.47	0.4606	0.5394
district73	2.23	1.49	0.4491	0.5509
district74	2.24	1.5	0.4455	0.5545
district75	2.56	1.6	0.3905	0.6095
district76	6.82	2.61	0.1465	0.8535
district77	1.27	1.13	0.7856	0.2144
district78	1.58	1.26	0.6324	0.3676
district79	1.99	1.41	0.5015	0.4985
district80	2.45	1.56	0.4086	0.5914
district81	1.81	1.35	0.5519	0.4481
district82	1.46	1.21	0.6843	0.3157
district83	2.33	1.53	0.4292	0.5708
district84	2.16	1.47	0.4625	0.5375
district85	7.19	2.68	0.1391	0.8609
district86	1.87	1.37	0.5355	0.4645
district87	7.19	2.68	0.1391	0.8609
district88	2.4	1.55	0.4173	0.5827
district89	2.38	1.54	0.4208	0.5792
district90	2.26	1.5	0.4429	0.5571
Mean VIF	2.88			

Table A.2 Court district coefficients linear regression

Senttot	Coef.	Robust Std. Err.	t	P>|t|	[95% Confidence Interval]	
district1	-12.861	3.348	-3.840	0.000	-19.422	-6.300
district2	-0.612	2.981	-0.210	0.837	-6.456	5.231
district3	-14.618	1.827	-8.000	0.000	-18.200	-11.038
district4	0.356	3.544	0.100	0.920	-6.590	7.304
district5	-28.055	3.300	-8.500	0.000	-34.524	-21.588
district6	-14.401	1.703	-8.460	0.000	-17.739	-11.063
district7	-20.679	2.027	-10.200	0.000	-24.653	-16.705
district8	6.663	3.457	1.930	0.054	-0.113	13.441
district9	-17.399	1.419	-12.270	0.000	-20.180	-14.620
district10	3.771	2.592	1.460	0.146	-1.308	8.852
district11	-28.035	1.896	-14.780	0.000	-31.753	-24.319
district12	-20.127	3.576	-5.630	0.000	-27.137	-13.118
district13	5.178	1.995	2.600	0.009	1.269	9.089
district14	4.865	2.468	1.970	0.049	0.028	9.703
district15	9.343	2.748	3.400	0.001	3.957	14.730
district16	3.392	2.221	1.530	0.127	-0.960	7.746
district17	4.674	1.891	2.470	0.013	0.968	8.380
district18	12.092	2.635	4.590	0.000	6.927	17.255
district19	1.623	2.459	0.660	0.509	-3.196	6.442
district20	4.982	2.349	2.120	0.034	0.379	9.587
district21	14.456	2.559	5.650	0.000	9.440	19.471
district22	27.287	2.488	10.970	0.000	22.410	32.164
district23	13.851	2.628	5.270	0.000	8.699	19.002
district24	-10.655	2.641	-4.030	0.000	-15.831	-5.479
district25	-9.589	2.552	-3.760	0.000	-14.592	-4.587
district26	23.194	3.683	6.300	0.000	15.976	30.412
district27	-4.723	4.501	-1.050	0.294	-13.544	4.099
district28	9.573	3.173	3.020	0.003	3.355	15.792
district29	1.847	5.092	0.360	0.717	-8.132	11.827
district30	29.306	4.207	6.970	0.000	21.061	37.551
district31	27.881	2.053	13.580	0.000	23.857	31.904
district32	38.886	1.855	20.970	0.000	35.251	42.521
district33	5.052	0.927	5.450	0.000	3.234	6.869
district35	20.896	2.624	7.960	0.000	15.752	26.040
district36	-3.408	2.397	-1.420	0.155	-8.105	1.290
district37	7.572	2.104	3.600	0.000	3.448	11.696
district38	15.848	3.198	4.960	0.000	9.580	22.116
district39	8.353	2.352	3.550	0.000	3.742	12.964

district40	-8.798	1.678	-5.240	0.000	-12.086	-5.509
district41	20.392	1.792	11.380	0.000	16.879	23.905
district42	17.107	3.748	4.560	0.000	9.760	24.453
district43	10.828	2.682	4.040	0.000	5.571	16.085
district44	19.432	4.137	4.700	0.000	11.324	27.540
district45	-1.652	2.112	-0.780	0.434	-5.792	2.488
district46	25.507	3.042	8.380	0.000	19.545	31.470
district47	0.856	3.847	0.220	0.824	-6.684	8.397
district48	25.886	3.036	8.530	0.000	19.936	31.835
district49	-7.513	3.275	-2.290	0.022	-13.933	-1.093
district50	-6.277	4.614	-1.360	0.174	-15.321	2.766
district51	4.952	2.451	2.020	0.043	0.148	9.757
district52	-2.350	2.717	-0.870	0.387	-7.675	2.974
district53	28.593	3.333	8.580	0.000	22.061	35.125
district54	17.923	2.651	6.760	0.000	12.727	23.118
district55	10.496	2.408	4.360	0.000	5.778	15.215
district56	-4.870	2.064	-2.360	0.018	-8.915	-0.825
district57	9.172	1.965	4.670	0.000	5.321	13.024
district58	1.758	2.025	0.870	0.385	-2.211	5.728
district59	-10.303	3.306	-3.120	0.002	-16.783	-3.824
district60	20.322	5.717	3.550	0.000	9.116	31.528
district61	-15.309	3.393	-4.510	0.000	-21.960	-8.658
district62	-23.369	0.758	-30.810	0.000	-24.855	-21.882
district63	-3.237	1.742	-1.860	0.063	-6.650	0.176
district64	1.708	1.651	1.030	0.301	-1.528	4.943
district65	-7.258	2.387	-3.040	0.002	-11.937	-2.579
district66	-20.257	0.916	-22.110	0.000	-22.053	-18.462
district67	23.938	5.942	4.030	0.000	12.291	35.584
district68	-3.836	2.870	-1.340	0.181	-9.461	1.789
district69	-6.127	2.557	-2.400	0.017	-11.139	-1.115
district70	-13.029	2.333	-5.580	0.000	-17.602	-8.457
district71	-9.517	2.413	-3.940	0.000	-14.247	-4.787
district72	-8.935	2.603	-3.430	0.001	-14.037	-3.833
district73	-27.857	2.170	-12.830	0.000	-32.111	-23.603
district74	-0.557	2.690	-0.210	0.836	-5.830	4.715
district75	0.394	2.845	0.140	0.890	-5.182	5.971
district76	-20.285	0.962	-21.090	0.000	-22.171	-18.401
district77	18.987	7.124	2.670	0.008	5.024	32.951
district78	-10.556	4.249	-2.480	0.013	-18.885	-2.228
district79	-6.741	3.458	-1.950	0.051	-13.518	0.036
district80	-16.637	2.077	-8.010	0.000	-20.709	-12.565

district81	-1.872	3.052	-0.610	0.540	-7.855	4.110
district82	5.879	5.637	1.040	0.297	-5.169	16.929
district83	9.126	3.041	3.000	0.003	3.167	15.086
district84	-11.704	2.626	-4.460	0.000	-16.848	-6.555
district85	34.427	1.466	23.490	0.000	31.554	37.301
district86	-3.824	4.113	-0.930	0.352	-11.886	4.237
district87	15.284	1.421	10.760	0.000	12.500	18.069
district88	4.340	3.317	1.310	0.191	-2.160	10.842
district89	1.722	2.494	0.690	0.490	-3.165	6.611
district90	3.147	2.966	1.060	0.288	-2.665	8.961
_cons	-555.676	715.759	-0.780	0.438	-1958.572	847.219

Table A.3 Court district coefficients logistic regression

prisdum	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf. Interval]	
district1	1.048	0.345	0.140	0.887	0.549	1.999
district2	1.302	0.503	0.680	0.494	0.611	2.778
district3	1.940	0.535	2.400	0.016	1.130	3.332
district4	1.394	0.541	0.860	0.392	0.652	2.981
district5	0.217	0.082	-4.040	0.000	0.103	0.455
district6	1.495	0.364	1.650	0.099	0.927	2.410
district7	0.780	0.151	-1.280	0.200	0.534	1.140
district8	2.447	0.743	2.950	0.003	1.350	4.439
district9	2.743	0.628	4.400	0.000	1.750	4.297
district10	2.114	0.502	3.150	0.002	1.328	3.366
district11	8.516	3.946	4.620	0.000	3.434	21.120
district12	1.723	1.897	0.490	0.621	0.199	14.917
district13	0.996	0.223	-0.020	0.987	0.643	1.544
district14	1.064	0.312	0.210	0.833	0.598	1.891
district15	4.047	1.596	3.540	0.000	1.868	8.766
district16	0.630	0.140	-2.080	0.038	0.407	0.974
district17	2.126	0.588	2.730	0.006	1.236	3.655
district18	1.106	0.392	0.280	0.776	0.552	2.215
district19	0.650	0.200	-1.400	0.161	0.356	1.187
district20	2.173	1.018	1.660	0.098	0.868	5.443
district21	1.156	0.295	0.570	0.570	0.701	1.907
district22	3.165	1.161	3.140	0.002	1.542	6.495
district23	1.635	0.513	1.570	0.117	0.884	3.025
district24	1.316	0.333	1.080	0.278	0.801	2.162
district25	2.430	0.786	2.740	0.006	1.288	4.582
district26	1.481	0.602	0.970	0.334	0.668	3.285
district27	0.993	0.514	-0.010	0.989	0.360	2.739
district28	3.798	2.046	2.480	0.013	1.322	10.915

district29	0.431	0.164	-2.210	0.027	0.204	0.908
district30	4.578	2.614	2.660	0.008	1.495	14.017
district31	2.892	1.129	2.720	0.007	1.346	6.216
district32	2.023	0.570	2.500	0.012	1.165	3.514
district33	5.982	1.496	7.150	0.000	3.664	9.766
district35	8.153	4.472	3.830	0.000	2.783	23.887
district36	3.927	1.949	2.760	0.006	1.484	10.389
district37	4.672	1.408	5.110	0.000	2.588	8.435
district38	4.546	2.437	2.820	0.005	1.590	12.999
district39	1.913	0.458	2.710	0.007	1.196	3.059
district40	2.246	0.709	2.560	0.010	1.210	4.168
district41	2.929	0.888	3.540	0.000	1.617	5.308
district42	5.635	3.318	2.940	0.003	1.777	17.868
district43	5.503	1.835	5.110	0.000	2.862	10.581
district44	30.714	35.266	2.980	0.003	3.236	291.540
district45	1.161	0.360	0.480	0.630	0.632	2.130
district46	0.886	0.338	-0.320	0.752	0.419	1.873
district47	0.873	0.325	-0.360	0.716	0.421	1.812
district48	2.160	0.922	1.800	0.071	0.936	4.986
district49	0.438	0.114	-3.180	0.001	0.264	0.728
district50	0.744	0.383	-0.580	0.565	0.271	2.040
district51	0.807	0.188	-0.920	0.358	0.512	1.274
district52	3.986	2.669	2.070	0.039	1.073	14.806
district53	3.728	3.881	1.260	0.206	0.485	28.675
district54	1.777	0.712	1.430	0.151	0.810	3.898
district55	4.105	2.368	2.450	0.014	1.325	12.716
district56	0.567	0.140	-2.300	0.021	0.349	0.920
district57	0.368	0.082	-4.500	0.000	0.238	0.569
district58	3.522	1.114	3.980	0.000	1.896	6.546
district59	33.980	25.625	4.680	0.000	7.750	148.981
district60	2.127	1.648	0.970	0.330	0.466	9.710
district61	1.672	1.060	0.810	0.417	0.483	5.793
district62	0.386	0.051	-7.180	0.000	0.298	0.501
district63	0.964	0.244	-0.140	0.886	0.588	1.583
district64	1.191	0.334	0.620	0.532	0.688	2.062
district65	0.744	0.207	-1.060	0.289	0.431	1.285
district66	1.326	0.258	1.450	0.147	0.906	1.940
district67	6.516	6.844	1.780	0.074	0.832	51.060
district68	1.674	0.553	1.560	0.119	0.876	3.197
district69	0.898	0.306	-0.320	0.752	0.460	1.751
district70	0.614	0.190	-1.580	0.115	0.334	1.127
district71	0.723	0.248	-0.950	0.344	0.370	1.415
district72	20.757	21.898	2.870	0.004	2.625	164.127
district73	6.396	4.941	2.400	0.016	1.407	29.074
district74	2.789	0.911	3.140	0.002	1.470	5.292

district75	1.166	0.404	0.440	0.657	0.592	2.298
district76	2.518	0.522	4.460	0.000	1.678	3.779
district77	1.350	1.070	0.380	0.705	0.286	6.381
district78	0.334	0.115	-3.170	0.002	0.170	0.658
district79	0.933	0.317	-0.200	0.839	0.480	1.816
district80	0.459	0.142	-2.520	0.012	0.250	0.842
district81	4.263	2.281	2.710	0.007	1.494	12.165
district82	2.707	1.460	1.850	0.065	0.941	7.791
district83	1.454	0.447	1.220	0.223	0.796	2.657
district84	3.123	1.194	2.980	0.003	1.476	6.605
district85	1.543	0.349	1.920	0.055	0.990	2.405
district86	1.400	0.597	0.790	0.430	0.607	3.229
district87	3.025	0.744	4.500	0.000	1.868	4.898
district88	1.017	0.301	0.060	0.955	0.569	1.816
district89	1.507	0.647	0.950	0.340	0.649	3.497
district90	11.921	8.224	3.590	0.000	3.084	46.085
_cons	0.000	0.000	-1.630	0.104	0.000	545E+10

Note: 0 failure and 336 successes completely determined.

Table A.4 Circuit district coefficients matched linear regression

Sentextra	Coef.	Std. Error	T	P>|t|	95% Conf.	Interval
district1	-48.857	18.010	-2.710	0.007	-84.169	-13.544
district2	7.253	32.957	0.220	0.826	-57.363	71.870
district3	-16.587	13.076	-1.270	0.205	-42.225	9.051
district4	-13.839	20.805	-0.670	0.506	-54.631	26.953
district5	-41.153	18.126	-2.270	0.023	-76.692	-5.613
district6	-27.018	12.675	-2.130	0.033	-51.869	-2.167
district7	-27.082	13.728	-1.970	0.049	-53.997	-0.166
district8	-8.721	16.381	-0.530	0.594	-40.838	23.395
district9	-16.478	11.456	-1.440	0.150	-38.938	5.983
district10	8.157	13.669	0.600	0.551	-18.644	34.957
district11	-47.202	14.720	-3.210	0.001	-76.062	-18.341
district12	-26.071	20.744	-1.260	0.209	-66.742	14.600
district13	3.605	12.331	0.290	0.770	-20.572	27.781
district14	-17.563	20.670	-0.850	0.396	-58.089	22.963
district15	11.772	14.124	0.830	0.405	-15.921	39.465
district16	0.307	12.569	0.020	0.980	-24.330	24.951
district17	1.983	12.276	0.160	0.872	-22.082	26.052
district18	18.850	17.958	1.050	0.294	-16.358	54.059
district19	-12.264	16.792	-0.730	0.465	-45.188	20.660
district20	19.817	12.682	1.560	0.118	-5.047	44.681
district21	21.877	13.022	1.680	0.093	-3.655	47.409

district22	25.347	13.618	1.860	0.063	-1.353	52.047
district23	9.627	12.197	0.790	0.430	-14.288	33.541
district24	-12.886	15.065	-0.860	0.392	-42.424	16.651
district25	-4.493	13.398	-0.340	0.737	-30.762	21.776
district26	20.608	14.415	1.430	0.153	-7.654	48.870
district27	-7.471	24.257	-0.310	0.758	-55.035	40.088
district28	23.076	13.877	1.660	0.096	-4.132	50.283
district29	-7.449	32.831	-0.230	0.821	-71.818	56.921
district30	36.497	14.585	2.500	0.012	7.900	65.093
district31	13.654	10.868	1.260	0.209	-7.655	34.962
district32	26.103	10.750	2.430	0.015	5.025	47.180
district33	5.816	10.769	0.540	0.589	-15.297	26.930
district34	2.628	10.534	0.250	0.803	-18.025	23.282
district35	56.238	12.253	4.590	0.000	32.214	80.261
district36	5.393	14.983	0.360	0.719	-23.983	34.768
district37	-7.683	14.234	-0.540	0.589	-35.590	20.224
district38	10.789	16.312	0.660	0.508	-21.192	42.770
district39	10.385	12.769	0.810	0.416	-14.651	35.421
district40	-10.879	12.968	-0.840	0.402	-36.304	14.547
district41	29.386	11.039	2.660	0.008	7.742	51.029
district42	9.250	16.806	0.550	0.582	-23.700	42.200
district43	27.060	13.079	2.070	0.039	1.416	52.703
district44	19.821	14.351	1.380	0.167	-8.316	47.959
district45	-14.656	13.538	-1.080	0.279	-41.196	11.886
district46	25.782	12.407	2.080	0.038	1.455	50.107
district47	-11.661	17.914	-0.650	0.515	-46.783	23.461
district48	36.024	13.344	2.700	0.007	9.861	62.186
district49	-16.387	14.648	-1.120	0.263	-45.106	12.332
district50	-5.670	16.744	-0.340	0.735	-38.500	27.159
district51	13.350	11.320	1.180	0.238	-8.844	35.545
district52	-5.432	11.763	-0.460	0.644	-28.494	17.631
district53	32.339	12.148	2.660	0.008	8.520	56.158
district54	27.755	11.742	2.360	0.018	4.734	50.776
district55	-1.995	14.542	-0.140	0.891	-30.506	26.516
district56	-2.095	11.842	-0.180	0.860	-25.313	21.122
district57	9.390	11.165	0.840	0.400	-12.500	31.281
district58	9.348	11.378	0.820	0.411	-12.960	31.656
district59	-35.571	13.201	-2.690	0.007	-61.452	-9.689
district60	11.964	14.747	0.810	0.417	-16.949	40.877
district61	-11.174	17.872	-0.630	0.532	-46.215	23.866
district62	-25.060	11.187	-2.240	0.025	-46.994	-3.125
district63	-9.764	11.343	-0.860	0.389	-32.006	12.475
district64	4.616	12.968	0.360	0.722	-20.810	30.042
district65	-34.836	14.343	-2.430	0.015	-62.959	-6.714

district66	-33.170	10.485	-3.160	0.002	-53.726	-12.613
district67	1.143	24.248	0.050	0.962	-46.398	48.684
district68	1.398	12.724	0.110	0.913	-23.550	26.346
district69	-7.068	12.855	-0.550	0.582	-32.271	18.135
district71	-25.134	13.350	-1.880	0.060	-51.308	1.041
district72	-23.023	13.318	-1.730	0.084	-49.134	3.088
district73	-30.958	17.240	-1.800	0.073	-64.759	2.842
district74	-16.667	15.245	-1.090	0.274	-46.557	13.223
district75	-4.790	14.336	-0.330	0.738	-32.897	23.317
district76	-30.020	11.019	-2.720	0.006	-51.624	-8.416
district77	60.794	16.740	3.630	0.000	27.976	93.614
district78	-42.895	19.543	-2.190	0.028	-81.212	-4.577
district79	11.934	19.518	0.610	0.541	-26.334	50.202
district80	-42.499	12.425	-3.420	0.001	-66.861	-18.136
district81	-10.356	15.236	-0.680	0.497	-40.229	19.517
district82	-23.061	20.686	-1.110	0.265	-63.619	17.496
district83	26.355	15.584	1.690	0.091	-4.199	56.908
district84	-0.846	12.789	-0.070	0.947	-25.921	24.228
district85	27.354	12.262	2.230	0.026	3.312	51.395
district86	22.929	20.770	1.100	0.270	-17.794	63.652
district87	8.699	11.516	0.760	0.450	-13.880	31.277
district88	21.871	12.905	1.690	0.090	-3.430	47.172
district89	-0.542	13.875	-0.040	0.969	-27.747	26.662
district90	13.509	12.832	1.050	0.293	-11.649	38.668
_cons	-3026.382	3225.337	-0.940	0.348	-9350.17	3297.405

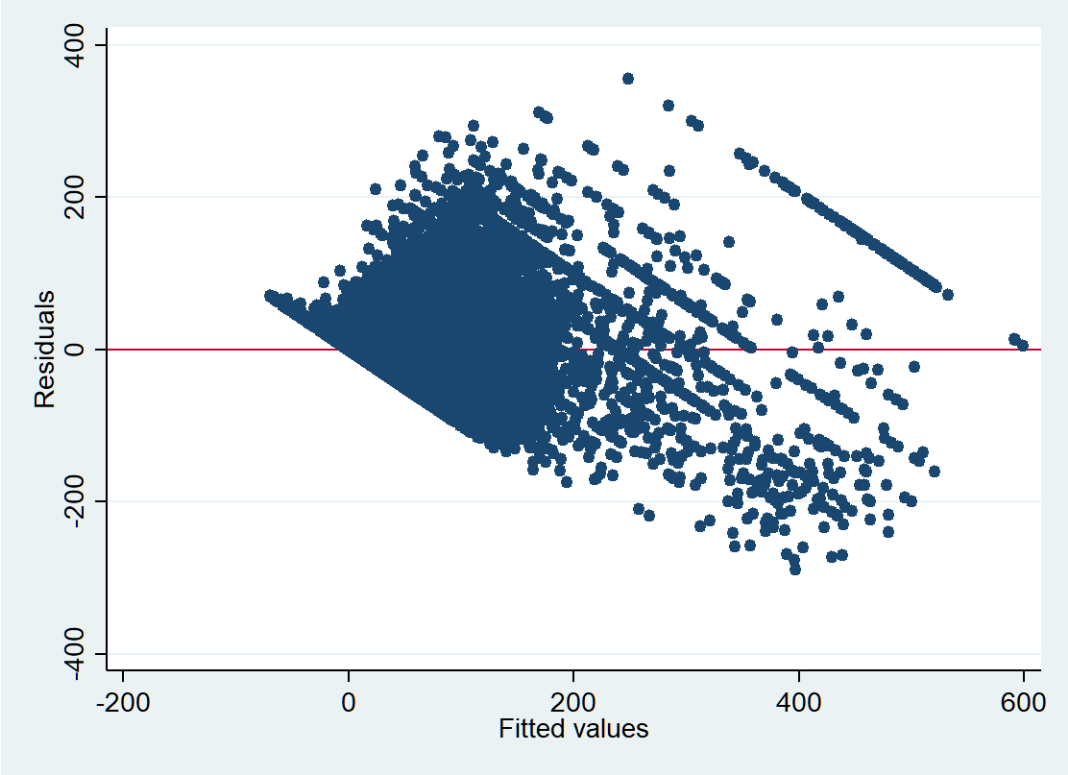

Figure A.1 Residual plot

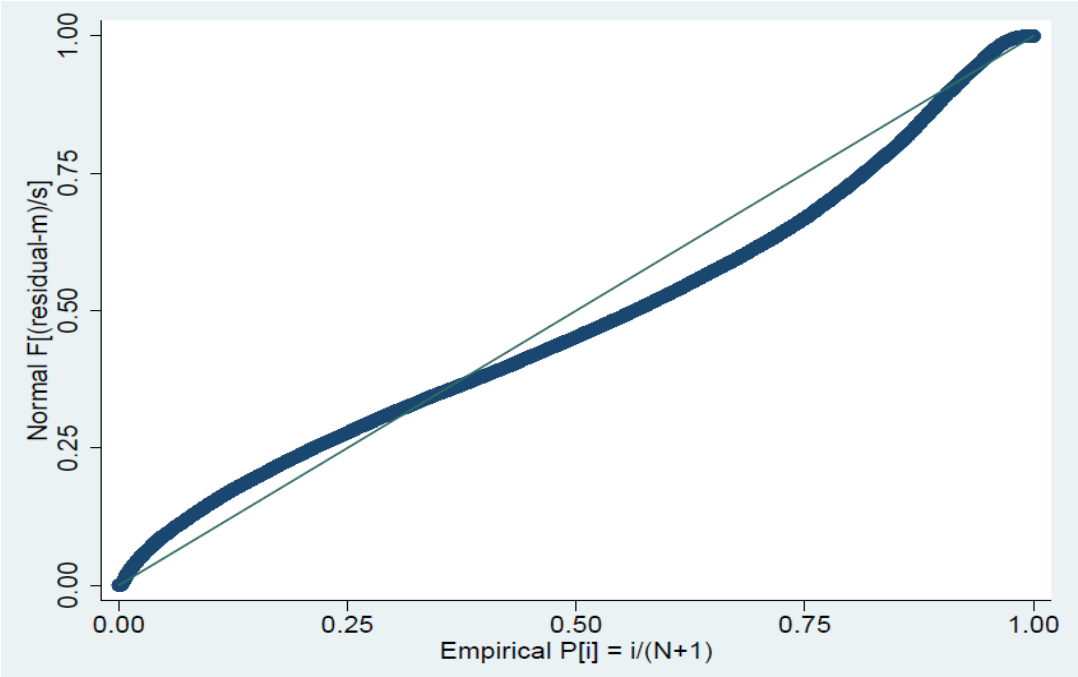

Figure A.2 P-norm plot.

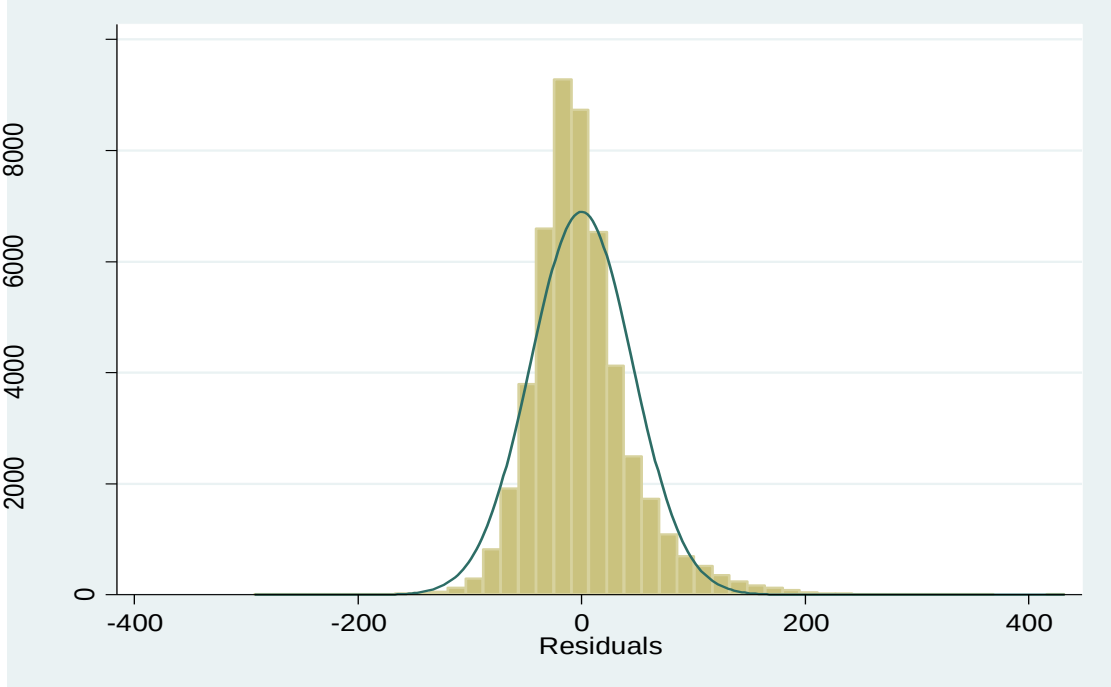

Figure A.3 Histogram of residuals.

Appendix B

Table of Hypotheses Support

Table B.1 Hypotheses support by analysis group

	Support *H1*	**Weak support *H1***	**Support *H2***	**Weak Support *H2***	**Support *H3***	**Weak Support *H3***
Sample 1						
Overall		**x**		**x**	**x**	
AZ				**x**	**x**	
KY West						
VA East		**x**				**x**
NY South		**x**		**x**		
CT		**x**				**x**
NC East						**x**
CA South			**x**			
TX West		**x**				**x**
NJ		**x**				**x**
Marijuana		**x**		**x**	**x**	
Meth				**x**		
Heroin				**x**		
Other		**x**		**x**		**x**
Sample 2						
Overall					**x**	
Young & Male					**x**	
Meth					**x**	
Cocaine		**x**			**x**	
Crack				**x**		
Heroin					**x**	
Marijuana			**x**			
Other			**x**		**x**	
Matched Regression						

Appendix C

Unclear Comparison Explanation

The unclear comparisons result from two situations. When the compared sentences takes different forms and it is unclear which an offender would consider more severe and when the sentence is missing meaningful information (e.g. the number of months of incarceration). To operationalize the first, sentences of 4 days up to 3 months in prison are considered unclear when compared to 1 year of community supervision. 3.01 months or more of prison are considered more severe than 1 year of community supervision. I considered 3 or fewer days of incarceration less severe than 3 months or more of probation. Finally, I considered one year or more of incarceration more severe than any time of community supervision. I arrived at the numbers based on the limited research available on offender perceptions of sentences. The previous research suggests that offenders do not necessarily view prison as the most severe sanction, which leads some to prefer prison to longer term community sanctions (Crouch, 1993; Flory et al., 2006). Without a standard exchange rate between sentences, it is prudent to have an unclear category. I now include examples of unclear comparisons.

ID	Race	Fines	Commun. Service	Probat	Alt. Incar.	Incar.	Sup. Rel.
4723	White	0	0	0	0	66	60
20777	Black	0	0	0	0	70	36

The above unclear comparison is unclear because it is a difference of 4 months of incarceration compared to an alternative of 24 additional months of supervision. In order

to leave this category, the incarceration difference would have to be greater than 6 months per my stated guidelines. This form of unclear comparison (including probation compared to incarceration) occurs primarily in the first matched sample. The other form where this missing information is more common. See the following example:

ID	Race	Fines	Commun. Service	Probat	Alt. Incar.	Incar.	Sup. Rel.
84928	White	0	0	0	0	.	36
28582	Black	0	0	0	0	36	36

In this example, the comparison is unclear because a component of the sentence is missing, making meaningful comparison impossible. This is the most frequently encountered unclear comparison in the second matched sample. The fact that most sentences in the second matched sample take the same form drives the reduction in the proportion of unclear comparisons relative to the first matched sample.

Appendix D

Principal Components Analysis

I attempted a principal components analysis in order to reduce the subjective nature of the pairwise comparisons. If the dependent variables loaded primarily on one or two factors, it would be possible to use those as the comparative metric rather than attempting to balance and compare multiple outcomes. However, as is clear from the analysis, the variables do not load significantly on a few factors.

Table D.1- Principal Components Eigenvalues

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	1.37071	0.265431	0.2285	0.2285
Comp2	1.10528	0.105282	0.1842	0.4127
Comp3	0.999994	0.00278323	0.1667	0.5793
Comp4	0.99721	0.105666	0.1662	0.7455
Comp5	0.891544	0.256276	0.1486	0.8941
Comp6	0.635269	.	0.1059	1

Table D.2 Principal Components Eigenvectors

Var.	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Unexpl.
amttotal	0.0208	0.0025	0.9814	-0.1904	0.0019	-0.0121	0
hrcomsrv	-0.0523	0.7083	0.0083	0.0413	-0.702	-0.0316	0
probatn	-0.0835	-0.0411	0.1912	0.9768	0.0249	-0.0093	0
altmo	-0.1875	0.6787	0.0021	-0.0039	0.6911	0.1633	0
senttot	0.7012	0.0519	0.007	0.0682	-0.0275	0.7073	0
suprel	0.6805	0.1827	-0.0125	0.0575	0.1678	-0.687	0